Living beyond the built environment in elderly retirement communities

by

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DEDICATION

Two souls

Silently await

Their share of glory.

Silently bide

Their time in life.

Two hearts,

gently care,

pick me up when I fall.

Two voices

going to them is going home.

caress my wounds
show me the way
hold my hand
let me go

Two minds,

I will live for you.

I promise, I will do.

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CHAPTER 1. INTRODUCTION

General Introduction

> The view from the window is an aspect of human habitation - particularly, in the urban context. Thus, the window is the scene of mute monologues and dialogues of reflections on ones own position between the finite and the infinite. (J.A.Schmoll, gen. Eisenwerth Miinchen, 1970)

This research investigation is based on a study of the relations that the human user has with the spaces that enclose him. The results derived from this dissertation will be the basis for a design project, where the various determinants affecting the design of the enclosing spaces identified during the process of the study will be put into use.

There are various types of enclosures - from the body to the home, the neighborhood, the city, the society and nature - all interlinked in a series of intricate relationships (Dewey, 1925; Lynch, 1960). The research looks at some aspects of these relationships, especially with the space beyond the built spaces, and explores how such relationships are expressed architectonically.

The "finite" (Schmoll, 1970) boundaries of built space juxtaposes with the infinite enclosure of the circumjacent. This apparent dichotomy has been variously expressed as the public/private realm (Arendt, 1987), the interjacent/circumjacent

(Bentley et al., 1985) and more poetically as retreat/expansion or simplicity/magnificence (Bachelard, 1969). But the difference is not as clear as it seems. The increasingly fragmented world (Jackson, 1987) is characterized by an increased permeability of both spaces. In his essay, "Interspace as a Problem of Place" (Holzinger, 1984), Johannes Peter Holzinger asserts that even though the house is still regarded as a body isolated from its surroundings, and "we are still adhering to the separation of inside (me) and outside (the environment) - this subject/object relationship has long since shifted towards something new but not clearly defined." To him the possible manifestation of this changing relationship is the incorporation of the "interspace" and the pictorial and sculptural values ascribed to it. The greater transparency and permeability was a response to the open society concept, but interspaces and stratification through functions and use create a graded difference between the inside and the outside. It is this stratified relationships that one shall see develop through phases in the next few chapters.

Reasons for the Study

Reasons for choosing housing environments for the elderly

There are two major hurdles that are encountered while studying the relation between the user and the environment. Firstly, different people react to various situations differently. Such reactions are culturally and socially defined (Rapoport, 1982). Thus with increased fragmentation and decreasing homogeneity in the American social structure, it is unfair to draw broad generalized conclusions. Secondly, it has been proven that given any condition, human beings tend to adapt to the situation (Blank, 1988), or react to it in a positive way (Lawton and Cohen,

1974).

In an elderly community too, there is a heterogeneity of ability levels, preferences etc. (Blank, 1988). Yet within the various subgroups, old-old, young-old (Neugarten, 1974), there are some similarities that are age related, cohort based, that can justify this study of elderly housing. Again due to the complexities involved, this is not merely a study of the physical relationships but also the social outlooks that generate such architectonic expressions.

Another reason for studying the living environment in elderly housing examples is due to the growing awareness that the understanding of the living environment beyond the built space needs to be broadened. A lot of research has been done on the spaces and use of those spaces inside the building. It is necessary to put the knowledge in a larger perspective of the circumjacent spaces. By 2040 the elderly population will compose twenty-three percent of the total United States population (Cantor, 1991). Designing for such a large population will require the designers to understand their living environment as a part of the encompassing urban form and not as isolated developments. This study will trace the evolution of a complex set of relations with the circumjacent space in examples of elderly housing.

The environment tends to influence the elderly in many respects. The elderly go through a continuum of losses with age (Pastalan, 1975). Thus a given environment which may provide a perfect "fit" condition for a young person with a higher competency level, may create a condition of higher "Environmental Press" for an elderly with lower competence level (Lawton and Nahemow, 1973). The influence of the environment on the elderly is thus an important factor to study

before designing a space.

Finally, another reason that prompted the study of the elderly housing environments can be explained through the concept of the home range. For a population whose behavioral range and home range is seen to shrink with age (Barker and Barker, 1961), proper design of the circumjacent environment is extremely important in maintaining a proper home range. If the choice of settings for the residents diminish then it is imperative that the few they have should satisfy their needs.

When analyzed from a sociological point of view, elderly housing communities provide us with an useful social laboratory in comparison to other mixed housing communities, for here there is a limited amount of community friction and essential activities are more restricted than in other communities. For example clashing requirements like being near employment possibilities, and schools for children, a kind of situation often encountered in younger families, don't exist in this case.

Thus in spite of the heterogeneity, the elderly community can be studied as one unit.

Environmental influence on elderly residents

In the "Environmental Press Theory" (Lawton and Nahemow, 1973), a condition of "environmental fit" is achieved by balancing the "environmental press" against the competence of the individual. The fit conditions generate what is termed as a positive effect or "adaptive behavior" (Lawton and Nahemow, 1973; Svensson, 1984). As the competence level decreases, with a constant environmental press, the adaptability quotient also decreases. For aged users, satisfaction and

adaptation to the living environment is very high (Blank, 1988; Regnier, 1987). Yet as a study of Victoria Plaza, a public housing project for elderly in San Antonio, Texas, proves (Carp, 1987), both outside and inside environment has a large part to play on housing satisfaction and user-behavior.

This is best explained by the revised ecological model by Svensson (Svensson, 1984). The true possible competence level of an individual, defined as covert competence, is affected by the environmental factors to show overt competence, that is a function of the environment.

oC = f(C,E) where oC = overt competence
C = covert competence
E = environmental factors.

With the "age related continuum of loss" (Pastalan, 1975), the importance of the environment to achieve overt competence levels becomes a viable study.

Reasons for studying the external environment

Considerable research has been done on the various aspects of the environment that may affect an individual. Human reaction and outlook towards many such aspects of the environment change with time, culture and society (Toyama, 1988; Rapoport, 1982). One such aspect has been the outlook towards nature. "Nature" has been variously defined as the external landscape to the urban form (Lynch, 1960), and the circumjacent (Blank, 1988). Thus this variety of definitions or outlooks is the basis for defining the various facets of this environmental setting that is so loosely call nature. In the conclusions there will be a set of landscape types identified, that define the various interpretation of nature as used in this study.

The word circumjacent, used during the course of the research may be defined

as everything that encloses. It will be referred to as the enclosure beyond the built space. The interjacent is that which is within the built space and will be used as an antonym to the word circumjacent. Thus the word circumjacent will consist of all aspects of the outdoors, from the urban form to the backyard garden.

While much study has been done in the environmental aspects of elderly housing, very little has been studied regarding the design and use of outdoor spaces in these projects (Wolfe, 1975). A clear understanding and study of the changing outlooks on the various aspects of the external environment was required for a better understanding of the effect of the environment on the users. Such a study was also required for a set of conclusive hypothesis that could be used in the design of a built space, ensuring resident satisfaction through covert competent behavior.

Also, it is felt that the circumjacent consists of important linkages and settings within the home range of the individual. Thus the study attempts to classify and define these various types of circumjacent spaces and the qualities that make them successful.

Objectives of the Study

The research was aimed at identifying and classifying the various aspects of the circumjacent that may be an important influence on the home range of the elderly individual.

To do that a historical survey was completed to identify the various trends and outlooks towards the circumjacent in various published elderly housing projects.

Once the trends were identified, it was then possible to look for reasons behind such trends both in the form of physical and non-physical determinants.

The objectives were thus to create a set of design guidelines that defined the various trends and to identify some determinants that the designer may keep in mind while designing such projects. Thus the objectives of the research were as follows:-

- To study, through published examples of elderly housing projects, the morphological use of outdoor spaces.
- To compare, through a study of social history and environmental psychology, the various changing outlooks towards nature in the United States society.
- To find any discernible trend in the outlook towards nature in a historical context.
- To define, in terms of the present context, today's landscape and interpret the above trends to create a set of theoretical guidelines for the design of projects for the elderly.

Methodology

Research approach

This research is entirely a historical study based on published examples and theories. There will be no primary data collection to support the conclusions. The various trends and outlooks towards outdoor spaces or the circumjacent, have been explained in Chapter 2 through Chapter 5. Since most of these trends co-existed during various historical periods, the study has been divided on the basis of chronological decades with examples of design that best explained the major trends and outlooks during that time and could be termed as physical and architectonic manifestations of a particular outlook to the circumjacent. Interestingly enough, many of these examples also occur in chronological order. This may not be

considered as the only trend, but that during a certain historical period a certain outlook was more popular and prominent than some other trends which might have co-existed too.

These trends will be identified in Chapter 2 through Chapter 5. Concurrently, the various determinants that support and cause such trends will be studied as "traces." Then, knowing the "trends" and the "traces," a set of conclusions will be derived in Chapter 6. The conclusions will consist of six major types of landscapes derived from the trends and a set of design determinants for each of them, derived from the traces.

Finally these determinants will be put to test in a proposed design project for the elderly. This project will serve as a practical example of how these determinants can be used by the designer.

Traces

The body of the text will be divided into two major parts, viz. "Physical Traces," and "Non-physical Traces." While "Non-physical Traces" will provide a historical and social context to the various trends and outlooks to the circumjacent, the "Physical Traces" will deal with the physical and architectonic manifestations of these trends in published works of architectural designs of Elderly Housing Communities. In other words, while the "Physical Traces" attempt to explain how the attitude towards outdoor spaces was, the "Non-physical Traces" will try to explain why it happened that way.

The following paragraphs explain what is meant by "Physical Traces" and "Non-physical Traces."

Non-physical Traces This part of the study, will look at various social, economic, and related factors that led to a particular outlook towards outdoor spaces. These factors may consist of family and community structure, cohort characteristics, and sociological factors. There are financial and economic forces that mold a certain popular trend. Government and societal regulations help in the implementation and medical and technological advances changed the ability of the users to interact with the circumjacent.

- Governing policies: Physical forms and spaces that enclose these forms, are dependent on the bylaws, policies, government body regulations, building bylaws, environmental laws, financing procedures, land values, or urban planning policies.

- Economic and financial factors: Housing location and the physical form is dependent on financial factors like the buying and spending power of the tenants, the investing procedures of the builders and investors, and the financial suitability of the project.

- Technological capabilities: Physical forms change with changing technological capabilities. For example, there were changes in the social set-up and the urban form with industrialization. Similarly, with the availability of high-rise and elevator technology, the building types and the relation between the inside and outside changed drastically (Hamlin, 1985). Developments may also be seen in the medical field. Not only did advanced medical facilities change the outlook of the society towards the elderly and elderly housing, but along with the changes in social outlook came changes in the physical

environment, nursing care and the development of the prosthetic environment.

- Cultural and social factors: This is a less considered but extremely important factor. Every social group and ethnic sub-group have different preferences for the kind of housing and its relations to the outdoors. Their way of using the circumjacent varies. Also, the Cohort Theory (Schaie and Willis, 1986), states that the background of an individual depends on the generation he is from, which in turn influences the interpretative and phenomenological aspects of the space. Thus the cultural and cohort background determines the interpretation of the relation between the inside and the outside, enclosure and nature (Carson, 1970).

  Concurrently there had been changes in the lexicographical interpretation of what an ideal home is. The definition of home has changed from vacation houses, country houses, bungalows and cottages (King, 1984), to the high-rises (Goldberg, 1971), Continuous Care Facilities (Architectural Review, May 1956), Leisure Homes and Retirement Villages (Burgess, 1961).

  There was a distinct evolution of the outlook to nature as passive and visual setting, to an interactive stage for active involvement, determined to a large extent by the social trends and conditions. The changes in the traditional family structures influenced the type of housing and the design of the outdoor environment (Hayden, 1984; Cromley, 1989).

  Climate too played a major role in determining the use of outdoor space. Climatic influence can also be judged through prospect and refuge. For example, in harsher climates, active interaction with nature was reduced and

more physical refuge was desired. Visual interaction with the outdoors depended on the view outside (Fischer, 1990). In favorable climates, outdoor activities and active participation with nature can be observed among users. Climate also determined the design of transition spaces and the edges between the inside and the outside (Bentley et al., 1985).

Physical Traces There are various morphological examples of spaces that go into explaining a consistent way the outdoor spaces were considered at a certain time and place. Existence of these "Physical Traces"' may now be studied.

Various elements like sun-lounges, courtyards, verandahs, peculiar architectural styles, materials, visual scale, landscape elements, gazebos, covered walks, wooded areas, water-bodies and lawns are elements that fall within these "Physical Traces." These physical elements will be used to explain certain major spatial principles. These principles, used originally by Bentley (Bentley et al., 1985), need further elaboration and can be best understood through the three major categories of,

- Permeability.
- Legibility.
- Robustness.

Permeability. The term permeability may be explained through the way various spaces, hierarchically arranged, between the private to the public can be accessed. There are two types of permeability encountered in buildings. They are physical permeability and visual permeability. Physical permeability allows physical access

into and out of the interjacent spaces, while visual permeability refers only to the visual linking of the inside and the outside.

The external environment can be zoned as private to the public, in a gradual continuous grade. Often, between the private "inside" and the public "outside" there are transition spaces called "interfaces." Such "interfaces" are influential in maintaining privacy, territoriality and a sense of transition. Such interfaces may be used by the less able elderly residents as spaces for vicarious social involvement. The existence of these spaces also provide diversity in the environment. This diversity of opportunities and settings are necessary according to Lawton's Environmental Press Theory (see Figure 1.1) (Lawton, 1981; Lawton and Nahemow, 1973), which states that persons of higher competence "fit" a broader range of higher environments than do ones with lower competence.

Correspondingly, a fairly broad range of higher "environmental press" environments are likely to be reasonably appropriate for those relatively capable users. It also means that for a set-up with people having different competence ranges, "behavioral ranges" and "depth of penetration" (Barker and Barker, 1961), a more diverse environment should be provided to suit various users.

As already stated, in any living environment there will be spaces that range between the private to the public. These spaces can be arranged hierarchically. Sociability and social interaction in a living environment will depend on upholding the proper continuum of this hierarchy. The proper continuum necessarily follows permeability and a proper public to private interface (Bentley et al., 1985). In examples of physical permeability, courtyards, solariums, balconies, greenhouses and building forms determine the physical access at the interface between the inside

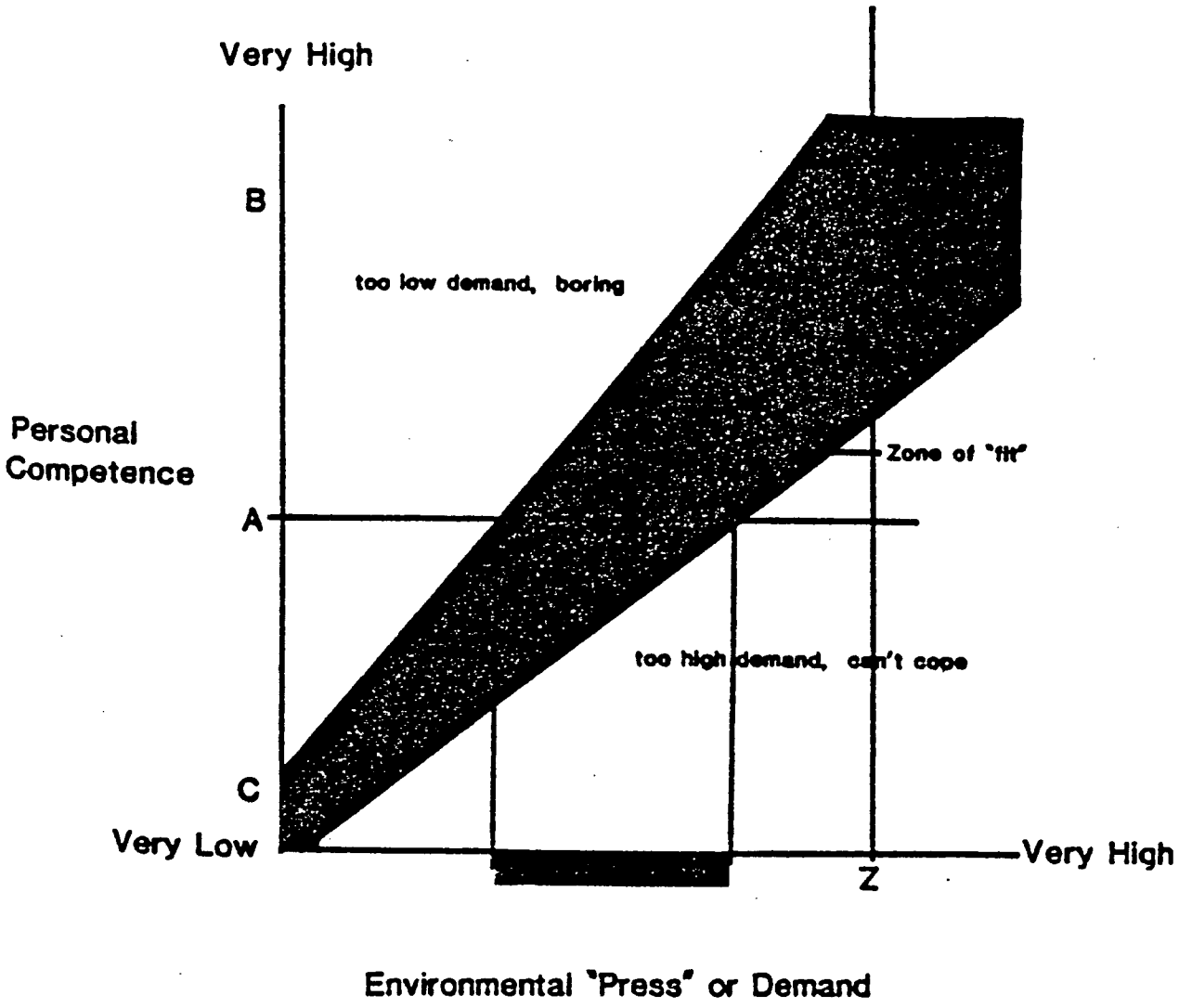


Figure 1.1: Lawton's Environmental Press Theory Model

and the outside. The amount of permeability or accessibility allowed can be controlled by the users. The ability to control access is also an important aspect of user satisfaction (Zeisel et al., 1983).

Most activities take place at the edge of spaces. For most people, in most places, the edges of a space is the space itself (Bentley et al., 1985). It is also these very edges that delineate the inside from the outside. Controlling the edges will influence permeability.

Finally, breeze, smell, dust and sound are other factors that may increase or decrease permeability of enclosed spaces.

Legibility.

Legibility is a quality that makes the place graspable. It is seen in two levels, viz. through physical form and activity patterns (Bentley et al., 1985). It is an important factor in the designed external environment where physical pattern and use must complement each other. A legible environment helps distinguish between the inside and outside, and thus between private and public realms. This quality of a space is studied through elements put forward by Kevin Lynch like nodes, districts, paths and landmarks (Lynch, 1960). Just as edges are settings for social interaction (Bentley et al., 1985), paths, nodes and landmarks too act as settings themselves (Whyte, 1980). Existence of a variety of spatial elements that allow social interaction cater to users with varied competence levels.

The legibility of a space is affected by enclosure (Bentley et al., 1985). The enclosure may be created by the shape and the layout of the built form. There are examples like path enclosures between country houses and street arcades near urban high-rises, or spaces between internal courts and parking lots. The enclosure

is affected by the continuity in the plan of the enclosing elements and by the form of the path as a whole. The kind of path enclosure also affects the kinesthetic visual experience as one moves through the space.

Robustness.

Places that can be used for many different purposes offer the users more choice than places where design limits them to a single fixed use. Environments that offer this choice have a quality called robustness (Bentley et al., 1985).

The necessity of robustness in outdoor public spaces is due to the fact that, in public spaces, it is the activities themselves that act as the most important support for other activities (Bentley et al., 1985). Since a multi-activity setting will act as magnets to attract people and foster social interaction, the quality of robustness needs to be studied. The robustness of the building and the environment is supported mainly by the following features.

1. Building depth.
2. Building height.
3. Accessibility.

Bentley also mentions passive and active edges. For example, passive edges are those edges which may benefit from activities going on around, but are themselves mere spaces that don't contribute to those activities (Bentley et al., 1985). Such passive spaces may be patios, porches and bay-windows. But active edges contribute to the activities around. A mix of animated active edges and passive edges make the interfaces between the building and the outdoors more

versatile. Proper handling of such spaces could also separate the private edges from the more public ones.

For all the qualities and principles of spatial planning discussed here, non-visual cues such as motion and smell, auditory and tactile cues need to be taken into account too while designing. They need to be backed up with on-site primary research, which is beyond the scope of this study. Thus comments on such non-visual cues are merely conjectural and may not be substantially verified by user-reactions.

Research questions

All through the study a few basic questions will be addressed.

- Is there a discernible trend noticeable in the architectonic elements that may explain a certain way the external environment was used?
- Can such consistent use of these elements be termed as "trends" that can be explained through the "non-physical" factors?
- Can such "trends" be generalized to explain a consistent way the outdoors was experienced?
- Finally, do these various trends and traces give us some basic design guidelines?

Organization of the Study

This dissertation is broadly organized into two parts, viz., the research and the design. The first part, or the research, consists of a historical study of the published works of elderly housing. This study helps to identify major trends and outlooks towards the circumjacent and the various traces that express these trends.

Chapters 2 through Chapter 5, deal with major trends and outlooks towards using nature in a historical context. Each of these chapters start with a trend statement followed by reasons and examples that support these trends.

Chapter 6 deals with the conclusions. The various types of outdoor spaces that exist today are identified, defined and incorporated in a set of design guidelines.

The second part of the dissertation deals with a proposed design solution for an elderly housing project. This example is designed with the help of the derived guidelines. The proposed design is discussed to explain how it fulfills the various requirements of the kind of landscapes identified in the study. It is more of an example of how the guidelines may be used while designing similar projects.

Finally the scope of the study limits the examples studied to elderly housing communities which don't include developed nursing care facilities, retirement and leisure villages. Blank (Blank, 1988), defines this as "Congregate Housing for the Elderly," to differentiate this kind of developments from Retirement Villages and Skilled Care units.

Research Assumptions

The assumptions that the research is based on are as follows. Living beyond the built environment is complex and multi-faceted. It is made of various fragmented ways and uses that the outdoors is experienced. Thus, outdoors or nature, has various interpretations, from the untouched wilderness to the urban plaza.

The research will therefore identify a variety of circumjacent spaces that influence the built environment and the life in an elderly community.

A list of factors that influence these types of spaces and their use by the residents will also be identified into a set of guidelines that may help a designer.

Today, most research ignores the potentiality of the circumjacent to provide solitude as well as social interaction. If all these defined types of landscapes are catered to by the designer, then both privacy and public interaction requirements of the residents may be satisfied.

The design will attempt to represent these various landscapes in an urban mid-rise solution with a special emphasis on providing every resident a private backyard as well as a space for social interaction with the community and within the precinct. It will be a practical example of the various levels of privacy that the circumjacent may be designed to offer.

CHAPTER 2. PRIVACY OF THE PICTURESQUE

> Moreover, the use of country houses was based on the definition of the place - in the country - and the word "country" itself was used to describe a particular cultural category of the environment - as distinct from the sea-sides or the mountains - in that, it apparently originates from the Latin word "contra" (against) and is therefore defined according to town or urban criteria. (Williams, 1976)

Trend Statement

In the early examples, the dominant external landscape was a picturesque setting.

In earlier examples of designed landscapes, very few spaces for active recreation were provided (Downing, 1854). The fact that human behavior is greatly affected by the environment was the prevalent thought of the time. The functional nature of the site was thus the "scenic value" and the visual qualities of the site (Tobey, 1973). Concurrent with the thought was the idea of the arcadian myth of the restorative power of nature associated with the English picturesque garden (Hayden, 1984). Thus one can infer that the way people treated exterior space was not similar to the functional, use-related designed spaces seen even today.

From published examples, it is apparent that the landscape was a setting on

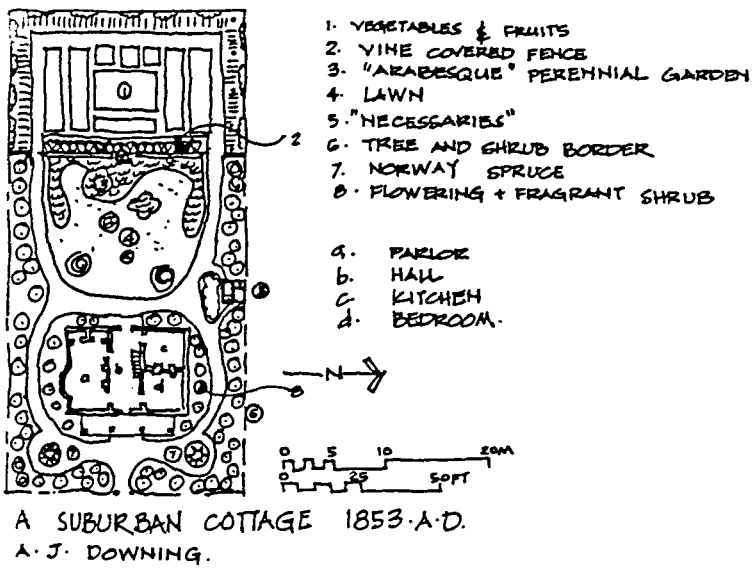


Figure 2.1: A typical suburban cottage by Downing. 1853 A.D.

which the buildings sit independently. While there is a clear front and back of the circumjacent spaces around the building, it is hard to infer the use of the external spaces because of the absence of any site plan that specified major external spaces. Thus the only architectonic linkage between the inside and outside can be expressed as passive in nature.

Vegetable gardens existed in many home designs, (See Figure 2.1) (Downing, 1853), but in the examples of old, indigent, housing, individual vegetable plots or gardens were not observed.

Non-physical Traces

From the scarce records that are available, it seems that early examples of elderly housing were generally charitable institutions (Randall, 1956; *Architectural Record*, May 1956; Jacobs, 1958). Retirement was not determined by age. It was only after 1956, when sixty-five years was chosen as a cut-off age, that irrespective of his physical and mental capacities, a person was considered "aged." In the absence of such chronological definitions, it was necessarily some deficiencies that prompted the religio-charitable act of creating philanthropic care institutions such as alms houses, homes for the aged and indigent, orphanages and mental care institutions (Burgess, 1961). Otherwise, as Lewis Mumford characterized, the early generation bourgeois or Victorian upper middle class had a sense of internal space and snug households and the "privately encompassed care for the elderly." Thus the family structure itself generally catered to the needs of the elderly and the care institutions like the ones seen today were few (Mumford, 1956).

To find out the target population of such projects one needs to scan through the names of these charitable institutions published in various journals in the later 19th and early 20th century. Most examples (*American Architect*, Jan 28, 1925; July 9, 1905; March 11, 1925; September 30, 1899), show that these institutions catered to the poor, indigent and less able aged.

Landscape as image

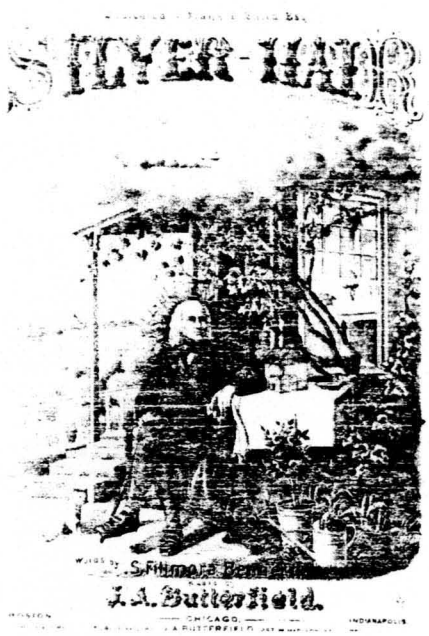
During the colonial period, there were four types of social institutions and "poor houses" was one of them. The others were the church, the school, and the jail (Burgess, 1961). The country poor farm housed the indigent who had no other

means of support. They included not just the needy aged but also the physically and mentally handicapped, the blind and other destitutes. It was generally located in the countryside at some distance from the settlement. That means that the link to the community was tenuous. Men were expected to help with farming, but with the introduction of mechanized farm labor, the value of unskilled labor declined and this remaining link with the community was removed. The farm was substituted by a country infirmary (Burgess, 1961). Some sort of disability, physical or financial, qualified a person to such institutions. In such a situation the bucolic pastoral landscape was used as an image of the traditional farmstead to give the precinct a "genius locii" (See Figure 2.2) (Norberg-Schulz, 1979), and a link to the society beyond.

Examples like the Marcus Ward Home (*American Architect*, March 11, 1925) were situated in a bucolic rural surrounding. The relation between the interjacent and the circumjacent seems to be passive and visual.This kind of "romantic, idyllic, passive and picturesque" setting (Hamlin, 1985) enclosed the dwelling units that resembled traditional country cottages, country manors and English vernacular buildings (King, 1980).

Landscape as a reaction

Aged persons of the early twentieth century, until around the Depression, were of the same cohort background. They grew up with the advent of industrialization. As far back as 1820, the basic unit of production in the U.S. was the small isolated farm (Hamlin, 1985). But this became different with industrialization. By the 1870s the mechanization of both manufacturing and



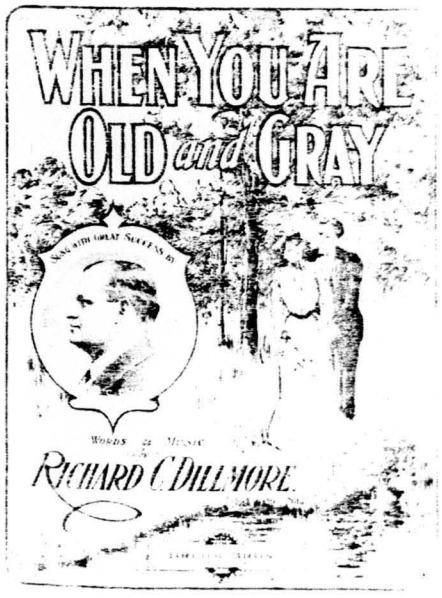


Figure 2.2: Old age represented in the 19th and 20th Century popular sheet music expressing the attitude towards aging at that time

agriculture industries, the construction of rapid, reliable transport systems and establishment of efficient business techniques had all been instrumental in linking not only the expanding cities, but also previously unsettled parts of the continent into one economically interdependent identity, symbolizing a change from the traditional society to a modern one (Hamlin, 1985).

In such a social setup, the landscape showed an integration of the "traditional" romantic bucolic and the emerging functionalism. The rapid urbanization and migration of rural folks into overcrowded, congested, unhealthy city centers, created a reactionary attitude that considered the industrial urban society as a threat to family and other social institutions. The Jeffersonian ideal of the bucolic landscape was reflected by Olmsted (1822-1903) as a therapeutic and restorative experience (Olmsted, 1987).

Romanticizing images of the landscape was seen in literature and art too. Washington Irving depicted the romantic country houses and the picturesque farms as the ideal buildings in his novels and short stories, those which echoed in their architecture the rugged and irregular countryside in which they were located (Hamlin, 1985). Among architects, Andrew Jackson Downing (1815-1852) popularized this marriage between landscape and architecture. To him the ideal country house was emphasized by the emphatic and romantic qualities of the landscape. In his writings and works, in which he explored the relation of a building to its settings, Downing's message was clear, "Beauty in Architecture grew out of it but ultimately transcended the useful" (See Figure 2.1). This beauty had a powerful civilizing force and at a time when so much seemed to be determined only by material concerns, it was essential to assert the existence of transcendental

values (Hamlin, 1985).

Traditional domestic, English Gothic and Tudor styles were propagated by Ruskin and Pugin. There were stylistic influences from the French Ecole des Beaux Arts too (Hamlin, 1985). In these picturesque styles, as seen in the buildings of Richard Morris Hunt in the ante-bellum period, the roof structure too was an important element that merged and gave effect to the picturesque qualities of the landscape.

This reaction towards the cities and the arcadian myth of "back-to-the-nature" affected the urban middle class. Between 1905 and 1915, books on bungalows proliferated (King, 1984). Radford's Artistic Bungalows (1908), stated that, "the bungalow is the renewal in the artistic form of the primitive 'love-in-a-cottage' sentiment that lives in some degree in every human heart." Architecturally, it is the result of the effort to get as close as possible to nature. Not only books and novels, but magazines like *House Beautiful* (1896), *House and Garden* (1901), and *American Homes and Gardens* (1905), contained articles on love for nature and the value of a simple life (King, 1984). The social and esthetic movements of the Arts and Crafts had developed in England from the 1880s. By 1890, the idea of the rejection of the bourgeois materialism of a consumer society and unity with nature had swept across the United States (Kaufmann, 1975; King, 1984).

In the examples of housing for the elderly, a conscious attempt is made to make the buildings look like country houses, to create an aura of social status that was essential to counter the image of a charitable institution for the needy.

> The idea of a large colonial house with gardens and lawns suggested opulence, luxury and status. (*Houses and Housing*, May 1957)

Landscape as an escape

The type of bungaloid, rustic development mentioned earlier, is different from the retirement villages of 1970s and later. Though essentially set in similar settings, one can differentiate between the two. For one, the leisure villages that are seen today are inhabited by the upper middle class and are relatively expensive. The modern retirement village also has all sorts of amenities like shopping and recreation and nearby, if not situated within the community, health centers. These places serve as escapes from the dense urban space, but are not divorced from the facilities and amenities that are typical of the cities.

The deeper dialectic difference is explained by Anthony King. The earlier examples, explains Dr. King, were due to an arcadian dream, a deep seated belief in the institution of both the family and of private property as well as part of a long established American cultural tradition expressed in detached single family housing (Hayden, 1984). The expanding capitalist industrial economy of late-nineteenth century America encouraged both the widespread adoption of these inspirations, as well as the socialistic revolt against the bourgeois industrial urban system itself. The picturesque garden settings and the rural atmosphere were both reactions to the existing urban conditions that had developed out of the social system (King, 1984).

But later, after the World War II, this interest in the rustic bungalow swept through the more affluent class. "Current interest in bungalows is seen as a result against the urban excesses - high-rise apartments, restless travel, incessant amusement, and pointless accumulation of gadgets" (Lancaster, 1984).

> It was produced by what might be called an industrial or urban dialect. Nature had a particular meaning for city folks living apart from it. Living (here) simply made sense only to those with a surfeit of material goods; having a second informal home was attractive only to those with a complex formal city house; raw wood and grass matting and coarse fabric derived their meaning only in contrast to the elaborate decor finished materials and consumer luxuries of the urban cities. The great outdoors appealed only to those with warmth and comfort within. How would people be different if they had nothing to be different from. (King, 1984)

That is what makes the retirement housing of the late nineteenth century and early twentieth century, aimed at the less able and indigent population, different from the bucolic leisure oriented villages built for the financially and physically able and chronologically older population of today. All these trends put the retirement housing typically midway between a charitable institution and a home.

Physical Traces

General

- Marcus Ward Home for Aged and Respectable Bachelors and Widowers. Maplewood, NJ.

  Architect, John Russel Pope.

The Marcus Ward Home, has a more detailed site plan than most others of that time. Following comments may be derived from the study of this example.

- There is an external network of walks and pathways in the landscape.
- There is an access road to the building connecting the site to the community (See Figure 2.3)

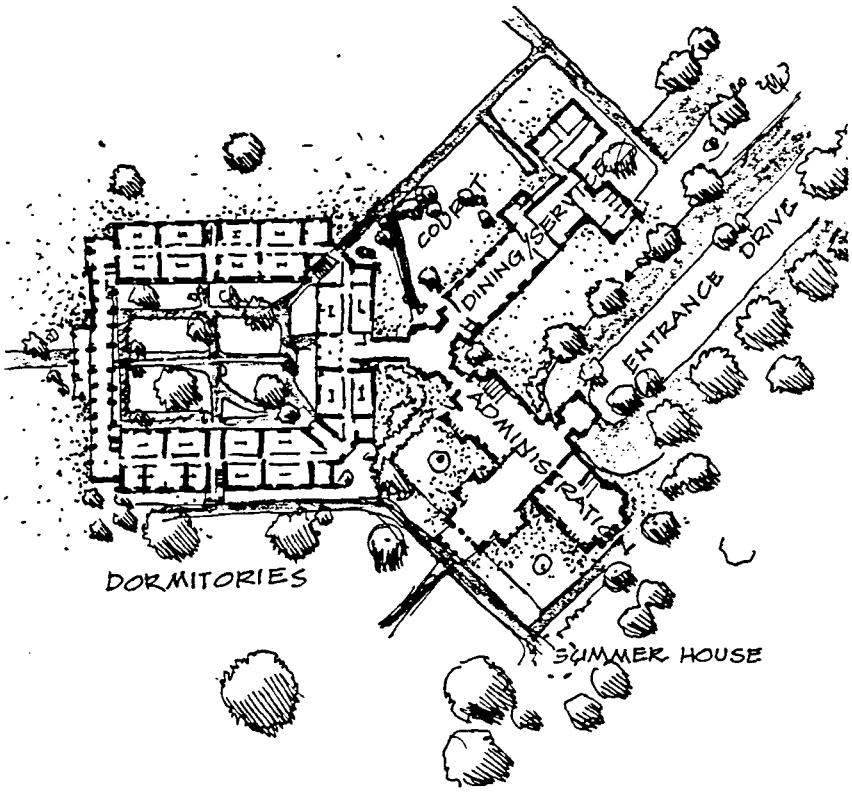


Figure 2.3: General plan. Marcus Ward Home for Aged and Respectable Bachelors and Widowers, Maplewood, NJ

- A strong colonnaded courtyard is created by the dormitory wings (See Figure 2.4). Similarly, a court created by the trees next to the dining area delineated the dining courts that may have acted as a spill-over space for the dining room (See Figure 2.5).

These landscape features increased the legibility of the building. The use of strong axial features in the pathways and courts also served to enhance legibility.

Robustness of the external circumjacent spaces depend on the versatility of the use of that space. Given the fact that it is not known how these spaces were actually used, except through the elevations and views that showed what they were intended for, the architectonic interfaces between the interjacent and the circumjacent spaces need further study. Examples of these interfaces are seen in elements such as porches, colonnades, verandahs, plazas, foyers, windows, doors and courts.

Bentley (Bentley et al., 1985), states that the edges of buildings are important in making the space robust. Most of the buildings of this time had edge conditions that were much more transparent and permeable than the later examples. That means that visual and physical accessibility was very high. The following are some physical elements used to emphasize these qualities.

- Windows.
- Porches.
- Courtyards.
- Roof structure.

Figure 2.4: View of dormitory court. Marcus Ward Home for Aged and Respectable Bachelors and Widowers, Maplewood, NJ

Figure 2.5: Dining hall and service wing. Marcus Ward Home for Aged and Respectable Bachelors and Widowers. Maplewood. NJ

Windows

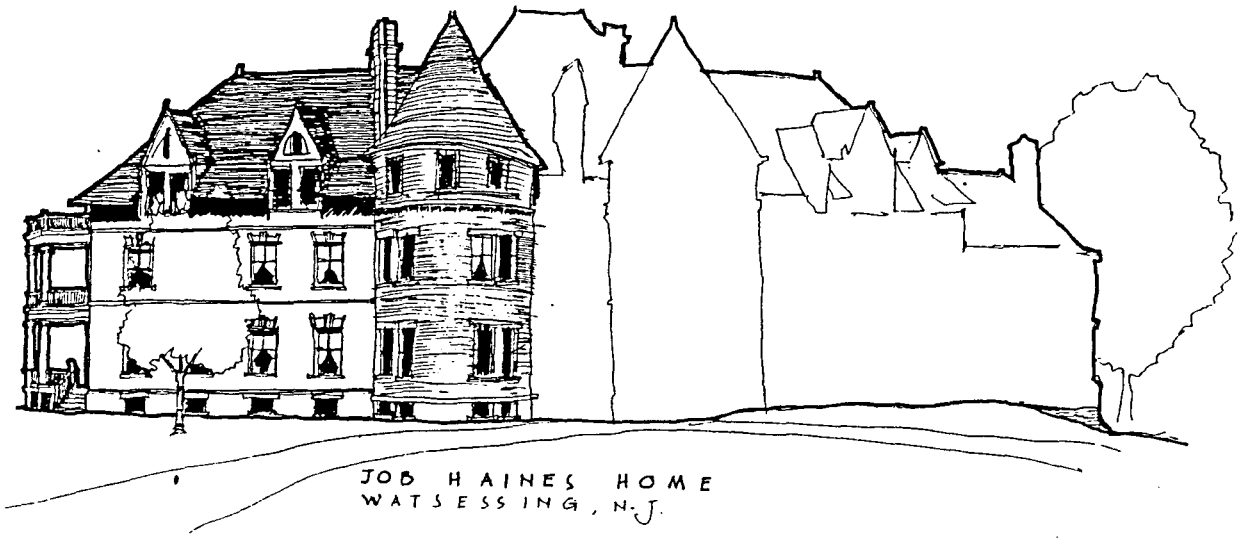
- Job Haines Home for the Aged. Watsessing, NJ
  Architect, Ernest Greene.

The windows of the Job Haines Home (See Figure 2.6) especially those in dormers, increase visual permeability due to their large size. The dormer windows, typical of the vernacular English tradition of country houses, physically intruded through the skin of the building to the outside.

Similarly bay windows, circular protruding windows with the traditional Mackintosh window seats (Benteley et al., 1989), create subspaces within the architectural interjacent spaces that act as visual links to the outside.

Bruno Reichlin describes attitudes of architects and society towards windows. He differentiates between the vertical window, with its thick walls forming a protective square around it (See Figure 2.8) and the strip window (See Figure 2.7). He traces back the former to the cottages, and describes the horizontal strip windows (See Figure 2.7) as "wide open to the landscape forcing upon the inhabitants an unaccustomed visual and psychological omnipresence" (of nature).

He distinguishes the earlier tendency of viewing through traditional vertical windows as peep shows produced through deep embrasures and frame of the traditional windows in the opaque thick walls. This framed view of the landscape was essentially a composition, the picturesque. Through the traditional windows, the interior encloses itself to the outside world, defining the locale and the sill, which amounts to a spatial and emotional exclusion.



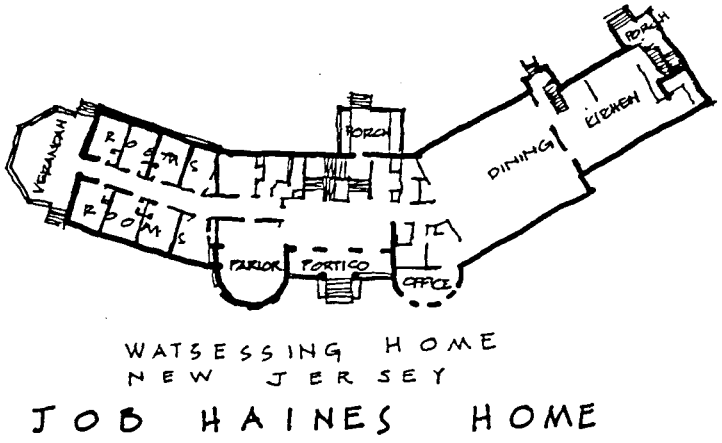


Figure 2.6: Job Haines Home for the Aged. Watsessing, NJ.

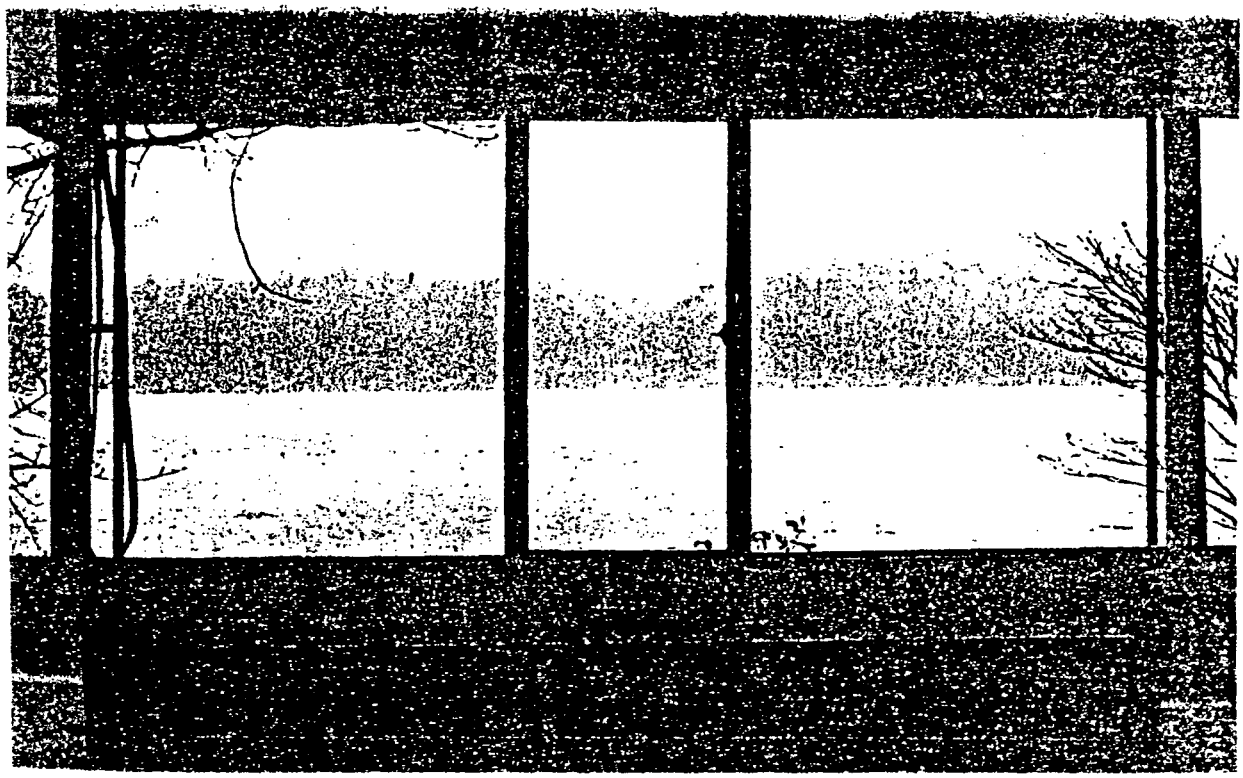


Figure 2.7: View of Lake Geneva from the horizontal window of the small villa by Le Corbusier near Vevey

> The vertical windows allow the eye to wander downwards to the first and closest spatial plane, street and garden, horizontally to the middle and further planes, houses opposite, hills in the background, and upwards into the limitless reaches of the sky, slowly disclosing and displaying a detail of maximum perspective depth, an abundance of variety and nuances in respect to the dimensions, colorfulness and brightness of the landscape. (Reichlin, 1984)

Reichlin and Cornelues Gurlitt (Gurlitt, 1888), give this as a reason for the absence of the use defined site plan. The controlled nature of the external view created an inherent separation between the inside and outside. Later on, the horizontal strip window created a transparency and permeability so that the transition between the familiar objects close at hand as well as those further away, (Perception of spatial depth) was reduced to such a degree that it was necessary to create some separation and inner seclusion. This need for Style to counter the increased visual permeability was done through hierarchical segregation of external space (private to public continuum of spaces), functionally and spatially segregated through interspaces (Holzinger, 1984). Thus in later examples, site planning allows the possibility of creating interspaces and stratifications, depending on the use, thereby creating a graded stratification between the inside and outside. The traditional vertical window with its controlled visual access to the outside helped in creating a framed view of the picturesque. This view, due to its introspective and vicarious nature will be termed as the "private picturesque."

Porches

- Marcus Ward Home for the Aged and Respectable Bachelors and Widowers. Maple Wood, N.J.

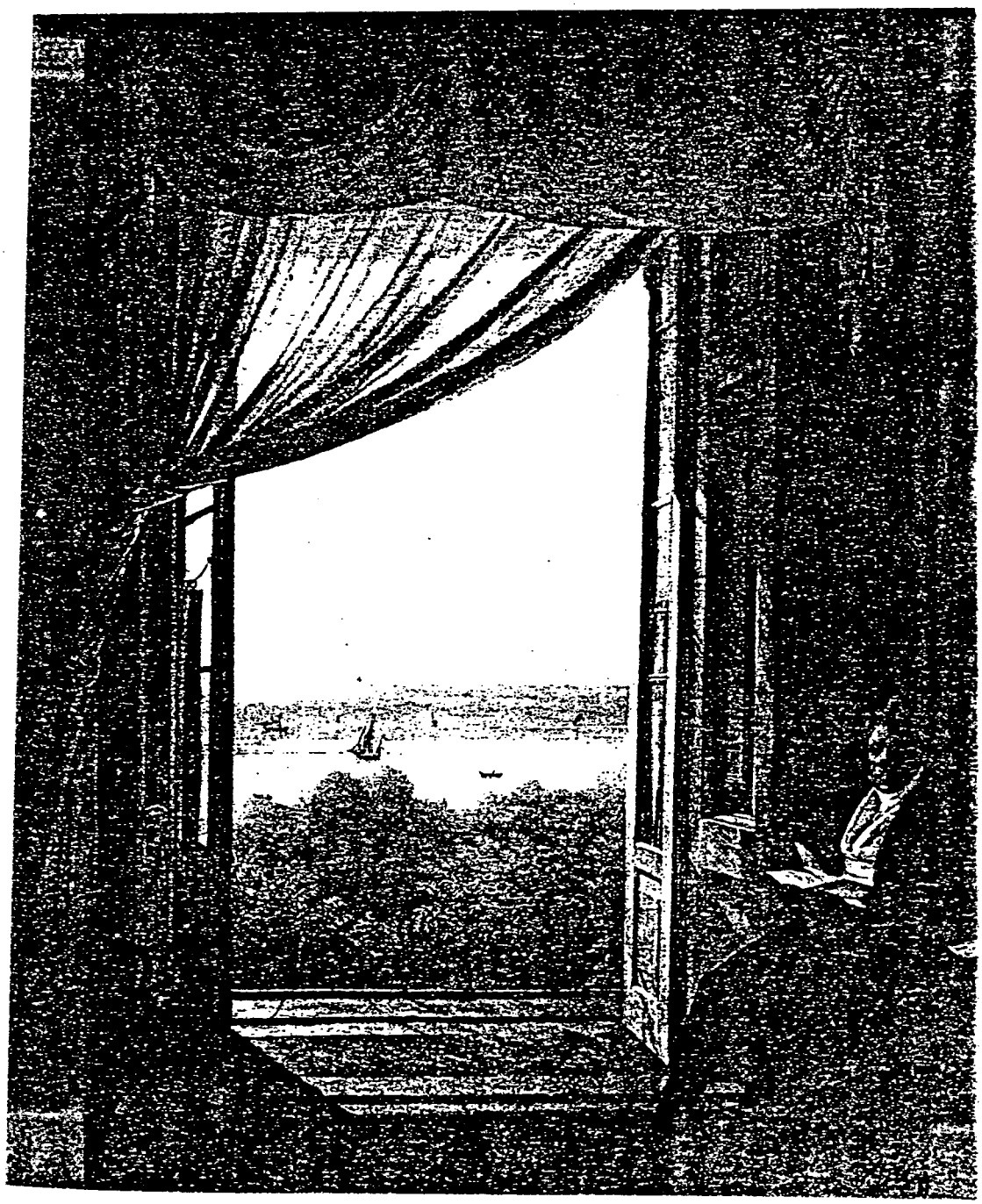


Figure 2.8: Schinkel in Naples, 1824. Franz Louis Catel (1778-1856)

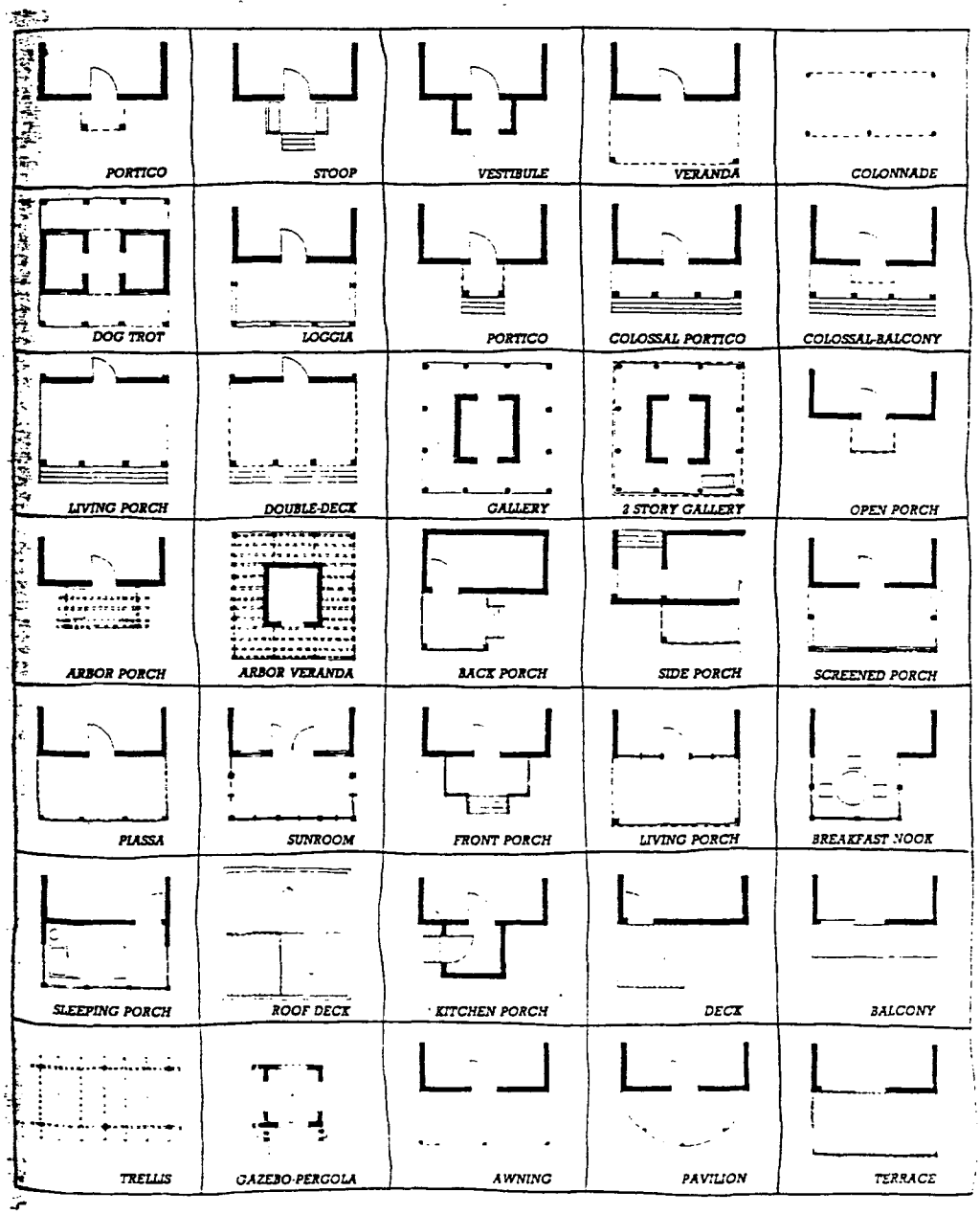


Figure 2.9: Morphology of porches in the American vernacular tradition (Rochlin, 1983)

Figure 2.10: Entrance court with a view of administration and dining hall. Marcus Ward Home for Aged and Respectable Bachelors and Widowers

Architect, John Russel Pope.

The porch was a feature that acted as the physical interface between the inside and the outside. Examples show that physical permeability can be controlled at entry points (See Figure 2.10), porches, verandahs, and entrance halls. Porches also act as landmarks and points that enhance legibility.

- Old Ladies Home. Flitchburg, MA.

  Architect, H. M. Francis.

In the Old Ladies' Home at Fitchsburg, porches, verandahs (See Figure 2.11), dining areas and entry points are orienting features.

- Erwin Home for Worthy and Indigent Women.

  Details unknown.

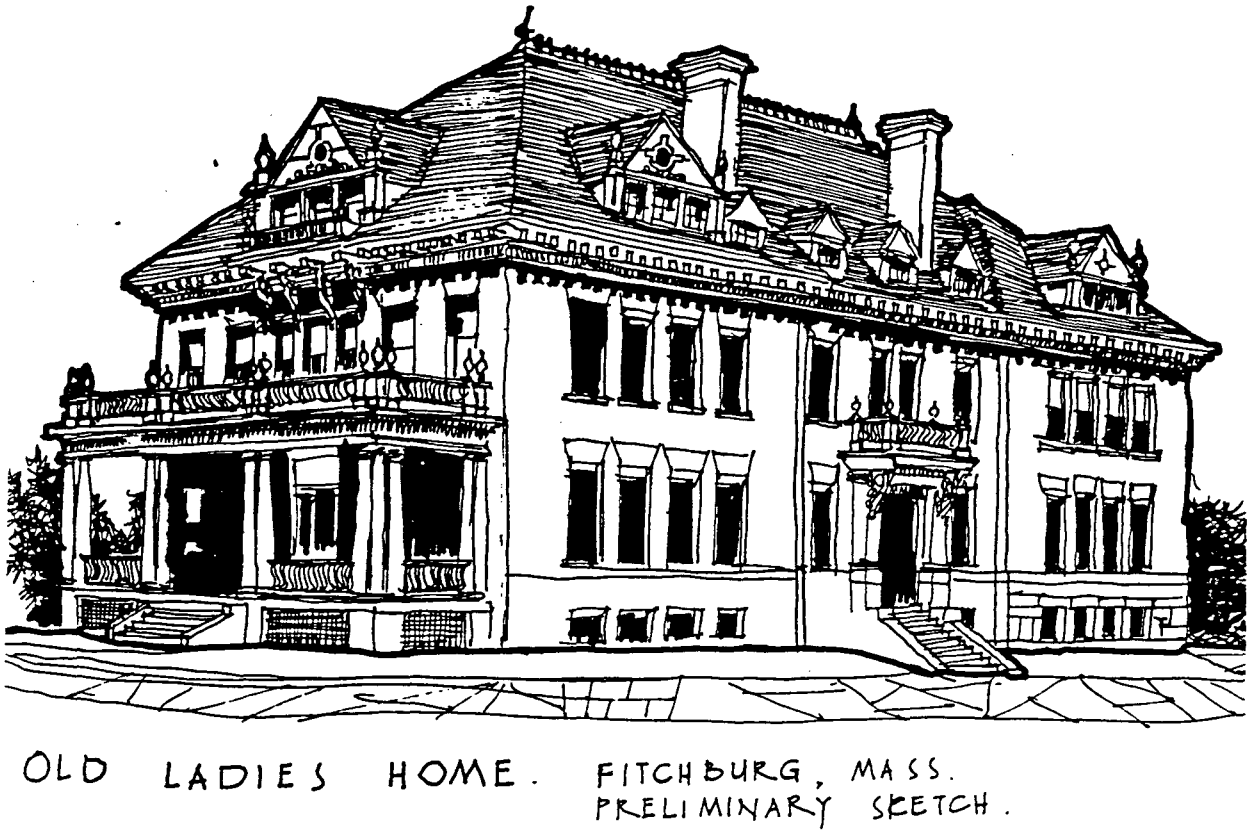


Figure 2.11: Old Ladies Home, Flitchburg, Mass

In the Erwin Home, entry to the apartments is gained through a porch (See Figure 2.12). In fact this kind of entry porches with seating associated with the front stoop (See Figure 2.13) is associated with the traditional vernacular form. It is an idea consistent with the ideal single family apartment, the proverbial American Dream (Hayden, 1984) (See Figure 2.9).

- Oakhaven Old People's Home, Chicago, IL.

  Architect, Charles D. Faulkner.

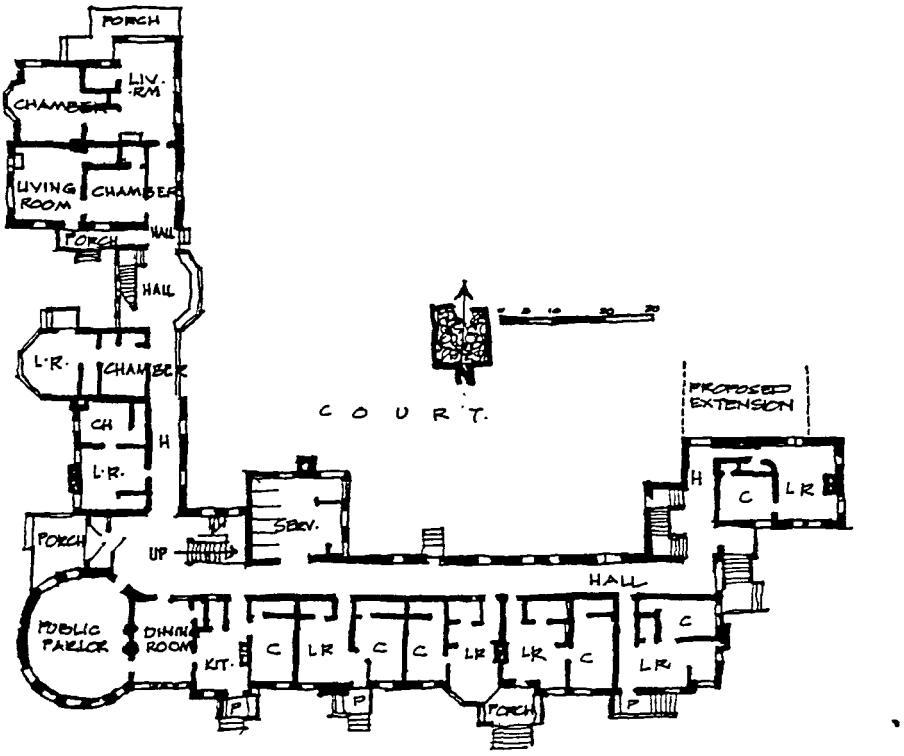
At Oakhaven, the front entry (See Figure 2.14) is reminiscent of the vernacular southern porticos, with columned the two storied enhanced entry space, casting a deep shadow on the large windows and railings (See Figure 2.9) (Rochlin, 1983). The dormer windows and the rudimentary belvederes which help in ventilation and air circulation, are also seen in the plantation houses.

- Marcus Ward Home for Aged and Respectable Bachelors and Widowers, Maplewood, NJ

  Architect, John Russel Pope.

At the Marcus Ward Home there are porches at the end of various circulation paths and in different wings (See Figure 2.15). Another variation of such a space is seen at the Grand Lodge Hall's great flight of steps (See Figure 2.16). These spaces seem to be basically visual connectors and linkages between the inside and outside as well as a setting for vicarious social interaction.

Another example of the use of such edge spaces (Benteley et al., 1985) was observed in the Fitchsburg home (See Figure 2.11), where the porches called



ERWIN HOME FOR WORTHY AND INDIGENT WOMEN.

Figure 2.12: Plan. Erwin Home for Worthy and Indigent Women

Figure 2.13: Part view. Erwin Home for Worthy and Indigent Women

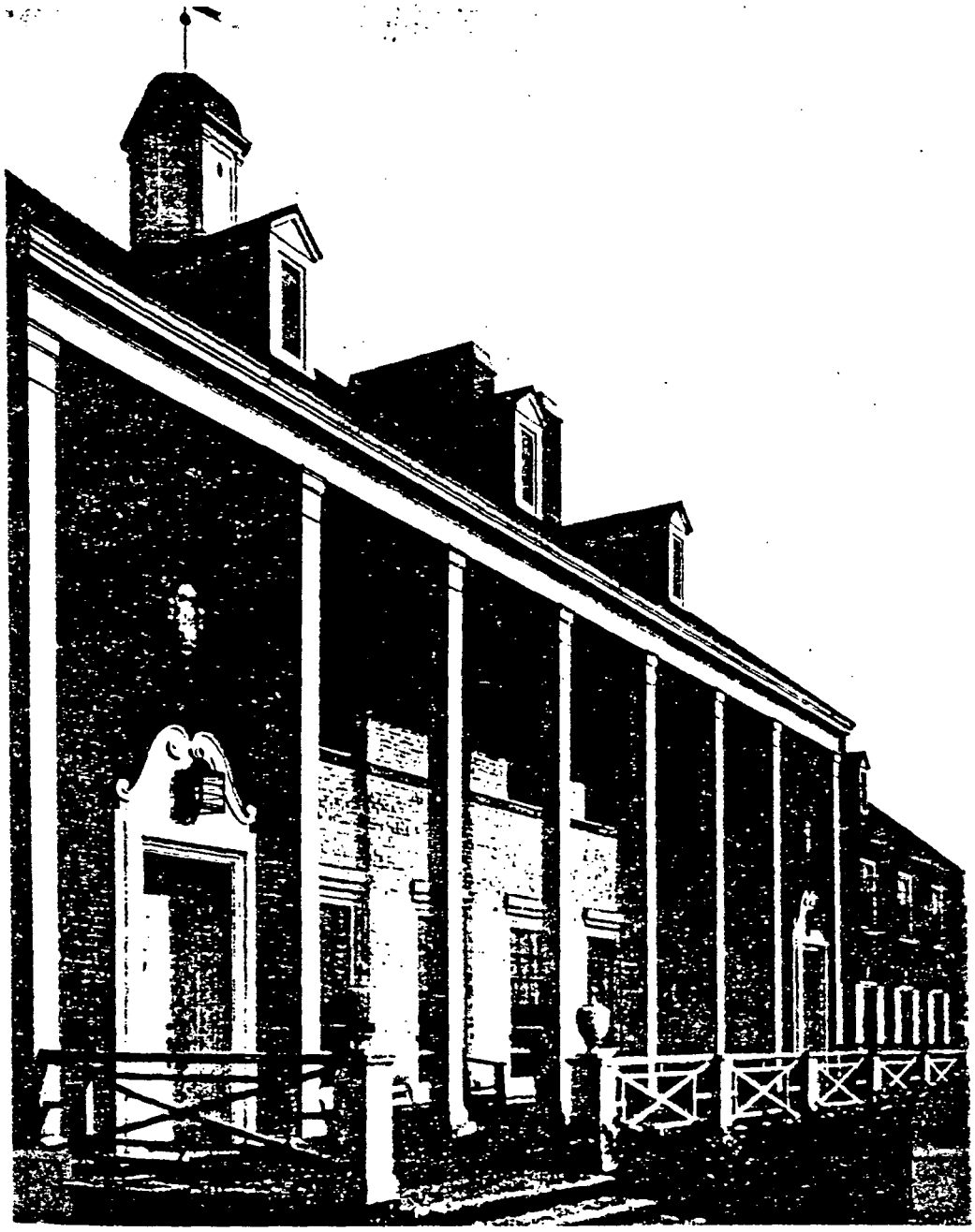


Figure 2.14: Entrance porch. Oakhaven Old Peoples Home, Chicago, IL

Figure 2.15: End of dormitory court. Marcus Ward Home for Aged and Respectable Bachelors and Widowers, Maplewood, NJ

piazzas, exist. The Italian influence is obvious, as is the intended activity in the space. The lexicographical definition of the word suggests a square or a market place in Italy. These spaces may have served other functions than fostering vicarious social interaction, but any such function for the space is mere conjecture.

Courtyards

Colonnades and pathways are external features that also act as interfaces with the inside and outside (See Figure 2.20). Often the morphology of the building created court spaces (See Figure 2.21).

- Marcus Ward Home for Aged and Respectable Bachelors and Widowers, Maplewood, NJ

  Architect, John Russel Pope.

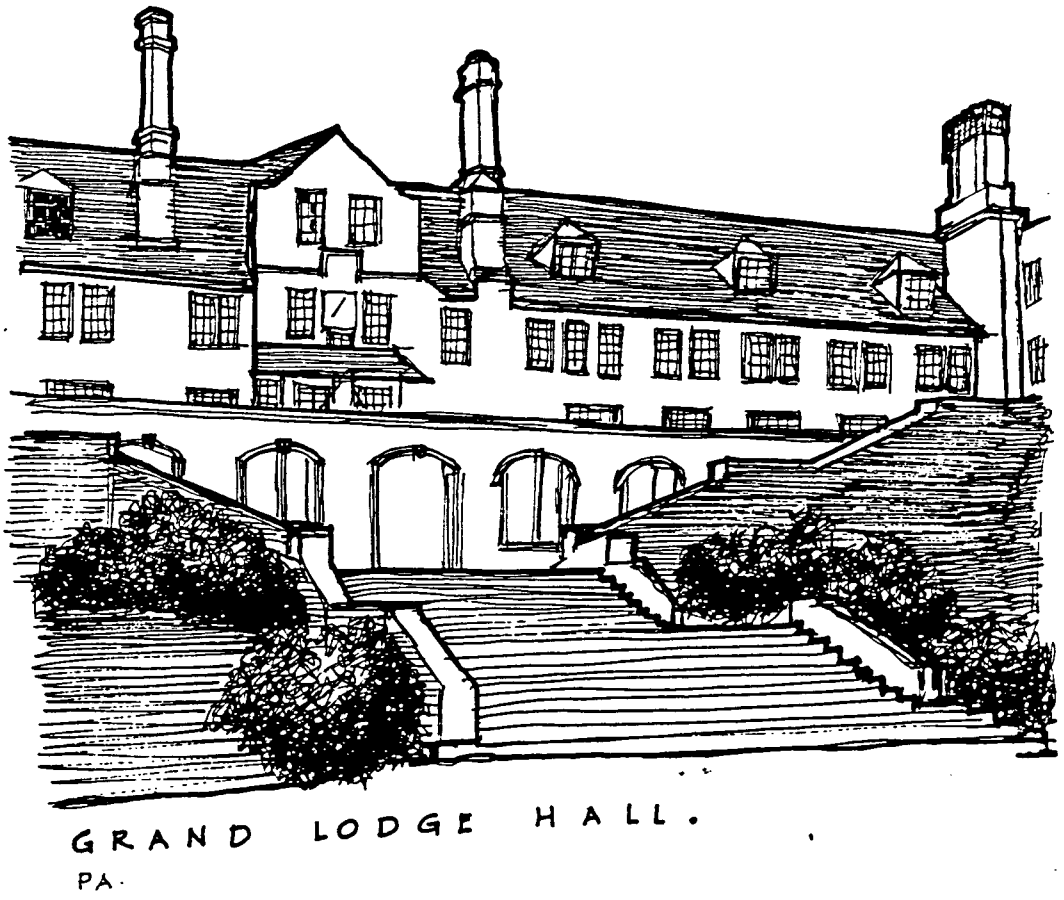


Figure 2.16: Entrance stairs. Grand Lodge Hall, PA

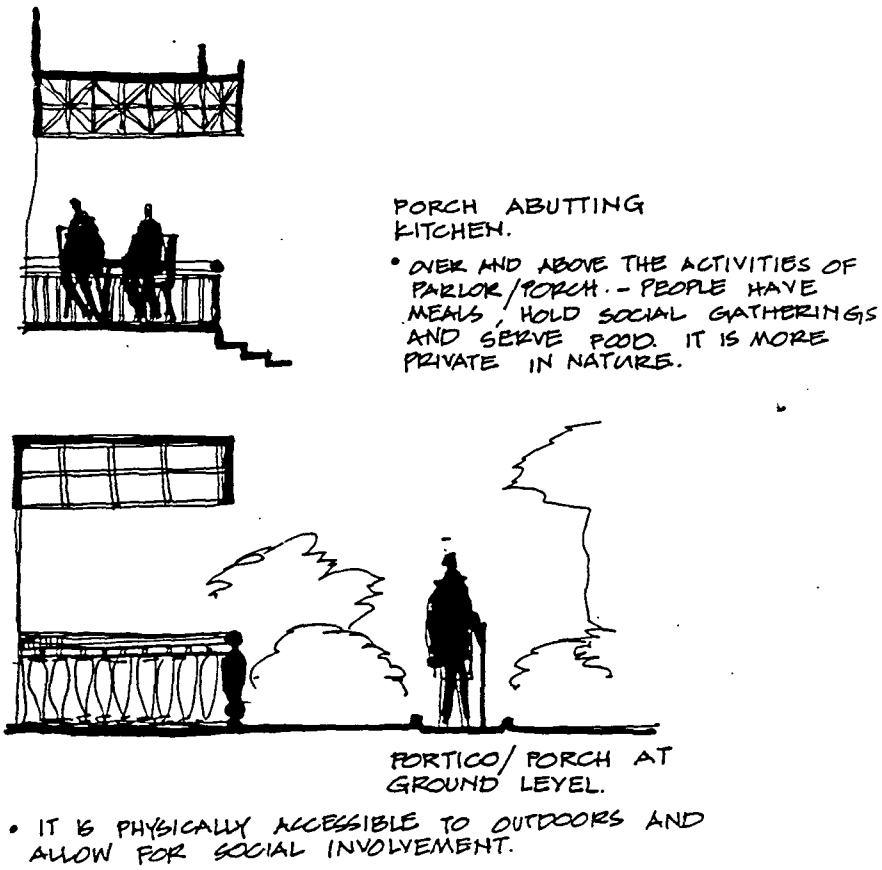
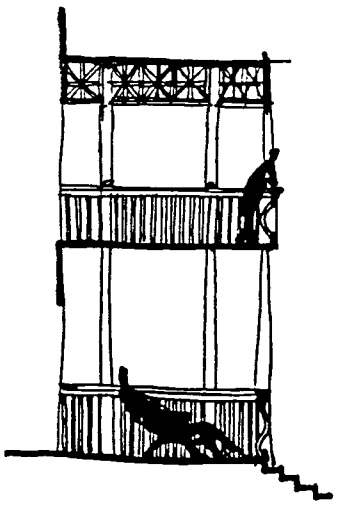


Figure 2.17: A summary of the morphology of porches. Balcony and porch at the end of a corridor



BALCONY

- USEFUL AS ORIENTING FEATURES.
- RESIDENTS CAN COME OUT AND WATCH ACTIVITIES OUTSIDE.
- VIEW POINT IS ABOVE ACTIVITY LEVEL. THIS AFFECTS INVOLVEMENT FACTOR. THE PARTICIPATION IS VICARIOUS IN NATURE.

PORCH AT CORRIDOR ENDS

- RESIDENTS SIT AND WATCH ACTIVITIES OUTSIDE.
- VICARIOUS AND PHYSICAL INVOLVEMENT POSSIBLE.
- A SPACE FOR UNOFFENSIVE SURVEILLANCE.

Figure 2.18: A summary of the morphology of porches. Kitchen porch and porch at ground level

In the Marcus Ward Home, a semi-enclosed dormitory court (See Figure 2.4), enclosed by a colonnaded walkway was used. The dining court (See Figure 2.3), was delineated by plantings. In the publication the artists' impression of the courts in the Marcus Ward Home, the spaces seem to be delineated by three factors, viz. built form, pathways, and position of trees.

Complexity of the view was increased by the treatment of the edges of the built form. At Marcus Ward Home, the architectural treatment of the exterior gave an effect of smaller individual cottages surrounding a spacious commons (Hayden, 1984), as the archetypical American prototype of a single family housing form.

- Grand Lodge Hall, Elizabethtown, PA

  Architects, Zantzinger, Borie and Medary.

Such use of built form, juxtaposing each other to enclose a court space, is seen on a larger scale in the Masonic Grand Lodge (See Figure 2.19), where the lodge hall sat at the end of a symmetrical visual axis, acting as a grand entry into the community. The importance of courts in creating legibility and spatial hierarchy is seen here. The courts delineate the hierarchy of spatial usage in the public-private continuum.

Roof structure

Another dominant architectural element that may be persistently found in most examples is the treatment of the roof structure to create a dominant roof-line. The sloping roof had variations, viz., the English Tudor, Vernacular and Gothic versions, Mansard roofs, etc. Such roofs add to the picturesque and the scenic

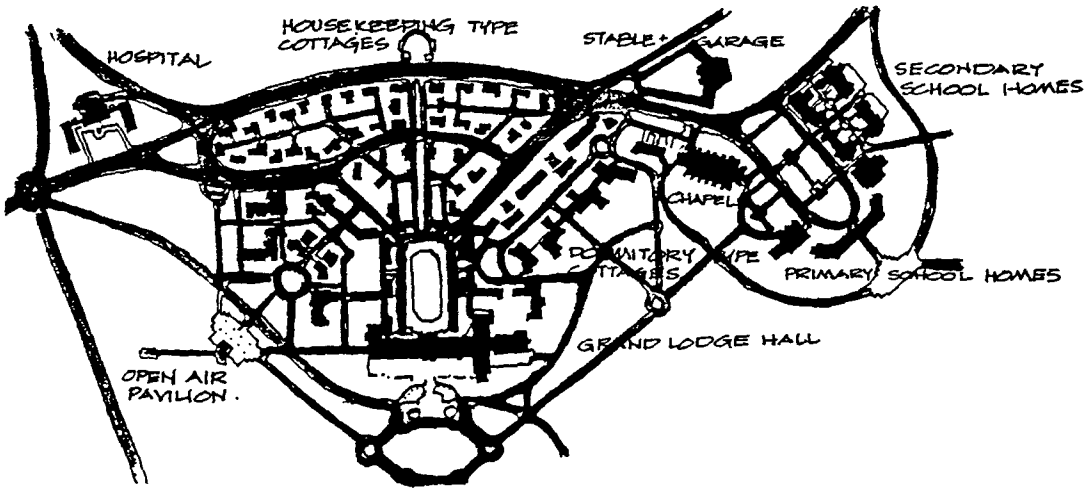


Figure 2.19: Grand Lodge Hall for the Masonic Order, Elizabethtown, PA

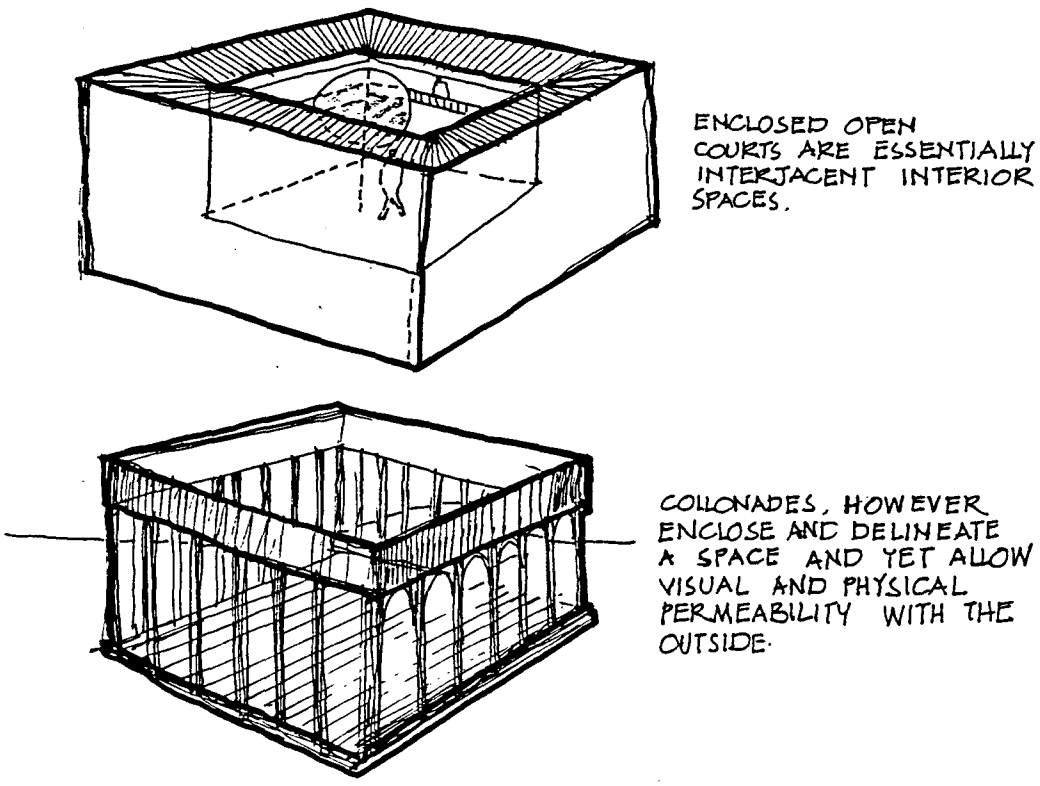


Figure 2.20: Difference of permeability between internal court and colonnaded arcade

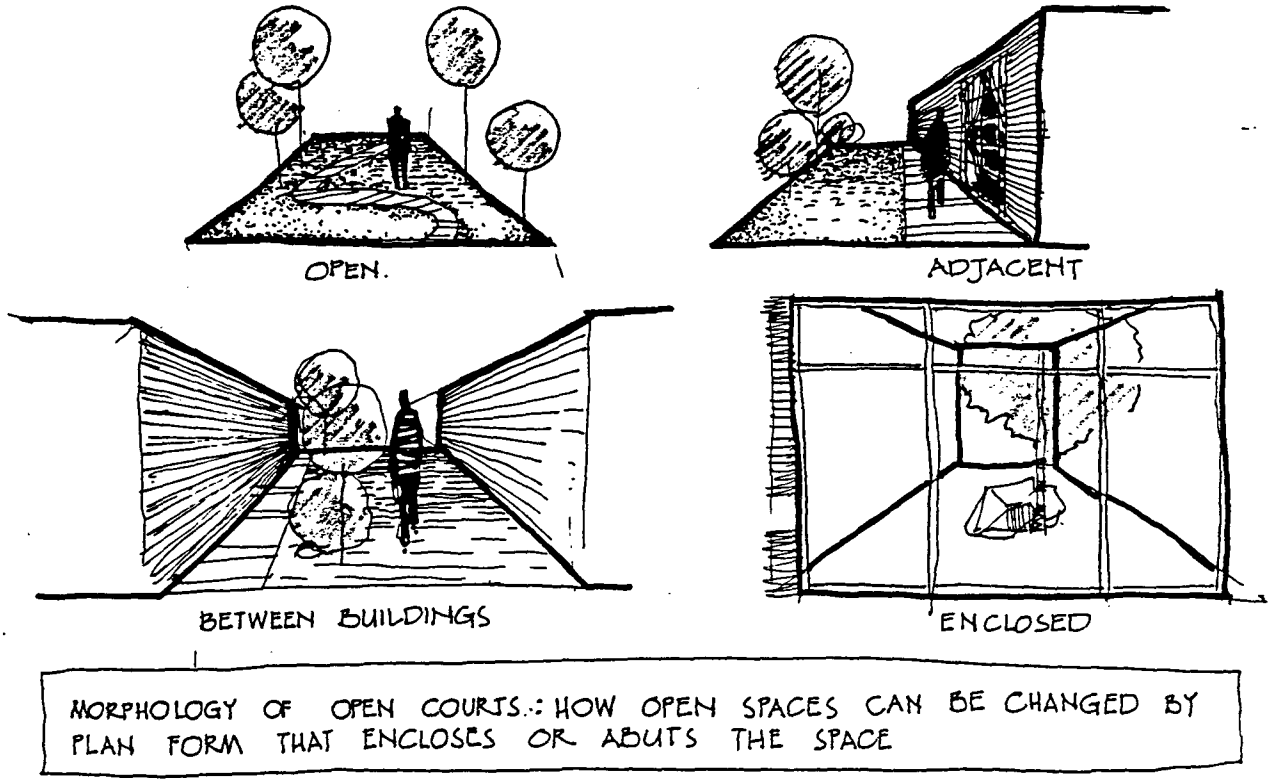


Figure 2.21: How open spaces can be changed by the plan form that encloses or abuts the space

nature of the setting. The vernacular idiom makes the buildings more "homey" (See Figure 2.6, Figure 2.15, Figure 2.11 and Figure 2.13). These forms were not just observed in these examples. In fact, their representation in the paintings of the time expressing the rustic charm of the pastoral picturesque caught the public imagination. The gabled roof represents "a residence" to an American family, even to the extent that the graphic designer can very simply abstract the notion of a residence through the single line of a pitched gable form (Lindberg-Berreth, 1989).

Conclusions

Thus, in the early examples of elderly housing, the architecture is set in a designed passive setting, with major architectonic interfaces relating to the public/private, outside/inside, circumjacent/interjacent. The importance of these features are manifold. They act as,

- transition spaces between the two domains and
- regulators of privacy and permeability.

To explain this, the term privacy may be explained through definitions given by Altman (Altman, 1975, 1976, 1977), that speak of "privacy as a dialectic process," and the definition given by Wolfe and Proshanky (Wolfe, Proshanky and Laufer, 1973), regarding "privacy through control." Privacy is not solely withdrawal from social interactions. It is actually a two way street, open, or closed, to social interaction, which shifts over time as social circumstances change, sometimes involving a separation from the other person, sometimes involving social contact with others (Altman, 1975, 1976, 1977).

When privacy works as closeness, the individual withdraws from interactions to go off to be alone, to relax, to collect scattered thoughts, and to think things through.

This type of individual privacy was offered in the private rooms in the "single family dwelling" (Hayden, 1984; Ahrentzen, 1989). In the communal old houses and old homes for the aged and indigent however, private bedrooms were non-existent (Blank, 1988). There was a real absence of individual private space inside the building. The picturesque wilderness provided for such private spaces where the possibility of controlled and individual social interaction was possible.

The second type is called shared privacy as seen in intimate relationships. Boundaries are taken down between the self and others within the same precinct and are put up between the residents and the rest of the world. Growing intimacy necessarily means the decline of individual privacy and the growth of shared privacy (Wolfe et al., 1973).

Aged in a housing community have a shared privacy defined by the precinct of the community. Whether such age-segregated existence is desirable is debatable. Maybe too much of such segregation creates an institutionalized image. These institutions were segregated from the community and had a distinct identity of their own that gave them the necessary shared privacy, often at the loss of community identity.

The third type of interactional notion of privacy is called controlled social interaction, expressed as a factor of control, control over choice, control over access and control over simulation. The ability of the individual to control the choice of being private, physically and psychologically in residential space, both in the

interior living space and the adjacent exterior spaces is important. The spaces therefore need to be shaped to meet the individuals need for seclusion and social involvement (Toyama, 1988). An interesting feature is seen in the seating arrangements of the Marcus Ward Home. According to Rutledge (Rutledge, 1980), such arrangement is right for "unassociated singles observing events directly in front" and is poor for group interaction. This may have some implications in explaining the way such seats were provided and what they intended to serve. They act as a passive viewing points from where one could control social interaction. Such seating might be right for elderly, who, according to Alton J Delong (DeLong, 1970), due to the special anthropomorphic and physical requirements, find side-by-side and close body orientation preferable for intimate conversations rather than the more conventional face-to-face model.

Porches and verandahs act as control points where one can exercise social seclusion and involvement by either choosing to be involved or choosing to be secluded.

Whatever form of human privacy, some physical settings and their properties will be more congruent with this "form." If a physical setting fits, it can evoke and will continue to evoke and support a related and relevant form of human privacy. This relevant form of human privacy is quite individual and varies from person to person (Toyama, 1988).

This necessitates the existence of choice and an ability to control. Architectural elements that define the edges between the outside and the inside, public and the private, should thus be amenable and allow control over privacy and permeability to suit the user. Without any primary research, however, one may

merely conjecture that elements such as porches, balconies and walks served as spaces for controlled social interaction. The circumjacent was a picturesque setting that also served as a setting for controlled social interaction and privacy.

CHAPTER 3. THE ACTIVITY SETTINGS

> There is value in recreation, in replacing the losses of a shrinking life-space. Particularly those activities in recreation which lead to socialization are going to be useful and supportive. The individual, who through his recreational pursuits, has a confidante in his life-space, is more likely to survive deprivations such as restricted mobility, bereavement or financial loss. Recreation is a medium towards socialization of the older adult. It may have inherent values, for example, physical exercise, but, recreation with others provides a psychological buffering against crisis. (Birren, 1968)

Trend Statement

Landscape of Man. The landscape was becoming a public community space.

The second trend in the outlook towards nature that can be identified in this study was what D. W. Meinig defines as "Landscape as an Artifact." Meinig defines this ideologically as "Man as Creator," not only emancipated from, but the conqueror of nature, with the twentieth century concept of man as technocrat in charge of remolding the earth to suit his desires - concomitant with the growth of the pervasive power of the engineer to alter the physical earth and the power of the biologist to alter organic life (Meinig, 1979).

Non-physical Traces

There were other factors associated with the way that the landscape was viewed by designers of elderly housing. After the 1950 Census, it was found that the population of aged Americans was rapidly growing, and the projected growth for the seventies was phenomenal. About 30% of the dwellings owned by the age group of sixty five were found to be substandard and 43% of the housing that was rented by them was substandard too. Even though 30% of the dwellings owned by the age group of sixty-five and above had a value of $10,000 or more, these large sized houses were not suitable for the aged. Since two-thirds of the elderly who had their own house had invested their life-time savings and their capital in their large houses, the relinquishment of such places due to illness, death of a spouse, or reduced income was often traumatic (Mathaisen, 1956).

There were other factors associated with the changing outlook towards elderly housing,

- The chronological age of 65 was chosen as an age beyond which a person could be termed as elderly. This was a change from the earlier view of associating the less able and the indigent as elderly. This segregation also led to a sizable population of the elderly being more physically able due to improved medical care and economic situation. There were two types of elderly now, the young-old, and the old-old (Blank, 1988).
- The Post-War urban growth and industrial development resulted in the break up of the traditional large family system. Nuclear families were scattered. Children moved away from parents and often the elderly were left to fend for themselves. The elders who owned large houses would be reluctant to leave their homes, which over and above being "their own" was all that they had saved and invested in throughout their lifetime. Elderly were able bodied too, and often lived more or less independently. For them, moving into a care institution was "losing their independence" (Randall, 1956; Mathaisen, 1956).

Frequently, however, illness, failing health, or the death of a spouse would force them to move into a care institution. Many a times, they had to move into nursing care facilities or hospitals. The traditional home didn't serve the purpose of nursing care. Thus a need was felt to include some sort of medical facility, not as elaborate as a hospital, but small enough to be incorporated into the institution (Burgess, 1970). Thus the concept of life-care and assisted living were developed.

The environment too had to cater to the diversity of the population. This kind of environment is called the prosthetic environment. The living environment is more adaptable and accessible to various types of people.

This was the objective. The Housing Policy according to President Eisenhower was that "in considering the changed circumstances, presented by the lengthening of the life-span, we must recognize older people as individuals and not as a class, and their wide differences in needs desires and capacities."

The Social Security Act and amendments during 1950s brought with it some sort of financial independence for its beneficiaries. Elderly people had some money to spend after retirement and thus could afford a better living standard than was otherwise possible.

At the same time other government policies like Medicare supplied medical care and facilities at reduced prices, leading to the overall improvement of the health standards and physical abilities of the elderly.

Federal Housing Aid, in the form of FHA grants, Section 202 Direct Loan schemes, Title 231, and other programs, allowed private and cooperative housing schemes as well as sponsored housing both by private entrepreneurs for profit and by non-profit organizations. The 1956 Housing Law was followed by other

amendments. The official Federal Council on Aging was established in April 1957 by the President as an inter-agency coordinating group. In October of that year, The Center for Aging Research in the National Institute of Health was established. The Federal Housing Administration amended the rental clause (section 207) of the 1956 Housing Act and the Housing and Home Finance Agency in December 1957, announced the appointment of an overall Advisory Committee on Housing for the Elderly (Mickel, 1957).

The new laws gave rise to two types of large scale developers, viz.

- The non-profit organizations like the members of AAHA (American Association of Housing for the Aged) and National Association for the Non-profit Homes for the Aged.
- The private profit-based individuals or organizations, like the Rossmoor organizations of Ross Cortese and the Heritage Village, developed by Henry Paparazzo.

Under various acts, viz., the Pat McNamara and Fogarty Act, Older Americans Act, 1963, Hill-Burton Program, 1946 etc., allowances were made to fund construction and modernization of hospitals, which was later extended to nursing homes in 1954.

The Elderly housing catered to the financial and medical improvements by providing more facilities like active recreational facilities and therapeutic programs.

Also catering to the entire gamut of elderly residents, from the young-old to the old-old, elderly housing had to cater to a variety of care environments. Continuing care communities were prevalent, so were retirement villages and cooperative retirement facilities. For the purpose of this study, retirement villages and nursing care facilities have not been included.

Most "Non-physical Traces" aimed at producing independent, active settings that catered to various types of older people with various abilities and skills. This created a diversity of activity spaces, ranging from the public to the private, within the precinct. The juxtaposition of these spaces to each other and the visual permeability between them became a matter of research interest (Howell, 1981). A diverse environment also required legible spaces. In an increasingly active and complex interaction with outdoor spaces, legibility of the precinct and the environment becomes an important determinant in the successful use of the space (Gelwicks, 1970).

Physical Traces

In the external environment the physical manifestations of the following things may be observed,

- Hierarchy of public and private spaces to cater to a varied population and the permeability between these spaces.
- Identity of a precinct that gives legibility and orientation to the physical environment.
- The prosthetic environment that caters to various types of people or robustness.

Hierarchy of physical spaces

There is one major determining factor that establishes a spatial heirarchy in a designed environment and it is the permeability of inside with respect to outside, both physically and visually.

- The Kiwanis Village, Victoria, B.C.
  Architect, Sharp, Thompson, Berwick and Pratt.

The example of the Kiwanis Village at Victoria B.C. was built in the 1950s by Charles Craig, an architect associated with Sharp, Thompson, Berwick and Pratt. The architect won the Massey Foundation Gold Medal for Architecture for this design. The major physical change in the plan as compared to the earlier examples, was the use of independent apartments or rooms. Though in single occupancy units residents shared baths and kitchens, for couples, independent apartments were designed with built-in kitchen and toilet facilities. This changed both the limits of privacy and the circumjacent space with respect to permeability and robustness.

- The site gets divided into two major zones, viz. the front and the back, depending on the way the access from the unit or the cluster was (See Figure 3.1) arranged.
- In addition to that, around the individual buildings too, there exists the front and well defined back determined by the access to the building (See Figure 3.2).

In the Kiwanis Village, the kitchen and dining areas face the front with the access paths leading up to it and the large windows denote a great amount of visual permeability at the front (See Figure 3.3). Being within a larger precinct, the kind of privacy required is of the shared precinct identity type and thus the designer could allow larger visual permeability.

The bedroom is adjacent to a more private part of the building, the back, court, garden or backyard (See Figure 3.4). Zeisel explains this hierarchical development of spaces, from front to back, as public to private in mid-rise and low-rise elderly housing (Zeisel et al., 1977, 1983).

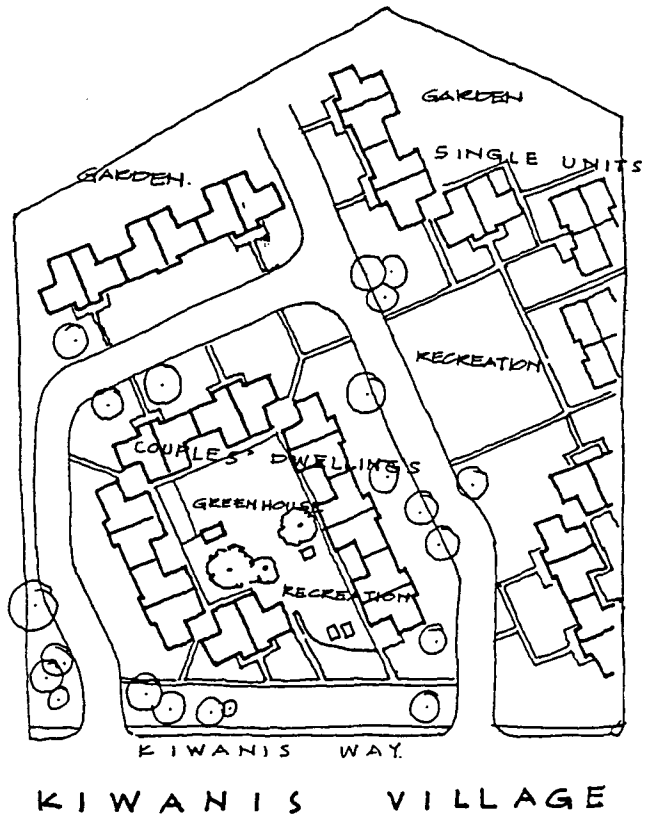


Figure 3.1: Site Plan. Kiwanis Village, Victoria, British Columbia

Detailed apportionment of the site expresses itself through elaborate site planning divided into access paths, vehicular entry points, individual vegetable gardens, outdoor activity spaces and flower beds (See Figure 3.5) (*Architectural Review*, 1956).

- Colorado Baptist Home for the Aged. Canon City, CO
  Architect, Harold R. Carver.

Another example can be seen in the Colorado Baptist Home for the Aged, Canon City, CO designed by Harold R. Carver, Architect, which, among other things has a large apartment housing block.

To satisfy the various requirements of a varied population, from the more able to assisted living residents, the site has independent cottages, apartments and even a hospital. With such a variety of uses within the precinct itself, a detailed site plan has been used to explain the zoned circumjacent spaces (See Figure 3.6).

In different units, the relation between the inside and outside is different, once again emphasizing the variety involved. The apartments open up directly into the courtyards creating smaller clusters within the precinct. There is direct access, physically and visually, to these courts from the apartments, making it easy for people to sit outside when the weather is nice, or go for a walk. Such common space does to a congregate housing scheme exactly what the private backyard did in the American detached single family home (Hayden, 1984). Here one discovers a hierarchy of private to public spatial continuum within the housing community itself. The plan form of the building often creates such spatial hierarchies (See Figure 3.7). In the Colorado Baptist Home, the splayed form provides privacy to

each wing and also encloses courtyards.

Visual and physical permeability depends on the juxtaposition of the adjacent spaces (inside private-outside public, inside public-outside private etc.).

In the case of public areas within the building, there may be access to the public courts with games and active recreational facilities, as well to walks and gardens for passive recreation.

The covered porches act as interfaces between the inside and outside and centers of vicarious involvement with the activities going on outside (See Figure 3.8). Such spaces also allow controlled social interaction (Wolfe et al., 1973).

Finally, for the entire apartment block there is a "front" and "back," and the circumjacent space associated with the inside can be studied. For example the main entry with garages delineates the "front" of the building (See Figure 3.7), along which the lounge, dining room , mail room are placed. The front also has the landscaped entrance porch where residents sit and watch people and traffic.(See Figure 3.8). For a designer, the development of such animated edges along the front requires great skill.

The way in which the circulation corridors or passages connect with the outside is another important feature that helps orientation in the multiple apartment blocks. The corridor of an apartment wing into which the apartments open is a semi-private space within the precinct. It is semi-private because it is associated with that wing only and is next to the private apartments in the continuum of spaces. In the Colorado Baptist Home, these passages had direct access to the outdoors (See Figure 3.7). The reason for this is to allow the residents

to have the choice to access the outdoors without having to go through the semi-public and public spaces within the building. Thus physical access to the outside and the interjacent space through which one can access the circumjacent is an important design element.

Visual permeability allows for spatial orientation and also allows vicarious social contact with activities outdoors. Where the connection happens is important. An opening or window at the end of the corridor often creates glare (Osterberg, 1980), as seen in the left wing corridor in the Colorado Baptist. A long circuitous corridor may be a problem in way-finding and the access point might be lost in the maze. Research however proves that cognition of spaces and way-finding for the residents of a building is different from that experienced by non-residents. In examples where the circuitous corridors is a way-finding problem for the non-resident, it is actually a rich, diverse, and complex space with visual access to outside for the resident. Through legibility, use, personalization and proper orientation features, is not a major way-finding problem (Horwitz, 1988).

- Memorial Home for the Aged. Chicago, IL.
  Architects, Lowenberg and Lowenberg.

In the Memorial Home for the aged, the architects designed saw-toothed bedrooms with glass walls, to have maximum visual access and natural light into the room (See Figure 3.9).

Legibility of circumjacent spaces that gives identity to the precinct

Due to the larger number of "more able" elderly, the interaction with the circumjacent now becomes more active in nature. Galen Cranz traces the use of outdoor spaces and the idea of recreation from the pastoral setting that induced walks and passive interaction to the active recreation oriented nature of city parks and playgrounds (Cranz, 1978). A similar trend is seen in the design of outdoor spaces within the precinct (Wolfe, 1975).

Such active use of the landscape is expressed through private gardens and recreational areas. These outdoor spaces not only allow for exercise and active recreation but by their very nature create a community spirit and precinct identity. Walter K. Vivrett, Associate Professor, School of Architecture, University of Minnesota (*Architectural Record*, May 1956) explained the need for institutions to provide congregate, group living environments like that available in residential environments. This, like the milieu therapy, Vivrett emphasized, was due to the ability of the physical environment to perform psychological, social and therapeutic functions.

For example, in the Tompkins Square , the first apartment house for the elderly built as early as 1929, (operated by the Community Service Society of New York on a non-profit basis), the individuality of the users were emphasized along with the community spirit. The semi-independent apartments catered to the privacy requirements of the users, and the individual planter boxes on the roof terrace allowed every able individual to own a piece of tillable land. The result was that every summer morning there would be one or two persons busily pruning, watering or admiring the plants. These gardens also became the spirit of the

community. There is a similar example in the Senior Center in Santa Barbara, where gardening by individual residents created a warm and sensitive outdoor environment. Such outdoor spaces that help social interaction and togetherness are responsible in creating legibility and identity of the precinct within the larger encompassing community.

Following are some more examples where designers have attempted to reduce the institutional image through various landscape treatments. Given the FHA grants and subsidies, many non-profit cooperative bodies and institutions with similar interests made large housing schemes for age-segregated housing. To be less institutional in character and more "home-like," such housing schemes needed a coherent identity which shall be called the identity of the precinct.

- Hearthstone Manor. Folsom, CA.
  Architects, Rickey and Brooks.

In the Hearthstone Manor, press publicity releases stated that the designers have sought a mellow, homey atmosphere for the elderly citizens by a combination of natural stone and woods with cheerful colors and easy to maintain finishes. Cashing in on the "arcadian dream" as an identity of the precinct, the picturesque rural setting and the recreational potentials of the site have been tapped to create an identity of the place. This tendency to use the picturesque as a setting thus creating a utopian place is seen in the examples of leisure villages and the mushrooming retirement villages by private sponsors. These examples are beyond the scope of this study.

The following features in the Hearthstone Manor also create precinct legibility.

Such features are seen in other examples also.

1. The road layout. The organic layout (See Figure 3.10), reminiscent of the neighborhood plan of Radburn by Stein and Wright and Riverside by Olmsted, with the pedestrian path separated from the vehicular path gives character to the site (Cooper-Marcus and Sarkissian, 1986).
2. Use of planting gives a lush forest-like setting for the site, which subtly distinguishes it from the community (See Figure 3.11) (Cooper-Marcus and Sarkissian, 1986).
3. Apportionment or zoning of the site by use (See Figure 3.10) create legible districts.
4. Use of landforms, plantings, social and communal spaces as nodes and landmarks that orient residents and give the site an identity (Lynch, 1960).

Road layout The growing importance of the vehicle is evident in any housing precinct. Careful arrangement of roads giving access to various housing sub-types within the precinct, apartment blocks, cottages, nursing facilities, services, etc. is separated from pedestrian access to various buildings within the site.

- The Florida Lutheran Retirement Center, Deland, FL
  Architect, Jas. Gamble Rogers II.

In the Florida Lutheran Retirement Center the geometric vehicular road layout was coupled with covered walkways joining residential units to the administration building and the common facilities such as the crafts center, garden plots, recreational facilities etc., creating a legible pattern of circulation directed towards orienting the population through a clean legible layout (See Figure 3.12).

- Salhaven Village, Housing for the Upholsterers' Union, Palm Beach, FL
  Architect, Rufus Nims.

In Salhaven Village, 15 miles north of Palm Beach, a retirement community of the Upholsterers' International Union had an elaborate pedestrian system joining residences and apartments to offices, a crafts center, shopping center and auditorium, planned along the water edge giving legibility to the site (See Figure 3.13).

Planting and the arcadian dream The idea of the lush picturesque was something that authors associated with the ideal American detached house (Hayden, 1984). The Arcadian dream (Schmitt, 1969), was an image associated with home, peace and tranquillity, as compared against the harsh reality of the industrialized world.

Elevations from the Florida Lutheran Retirement Center, show a park like surround that gives a tranquil image to the site. Such settings, coupled with outdoor recreational facilities, walks, paths etc., create an image of "Landscape as Nature" (Meinig, 1979). Such a setting is a pristine tranquil setting where, through the proper use of scale the individuality of man, his importance and identity is reinforced.

Zoning and district formation Most examples of both larger (Florida Lutheran Retirement Center, Salhaven Retirement Village for Upholsters, Kiwanis Village, Hearthstone Manor) and smaller examples of elderly housing (Sunset Homes) have vehicular access roads, paths and walks (edges and paths) dividing the site into districts (Lynch, 1960).

- Presbyterian Village. Detroit, MI.
  Architects, Smith, Hinchman and Grylls.

In the Presbyterian Village at Detroit, the site is divided into four basic housing types, including individual rooms for independent couples, community residences for single residents, nursing units for assisted living, and administration and common facilities (See Figure 3.14). Again, each housing type was clustered round its own community spaces and common areas creating clear, legible districts. Such smaller groups or districts were planned around central administrative, recreational, chapel, or community facilities, to create a microcosm of districts forming the precinct.

The paths or linkages joining various sub-settings, settings and districts, often acted as social settings themselves. The courts and lounges served as nodes and focal points that were orienting features (See Figure 3.15).

- The Home for the Aged Competition. 1956.

The best examples of such use of courts can be observed in the competition entries for The Home for the Aged Competition sponsored in 1956 by the National committee on Aging of the National Social Welfare Assembly, *The Architectural Record Magazine*, and "The Modern Hospital" (Mathaisen and Noakes, 1959). To the jury, the garden-like courts of the award winning design of J J Jordan and Hanford Yang, Philadelphia (See Figure 3.16), obtained a homelike effect as did the circulation and juxtasposition of building and internal courts in the second prize winning design of Alfred and Jane West Clauss, of Bellante and Clauss (See Figure 3.17). Even in the design of Katz, Waisman, Blumenkranz, Stien and Weber

of New York city, which received an honorable mention, the courts used for living and recreation were praised by the jury.

Use of landforms, plantings, social and communal spaces as nodes and landmarks

- Maple Knoll Village.

  Architect, Gruzen Partners.

Landforms are used in Maple Knoll Village designed by Gruzen Partners (See Figure 3.18), where a natural earth knoll and a chapel are used as focal points and served as orienting features.

Prosthetic environment

With advances in medical and therapeutic care, the elderly with failing health were given special attention. While nursing care is beyond the scope of this study, the integration of the prosthetic environment will be studied. In most examples of elderly housing designed during the fifties, assisted living or rudimentary care facilities were incorporated into the precinct. They could be independent structures as in Colorado Baptist Home, or a part of the apartment block on a wing or separated by a floor..

Conclusions

In this chapter there emerges a new aspect of site planning. The importance and the identity of the precinct as a legible microcosm was emphasized. Legibility

of the precinct was identified as a concern for designers. The population of the elderly community is becoming more and more complex and varied. Residents of varying backgrounds, competence levels and types are being catered to in the design. The precinct also offer a variety of facilities. There are health facilities and recreational programs offered. Thus the built environment within the site becomes complex. This necessitates that the precinct be coherent and legible. Zoning and detailed site planning is an answer to the need for legibility.

Three factors that most expressed the design of the precinct spaces were legibility, permeability and robustness. While legibility allowed orientation, coherence and use patterns within the precinct, permeability allowed interaction between two adjacent spaces and controlled activities therein. Robustness allowed the spaces to be versatile for the heterogeneous population.

Various tools were used to achieve these states. Design of the circumjacent space was one such tool. Use of landscape elements, zoning of outdoor spaces and barrier free design were others identified during the course of the study.

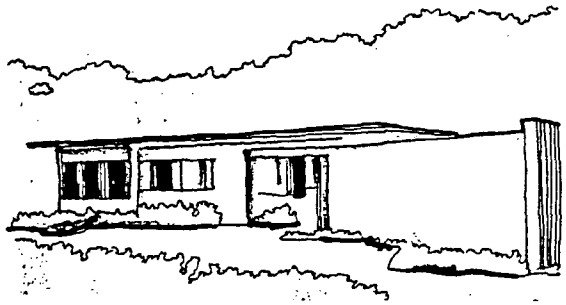


Figure 3.2: Front entry of the Kiwanis Village unit. Kiwanis Village, Victoria, British Columbia

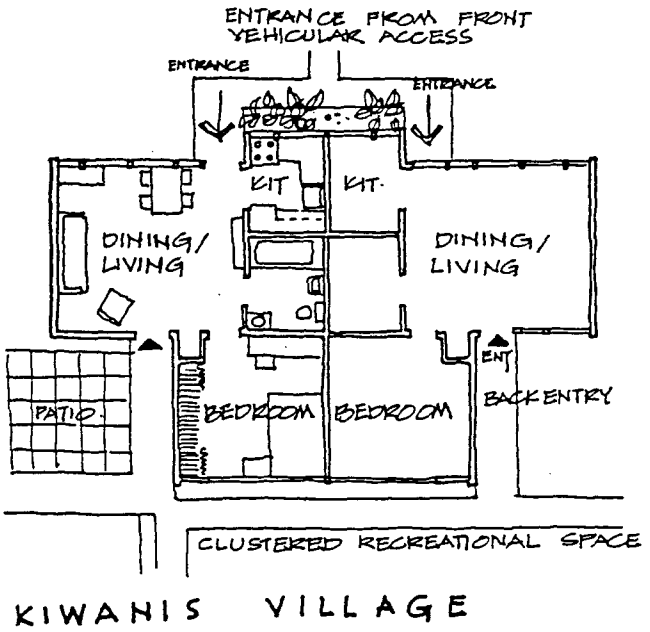


Figure 3.3: Unit plan. Kiwanis Village, Victoria, British Columbia

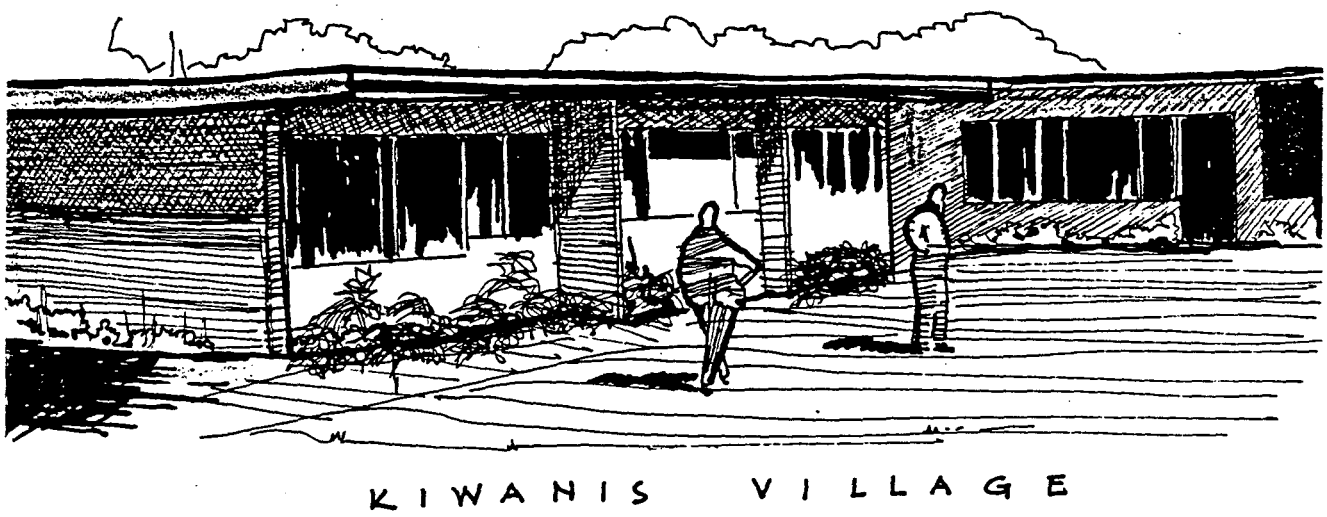


Figure 3.4: Backyard view. Kiwanis Village, Victoria, British Columbia

IDENTITY AND LEGIBILITY.

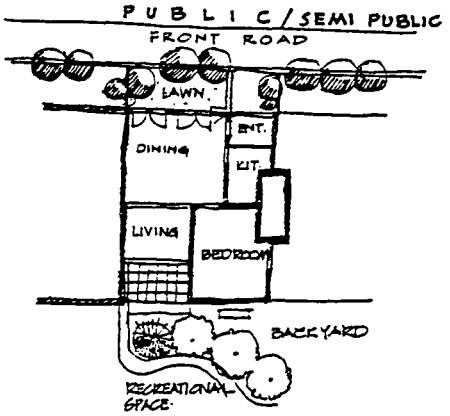
METHOD = ZONED CIRCUMJACENT SPACE.

Around individual units there is a zoning of space - from the front to back. The front is usually associated with entrance from vehicular access way and is thus more public in nature than the backyard.

For clustered, the back can be a common social space with "shared - privacy" of that cluster group.

Physical and visual permeability associated with front and back is different depending on edge conditions.

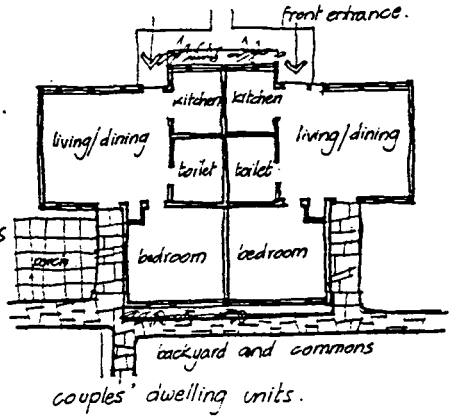
LEGIBILITY THROUGH ZONING SPACES AROUND UNITS INTO FRONT AND BACK



SEMI PRIVATE FRONT AND BACK OF UNIT.

In Kiwanis Village, the kitchen and dining room with large windows is the "front". It overlooks the road, and a front lawn.

The back consists of bedroom and living area. It overlooks the patio and back porch and the commons area typical of each cluster of units. Smaller windows create a controlled view to the social spaces.



couples' dwelling units.

EXAMPLE : KIWANIS VILLAGE.
VICTORIA, B.C.

Figure 3.5: Identity and legibility through zoned circumjacent spaces

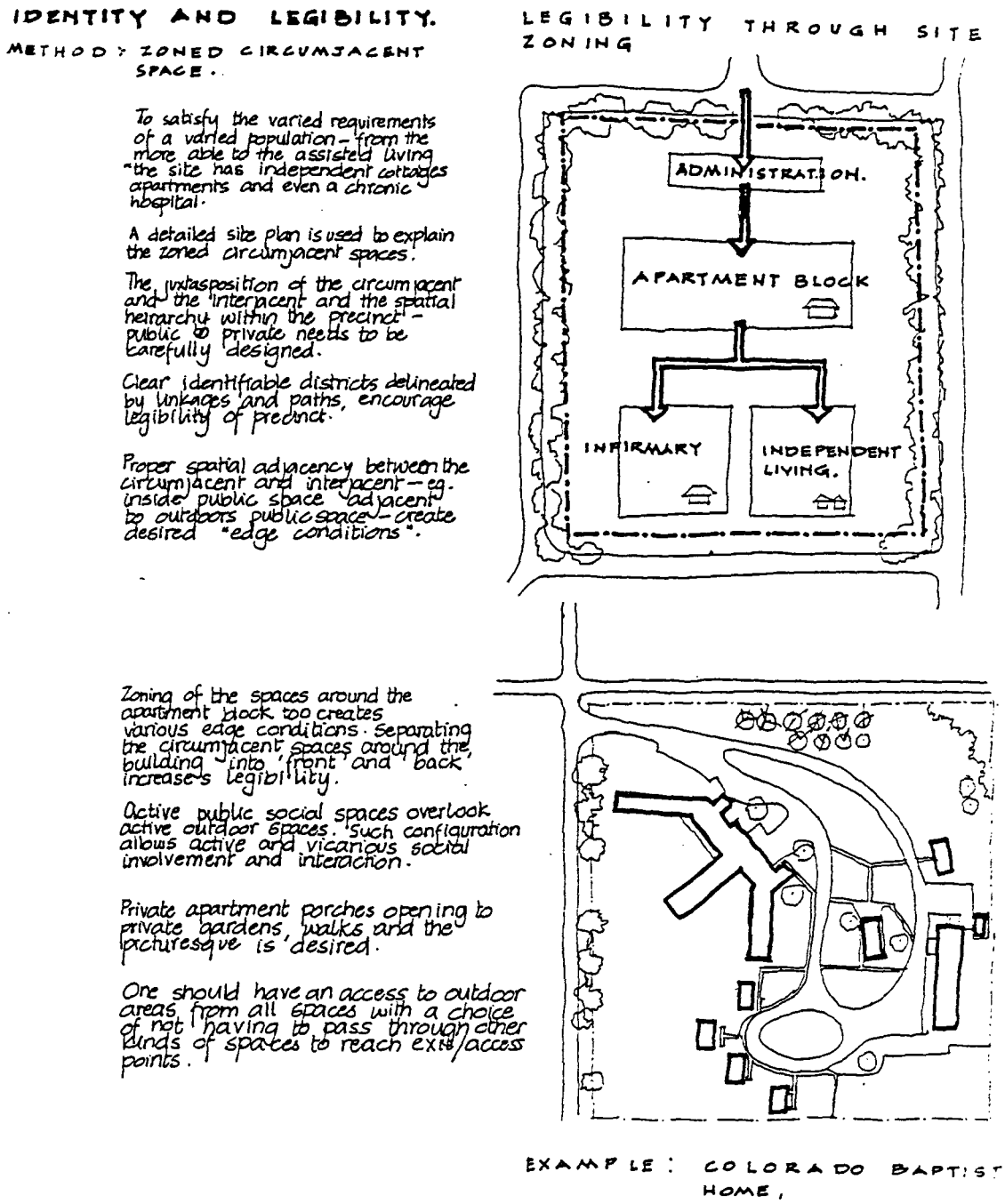


Figure 3.6: Identity and legibility through zoned circumjacent spaces. Colorado Baptist Home for the Aged, Canon City, CO

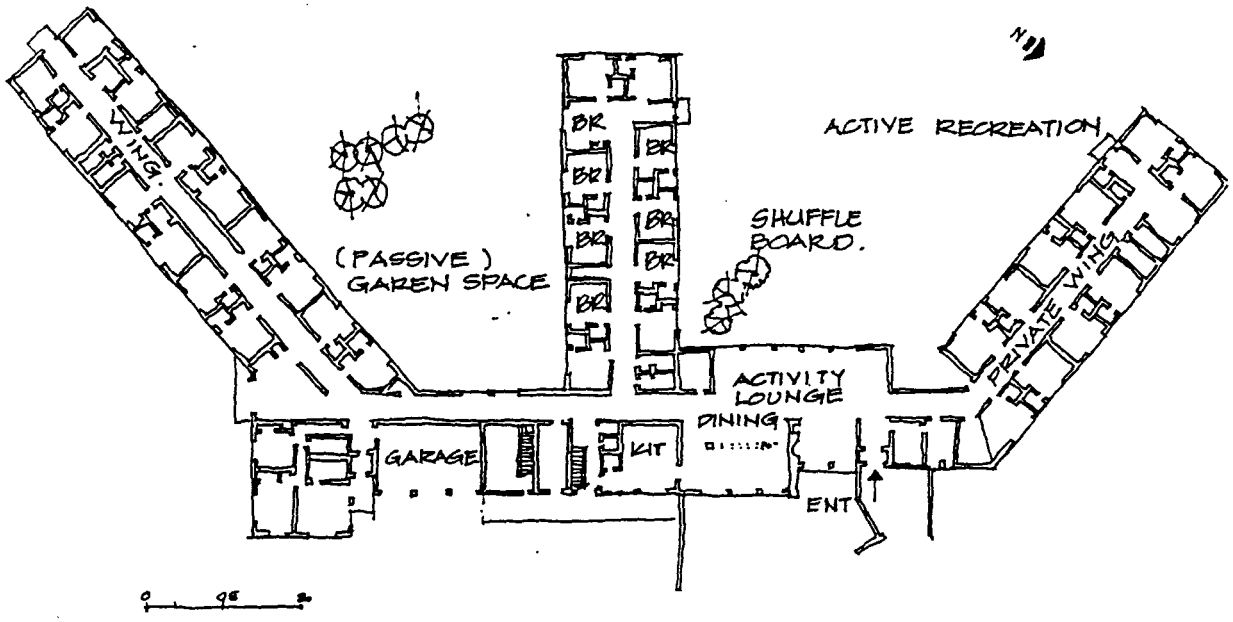


Figure 3.7: Plan. Colorado Baptist Home for the Aged, Canon City, CO

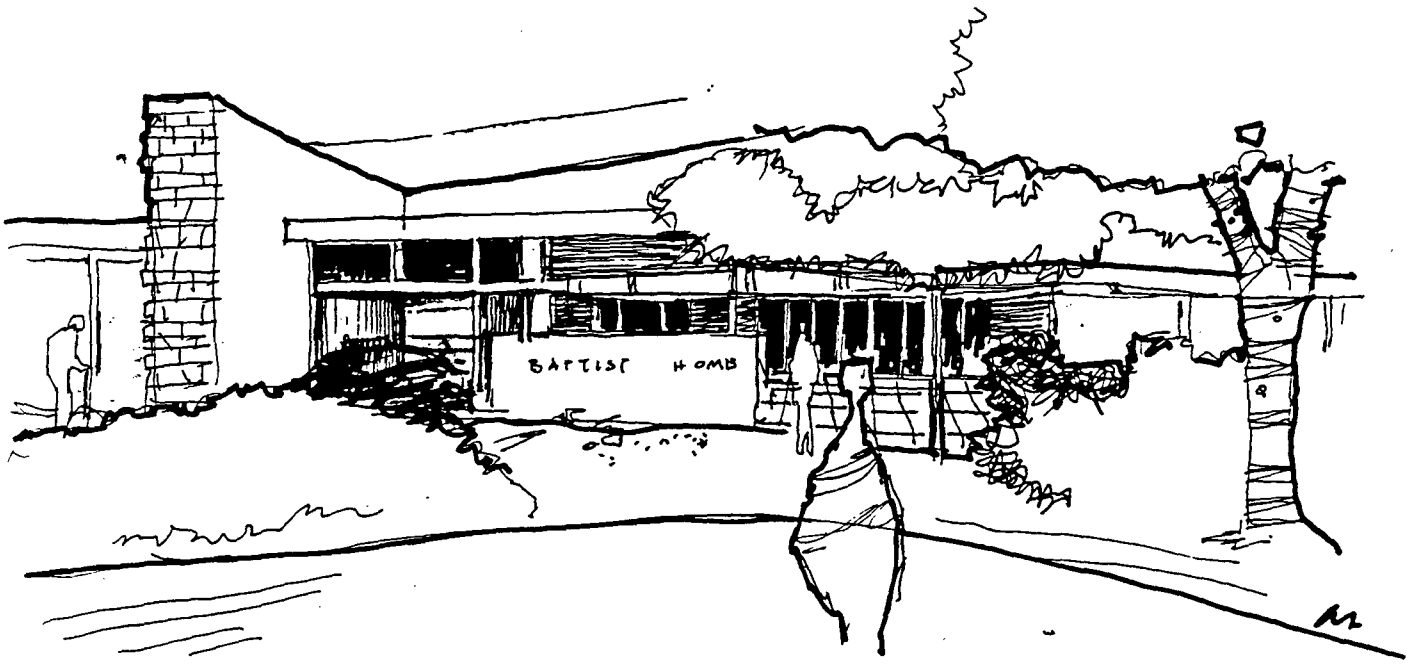


Figure 3.8: Elevation. Colorado Baptist Home for the Aged, Canon City, CO

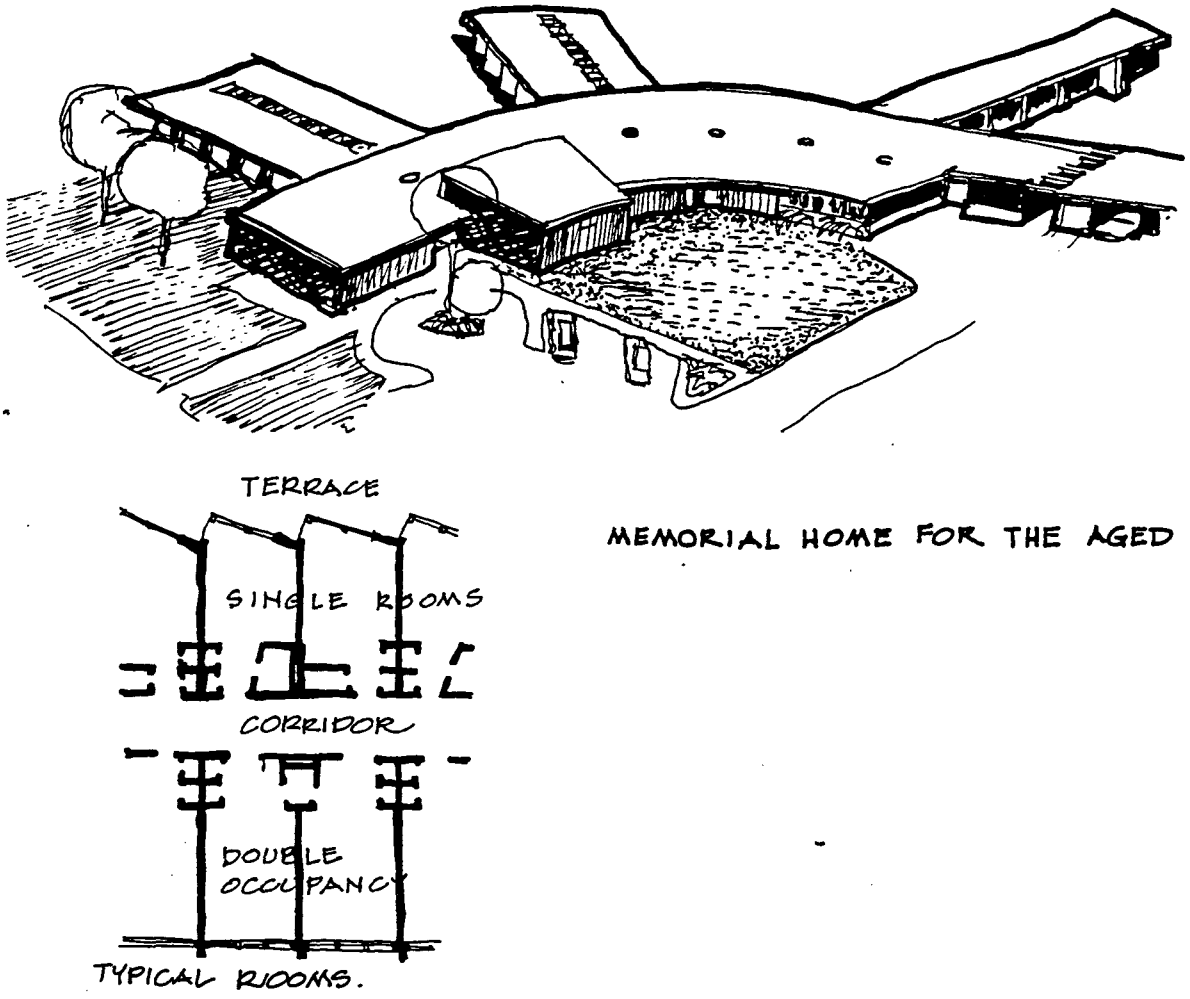


Figure 3.9: Memorial Home for the Aged, Chicago, IL

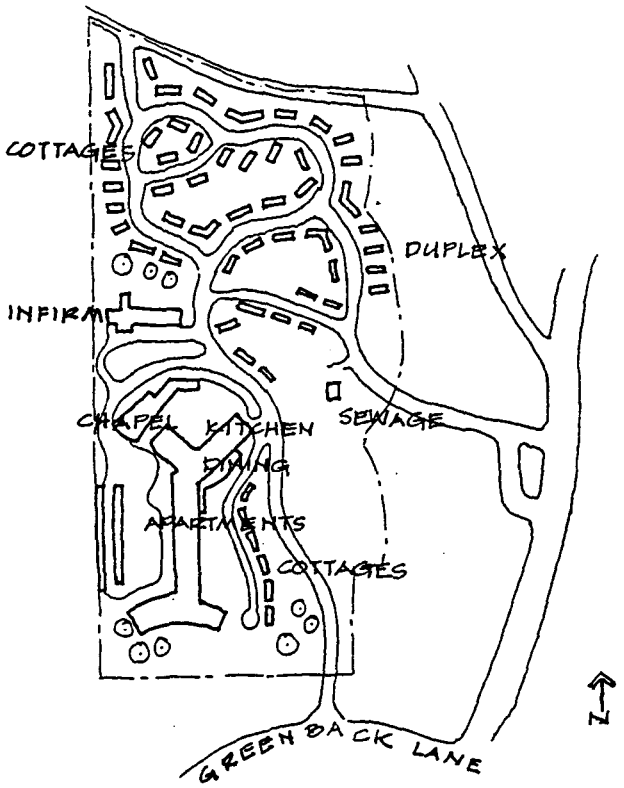


Figure 3.10: Site plan. Hearthstone Manor, Folsom, CA

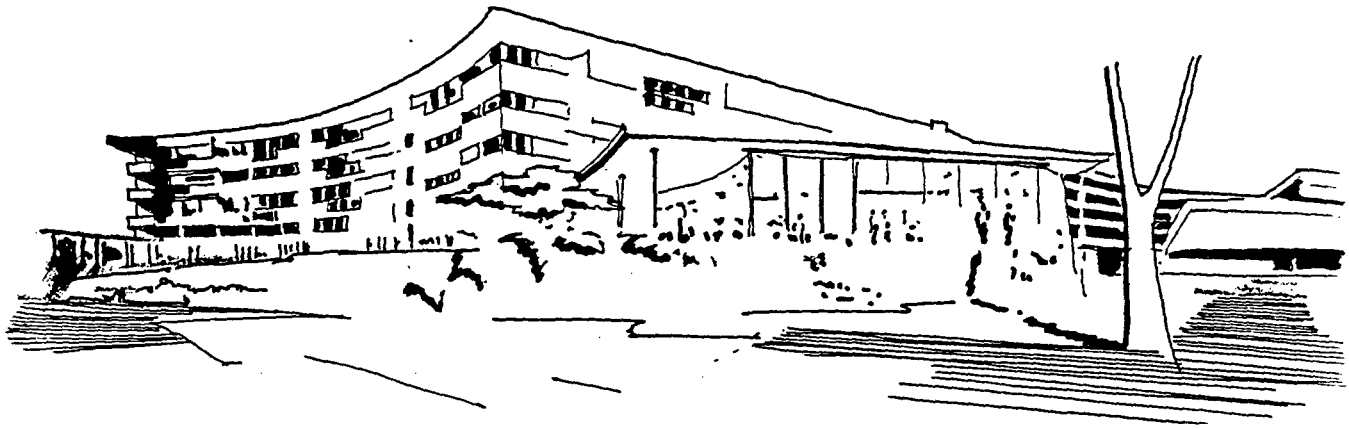


Figure 3.11: Elevation. Hearthstone Manor, Folsom, CA

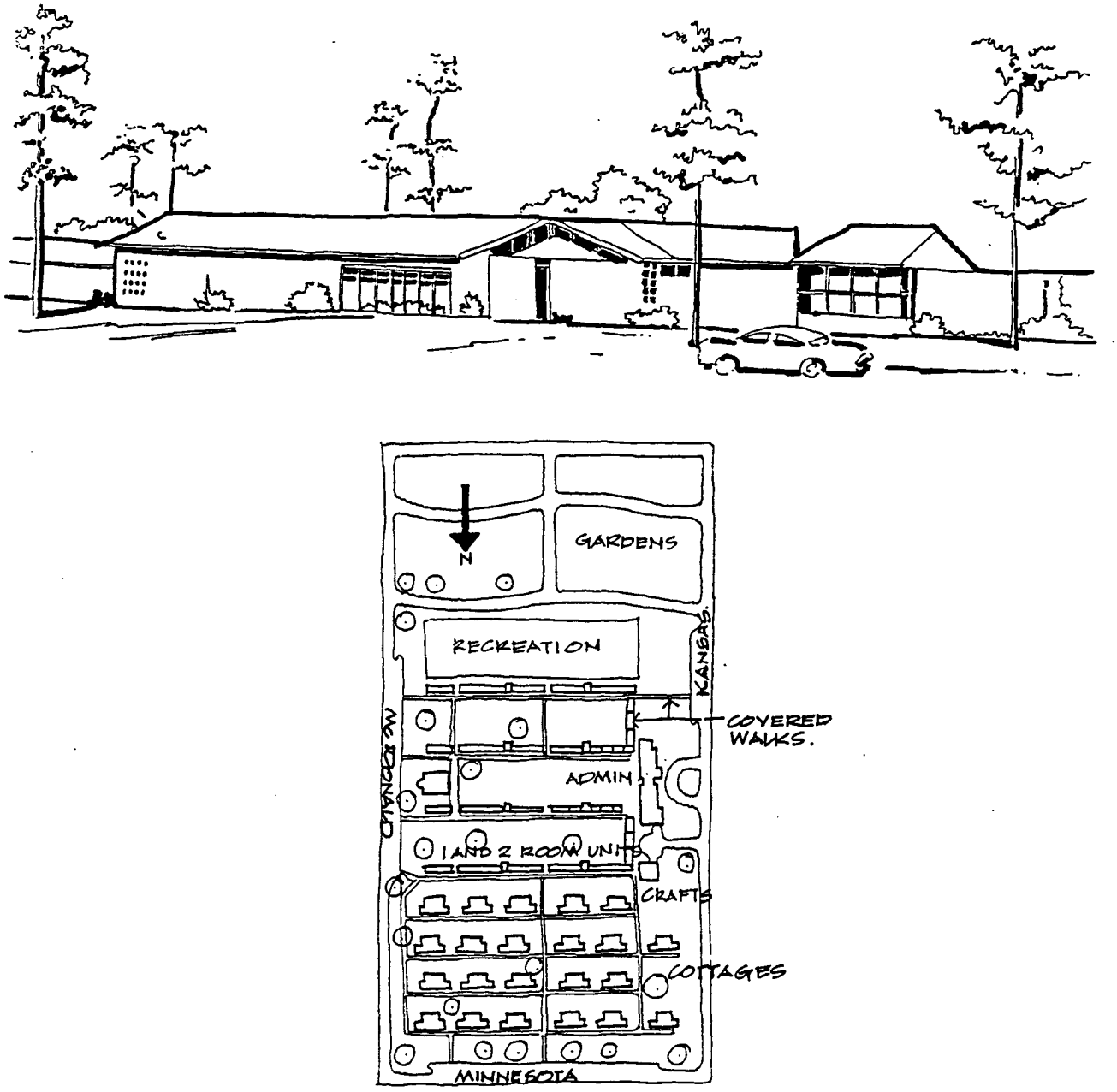


Figure 3.12: Florida Lutheran Retirement Center, Deland, FL

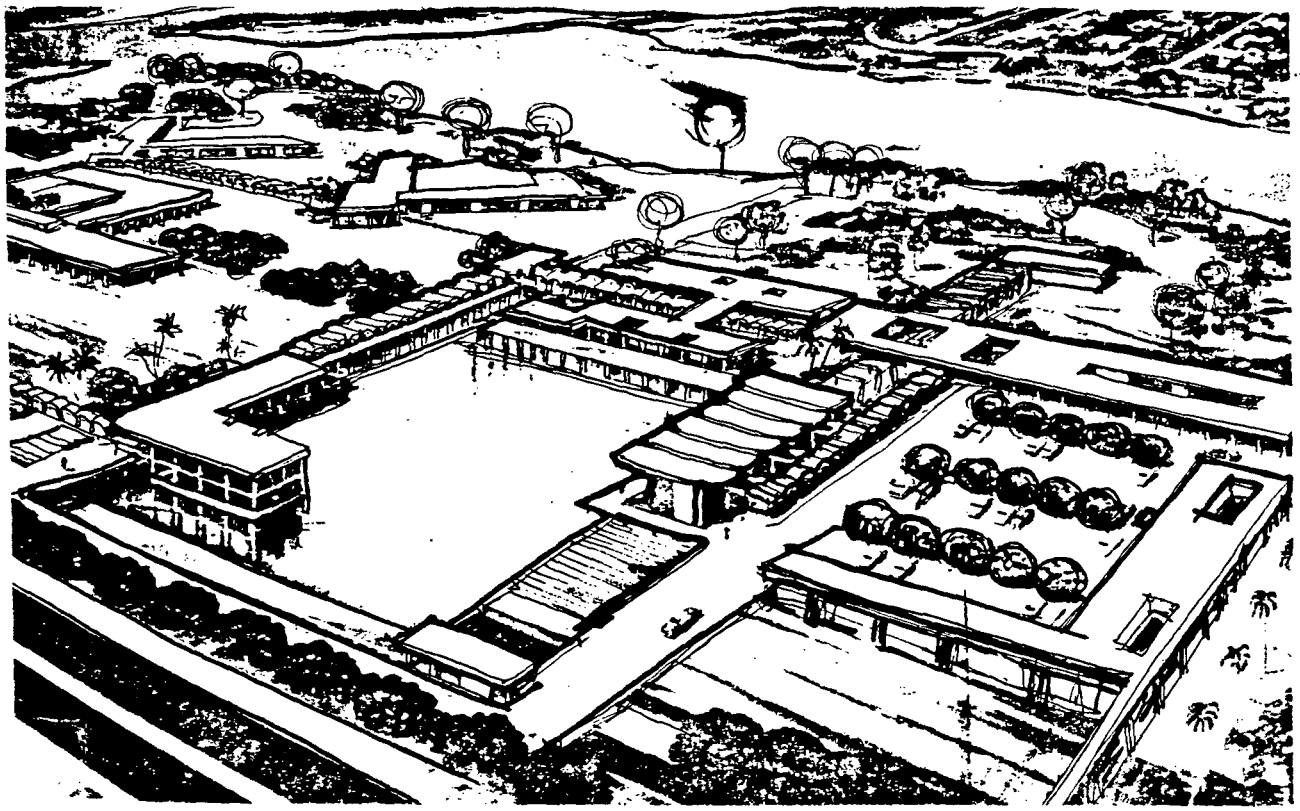


Figure 3.13: Salhaven Village, Palm Beach, FL

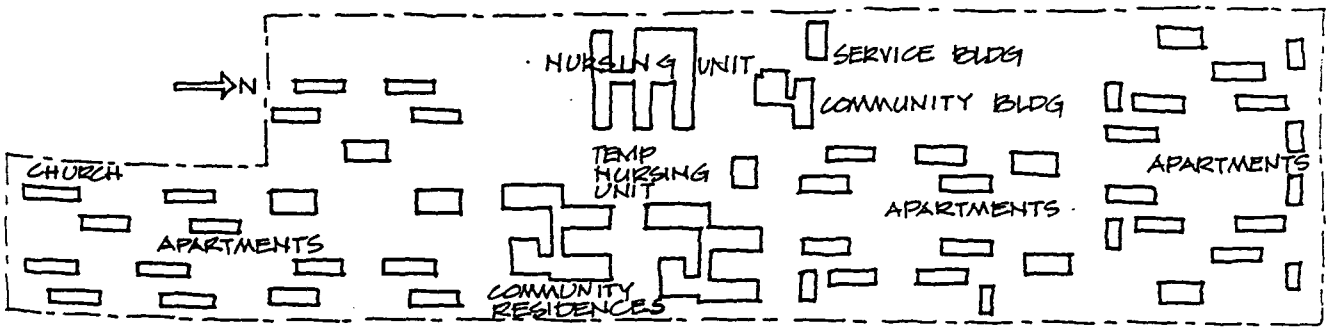


Figure 3.14: Site plan. Presbyterian Village, Detroit, MI

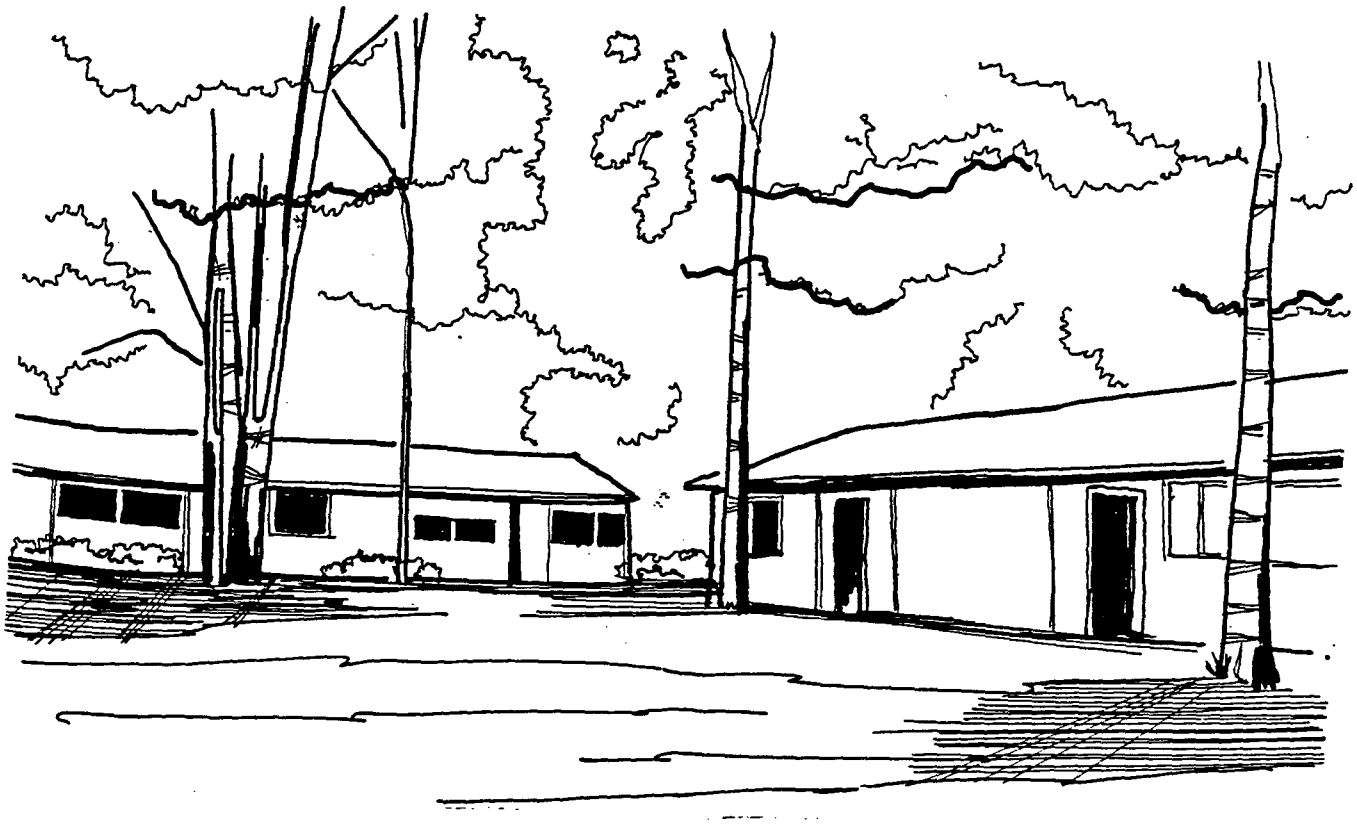


Figure 3.15: View of a court. Presbyterian Village, Detroit, MI

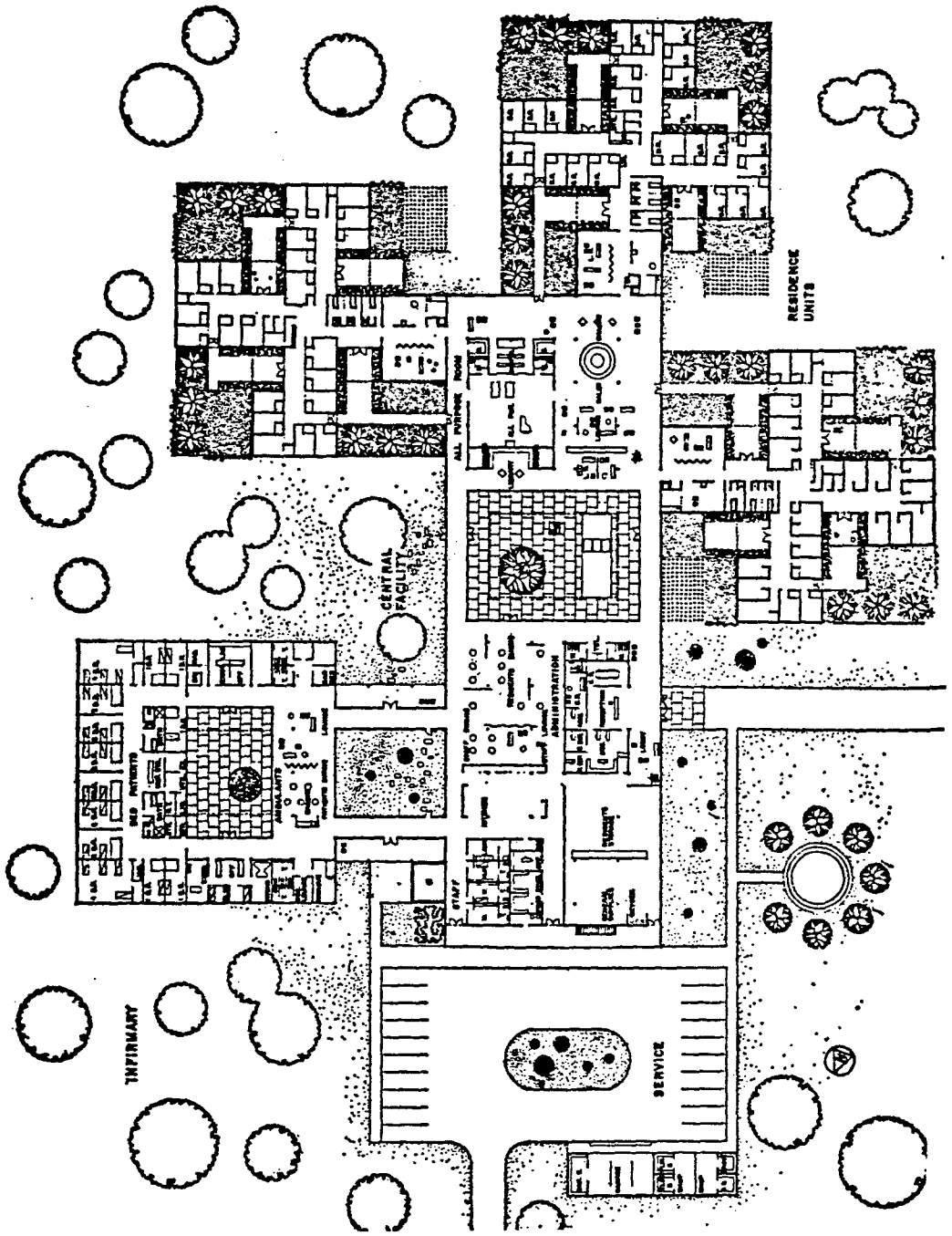


Figure 3.16: An architectural competition for the design of a home for the aged, held in 1956. First prize winning entry by J J Jordan and Hanford Yang, Philadelphia

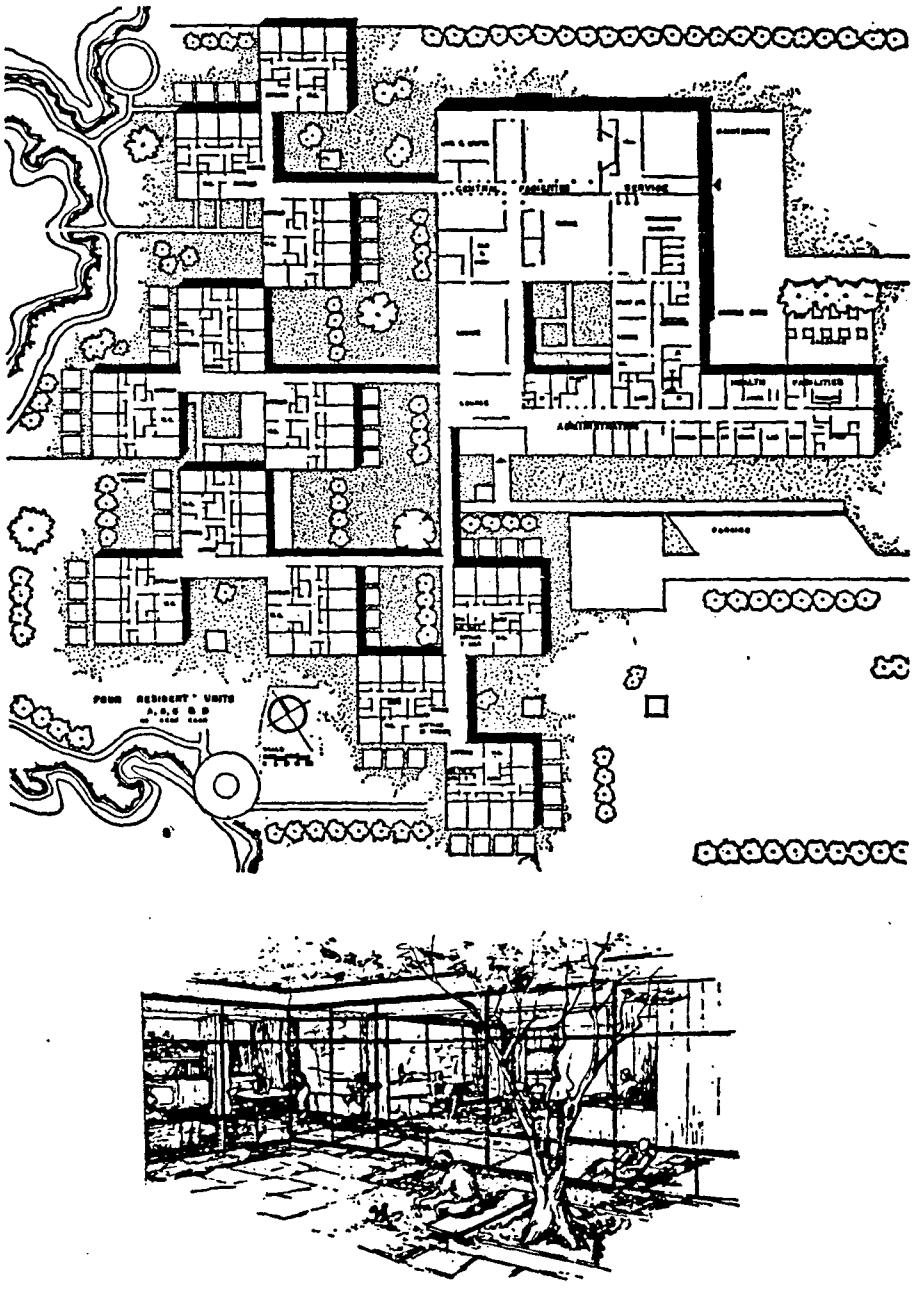
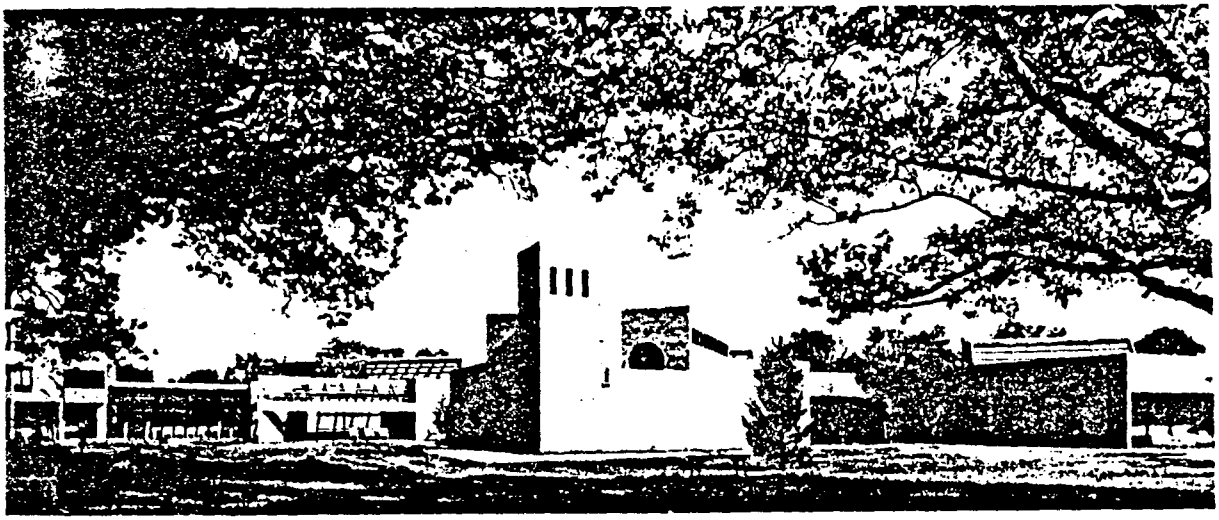


Figure 3.17: An architectural competition for the design of a home for the aged, held in 1956. Second prize winning entry by Jane West Clauss and Alfred Clauss, Philadelphia



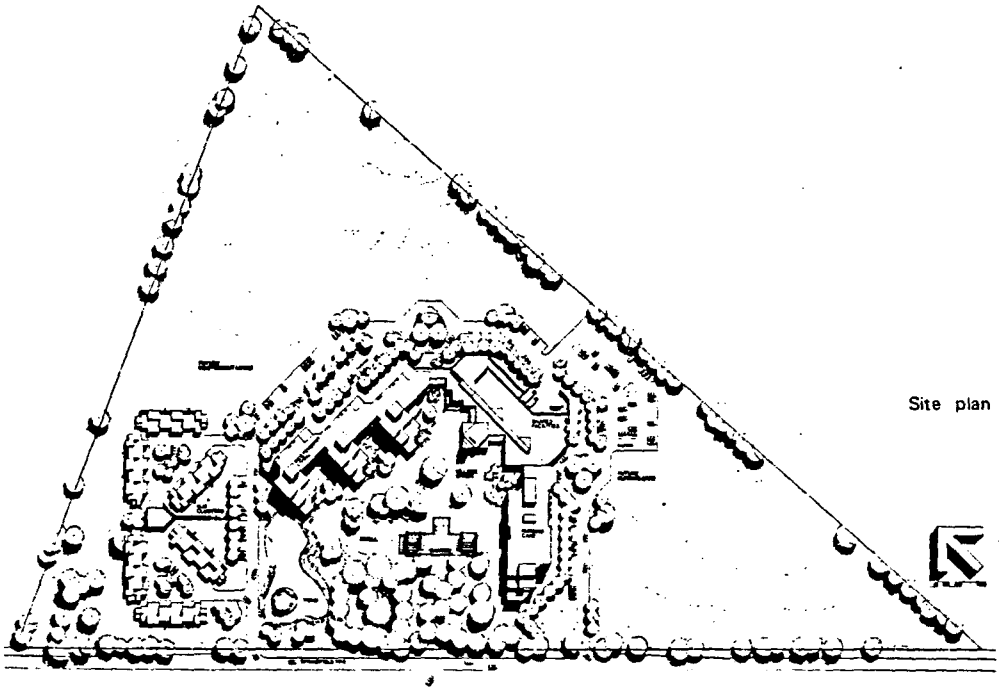


Figure 3.18: Plan and view. Maple Knoll Village

CHAPTER 4. THE PUBLIC LANDSCAPE

> The concept of place implies that man doesn't move about in space in a casual way. All movements are in a certain sense centrifugal or centripetal. Our ways always presuppose a point of departure and a point of arrival and therefore, are a fundamental property of existential space. (Norberg-Schulz, 1986)

Trend Statement

The Landscape became more complex. It adapted to the urban form.

The complexity of urban form due to rapid urbanization, rural migration and new immigrants created complex layers of spaces between the larger urban community and the housing precinct. The Urban form had become complex. Crowded city centers were being rebuilt under various urban renewal schemes. Many older buildings, such as hotels, were being demolished in these renewal schemes. Elderly residents of these districts were subsequently displaced (Colebrook, 1966), and re-housed elsewhere. While suburbs were characterized by young families with children, most elderly housing grew around city centers or out in rural areas.

The complexity of an urban community created layers of urban landscape. The complexity is seen in the various zoning uses, from services, suburbia and city centers to recreational spaces that formed the urban fabric.

Legibility of the urban form vis-a-vis the housing precinct is an important point. The identity of the precinct is explained by Norberg Schultz in the "concept of place" as a place of action and a point of departure (Norberg-Schulz, 1986).

This space, more specifically, the precinct, is distinguishable from the circumjacent urban form as the,

> first intimate world of the house and home, the second outside world into which man departs, and from which he returns - the distinction of these zones is of fundamental importance for the structure of lived spaces (Bollnow, 1963).

It is this quality of a legible landscape that Ollie A. Randall talks of while describing Victoria Plaza in San Antonio, TX.(Randall, 1961). The institutional quality mentioned by many (Mathaisen, 1956; Randall, 1956; Jacobs,1958; Vivrett, 1956) or the more homey character of the housing precinct is the result of the ability to create this sense of place.

Non-physical Traces

Public housing

Since late 1950s, and through the 60s, many public housing projects were constructed. The goal, said Dr. Abraham J Heschel in *Aging*(Heschel, 1961),"is not to keep the old man busy but to remind him that every moment is an opportunity for greatness." The cohorts of the thirties had with them the ideals of the New Deal and the perseverance of the times.

Funds became available through FHA and through such agencies of the Housing and Home Finance Agency, as the Low Rent Public Housing Program,

FHA Mortgage Insurance Program and Direct Loan Program or through donations and Founders fees paid by the residents themselves (Mathaisen, 1962).

Various organizations were involved in the construction of elderly housing from public housing boards, non-profit organizations, philanthropic organizations and co-operative societies to profit making entrepreneurs. Given such variety, and the variation in the user population, with regards to financial ability, physical ability, etc., the main theme of housing at this time can be best summed by Ollie Randall.

> Older people, given the means of doing so, will continue to do most of the things in their daily lives they have always enjoyed doing, and the environment should be an enabling one. People go on walking, sleeping, shopping, cooking, eating, going out for many purposes . . . Ease of access to these (outdoors) facilities, helps to lengthen the period of self sufficiency. So, transportation that serves older people safely and courteously becomes an essential component. For those who can negotiate their own affairs, whether it be financial, social or personal, everything should be geared to encouraging this. (Randall, 1962)

Social characteristics

Privacy and secondary spaces In the United States, during the fifties and sixties, there was a major change in family structure, and subsequently in the image of the "traditional home," (Ahrentzen, 1989). Early shared and and collective housing were different, as Karen Franck explains that,

> in the nineteenth and the early twentieth centuries, there was a great variety of housing with shared facility and spaces. Utopian communities, both religious and non-sectarian, located in the rural areas were particularly numerous between the 1820s and 1850s and other forms of cooperative living, including cooperative living clubs and early

> cooperative apartment buildings, were not intentional communities, but were based on the premise that joint use of spaces, and facilities by unrelated individuals and households, had economic practical and social advantages (Franck, 1989).

Some such early examples were already seen. The Grand Lodge of the Masonic Order was one of the early examples of the former type of cooperative communities. Other early examples, such as the Marcus Ward Home, Job Haines Home etc., catered to the latter type, addressing problems like economic inadequacy, age related physical and mental disabilities, social and psychological problems of single, lonely widows and widowers.

Later during the mid-twentieth century, the concept of fragmented nuclear families grew. Privacy requirements of single family units created a well defined private realm based on conjugal blood or some sort of relationship. The American dream (Ahrentzen, 1989) of owning a house with a private front garden is the result of such a concept. After the 1930s, particularly after the World War II, the idea of owning a single family detached house became affordable to many, including the elderly (Glick, 1984). Also, owning and living in a such a setting made relocation into other kinds of shared housing very traumatic for the elderly. Elderly shared housing were designed as apartments that approximated the ideal of social and spatial privacy of the single family houses, even if these dwellings were occupied by single adults. This seemingly slight change in social relationship had some profound effects on shared housing and design of common spaces. Franck takes note of this change.

> In collective housing the shared facilities supplement complete self sufficient dwelling units, so that each household had its own kitchen

> even though there also is a larger shared kitchen. In the past, shared facilities in collective housing often replaced facilities conventionally placed in individual dwelling units, thus, individual units often lacked private kitchens, but the individuality and separateness of the household was acknowledged both socially and spatially in other ways.

We shall therefore look for other outdoor spaces, in addition to those like the common porches and balconies seen in Chapter 2, that would allow for individual privacy (Wolfe et al., 1973) in the external environment.

As a result, the boundaries between the private and the public changed. Sandra Howell defines these new spatial hierarchy as primary private, secondary semi public and public territories (Howell, 1976). Primary territories ended at the doorsteps of the individual units, (in non-nursing care facilities especially), and between the primary territory and the public realm outside lay the secondary territories. These spaces were not entirely private, yet were not identified as public grounds (Altman, 1971). New features of the landscape, like enclosed courtyards, internal streets, atria, solariums, greenhouses, and lounges became part of this secondary territory.

Shared co-presence Given the assortment of "private units" under the same roof, interlinked by semi-private spaces, the dialectic between privacy and community and sharing needs to be explained. Sharing can be mere co-presence. This is not an active form of sharing. In 1981, West, in a research on eight cases of housing with such co-presence, makes a clear distinction between the support and security of co-presence and other more active forms of sharing. The residents in such housing units seek the security of shared presence rather than more frequent interaction (Franck, 1989). West found that "social interaction was most often seen

through brief unplanned encounters" in these secondary spaces. Building forms also helped such interactions. More transition spaces, niches, stairs, landings and breakfast lounges, are used as such settings. Even in the external environment, nodes, edges, paths and linkages may become important secondary spaces.

Social gerontology literature

The spurt of social gerontology literature during the fifties and sixties (Blank, 1988), created a growing awareness and interest in those spaces both inside and outside the building that generated social contact and interaction (Blank, 1988; Howell, 1978; Lawton and Nahemow, 1979). Common spaces are functional in a number of ways. They provide a means of interaction, especially if they are properly located along well used pathways, like those linking the apartments to other destinations. Such spaces add to the beauty of the housing scheme. They help in legibility and identity of the housing community and can be an additional spot for entertaining, meeting and engaging in a variety of activities.

Common spaces where one can interact with others and can observe the comings and goings of others and the outside world are very important (Howell, 1978). Even placement of windows in various public and private areas and the way visual and physical permeability between the inside and outside spaces occur, creating edges which promote animated interaction or vicarious involvement, is an interesting study (Howell, 1976). Given the complex nature of the community, such visual vicarious or active links are important in understanding the nature of the circumjacent.

Another important feature associated with the complexity of the circumjacent

spaces is expressed through the varying ability to exert control and personalize a space. The degree of control and ability to personalize a space differed from private to public spaces in the precinct, to the community spaces (Howell, 1978; Newman, 1971). For example Newman discussed a very pertinent point of control over semi-public and semi-private spaces in high rise buildings. How one considers an outdoor setting safe/unsafe, tidy/dirty, good/bad, depended on how clearly the control over the spaces was defined. This is the reason why zoning and use segregated site plans were used to differentiate spaces, and create legible districts.

Along with such ideas, the concept of social factors influencing built space caught on and the social and environmental impact of built environment (Barker and Barker, 1961; Hamovitch and Peterson, 1969), was studied through social gerontology during the late fifties and sixties (Blank, 1988).

All income brackets were represented among the elderly. The average income of people in retirement housing tended to be low or moderate. About half of the families headed by a person sixty- five and over, had incomes below $3000. About half the single elderly had incomes less than $1050 per annum. However social security benefits helped a great deal and in 1960, the average amount of social security benefits received by couples was $1447.92, with a maximum of $2300.

A study by the Cornell University Center for Housing and Environmental Studies shows, that 40% of the persons receiving social security benefits in 1960 were living in houses built fifty-one years or earlier and another 40% were living in houses built 30-50 years ago. The remaining 45% were classified as being in "need of better accommodation."

The more financially able were catered to by a growing group of private

entrepreneurs, who built continuing care communities through retirement and leisure villages (Burgess, 1961).

Finally, the declining health in old age was being catered to in continuing care communities. Improved medical care facilities were integrated into elderly housing as assisted living or nursing care facilities, but there was a controversary whether to separate the infirmary from housing for the able elderly or whether to integrate it.

Unavailability of space, cost of land and similar problems created the high-rise solution. In addition, most construction in urban centers reduced open land around buildings into parking lots thereby leaving no space for gardens and recreational purposes. On the other hand, most elderly preferred living near urban centers and services, opposing any effort to relocate them in rural or less urban areas (*Progressive Architecture*, March 1961). The facilities they wanted to have in the proximity of their housing precinct consisted of services, amenities, churches and commercial and retail facilities, which in fact were the identity of the larger community.

For those who could afford to commute between precinct and community amenities without much hardships, however, the idea of a low rise development in a picturesque setting in the rural country side among verdant greens offered an irresistible possibility of combining the arcadian dream with the variety of stimuli offered by urban life. This trend created retirement villages, leisure villages and communities which rest beyond the scope of this study.

Technology

Improved science and technology played an important part in elderly housing. Three major factors immediately noticeable are as follows.

1. Improved construction and building techniques.
2. Medical care facilities and better control of the environment through technological means.
3. Better and faster communication that joined the community to the precinct.

Construction and building technology The cost and availability of ample space in urban centers led to high density housing solutions. Multi-storied housing followed technical advancement in construction systems.

To cater to declining health and agility, access and circulation to the upper floors was an important factor. Even features like accessibility to outdoor spaces may have been slightly reduced, yet, in the absence of enough outdoor spaces in the site, the high rise solution offered the advantage of superior natural ventilation and separation from street sounds (*Progressive Architecture*, 1961).

Environmental control Barrier Free design grew out of the understanding that making a living space accessible and easily negotiable is beneficial for all users irrespective of age (Randall, 1961). Such barrier free design was sited in Blank (Blank, 1988; Bednar, 1977; US Department of Health Education and Welfare, 1956; *Architectural Record*, May 1956). The focus was on reducing major obstacles within a house or in neighborhood spaces. Eliminating difficult to maneuver stairs,

narrow doors, broken side walks and busy highways are examples of the prosthetic environment (Blank, 1988).

The technology of taller buildings with controlled interior environments changed the way the interior spaces interacted with the circumjacent.

Not only was direct access to "nature" reduced by vertical expansion, visual permeability changed in nature too. The view outside is more panoramic through horizontal strip windows. Reduced physical permeability was compensated for by the reduction of the visual barrier between inside and outside.

> The horizontal window, wide open to the landscape forces upon the inhabitants an unusual visual and psychological omnipresence (of nature). While the traditional window encloses the interior to the exterior world, at the same time it also defined the locale and the sill and that amounted to a spatial and emotional exclusion. (Reichlin, 1984)

In Le Corbusier's opinion, the horizontal window can perform a mediatory function between the inside and the outside, in that, such an opening, dispensing with the strong sill also removes its own limits, meeting the requirements of functionality, in as much as it reproduces the landscape "tel quel" (Le Corbusier, 1930). The reduction of spatial depth and increased visual permeability countered the physical seclusion created by the high rise climate controlled structure. A balance of inner seclusion and permeability (Cornelius Gurlitt, 1888) was thus an important factor in the way the link between the inside and the outside was expressed.

Better communications

Most people owned a car, though due to failing age, and physical and reflex related loss of ability, the actual use of the vehicle was very limited (Planek, Mann and Wiener, 1978). Site selection criteria for the elderly often required adequate transportation from the site to various parts of the city and other important destinations like shopping, services and other community spaces (*Architectural Record*, 1962). Many communities provided free transportation facilities as an added advantage and feature (*Architectural Record*, Dec 1962; Blank, 1988).

Pedestrian activity among the elderly was also excessively high (Wachs, 1979; Blank, 1988). That necessitated better and safer designs of side walks and traffic patterns between destination points (Blank, 1988).

In public transportation too elderly people were over represented during day time non-peak hours. The importance of transportation and communication within various destination points achieve importance, with the various studies conducted which concluded that proximity and nearness are important determinants in determining the home-range of residents. The implications of this is that older people who are near and have access to the services will be more satisfied with the housing than those who are not and that the definition of "convenience" will be narrower than that used by persons of other ages (Lawton and Kleeban, 1971; Newcomer, 1976; Regnier, 1976; Lawton, 1980; Blank, 1988). Also, in a study in 1961, Barker and Barker (Barker and Barker, 1961) stated that elderly people have lower "penetration" (the amount of control and centrality of ones role in a given situation), and thus donn't have much control over what happens in places they occupy with other people. This lower "environmental activity" is coupled with

narrower "behavioral range." The importance of transportation was thus a central determinant in site planning (Carstens, 1985; Blank, 1988).

Physical Traces

The following physical traces were seen in many published examples of elderly housing.

- Community precinct relationship as an indicator of legibility of the urban space and the legibility of the precinct, that helps way finding and orientation and creates a sense of place in the complex urban setting.
- Siting housing developments with respect to the community amenities and its links to the community and issues of legibility, robustness, scale and permeability of the precinct. Thus factors such as urban linkages, the neighborhood and precinct connection, and the identity of the precinct will be studied to identify architectonic elements.
- Issues of technology used in the external prosthetic environment.

Aspects of community precinct relationship as indicators of legibility of the urban space

Urban linkages The street has taken the place of the park. The city is perceived as much in terms of the built forms or architecture as in terms of communications, because one usually experiences it kinesthetically by moving through a system of arteries that has priority over the built environment. (Nasar, 1989; Appleyard et al., 1964). There is a justification in perceiving the city in this manner because our economic and social system, even our notions of the urban environment, depend to a large degree upon the existence of streets and roads and highways as means of movement, communication and orientation (Jackson, 1987).

For the elderly resident, the street is a setting for many community activities and also a means of access to social spots, services, amenities and other daily destinations. In the home range of an individual, the street acts basically as a linkage between various settings, but can also act as social sub-settings themselves.

Relation to the neighborhood community

- Public Housing for the Elderly at New York East Harlem.
  Architects, Mayers, Wittlesey and Glass.

The physical relationship with the neighborhood community street and the precinct is site specific, but in this case, the transition between the precinct and community and the street side-walk acts as the relation with the front yard. There may be a legibility problem regarding ownership and control of the interspace. In this example the problem was solved by using activity plazas as transition spaces between the precinct and the community (See Figure 4.1). These plazas were designated by use, location and proximity to adjacent indoor activity.

In the available "fragments" of open spaces three plazas, viz. the community plaza, a recreation garden and a apartment entrance plaza will be studied to exemplify the three major factors determining the precinct/community interface. The first one is the community plaza and this is an example for this subsection.

The community plaza does the work of relating the precinct with the community. It enhances social permeability.

> The liveliest of the three spaces is the community plaza, for persons of all ages. It is to contain a sculptural stage meant for informal sitting, visiting or play. During shows or concerts the play yard to the rear

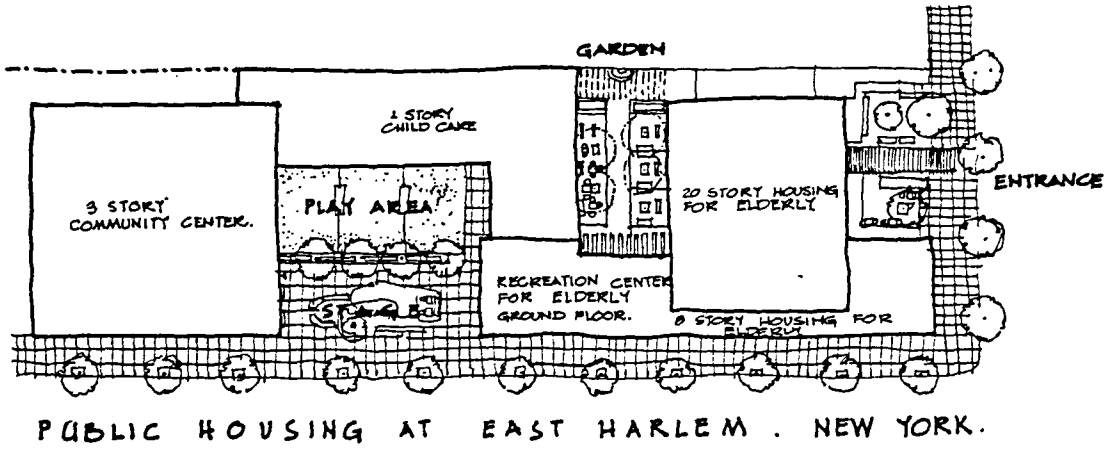


Figure 4.1: Site plan. Public housing at East Harlem, New York

separated by a three feet high fence, is used to seat audiences. (*Architectural Forum*, May 1961)

In this plaza the elderly mix with the general community activity. This active transitional link between the precinct and community is seen in the following other forms too.

- Public Housing Project in Cleveland.
  Architects, Schafer, Flynn, and Williams; Mayer, Whitllesey and Glass NJ; W.J.Conklin as partner and consulting architect.

In this example, the connection is made through a walk along a park. This link is in addition to the vehicular access, which joins the community center and geriatric clinic and community center with two age-integrated multi-storied housing units (See Figure 4.2).

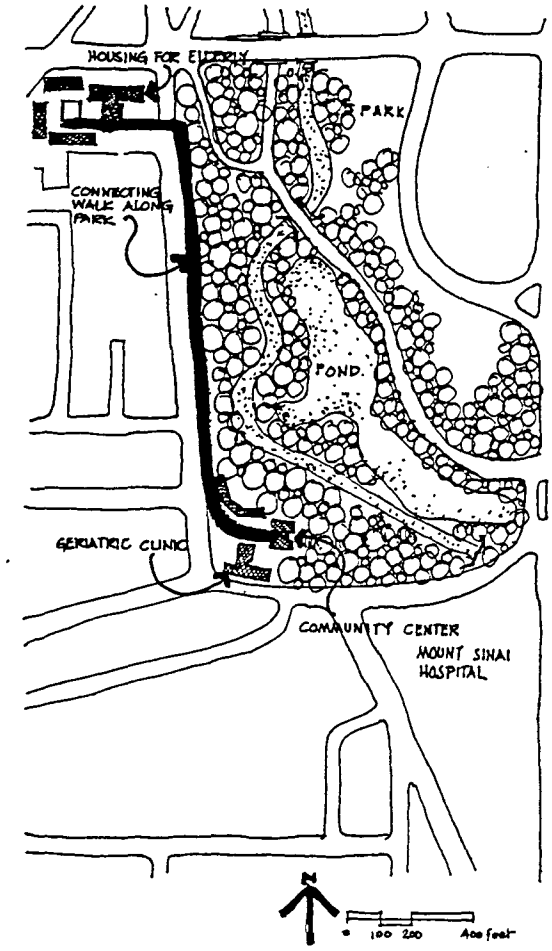


Figure 4.2: Layout plan. Public Housing project, Cleveland

- Monument East, Baltimore, Maryland.
  Architects, Conklin and Rossant.

The community where this high rise apartment was built had undergone extensive urban renewal, but the old character of the community characterized by the old town mall was protected and enhanced by renovation of the existing stores that face the access street (See Figure 4.3), now a pedestrian walkway. This continuity of form and character creates a visually legible space. The relation to the community is through views. These carefully planned visual connectors are created by the orientation of the plan, giving diagonal vistas through a relatively open plan form, and the use of balconies in each apartment. (*Architectural Record*, May 1977).

Zoning the site by controlling access to various buildings sequentially is another method used to create a transition from the community to the precinct.

- The Lutheran Elderly Home, Westlake, Ohio.
  Sponsored by the Lutheran Church.

In this example such a zoning system is used. This is a large community with a variety of activities ranging from care facilities, social spaces,community residents, single cottage type residences, residents with independent private gardens and a variety of circumjacent spaces. Zoning helps in separating such varied activities to create a coherent pattern in the precinct, separately and sequentially arranged into districts (Lynch, 1960) to give legibility and permeability to the space without losing the privacy of the precinct.

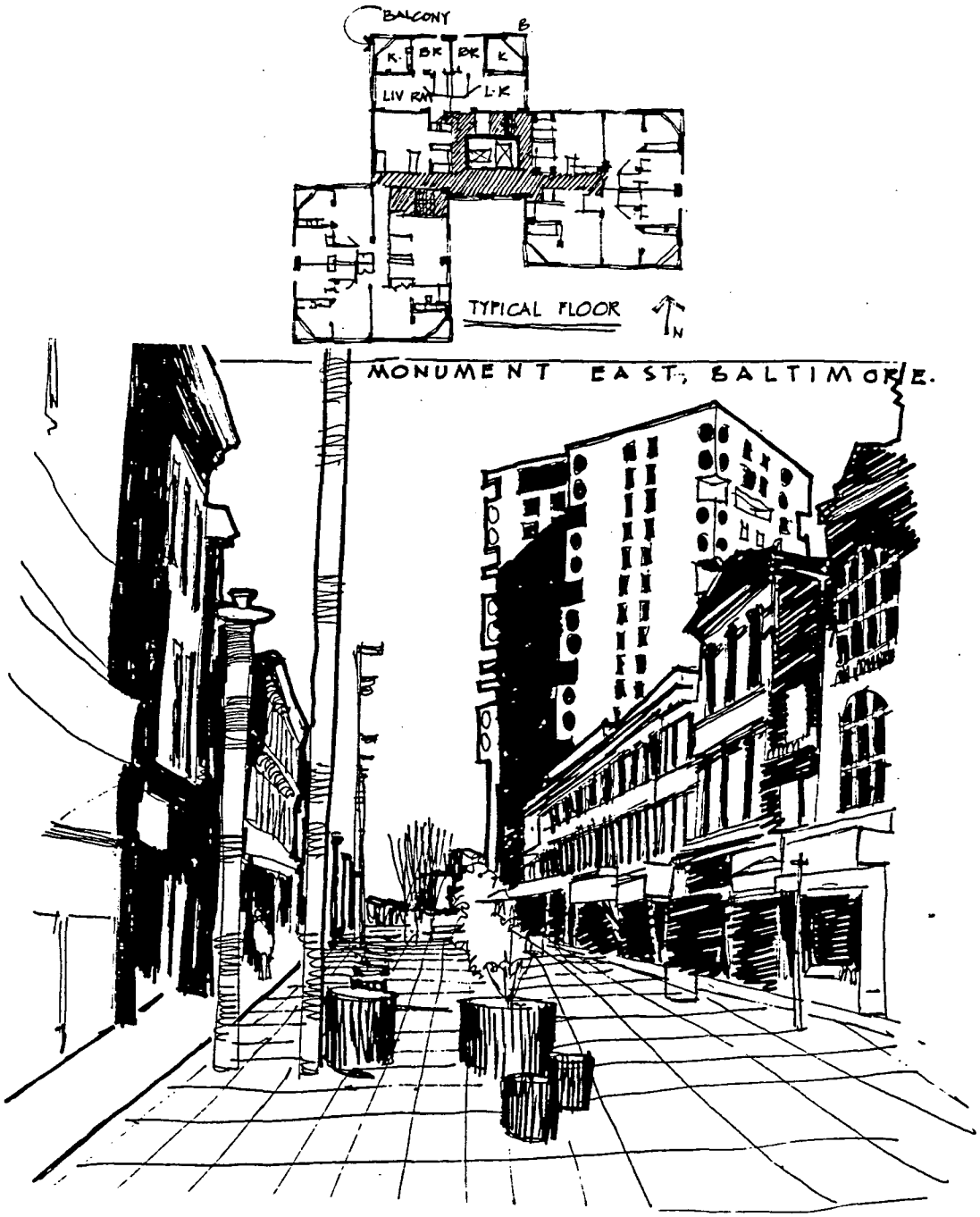


Figure 4.3: Plan and view. Monument East, Baltimore, Maryland

Neighborhood and precinct interface Entrance courts and Plazas are methods of creating this separate precinct feeling.

- Victoria Plaza, San Antonio, TX.
  Architects, Noonah, Thompson, Krocker, Marmon and Mok Associated Architects and Engineers.

At the Victoria Plaza in San Antonio, Texas, the architects used the entrance court to create various entry situations. The public entry court is formed by the entry drive with the bus shelter while the residents have another entry court at the side (See Figure 4.4).

In elderly housing, sitting and watching the entrance and circulation path is an important pastime (Zeisel et al., 1983; Regnier, 1985). Sometimes such lounges and seating spaces are designed. If they are not there then the residents adapt and create some solution that allows them the surveillance as seen by Sommer in nursing facilities (Sommer, 1970). These spaces thus need to be carefully designed (Regnier, 1985). These spaces serve as visual connectors between the inside and the outside, semi-public/public, and the precinct/community. Sitting areas and social meeting spaces which are viewed as within the precinct are considered safe and secure and are used by the residents (Regnier, 1985). Clear cut delineation between the site and community through such transition spaces, is one way of differentiating the precinct from the community and thereby creating "defensible space" (Newman, 1971).

- Public Housing for the Elderly, East Harlem, New York.
  Architects, Mayers, Wittlesey and Glass.

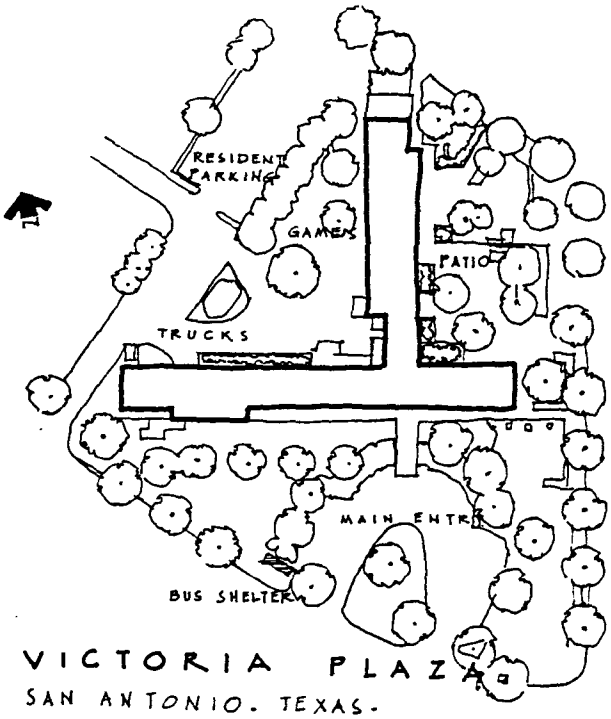


Figure 4.4: Plan. Victoria Plaza, San Antonio, TX

In the East Harlem public housing scheme discussed above the apartment entrance is accentuated with seats and plantings to create a space for side-walk watching. Use of planting material to delineate a safe space within the precinct is characterized by a sense of refuge (See Figure 4.1).

Prince Charles, HRH The Prince of Wales, writes about enclosure,

> One of the great pleasures of architecture is the feeling of a well designed enclosure. It is an elementary idea with a thousand variants and can be appreciated at every level of building from the individual room to the interior of St. Paul's Cathedral, or from the grand paved public square to the walled garden. The scale can be large or small, the materials ancient or modern, but cohesion, continuity and enclosure produce a kind of magic. The application of these ideas makes a place unique. The secret of enclosed spaces is that they should have a few entrances; if there are too many then the sense of security disappears. If the space contains something to love, such as a garden, a sculpture or a fountain, it is more likely to be cherished and not vandalized. A community spirit is born far more easily in a well formed square or courtyard than in a random scattering of developer's plots. The squares, alms-houses, universities and inns-of-court of our past that we love so well have always answered our needs. Their virtues are timeless, still providing privacy, beauty and a feeling of total safety. (Charles, Prince of Wales, 1989)

Regnier sites the example of Wilshire Christian Housing as an example of landscape treatment forming an enclosed secure spot within the precinct.

> Landscaped materials planted between the arcade (precinct) and the nearby heavily trafficked street (community) create a viewing condition that increases resident security. (Regnier, 1985)

Identity of the precinct The third aspect of the community precinct relation which enhances the legibility of urban space is the identity of the precinct

or the "genius loci" (Norberg-Schulz, 1986). Norberg-Schulz describes "genius loci" and the relation of the landscape to the dwelling. The same explanation suffices for the definition of the identity of the precinct.

> Only when man has taken possession of space, defining what is inside and what remains outside, we may say that he dwells.
>
> The distinction between inside and outside is of fundamental importance in architecture, and modern architecture is in fact defined in terms of a new relationship between interior and exterior space. The enclosure and the gate are the original means to distinguish inside and outside and to create a meaningful relation between them. (Norberg-Schulz, 1986)

With these four points in mind, the physical elements that are used to express this community precinct relation may be explained.

Physical and architectonic examples of such elements are as follows.

- Courts
- Atria
- Views and garden elements
- Balconies and terraces
- Building configuration
- Adjacent spaces

Elements of legibility

Courts

- Menlo Park, Peninsula Volunteers' Retirement Apartments, CA.
  Architects, Skidmore, Owings and Merrill.

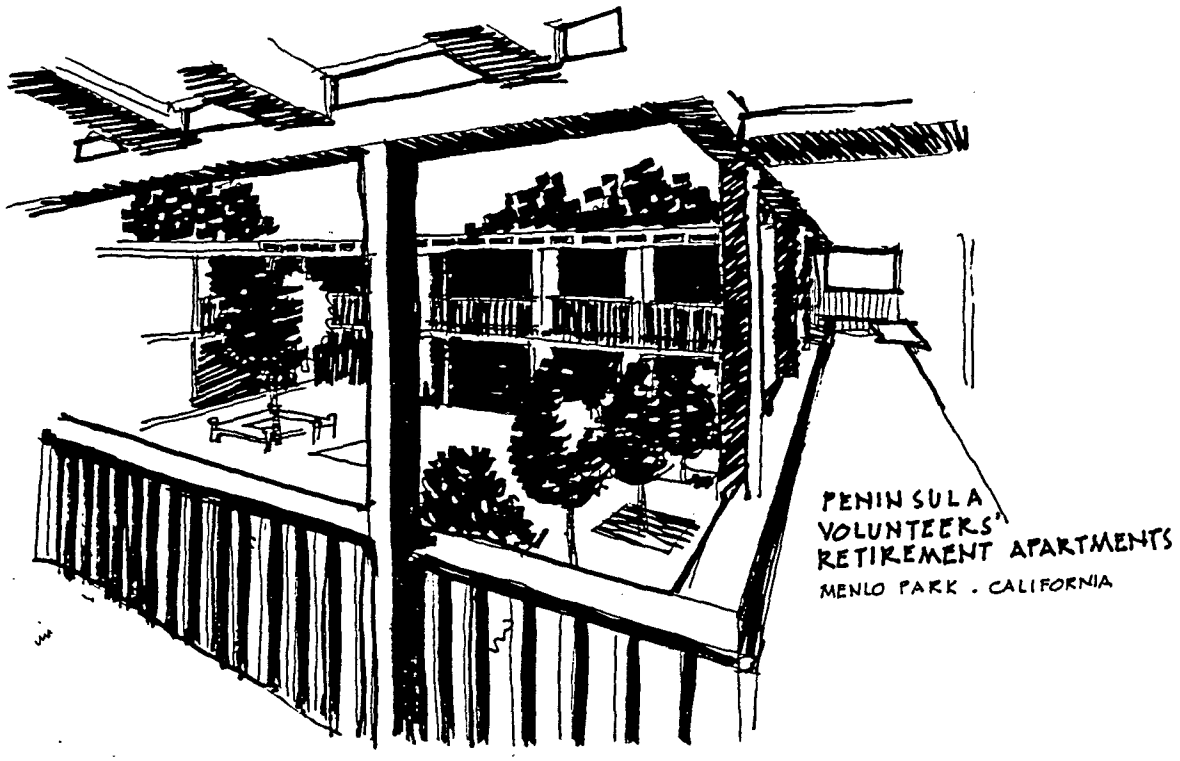


Figure 4.5: View of the central court. Peninsula Volunteers' Retirement Apartments, Menlo Park, CA

The use of courtyard space in Menlo Park (See Figure 4.5), Peninsula Volunteers' Retirement Apartments, can be compared to the dormitory courtyard used in the Marcus Ward Home discussed in Chapter 3.

The two story high building encloses a landscaped quadrangle (See Figure 4.6). This is an inward looking "centripetally arranged community" (Norberg-Schulz, 1986).

The entry, like those seen in the Japanese temples, is a conscious break from the community. One sees an enclosed framed precinct from within a doorway or gateway and enters a whole new world, the precinct or inner circle.

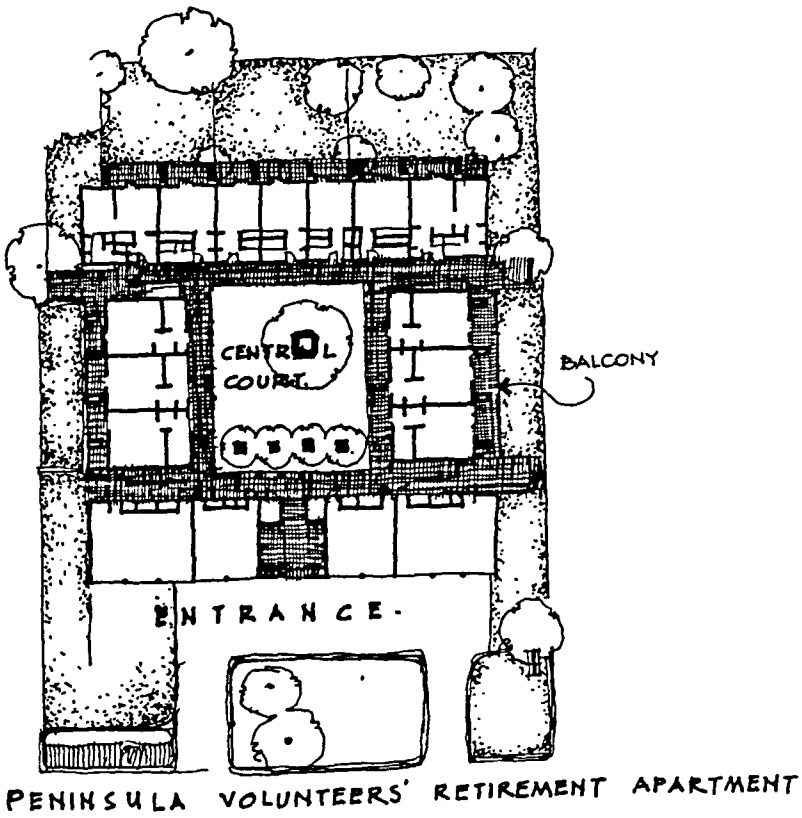


Figure 4.6: Plan. Peninsula Volunteers' Retirement Apartments, Menlo Park, CA

It is this separation, controlled permeability, or aloofness between the inside (precinct) and the outside (community) within the landscape that creates the sense of place (See Figure 4.7, and Figure 4.6).

This set up can be described as a centripetal arrangement of living spaces around a semi-public court as a form of social identity of the precinct giving legibility. The robustness of the courtyard as a social space is increased by the active edges which comprise of single loaded corridors and linkages. These spaces allow increased visual access, direct physical access and social interaction and also

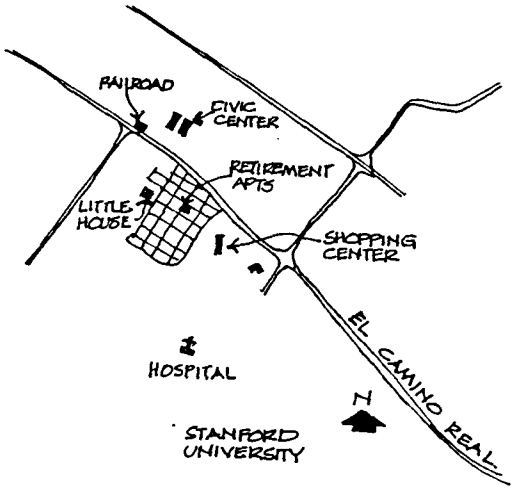


Figure 4.7: Location plan. Peninsula Volunteers' Retirement Apartments, Menlo Park, CA

an increased amount of vicarious social interaction, while permeability between this central space and community is controlled. The link between the private bedrooms and the public court is the semi-private corridor and thresholds which helps visual and physical permeability without disturbing privacy.

There is another aspect of the "sense of place" in this example. It concerns the private balconies associated with the private living spaces that open out in a centrifugal manner (See Figure 4.6). This is a visual, passive and more private relationship with the circumjacent.

Atria An atrium is an interior court that is roofed. Due to its volume and the function it performs, it has been included as a landscape element. Atria and courtyards are typical of ethnic vernacular housing in the warmer climates (*Architectural Record*, May 1977) and is reflected in designs for the ethnic

populations.

In high density and crowded locations, the atria offer a solution to the absence of open outdoor spaces around the buildings.

- Boulevard Temple Methodist Home, Detroit, MI.
  Architect, Nathan Levine Associates.

For most elderly who have led most of their lives in the cities, it is a traumatic experience to move away to a far away location. They reportedly like the idea of staying where they have always lived and say that they can tolerate the increased risk of crime and other inconveniences characteristic of a large industrial city (Osterberg, 1980).

For a project location in a high crime area of a large mid-western city, movement of people in and out of the building has to be carefully monitored. An inwardly oriented self contained community results (See Figure 4.8).

In such examples the importance of a centralized activity and social space is seen (Osterberg, 1980). As in case of outdoor spaces visible from inside, such activity spaces attract activity as well as vicarious participation. If activity and social areas are provided in different floors then,

> residents don't stop by and participate in any way unless they agree to go to the activity when they are first asked to participate. The fact that residents cannot be recruited in large numbers to participate in activities on another floor appears to have several underlying reasons. First there is a problem of soliciting people for activities as opposed to letting activity attract people. It seems that many residents will wander out and watch an activity and participate in one when they hear

> something going on. This is less likely to happen when the activity is on another floor. It takes less of a commitment to wander past and look than to go to another floor where one can get "stuck" for an hour or so. Those who just watch often seem to benefit from the activity as much as those who participate. Another factor is that the individuals right to choose is limited when the planned activity such as crafts, games and exercises are on another floor. A person can think over his participation without making a commitment. (Osterberg, 1980)

The centralized atrium space visible from all floors allow for all the above mentioned requirements.

The atrium also help orientation and way-finding, especially since the view to the outside as seen in single loaded open corridors for example, is not possible in a centripetal inward looking configuration such as this.

- The Antoine Graves Housing for the Aged
  Public Housing Project.

Here the inward looking enclosed space is coupled with an outside view from exterior balconies associated with every apartment (See Figure 4.9).

Thus residents have a choice of meeting and mingling in the central atrium and enjoy complete privacy if they so desire. Thus again, as in the example of courts, there are two kinds of relationship with circumjacent spaces. The private passive visual interaction and the active controllable social interaction of the central atrium.

Views and garden elements

- Elderly Housing at East Harlem, New York.
  Architects, Mayer, Whittlesey and Glass. W.J.Conklin Associate Partner.

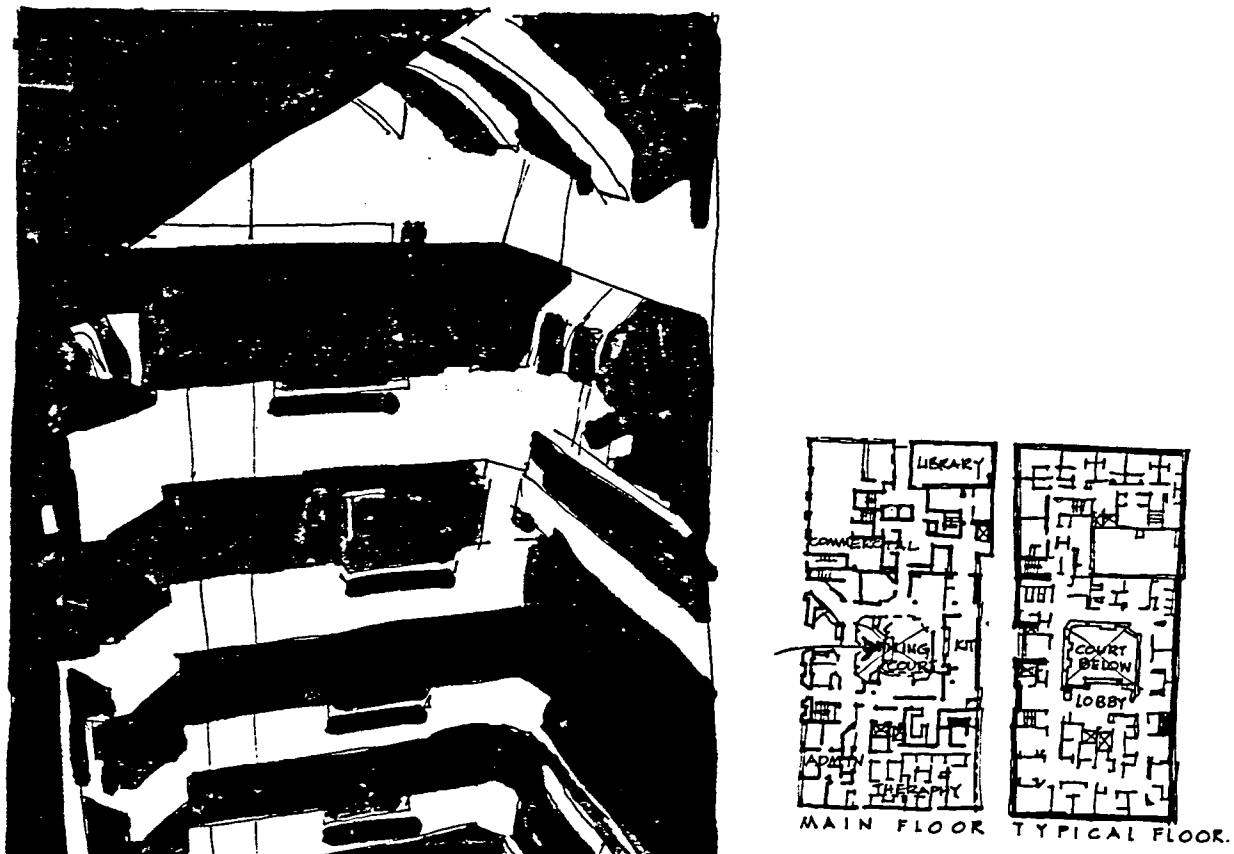


Figure 4.8: Plan and view of the atrium. Boulevard Temple Methodist Home, Detroit, MI

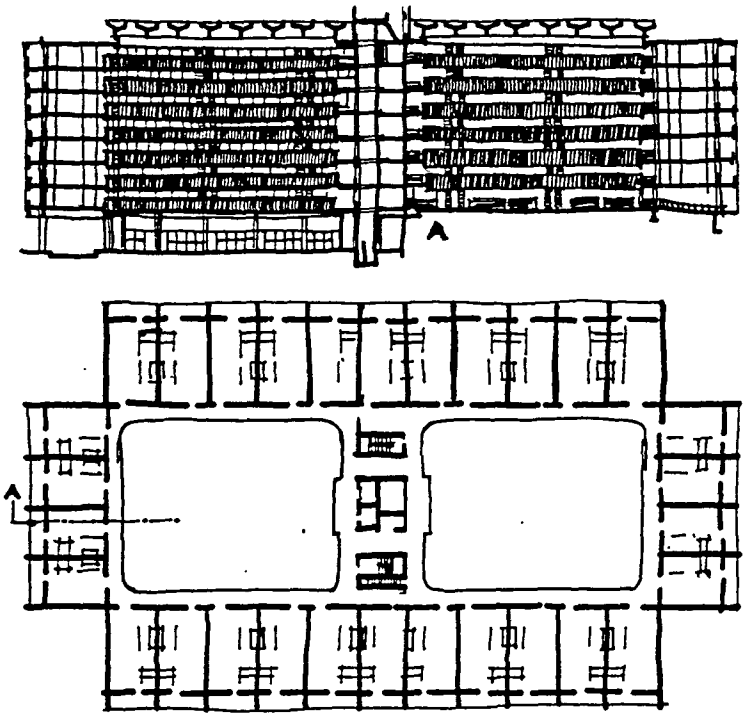


Figure 4.9: Plan and section. Antoine Graves Housing for the Aged

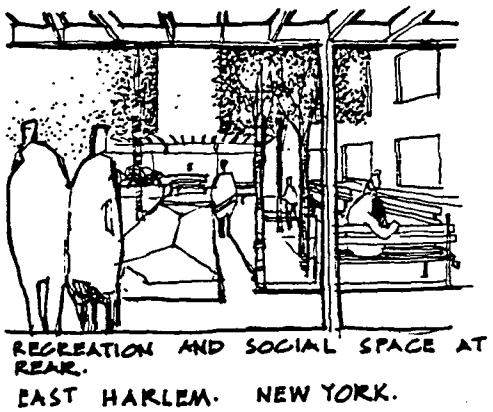


Figure 4.10: Recreation and social space at the rear. Public Housing at East Harlem, New York

Here the rear recreation garden with the shuffle board court, pergola, fountain, and planting areas (raised to an easy working height), is used exclusively by elderly tenants and their guests (See Figure 4.10). Because it is adjacent to their community rooms and the kitchen, it will be a convenient place, in good weather, for parties and social gatherings. The planting areas have a space for potted plants brought down in summer from the apartments. "This allows really a New York backyard and we have developed it as such" (*Architectural Forum*, May 1961).

Through their social robustness, visual legibility, and personalization by the users, gardens and outdoor spaces attach meaning and legibility to the entire precinct.

In the rural and sprawling retirement communities, the picturesque arcadian nature of the landscape gives meaning to the environment as a "relief from the too

insistently man-made surroundings of civilized life" (Olmsted, 1923).

As early as 1902, Charles Eliot explained,

> there is an important element in human nature, which the town square cannot satisfy. This is the conscious and unconscious sensibility to the beauty of the natural world which in many men become a passion and in almost all men play a part. (Eliot, 1902)

- Givens Estate, Asheville, North Carolina.
  Architects, William Morgan and Moore Robinson.

> Individual lifestyles are to be encouraged in a stimulating, nearly rural environment that will enhance independence, but not reject those who finally cannot take care of themselves, the concept of nearly normal community without the stigma of institutionalization. (*Architectural Record*, May 1977)

While residents are physically separated from completely normal lives, (urban life, that is) a majority who enters as active persons are expected to provide a positive and diverse influence on the less able. The initial attraction is of a country club environment (See Figure 4.11). Activities range from regular participation in the life of the nearby downtown (community) to fishing in the streams which converges on Given's man-made lake (*Architectural Record*, May 1977).

> This town like cluster of 280 apartments is designed to surround a community center which contains dining and medical facilities round a roof top plaza. The slope of the land makes physical access from grade level possible for almost all floors. The apartments are placed like row houses slightly staggered to give maximum privacy. Even the sky-lit sloping roof visually creates a rural effect. (*Architectural Record*, 1977)

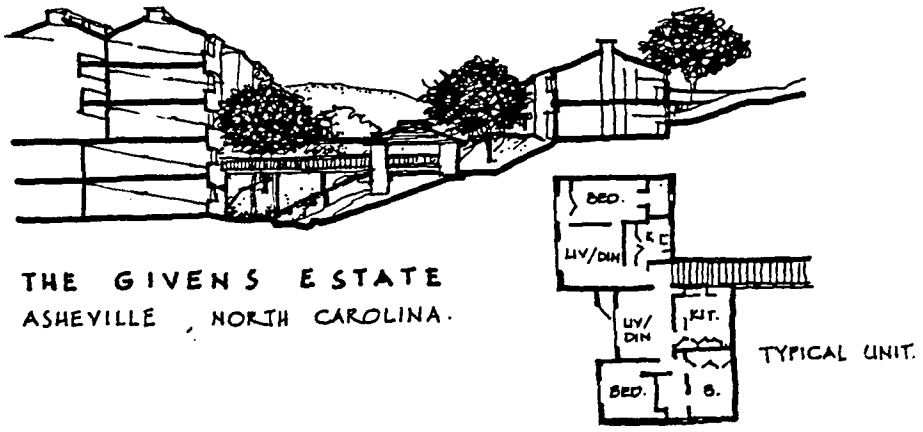


Figure 4.11: Section through units. Givens Estate, Asheville, North Carolina

The covered walkways and gazebos, balconies and porches all act to give visual and physical access to the picturesque (See Figure 4.11).

- Carmel Valley Manor Retirement Community. Carmel, CA.
  Architect, Skidmore, Owings and Merrill, San Francisco. CA. Sasaki Walker Associates Landscape Consultants.

Situated in the foothills of the coast range five miles from Carmel, the project emphasizes the natural landscape (The Picturesque) through

- Wide spacing of buildings.
- Use of meadow grasses.
- Indigenous trees.
- Minimum interruptions to nature by way of buildings, walkways and driveways.

Figure 4.12: Elevation. Carmel Valley Manor, CA

Recreational facilities are included along with gardening. The purpose of the design is to emphasize a feeling of openness throughout. The over all plan is so oriented that small buildings are separated as much as possible to allow for grassy meadows onto which the apartments or houses overlook (See Figure 4.12). The paths have graded ramps for easy movement. The buildings themselves are opened up by the sliced high gable ends at their centers to emphasize height and minimize interior corridors.

In most of these examples the following similar trends may be discerned.

- A designed or natural picturesque setting. The buildings show visual permeability through windows porches balconies, walkways, single loaded corridors, lounges, open courts. The relation to the outdoors is a passive

visual interaction. There are recreational activities too, in designated areas. Vicarious involvement is also favored. Thus there is a choice for active socialization as well as passive involvement. This variety caters to the large population with varied physical abilities.

- Connection with urban facilities is a must. Nature and garden environment is desirable only when there is an easy access to urban services. Thus communication and connection to the urban community is equally important in such developments.

Balconies Balconies and terraces associated with individual apartments are seen in the high rise elderly housing apartments.

- Crawford Housing for the Elderly, New Haven, CN.
  Architect, Paul Rudolf.

The high rise building has 109 balconies (See Figure 4.13), one per apartment and provides a broad panorama of the city's urban renewal accomplishments connecting the residents visually to the various urban landmarks of the community.

The balcony of a multi-storied apartment is not merely a place where one can come out and be outdoors, but is also a visual link to the community that is not so physically accessible as a grade level apartment would be. They therefore serve the dual purpose of giving identity to the precinct by their architectonic form and visual access, and connect the site to the community visually. They give legibility to the precinct.

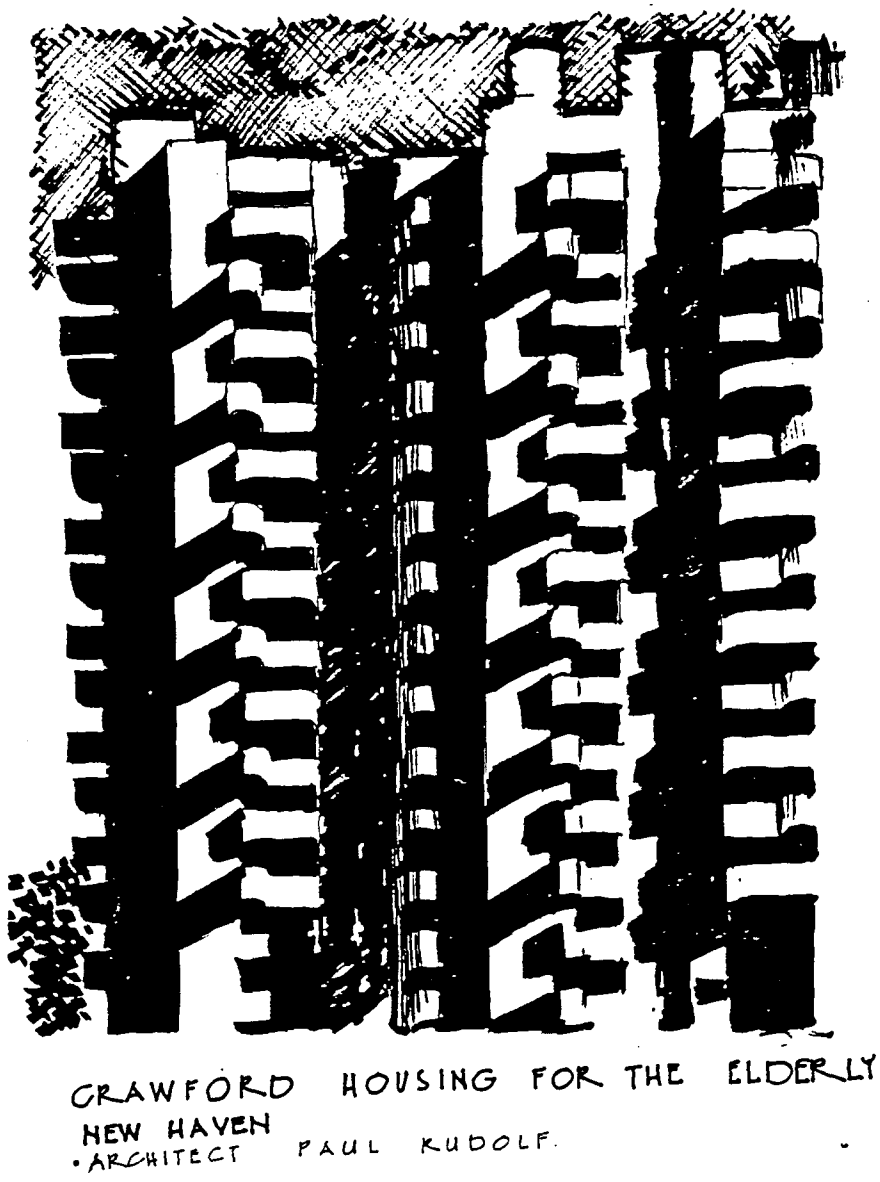


Figure 4.13: Elevation. Crawford Housing for the Elderly, New Haven

Figure 4.14: Front view. Winslow Celantano Park, New Haven

The balcony however doesn't allow physical accessibility to outdoor spaces except for the fact that by being there one can be physically outside without being on the ground. Also there are other factors such as sun and breeze (ventilation), prospect and refuge (depending on whether the balcony is covered or not), that are important.

- Winslow Celantano Park, New Haven CN.
  Architects, Granbury, Cash and Associates.

In this example of low rent public housing, covered protective balconies function as outdoor sitting areas overlooking the visual features of New Haven harbor and skyline (See Figure 4.14). The single loaded corridor and roof terraces provide cross ventilation, orientation and aspect to outdoors (See Figure 4.15).

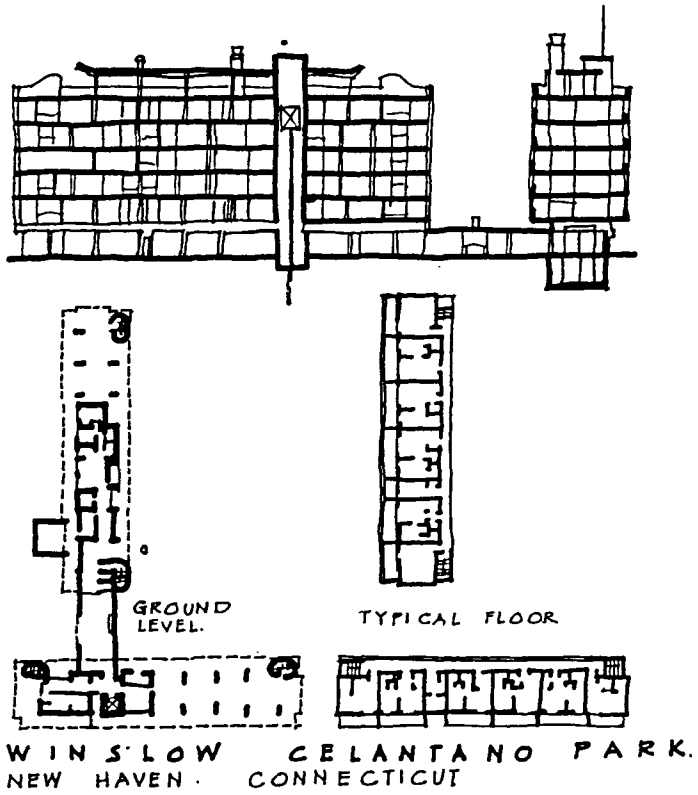


Figure 4.15: Plan and section. Winslow Celantano Park. New Haven

- Monument East, Baltimore, Maryland.
  Architects, Conklin and Rossant.

While in other examples, the living dining room usually opens out into the balcony, in this case it is the kitchen that has a balcony (See Figure 4.3). The reason for this is that the architects identified the kitchen as the most used and lived in part of the house in the life of the residents before they moved into the institution. The round openings of these balconies and correspondingly small windows were planned by the architects because they felt that not all the residents would feel psychologically comfortable in tall building without some sort of of refuge and confinement. These balconies give visual identity and legibility to the building.

Building configuration Building Configuration can carve out a space in the circumjacent that by its very existence and use gives legibility to the precinct.

- Florida Christian Home Apartments, Jacksonville, FL.
  Architects, Freedman, Clements, Rumpel Associates.

The six storied building has an angled configuration that conforms to a curved site boundary. By its configuration the building has a smaller scale than it otherwise would have.

It also discloses two courts which define the front and back of the site (See Figure 4.16). The edge of the front has a visually impressive entrance and a semi-public back with the dining, shop, and multipurpose rooms.

- Hilliard Center, Chicago, IL.
  Architect, Bertrand Goldberg.

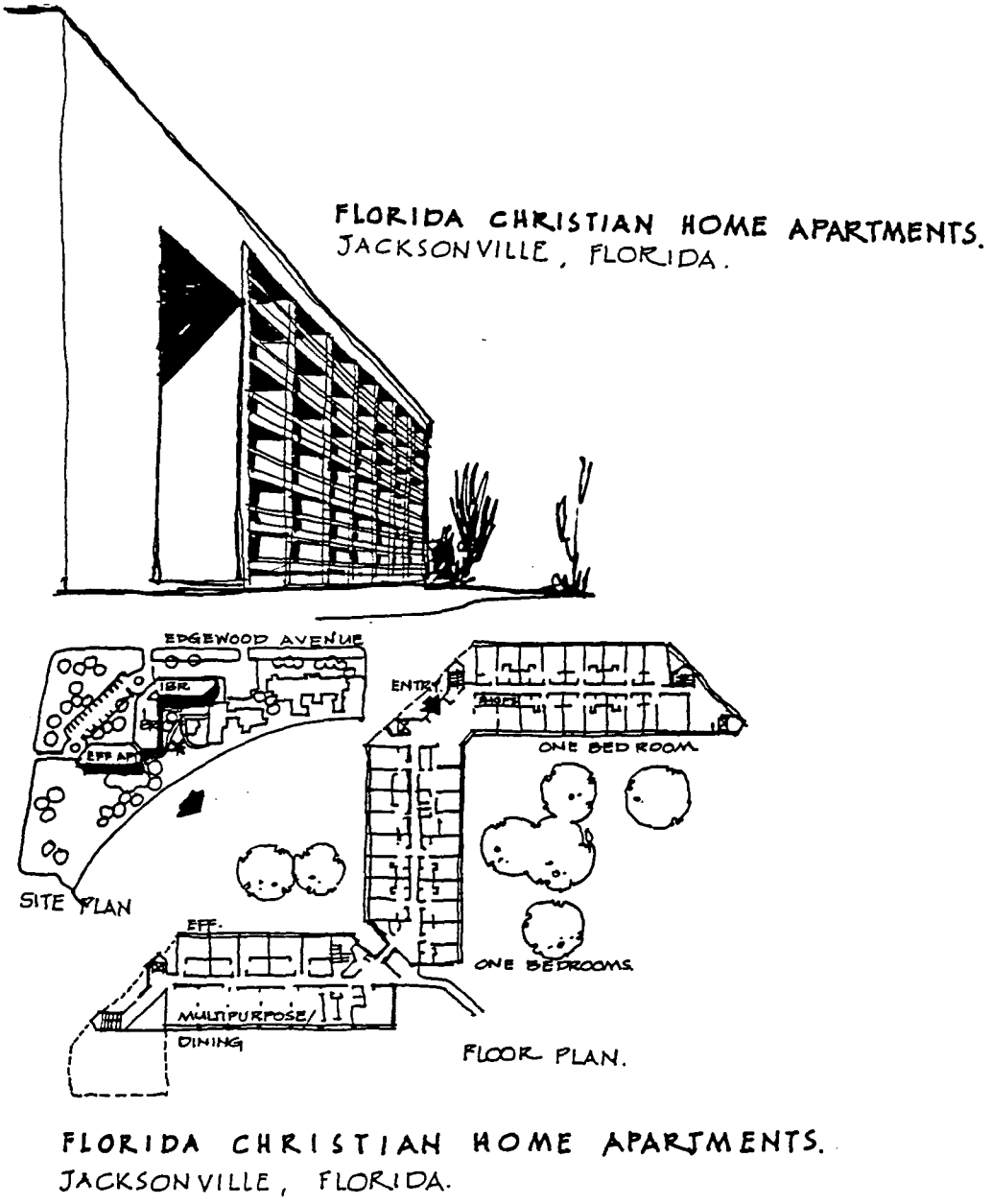
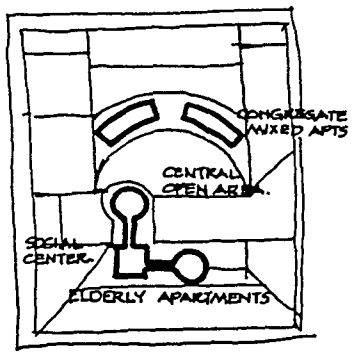


Figure 4.16: Site plan, typical floor plan and front view. Florida Christian Home Apartments, Jacksonville, FL



RAYMOND M HILLARD CENTER.
CHICAGO

Figure 4.17: Plan. Raymond M. Hillard Center, Chicago, IL

Chicago's Hillard Center designed for the Chicago Housing Authority (CHA) has two elderly housing blocks and two blocks for families, creating a central space, which acts as a social space (See Figure 4.17).

The space is visible from the upper floors (See Figure 4.18), This visual surveillance helps safety and security and control from upper stories. This is required for those apartments that have no direct physical access to the grade level common spaces (Newman, 1972). Terraces with benches and trees for the elderly and a pleasant little amphitheater is provided.

- Grundy Towers, Bristol, PA.
  Architect, Louis Sauer Associates. Franck Schlesinger Associated Architect.

The small apartments of this building have larger window space and more

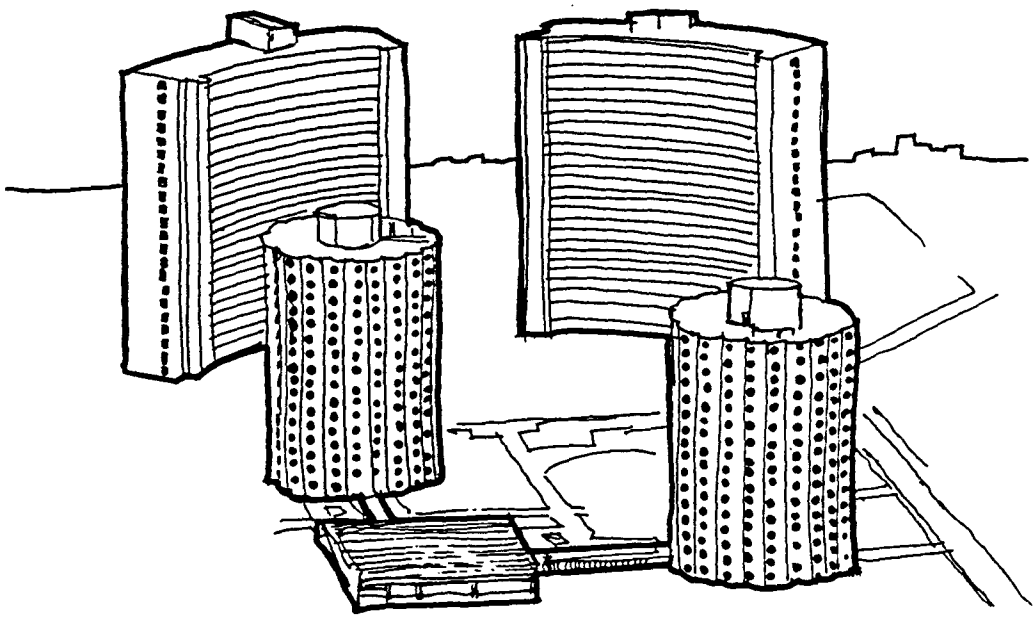


Figure 4.18: View. Raymond M. Hillard Center, Chicago, IL

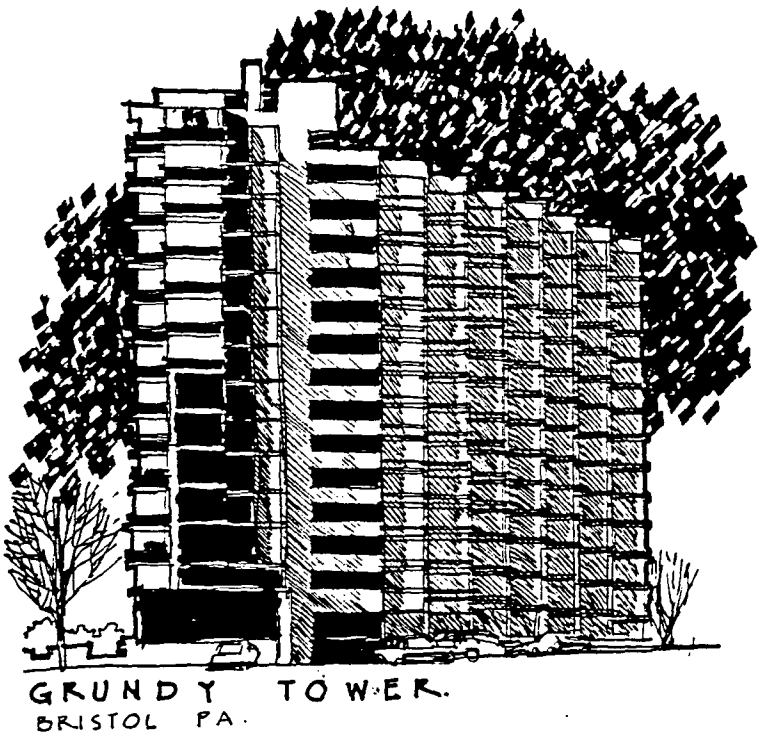


Figure 4.19: View. Grundy Tower, Bristol, PA

visual permeability is provided by the stepped perimeter of the building (See Figure 4.19). This form also gives a character and identity to the building from outside as much as from inside. Also natural light for recessed individual apartment doors increases legibility and enhances the sense of place, allowing for personalization and control.

The building configuration and orientation also creates spaces like patios and plazas that act as spaces for social interaction (See Figure 4.20), connectors between two or more buildings or as activity spillover areas within the building.

- Victoria Plaza, San Antonio, TX.

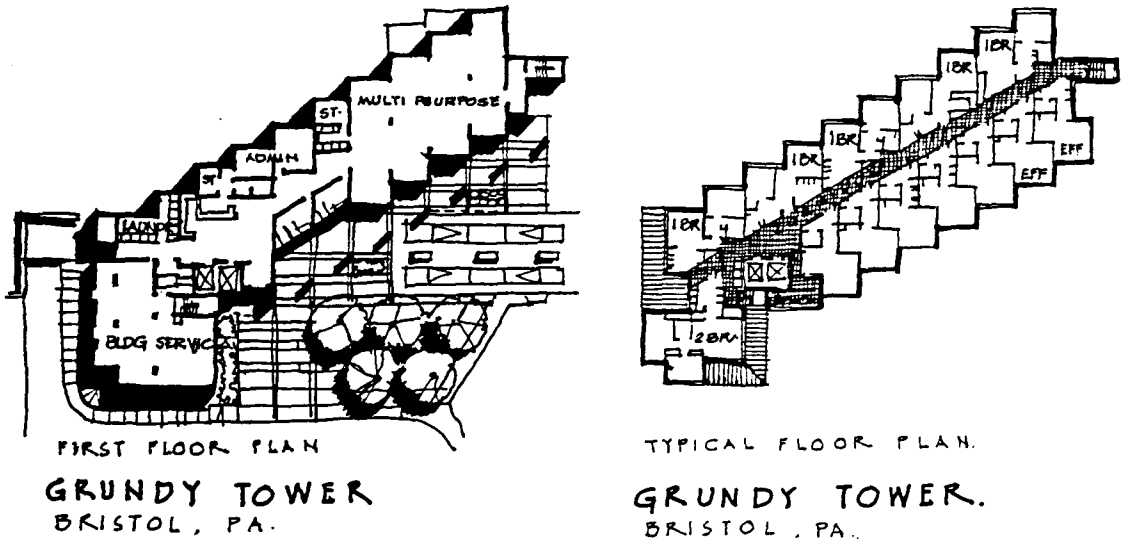


Figure 4.20: Plans. Grundy Tower, Bristol, PA

Architects, Noonan, Thompson, Krocker, Marmon and Mok Associated Architects and Engineers.

The T-shaped plan with open galleries serves as corridors, trapping the prevailing South-east breeze. The North wing shades the patio.

On the other side, a patio has been developed to act as a spillover area for the lobby and associated spaces. This overlooks resident parking, service areas and games courts.

The porch thus acts as an architectonic interface between the inside and the outside. Reliefs and murals on the patio walls and ornamental figures in the patio pool gives character and legibility to the space. The use of art work in common spaces such as this creates a sense of pride of ownership among the residents. Residents get involved in this place, considering it an important part of the precinct (See Figure 4.21).

Adjacent spaces Lounges, dining courts, greenhouses, covered passages and a solarium are some spaces that are adjacent to major indoor active social spaces.

- Seaview Manor, Seattle, Washington.
  Architect, John Graham and Co.

In this building a central solarium is provided on every floor. This space acts an orienting feature as well as a potential area for social interaction. In high-rise apartments with more than one wing, view to outside and orientation needs attention (See Figure 4.22).

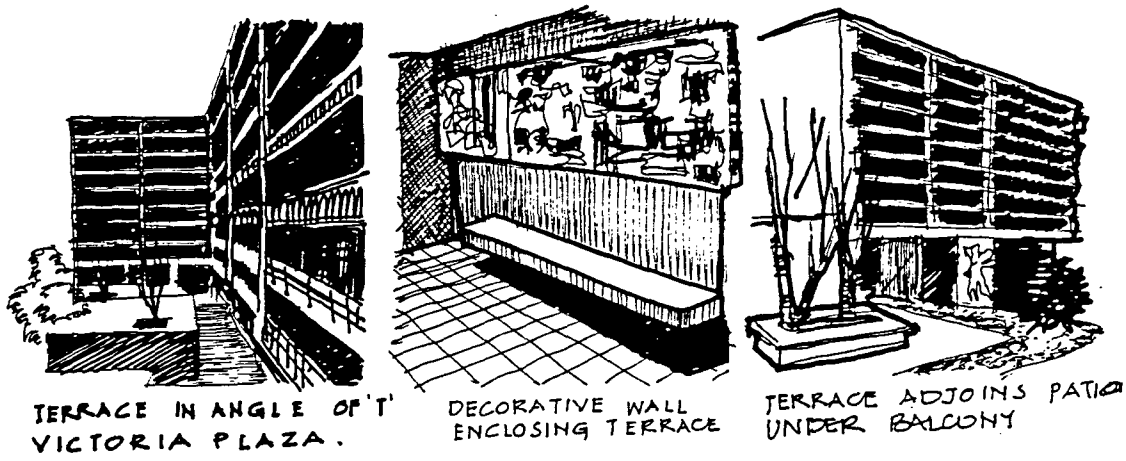


Figure 4.21: Terrace, patios and common spaces created by building configuration. Victoria Plaza, San Antonio, TX

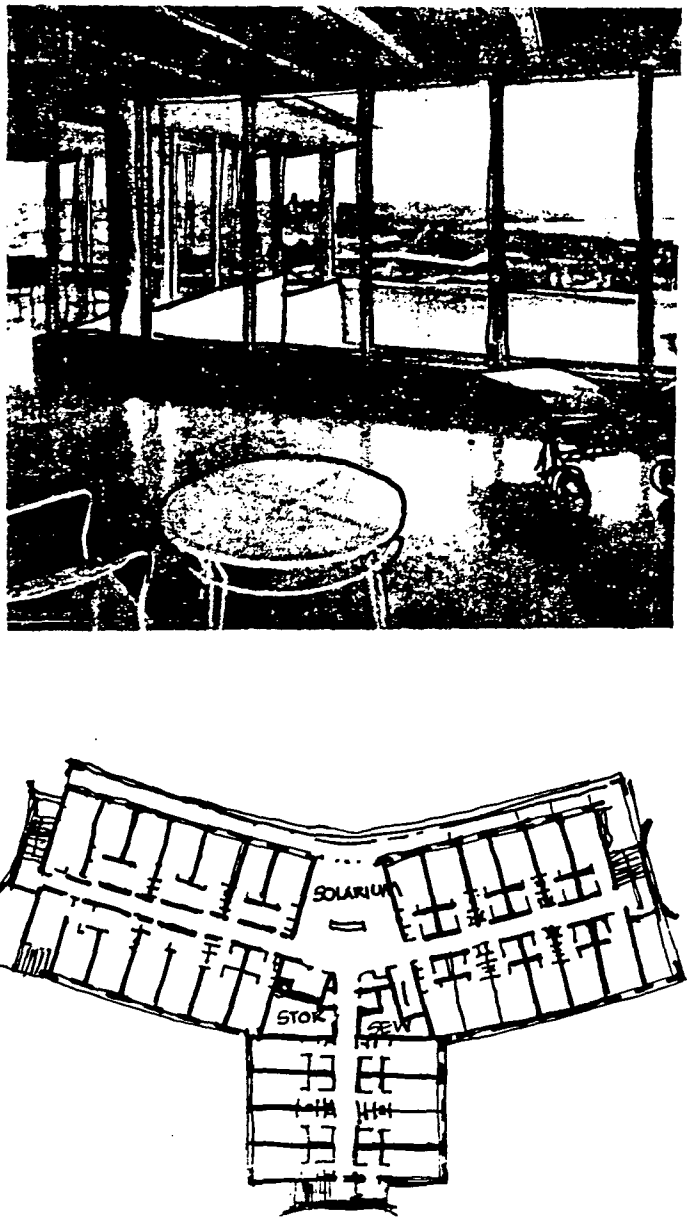


Figure 4.22: Seaview Manor, Seattle, Washington

- Public Housing Project at Franklin Mass, Waltham, Mass.
  Architect, Aldo A Minotti.

Casual and frequent contacts among elderly neighbors, without unwanted inroads on privacy depend greatly on frequent happenstance meeting along walks that bring residents from different buildings into the same travel path (See Figure 4.23).

The centripetal arrangements of the project and the covered walks that create a kind of tributary system converging towards the center is seen here. The paths are not merely linkages, they act as settings for casual social interaction too. Such paths help legibility of the precinct.

Conclusions

In this chapter the various landscapes in the urban form have been derived. The various ways that such spaces interact with the precinct have been studied. Complexity of the urban form necessitates imageable and hierarchical spaces that make the urban space legible. At the same time, legibility of the precinct becomes an important issue. At all levels there exists various levels of privacy. While the city becomes a public realm, the neighborhood has a shared identity for the residents. Similarly, the precinct has its own public, semi-public, semi-private and private spaces. The design must thus address these varied privacy requirements. The juxtaposition of these spaces is important.

By studying the way that nature was used, it becomes evident that along with the urban landscape, the yearning for the restorative experience of the wilderness as seen in the picturesque remained. The desire for the picturesque existed as a mode

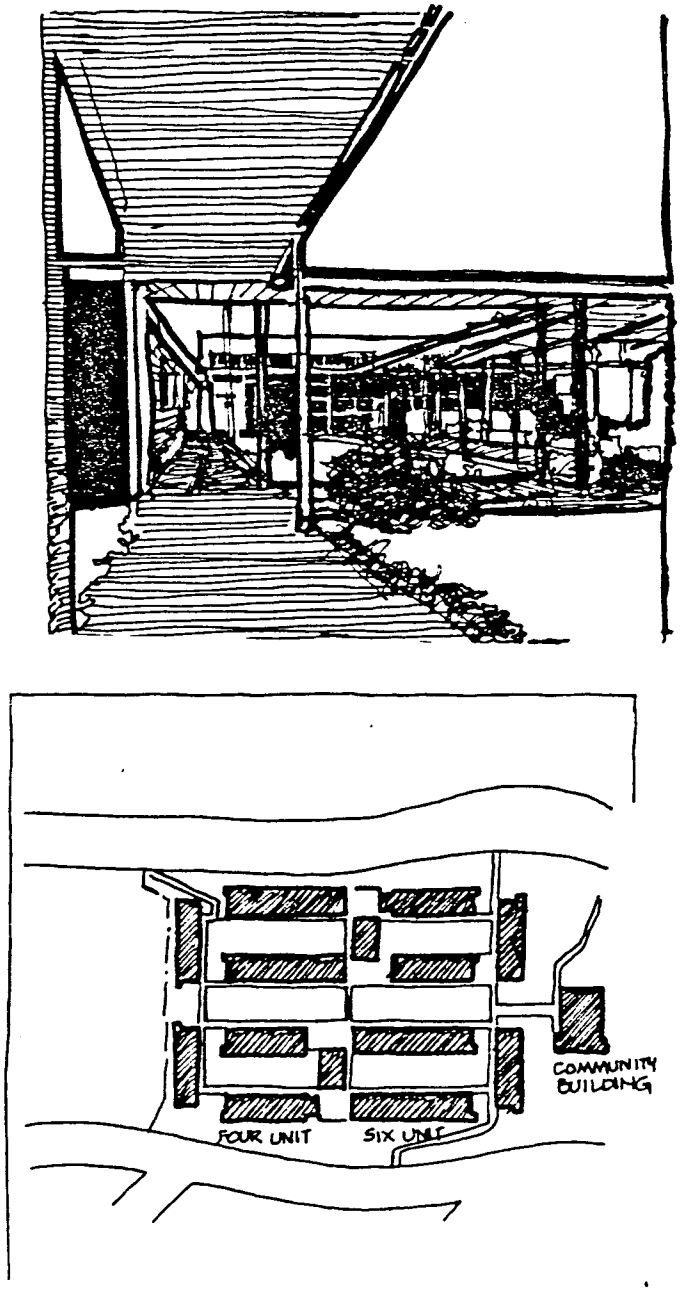


Figure 4.23: View. Public Housing Project at Franklin Mass, Waltham

of escape from the pressures of urban life necessitating the picturesque. The picturesque can be created in any innovative form.

CHAPTER 5. COMPLEXITY OF THE PRESENT

> What makes mass society so difficult to bear is not the number of people involved, or at least not primarily, but the fact that the world between them has lost its power to gather them together, to relate and to separate them. The weirdness of this situation resembles a spiritualistic seance where a number of people gathered around a table, might suddenly, through some magic trick, see the table vanish from their midst, so that two persons sitting opposite to each other were no longer separate, but will be entirely unrelated to each other by anything tangible. (Arendt, 1987)

Trend Statement

This chapter deals with the changing trends that are encountered today. These observations can't be categorized as a particular historical trend since the present can't be placed in a definite perspective as was done in early chapters. Thus this chapter shall only attempt to study the developments seen in elderly housing that were substantially different from earlier examples.

Research clearly shows that all early trends discovered in previous chapters still co-exist in some form or another gathering different meanings and connotations.

Two major developments occur on both the macro and micro level. In the macro level, the changing urban form, a complex fragmented cultural fabric of the city that creates a necessity to redefine the connection of the community to the

residential precinct, is also a changing concept of private and public realm.

At the micro level, the site or precinct shows changed perspectives in sharing and co-operative living, use of outdoor spaces by residents, kinds of services provided in elderly housing institutions and changing family setups.

Non-physical Traces

Urban form

At the level of the city, the urban form was getting more and more diverse and fragmented. The homogeneity of road grids was infilled with diverse social, cultural communities and ethnic identities.

Due to this diversity, the importance of developing coherent neighborhood communities grew. One of the concepts that gained ground was that of "Aging in Place." As early as 1970, Time magazine stated that less than 1% of the elderly leave their own state (*Time*, August 3, 1970). The concept of "Aging in Place" necessitates cultural and social ties with the encompassing communities. It also requires the existence of life-care facilities in the community itself, so that there is no necessity for a large scale relocation with aging. If residential developments were attached to nursing care units, as a part of the continuing care notion, then the development is legally required to meet standard nursing home regulations. If, on the other hand, they are conceived as a part of the residential development, then they escape those onerous requirements. New elderly residential developments of Marriott and Hyatt are providing for assisted living and nursing care either on site or more preferably through arrangements with existing local facilities (*Progressive Architecture*, November 1989). Increased cognitive connections with the

neighborhood and the existing health care opportunities are site selection criterion.

The strongest market for any life-care facility is most likely, therefore, drawn from its immediate surroundings. Regionalism is in and the architecture of the newest centers reflects that fact. Depending on the target population and the value of land, development occurs as high rises, as a campus plan (*Texas Architect*, May-June 1988), or through small town models built on the concept of a community.

Common functions, such as the beauty parlors, games room, the podiatrists' office, act as a town center. The bungalow acts as a town-home, transforming the living units from a random collection of cottages into a coherent neighborhood. These are attempts at creating imageable distinct neighborhood communities.

Philip Langdon reported (*Atlantic Monthly*, March 1988) that this public oriented traditionalism, with its ideal harmoniously organized streets and public spaces, is being pursued by government agencies and private planning firms. Langdon shows examples of Seaside, (not a retirement community or elderly village) with vernacular buildings, a community with friendly stimulating social atmosphere and a pleasing visual order, treating the natural environment intelligently while also conveniently supplying the inhabitants' daily needs. This community spirit is created through the architectural styles of the buildings, backyards and front porches, as well as through the unusual pavement of the brick streets which through its cognitive and tactile cues give identity to the precinct. The sense of place that a neo-traditional town strives for usually includes civic and religious buildings. Beyond simply attracting such buildings, the developer must position them where they will make an impact. Langdon gives the example of Mashpee, where the civic

and religious buildings cluster around a new-town green with a bandstand at its center. A town library has been built on one side of the green, on the other side will be a catholic church, and on the third side a row of shops. The final building facing the green will be either a town hall or an inn. In the business district, Fields Point, the developers, sought and got a post office, an important generator of activities (Langdon, 1988).

Existing examples discussed later show that today's elderly housing is not an isolated special housing development, but is actually a part of the neighborhood and the city. To do that designers are increasingly identifying and developing cultural, cognitive and physical connections to the community (Bolten, 1990).

Changing private and public realms

Yet another reaction to the complexity of the urban form and the diversity of the neighborhood is seen in the redefinition of the private and public realms. Hannah Arendt speaks of the receding public realm and the concomitant importance of the private realm (Arendt, 1987). The existence of the larger community and neighborhood and the public spaces therein are the public realm, which as "the common world" gathers us together and yet prevents our falling over each other.

The second point is the necessity of the larger public realm that is imageable and transcends the life span of mortal men. It is the realm where being seen and being heard by others derive their significance from the fact that everybody sees and hears from a different position (plurality). This kind of space is seen in the urban form. In the absence of a coherent public realm, the private realm has grown.

The living room with the television and the backyard view to the garden has overtaken the view out in the front.

> Americans discovered outdoor living in the fifties and sixties, and architecture followed the back-of-the-house additions, like breakfast rooms open to the kitchen, family rooms and decks. And now, if local examples as well as those in glossy magazines are any indication, the living room is moving to the back as well. It is a room with a purpose and a view, the new "American Living Room." And, it is turning up instead of, not in addition to, the family room.
>
> William Bechhoefer, an associate dean of the University of Maryland School of Architecture and a practising architect sees the desire for a living room in the back as a response to everyday pressures. He calls it 'retreat from the street'. (Rogers, 1990)

This tendency towards increased privacy is based on the thought that streets are less private and sometimes even dangerous depending on the neighborhood.

Thus designers are being more sensitive to the new differentiations between the public and the private realms.

Ethnic and cultural diversity

Another result of the complexity of the urban fabric is seen in growing ethnic and cultural heterogeniety. Minority populations have grown and broken the traditional homogeneity of the urban fabric. This has made urban and neighborhood spaces difficult to generalize and categorize. The heterogeneity often hampers the creation of a coherent public realm, leading as a result to the expansion of the protective private realm.

Research shows that the number of minority elders will increase significantly both in absolute numbers and as a proportion to the total elderly population

(Cantor, 1991).

- Elderly Blacks are projected to rise from eight percent of the total older population in 1990 to 14 percent by 2050, and Hispanics from less than four percent to nearly twelve percent during the same period.
- In addition to the ethnic minority there is the difference in the ratio of male and female elderly in the United States.
- The difference in life expectancy between men and women is narrowing, but seems unlikely to converge. Gender related marital and social care patterns are likely to continue in the future.
- Older men are far more likely than women to be married and have an available spouse as a potential source of social care.
- The probability of widowhood increases with age. Not only are women more likely to face widowhood because of greater longevity, but their average duration of widowhood is twice that of men. Black women are even more apt to be widowed and widowhood occurs earlier than among white women.
- Women, more than men, depend on children, other relatives and formal services as providers for social care.
- Women and minorities are more likely to have poor health and functional disabilities.

All these factors point to the fact that the designer must be aware of and sensitive to the ethnic and cultural backgrounds, sex and health of the target population.

Cantor (Cantor, 1991) points out a growing trend where many primary and secondary care-givers for the elderly are their adult children, who usually are 45-54 years old or even older. Thus there is developing various strata of elderly people. The difference expressed by Neugarten (Neugarten, 1974), can be redefined into finer, smaller subsections. However, the trend towards care-giving at an older age is

expected to continue, further minimizing the likelihood of overlapping of child care and other responsibilities with elder care responsibilities. There are exceptions seen in some inner city communities and in some minority groups.

The National Long Term Care Demonstration Project reported an even higher proportion of employed persons among primary care-givers. Thirty four percent were working. Out of these, seventy percent were employed full time. The sizeable population of working adult children and some spouses must juggle work and elder care as part of their daily lives. The potential for emotional, physical and financial stress within such families is clearly present (Cantor, 1991). This is another reason why the elderly housing precinct should be closely connected, both physically and experientially, to the community so that the relation between the resident and the care-givers is more accessible.

Use of outdoor spaces

Greater numbers of the able elderly are using the outdoors for recreational purposes. The Commission for Americans and Outdoors, set up by President Reagan in 1985, submitted a report, expressingthe necessity for providing recreational and outdoor facilities near residential areas. New outlooks towards the circumjacent, as seen through the strong ecological movements have encouraged active participation in the outdoors and increased general awareness of the environment.

The possibilities of creating such urban green and recreational zones were put forward by the commission. It included developing linear nature trails, reserves, parks, converting unused railway lines, and preservable natural features such as

rivers valleys. Handicapped accessibility and barrier free design that make the landscape accessible to everybody was encouraged. Nature and outdoors may not be used only for active recreational purposes (Pastalan and Polakow, 1986). Most participants said in a study,that as adults they really didn't have spaces that were exclusively theirs. Thus frequently, to attain a state of solitude (which is considered here as a state of privacy where an individual is separated from a group and is freed from the observation of others), many participants said that they went outdoors for long walks, or to a nearby park (Pastalan and Polakow, 1986).

Closely related to the issue of privacy is autonomy. Our society professes a fundamental belief in the uniqueness of the individual and in his basic dignity and worth as a human being. Gardening often offers a resident the opportunity for solitude, autonomy, control and independence. Especially for people who are less competent than they were before, the ease with which one can control, mold and change nature, allows them more control within a limited competence level. Ability to control one's life-space is highly visible in gardens where visible results of ones hard work is a source of pride for the individual, seen by everybody and therefore shown off (Fischer, 1990).

Pastalan and Polakov also speak of the meanings and identifications with nature and outdoors that create a sense of place. Absence of the kind of nature that is seen in farms, woods or backyard gardens often creates a sense of displacement for a relocated adult (Pastalan and Polakov, 1986).

Depending on the pre-relocation life of the resident, Barna (Barna,1988) identifies two types of preferred housing viz. campus plans and high-rises. While the campus plans have nature and outdoors easily accessible to all, high-rises have

terraces, balconies, windows and lounges for visual access to the circumjacent.

Architecture as a commodity

In the process of building a congregate housing facility, most developers treat architecture as a commodity. This trend is seen in elderly housing too. It has two opposing results.

Many privately financed elderly housing schemes are intended to be sold at a profit. For residents who can't afford them, cutting corners in terms of benefits and design can have disastrous results. Institutional settings with long corridors, easy to maintain cheap finishes, non-residential looks, management controlled activities, fixed dining system with fixed menus etc., result.

For people who are well off, a multitude of options and facilities are provided. Special care is given to the residential and homey nature of the design and the best services and facilities are provided.

Financing Reduced governmental help and HUD financing has led to a larger number of private developers taking over the job of making elderly housing. They may be profit based or non-profit based. A large number of profit based developers, like the Hyatt Corporation, Marriott Corporation and Trammel Crow and Lincoln Properties' subsidiaries, with better, specialized facilities and marketing techniques are building elderly housing projects. Communities catering to the specific aspects of aging, traits in the elderly, religious preferences, and physical competence are growing. Around city centers land costs are once more going up, and resulting in high rises with in-built facilities. Recreation facilities are

a major selling stunt. Retirement facilities have various leisure facilities where those who can afford are offered luxurious lifestyles (Boles, 1989).

Life-Care or Continuing Care Retirement Community (CCRC) is another popular development. CCRC provides independent living units, either apartment rooms or cottages and guarantees a range of health care and social services, which may include intermediate or skilled nursing care. It requires some sort of pre-payment, generally some sort of entrance fee and/or a monthly fee and offers a contract that lasts for more than one year or for life. The contract describes the service obligations of the community and the financial obligations of the residents (Boles, 1989).

Life care is an elective arrangement not typically covered by insurance or government benefits. Those who live there are those who can afford to do so. The new developments cater to hospitality and homey character more than mere health care and have taken the form of hotel like service oriented developments, as seen in designs by developers such as Marriott and Hyatt (Boles, 1989).

In the Assisted Living Unit (ALU), within the residential development of personal and in-home care, the frail are given basic assistance in dressing, eating bathing and other daily functions without seeming too institutional (Boles, 1989).

Rural campuses are still being built but the shift is now towards the city and suburbs. The stand alone campus in the rural setting that was all but de-rigeur in the seventies and the early eighties, is far less common today. The shift to suburban and urban sites is in part a reflection of the economic realities as land values continue to rise (Boles, 1989; Barna, 1988).

Shared housing concept

The number of elderly is steadily growing. According to a study (Cantor, 1991), the number of elderly has almost doubled since the 1960s, from 17 million to a projected 51.1 million by 2020 and 66.6 million by 2040 when the elderly will compose twenty-three percent of the total United States population.

The most rapid growth will occur among the eighty five plus population which will triple by 2020 and nearly double again around 2040-2060, when the baby boom generation will join the ranks of the oldest-old.

New shared housing options are developing (Franck, 1989) in the form of single-units, quads, go-homes, sponsored group residences, collective housing, etc. (Ahrentzen, 1989). These are used by single parents and unrelated adults. The concept of shared housing is not based on the idea of shared socialization or communal living. It is based on the idea of sharing basic infrastructures and facilities and the security offered through shared co-presence (Ahrentzen, 1989). Privacy of the residents is maintained and socialization takes place mainly through unplanned encounters and casual meetings. The idea of sharing is thus purely financial and practical. This requires that attention is paid to the design to achieve that delicate balance between sharing and privacy.

Maintaining a hierarchy of space from the public to the private, designing common activity spaces adjacent to but not on the major circulation paths, allowing for previewing, locating social spaces in accessible places within the home range (Osterberg, 1980), orientation and way-finding features, view to outside and the circumjacent spaces that allow for walks and solitude, are all requirements to achieve that state of balance.

Physical Traces

Relation to the urban form

Examples of town-models of retirement communities are examples of how elderly housing designs have taken into account the urban and neighborhood forms to create a coherent development.

Even though such town like developments are beyond the scope of the study, some examples of such developments will be added to show how community and urban form may affect elderly housing.

- Colton Palms, Colton, CA.
  Architects, Valerio Architects.

This design proposal chosen from one hundred and thirty seven competetion entries creates a micro community and shows how suburbs can benefit from dense developments inevitable in the San Bernardino County in California. The archetypes of the small town, viz. the street grids, communal buildings and residential blocks are recreated into one down town block in Colton, creating a micro-community within a community (See Figure 5.3). The architects used various models reconfigured and rendered abstract to provide an urbanity valid for today (See Figure 5.1). Residential buildings and communal buildings were connected by axis-roads with arcades. Residences are characterized by brise soliels and pyramidal roof tops while, communal buildings are given reverence as focal points.

The spirit of community participation is seen in the way the front of the residences open to the park and the historic district which act as an extension of it.

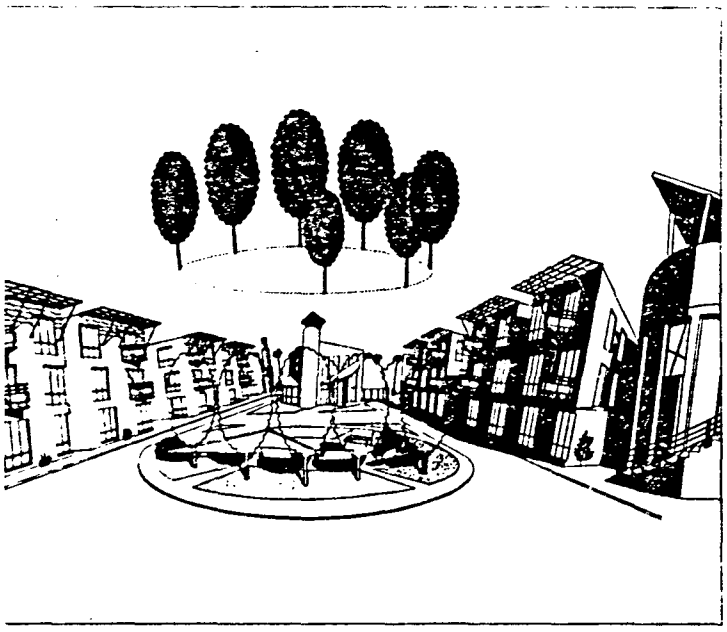


Figure 5.1: View from across the green to community hall. Colton Palms, Colton, CA

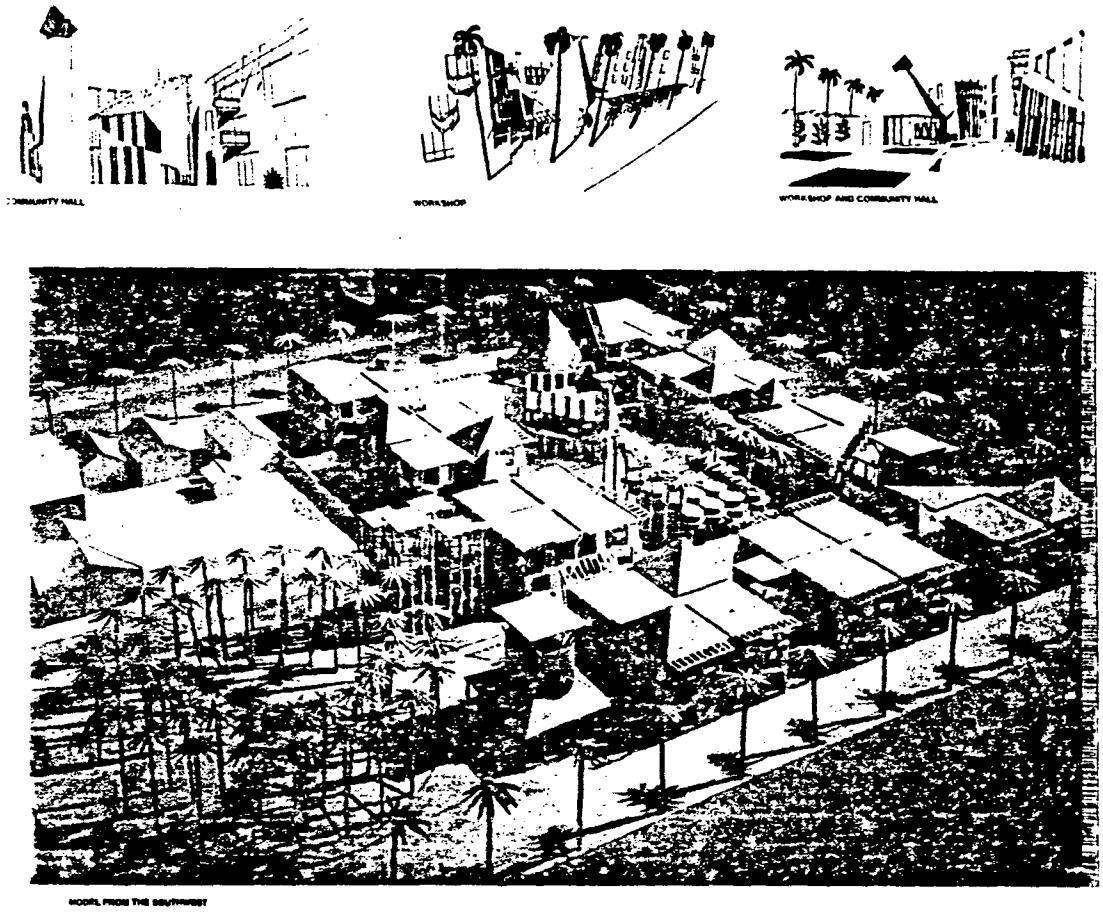


Figure 5.2: Clockwise from top: community hall, workshop, workshop and community hall, model of the scheme, Colton Palms, Colton, CA

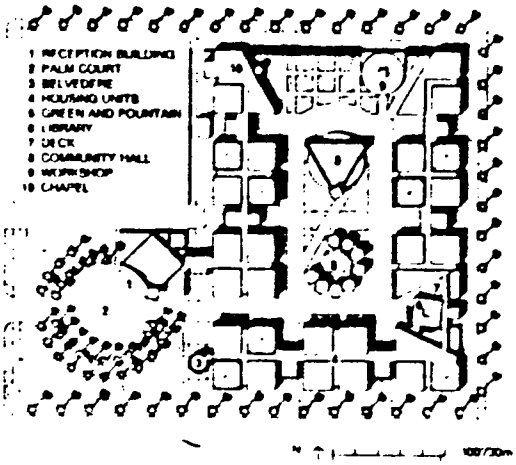


Figure 5.3: Site plan of Colton Palms, Colton, CA

The accent and landmark buildings are the community buildings, reception building, community halls workshops, library and chapels (See Figure 5.2).

The private residential units are connected to the circumjacent, and oriented to the community buildings by transition spaces like balconies porches and private gardens, that create a hierarchical continuum of spaces between the community public and the private.

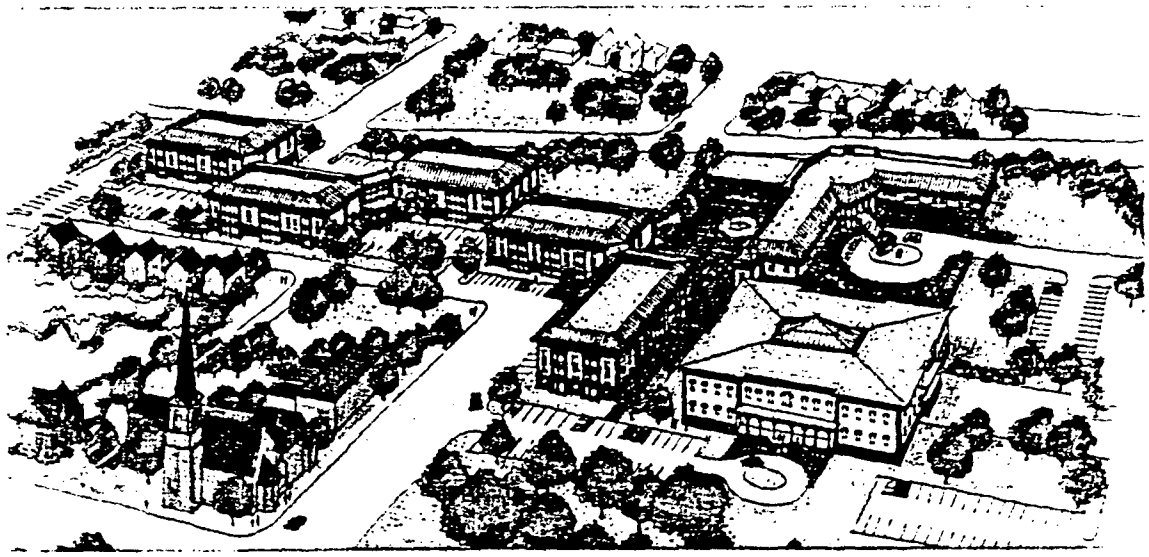
- Park Village, Williamsport, PA.
  Architects, Cochran, Stephenson and Donkervoet.

This 150-unit, 85-bed life-care unit was fitted into the existing town fabric. The connection to the neighborhood, which consists of single family housing, a church and a historic park, is accentuated by using existing architectural elements and cues from the Italianate hotel that has given identity to the neighborhood since the mid-1800s.

The new nursing buildings and low-rise apartment blocks developed visual coherence within the existing neighborhood architectural style. The layout of the buildings towards the green park and the church created close knit neighborhood clusters.

- Crab Creek, Annapolis, Maryland.
  Architects, Cochran, Stephenson and Donkervoet.

This example is more like retirement villages, but the connection to the larger urban form is worth studying.



PERSPECTIVE WITH LEONARD HOTEL RIGHT FOREGROUND. NURSING BUILDING BEHIND

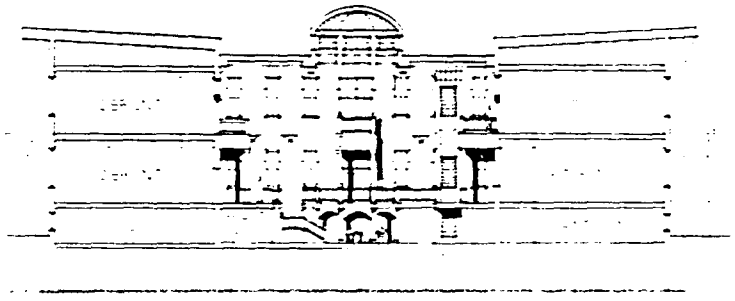


Figure 5.4: From top: perspective with Leonard Hotel right foreground and nursing building behind, section of Park Village, Elevation derived from existing architectural style

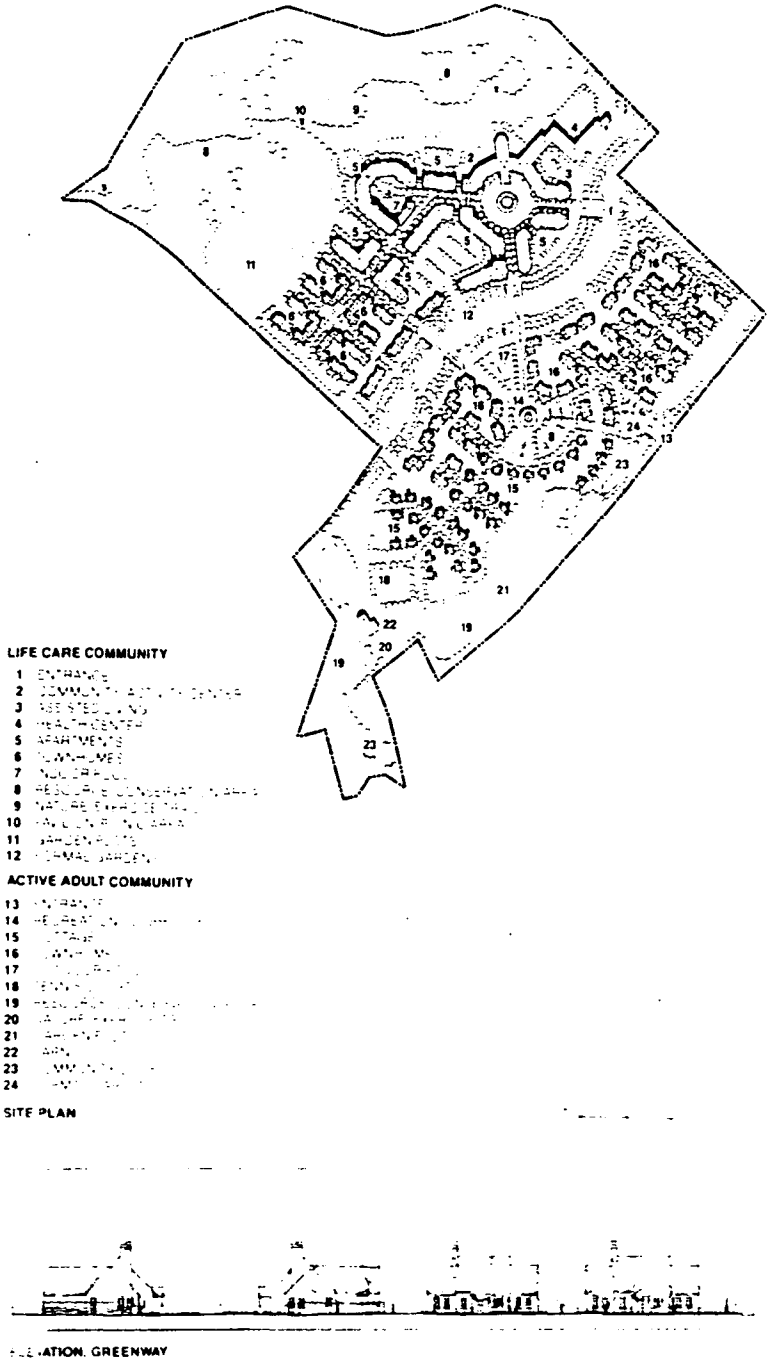


Figure 5.5: Crab Creek, Maryland

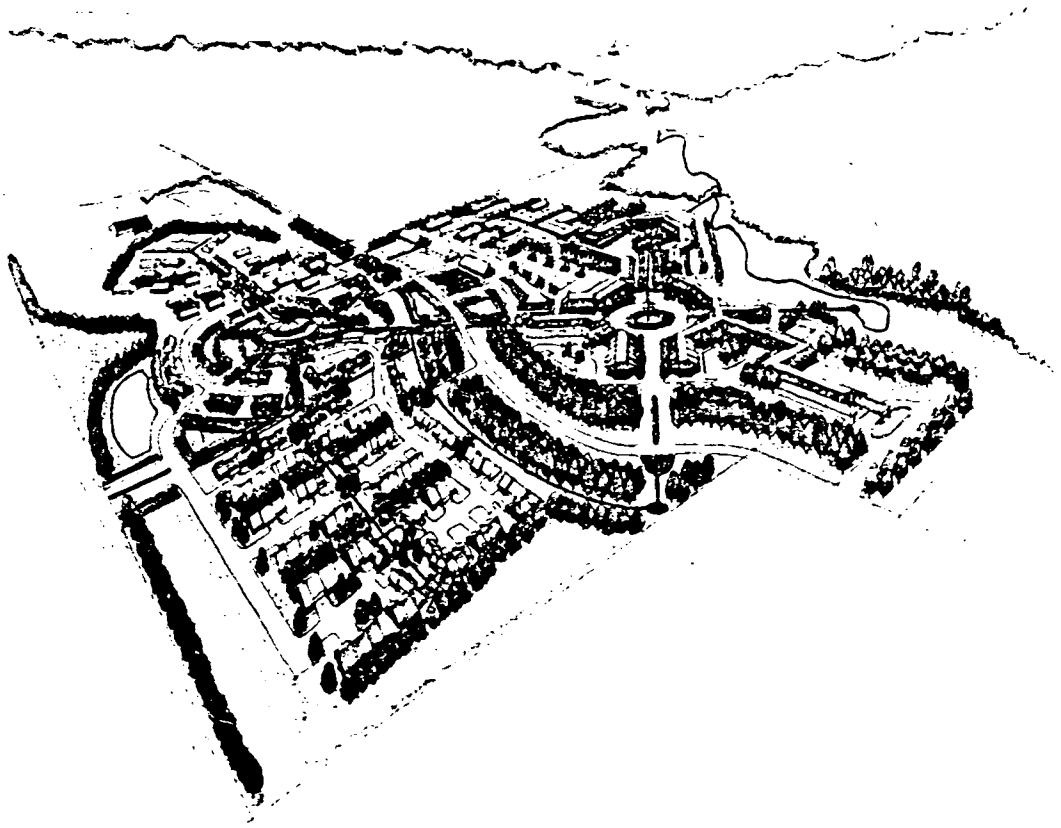


Figure 5.6: Perspective view of Crab Creek, Maryland

Crab Creek has two kinds of population housed in a traditional small town model (See Figure 5.5). The 110-acre site has a life-care community and an active adult community.

There is a traditional city center with a main street creating a grand and animated entrance avenue. The two portions of the program, viz. the life-care community and the active adult community are built around it. Facilities such as beauty salons, doctors' clinics, cafes and post office are built as store fronts along the main street with residential units above (a mixture of use types that most municipal zoning laws don't allow).

The adult community and the life-care communities create smaller neighborhoods around recreational facilities. Each set of cottages, townhouses and apartments are clustered around smaller courts. Therefore a definite hierarchy of clustered and grouped spaces, from the unit clusters to the main street, creates a coherent pattern of territories and districts.

The linkages or roads are also arranged as major axes joining these neighborhoods. There are linkages of various types, viz., sidewalks, neighborhood streets, axial roads, main streets, that serve to create a network.

Finally, at the edge of the development, there are natural conservation areas, nature and exercise trails, and private garden plots. This then is the private picturesque, a necessary element in the private-public continuum of spaces in the urban form.

Growth of the private realm. The backyard

In the absence of a coherent spatial hierarchy as seen in the Crab Village example above, the private realm in the urban form grows at the expense of the public realm.

> When an area in a city lacks a sidewalk life, the people of the place must enlarge their private lives if they are to have anything approaching equivalent contact with their neighbors. They must settle for some form of togetherness in which more is shared with one another than in the life of the sidewalks, or else they must settle for a lack of contact. (Jacobs, 1989)

In the case of elderly housing, lack of contact with the neighborhood or the larger urban community is compensated for by an introverted character of the precinct and the growth of the "backyard."

- Annie Maxim House, Mass.
  Architect, KJA Architects.

The design is different from the traditional layout where the living room is placed at the front. Here, taking into account the changing use patterns, the living room is placed at the back, facing a private garden or a backyard (See Figure 5.7). In the front, there is a kitchen and dining area. Cooper and Sarkissian (Cooper and Sarkissian, 1986) have emphasized the importance of the private backyard. In high-rises it is expressed through terraces and balconies. The more public front side faces activity and entrance (See Figure 5.8), and has the kitchen abutting the front edge.

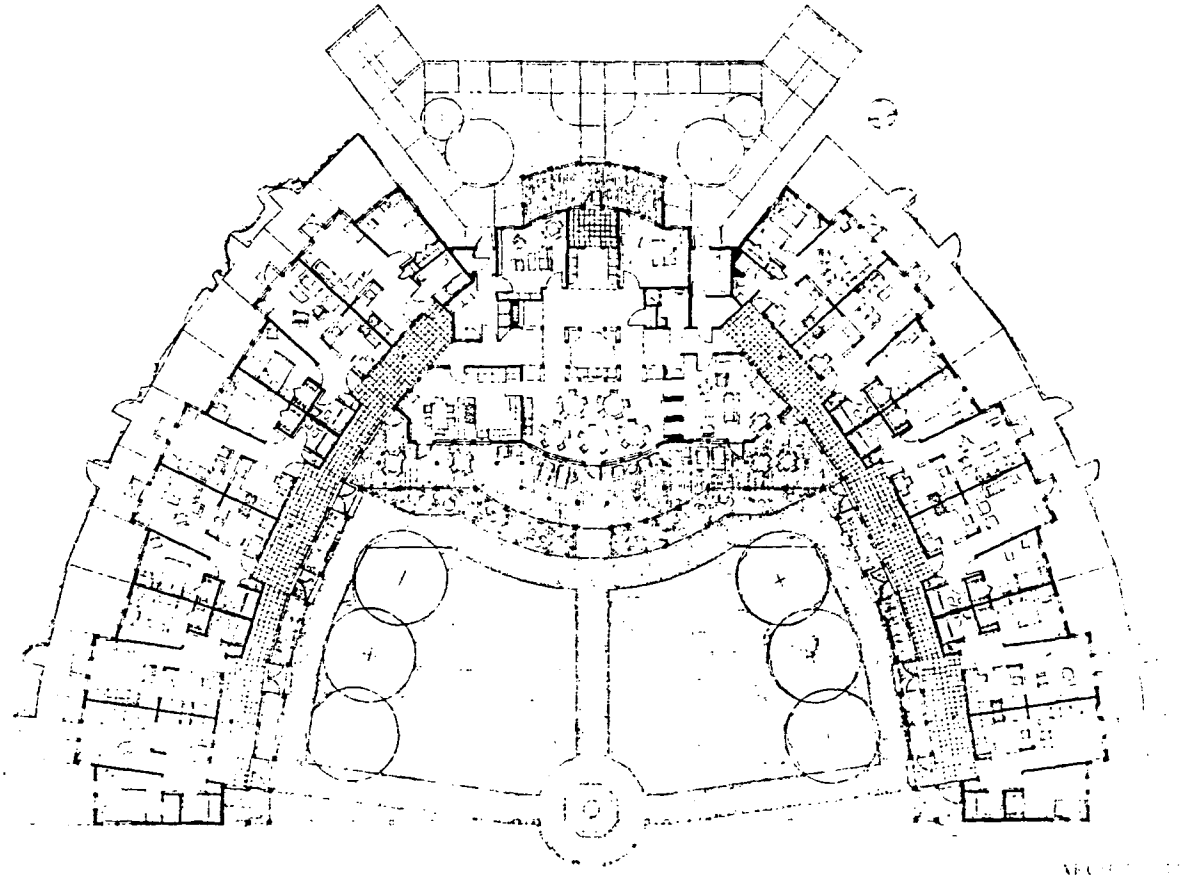


Figure 5.7: Plan. Annie Maxim House, Massachusetts

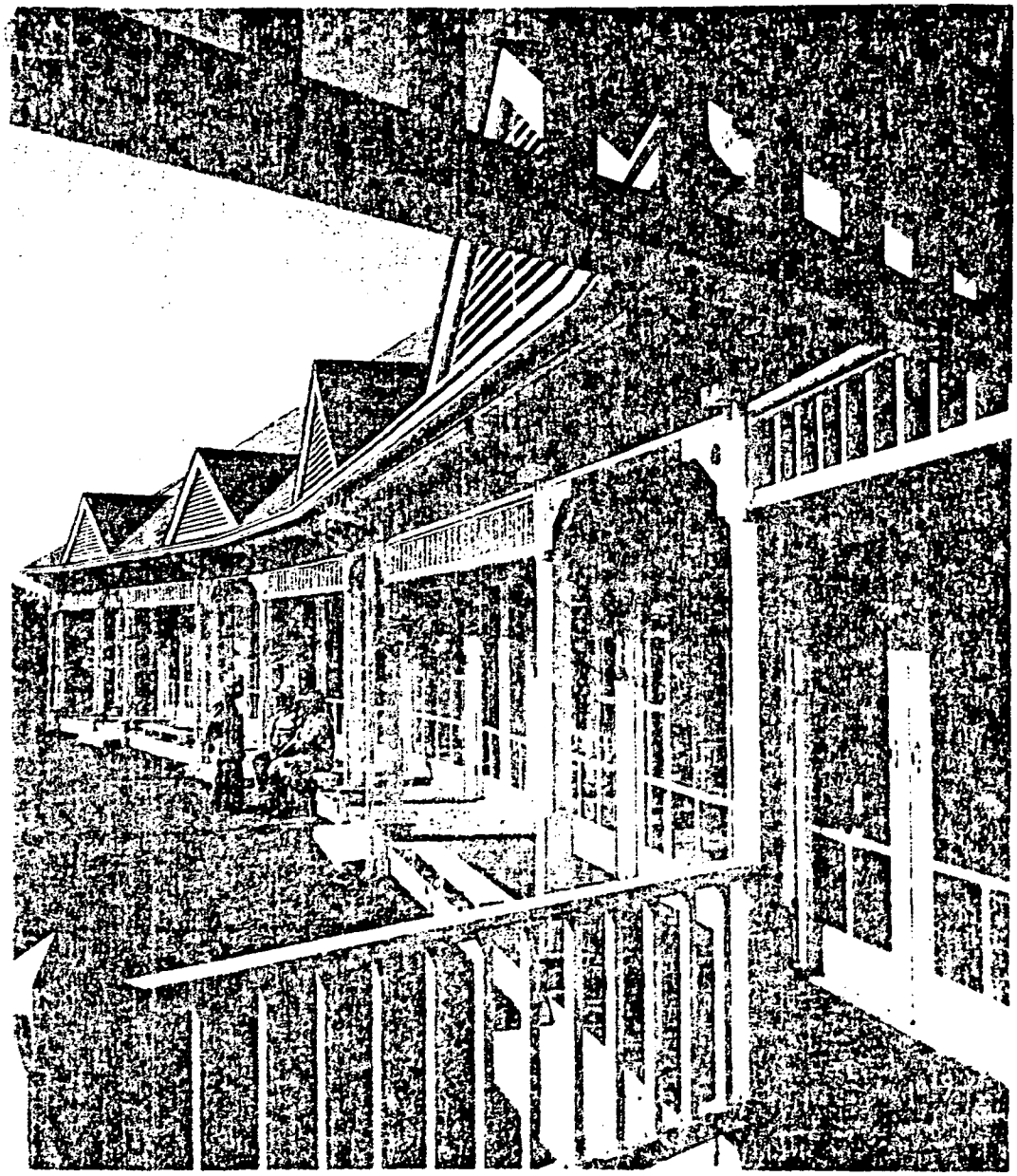


Figure 5.8: View of the courtyard. Annie Maxim House, Massachusetts

Figure 5.9: The rural image. Annie Maxim House, Massachusetts

Here the adaptation of the stable type, appropriate to its rural setting evokes images of the New England's agrarian past (See Figure 5.9). The horseshoe arms provide the residents with a secure sheltered court (See Figure 5.7). Other than the gentry rural image, the building is supposed to conjure up through its collective nature expressed in firm geometrical forms, the image of Shaker and other utopian communities of New England. This is an image that opposes the heterogeneous public image of the urban form, with privacy derived essentially out of the shared community within a precinct.

Vernacular and ethnic roots

- Mendelsohn House, San Francisco, CA.
  Architect, Robert Herman.

The residents of this enclave were mostly elderly Asian women. Taking into consideration their ethnic differences, the designers provided a wind protected court at the back, screened from the service street by a gated arcade. Residents enjoyed weeding and watering the court. The designer installed a "ting," a raised pavilion that is a basic element in a Chinese garden. Paired with the ting is a contrasting four-part walled element with four flower beds and grass in the middle center (See Figure 5.10). This works as a void that balances the solid of the ting and fulfills an esthetic requirement of the Chinese garden.

Sensitivity to the ethnic and cultural backgrounds of the residents is required while designing the circumjacent spaces.

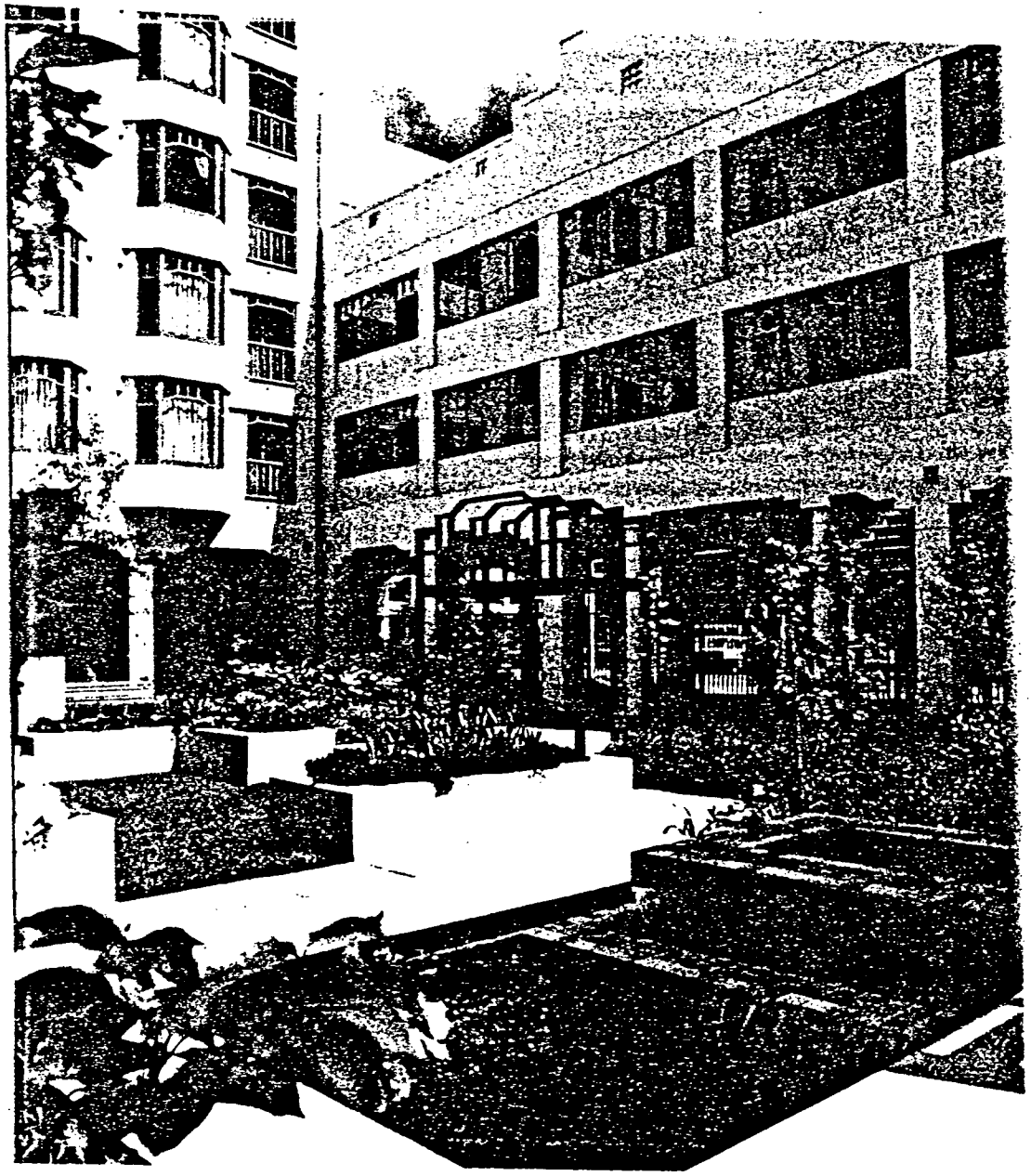


Figure 5.10: A chinese "ting" in the garden court of Mendelsohn House, San Francisco

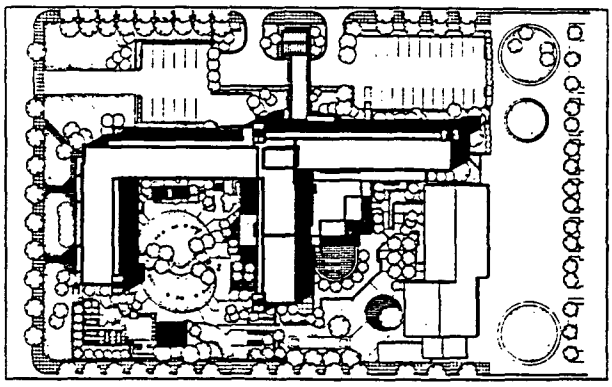


Figure 5.11: Site plan. Rosa Park, San Francisco

- Rosa Park Apartments. San Francisco, Ca.
  Architects, Marquis Architects.

This project (See Figure 5.11), with a majority of ethnic population recommendations and studies by Clare Cooper Marcus, took into consideration peculiar anthropomorphic and cultural conditions typical of this situation.

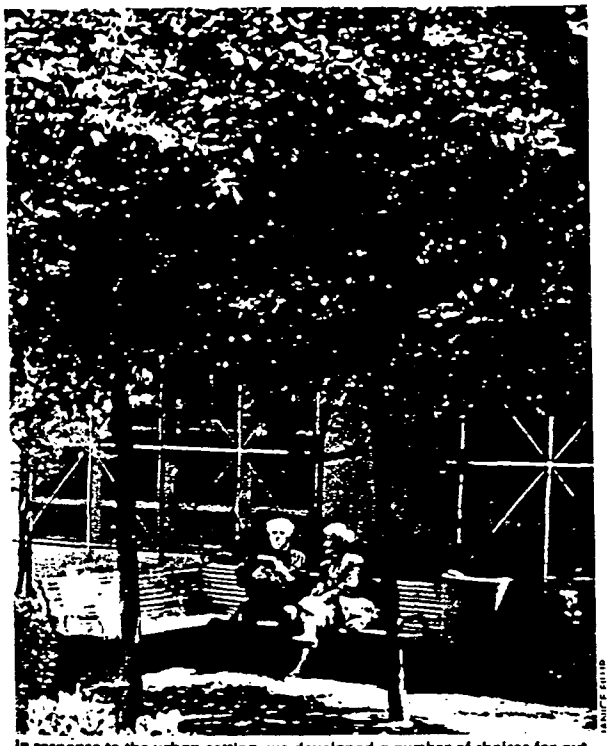
For example, taking into consideration the shorter height of an average Asian woman, the designers changed some height standards in the design.

Other features included the variety of outdoor spaces provided to cater to varying needs of a heterogeneous population (See Figure 5.13) and the use of the single loaded corridors as streets, with the kitchen facing the front. The window ledge of the kitchen was personalized by residents with decorations and potted plants (See Figure 5.12).

The windy, open corridors were enclosed and treated as "streets." When we enclosed the corridors, we introduced archways to disguise the ventilation ducts for the kitchens and bathrooms that previously had discharged into the open corridor. The front door of each unit was treated as a front porch, with a bench for waiting or leaving parcels.

WILLIAM HESSEL

Figure 5.12: Single loaded corridors used as streets with the kitchens facing the front. Rosa Park, San Francisco



In response to the urban setting, we developed a number of choices for outdoor spaces. The main asphalt courtyard was replaced with a grassy park. A smaller, east-facing courtyard has a large, sunny patio and is landscaped with shrubs and trees.

Figure 5.13: Rosa Park, San Francisco

Using the circumjacent as private space

The landscape does the dual function of allowing both intended and unintended social interaction as well as providing for an escape from public life for a moment of privacy. In previous chapters the private aspect of the landscape was called the private picturesque. Even today this aspect of the landscape is desired in elderly housing as seen in projects like Crab Creek mentioned earlier and in the following examples.

- Park Place, Denver, CO.
  Architect, Ohlson Lavoie Corporation.

In this example, the idea of the bucolic landscape as an ideal is expressed in the huge romantic mural of the turn of the century Denver Park, placed in the dining room area (See Figure 5.14). The use of potted plants and false skylights give a sense of open outdoors even during winters. From the large windows one can see the adjacent park that has been redesigned by the designers.

In this re-landscaped park called the Hungarian Freedom Park, there are well lit paths and seatings that make the park an attractive area to take strolls. The Cherry Creek biking/walking path meanders through the park, leading into downtown Denver less than two miles away. Strolling paths and isolated sitting spaces are intended to be used as private spaces in this design. Such spaces need to be both secure and safe to be successful.

- The Renaissance, Austin, TX.
  Architect, Good Fulton and Farrell Architects.

Figure 5.14: The focal point of the main level dining room is a mural depicting a turn-of-the-century park scene. Parkplace, Denver

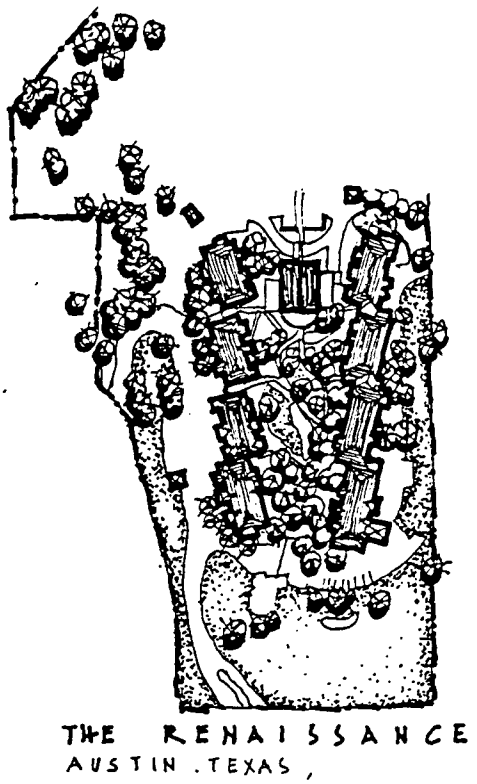


Figure 5.15: Site plan. The Renaissance, Austin TX

This example set in the gracious picturesque surroundings uses the layout of the plan to enclose wooded and landscaped courtyards which are not only visually accessible from skylighted interior corridors and public circulation spaces (See Figure 5.16), but also physically accessible through a series of meandering paths connecting the buildings to the main commons at the mid-point of the U-shaped plan (See Figure 5.15). The courtyard was meant to act as a small park or a residential streetscape, preserving as much of the natural landscape as possible. Located within the precinct, this space was considered safe and secure territory.

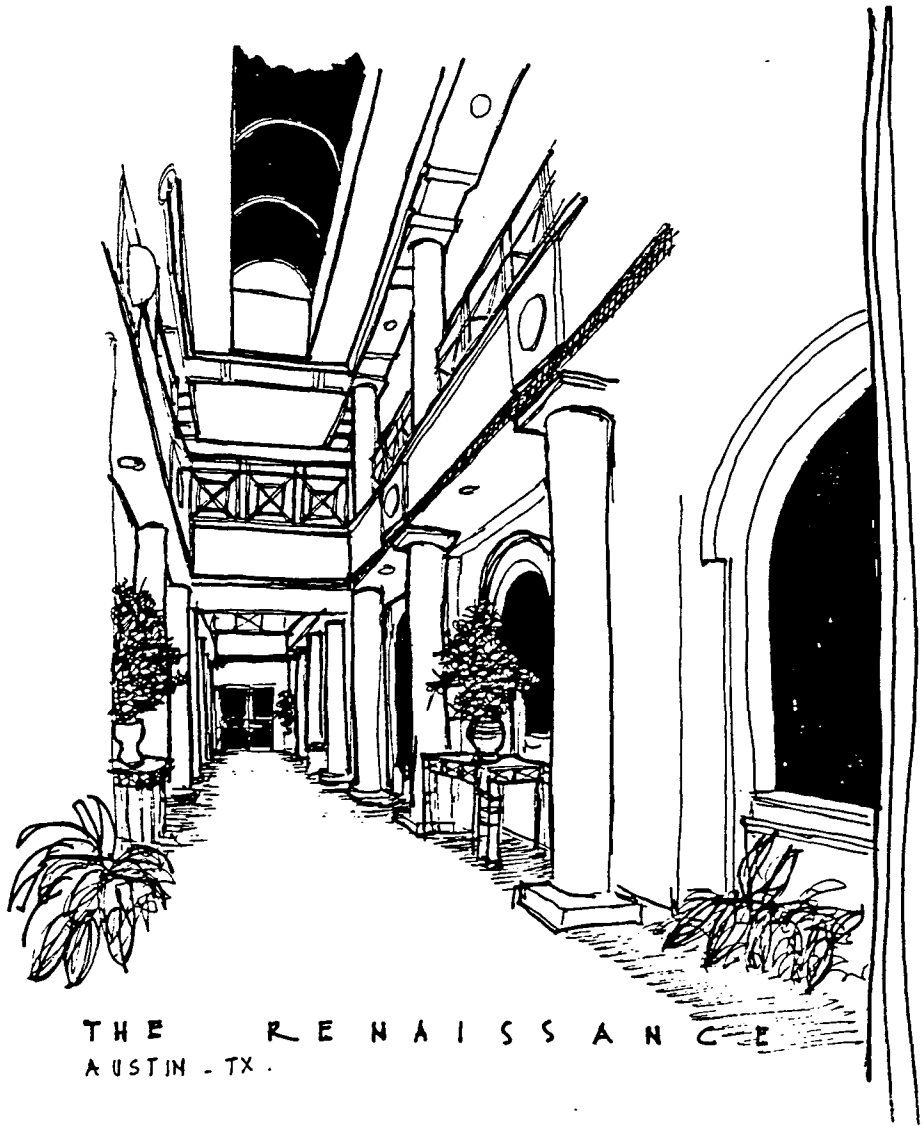


Figure 5.16: Skylighted interior corridor, The Renaissance, Austin, TX

Use of nature as shared public space

Nature used as an active space intended to encourage socialization is another way the circumjacent may be treated. These public and semi-public spaces are essentially spaces for controlled social interaction. Their speciality lies in the ability of the space, by its position, adjacencies to the activity areas, allowance for previewing, ambience and proximity to major paths, to allow for unplanned meetings.

- Friendship Village of Columbus, Columbus.
  Architect, Engelbrecht and Griffin Architects.

In the Friendship Village, the plan form creates clusters of five neighborhoods around courts, anchored by lounges and an entry (See Figure 5.17). Separate entries give identity to each of the clusters. There is an apparent hierarchy of the courts as one goes from the main entrance court (See Figure 5.19) to the neighborhood courts. The lounges associated with each cluster visually connects the outdoors and serve as orienting features. These lounges are spaces where group meetings and social gatherings take place. The visual permeability of the lounge to the outdoors combined with the juxtaposition of the lounges, outdoor courts, entrances and the circulation paths allow chance encounters and plenty of previewing, thereby making the space more diverse, rich and robust.

Thus the designer uses walks and passages, visual permeability and interconnectedness of the interjacent and the circumjacent to achieve a semi-public domain within the precinct that holds rich potential for socialization and control (See Figure 5.18).

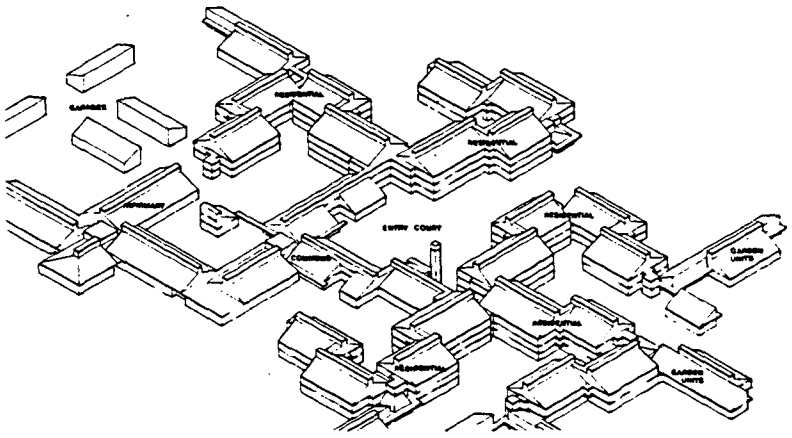


Figure 5.17: Isometric showing the courts and building form. Friendship Village of Columbus

- Park Lane, Salt Lake City, UT.
  Architect, Mole, Huss and Money.

This example uses a large atrium or wintergarden space inside the building to create an animated social space. The garden atrium is characterized by plantings and an abundance of sunlight (See Figure 5.20). Large skylights are used to bring light and life into the space. During winter, the floor is heated by coils using technology to overcome practical problems associated with skylit and glazed spaces. The central atrium is visible from each floor lobby as well as from apartment balconies allowing previewing.

Such large internal open spaces need to be scaled down to a residential scale. Here the designer uses full grown trees, street furnitures, lamp-posts and a central fountain to do the job. The major activity spaces and common spaces like the

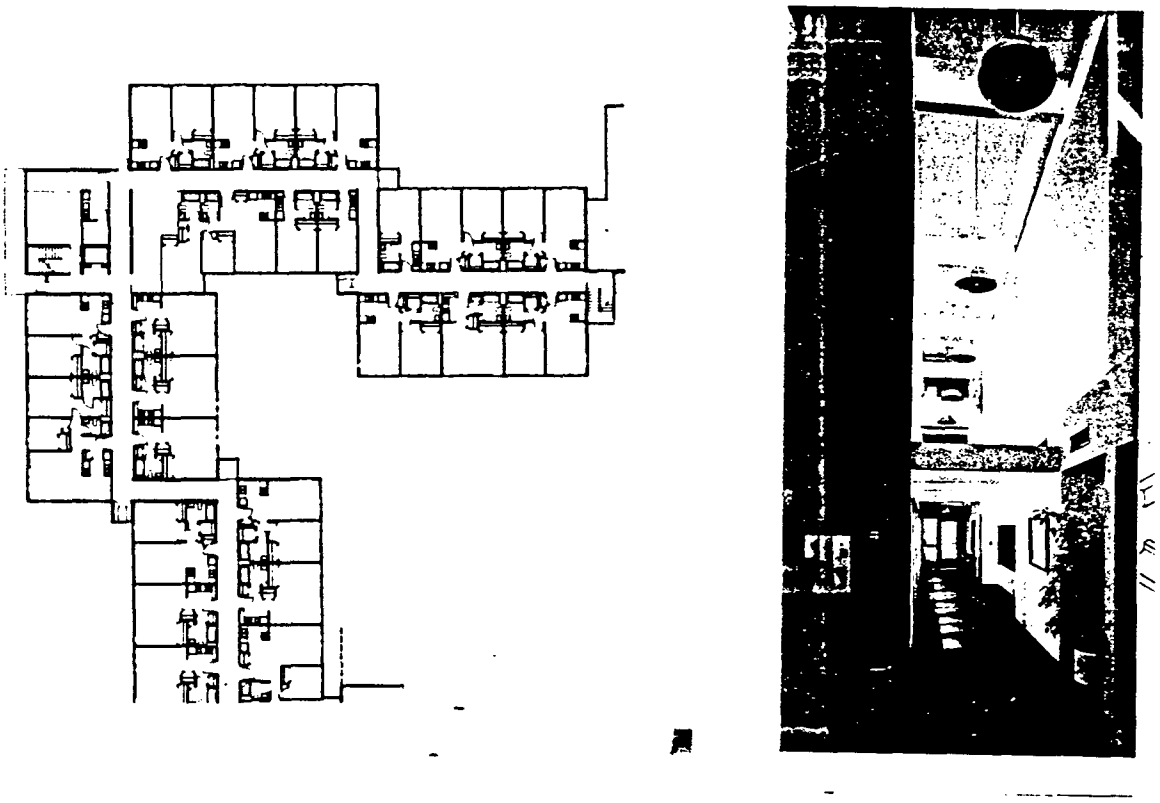


Figure 5.18: Plan and view of a circulation corridor. Friendship Village of Columbus

Figure 5.19: Entrance court. Friendship Village of Columbus

Figure 5.20: Garden atrium. Parklane, Salt Lake City, UT

lounge, dining room and the library are arranged around the atrium and their adjacency makes the atrium space more robust.

- Robert Shaw ECHO Village. Austin, TX.
  Architect, Tom Hatch.

This is a beautiful and concise project that demonstrates the use of the circumjacent to create shared common spaces. The six-unit project is a small scale animation of a village (See Figure 5.21).

The clustered plan orients the building round a common space with a gazebo and barbeque facility (See Figure 5.23). The porches act as transition spaces between the private and the public and allow for socializing and solitude depending on what the user desires (see Figure 5.22). The centralized form helps wayfinding and legibility. Identity of the precinct and legibility is reinforced by using elements like the gateway. Mailboxes are situated in the gate structure. Thus the walk from the apartment to the gate is an important path within the home range of the residents.

Familiar forms, materials and scale used in the external finish root the architecture to the old neighborhood and create visual continuity. Handicapped accessibility along with the use of ramps and graded entrances, make the space more robust and allows for a variety of users to participate in outdoor social spaces.

Architecture as a commodity

Today the various facilities offered in a housing development are used as marketing tools to sell the property. There are two major factors used as marketing tools, viz. image and details.

Image

- Newport Bay Condominiums. Indianapolis.
  Architect, Wolner Associates.

The image of the vernacular and the colonial (as in Colonial Williamsburg), was developed through the use of architectural elements (eg. corridors resembling

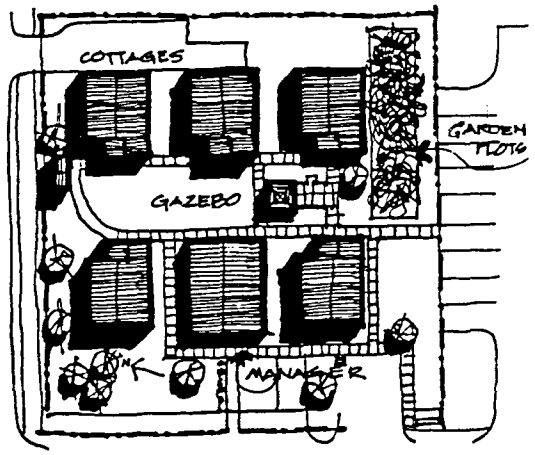


Figure 5.21: Site plan. Robert Shaw ECHO Village, Austin, TX

traditional colonial streets, public spaces resembling open courtyards, etc.), and materials (eg. clapboard siding over masonry, traditional brick facing and door and window molding), to create a residential look (See Figure 5.24). The architect uses natural light to create an airy outdoor effect. The courtyard atrium serves as the indoor community park (See Figure 5.25). Similarly, running water provides visual focus and auditory cues. Matte finish ceramic floor tiles, a round aquarium, outdoor sized shrubs, trees and outdoor seating contribute to the informal park like atmosphere. A streetscape is created along the corridors with brick-faced round columns, upper level balustrades, and ivy filled window boxes. Each apartment on the street has its own porch light, broken pediment over the door, and backlit shuttered window which simulates sunlight (See Figure 5.26).

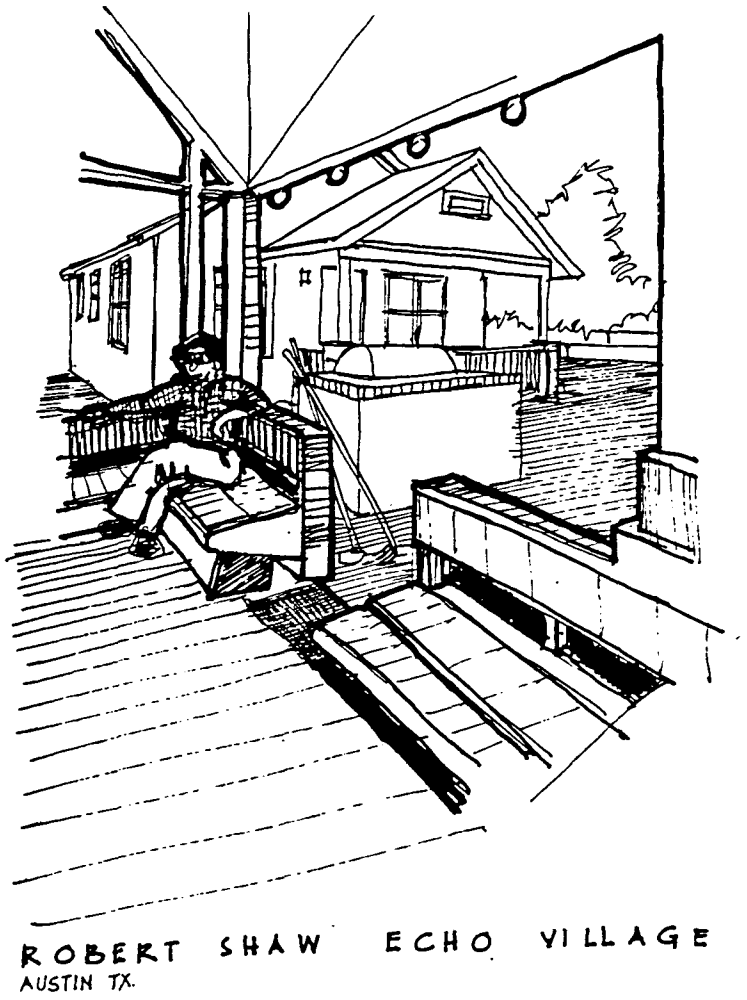


Figure 5.22: Porch. Robert Shaw ECHO Village, Austin, TX

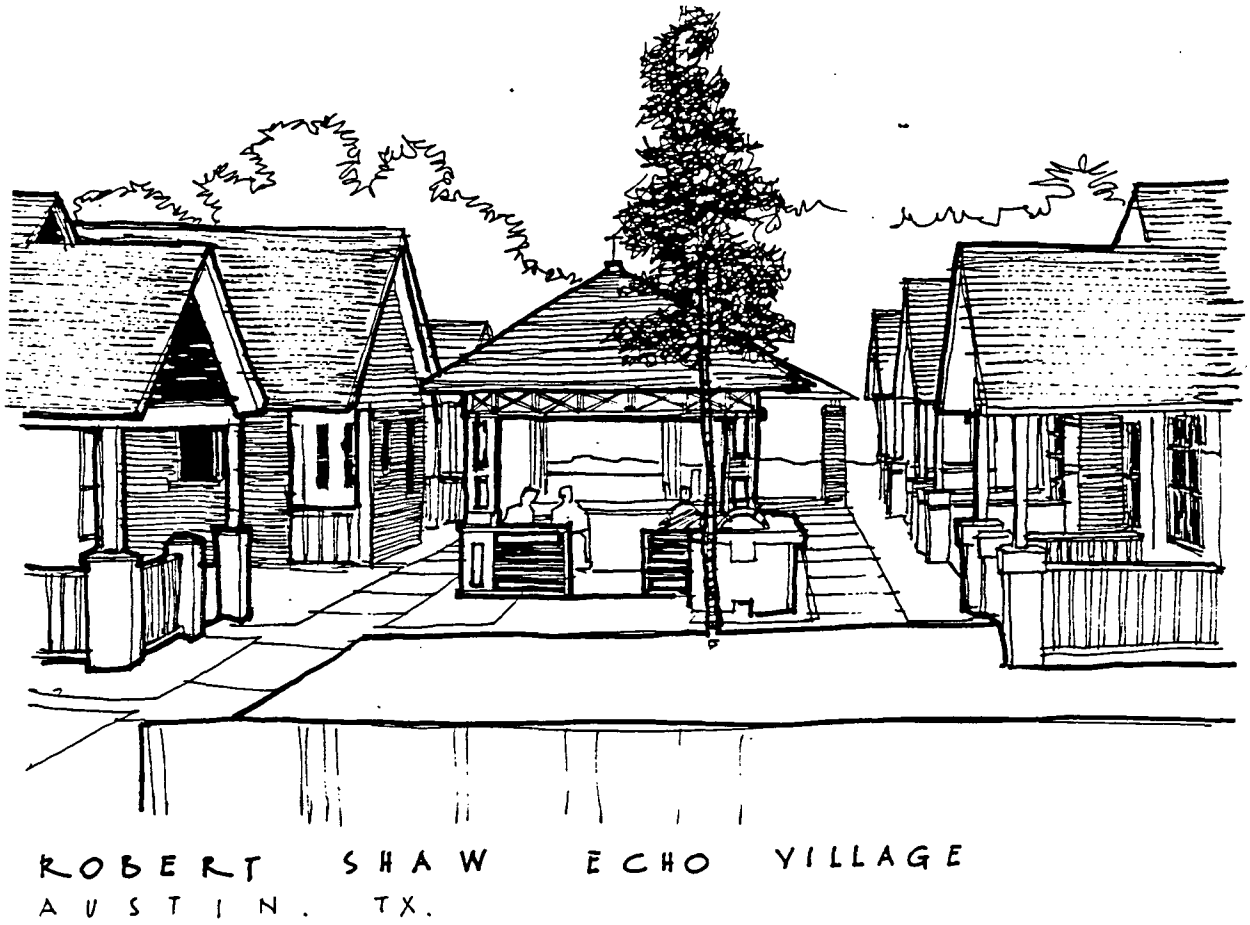


Figure 5.23: Central gazebo. Robert Shaw ECHO Village, Austin, TX

Figure 5.24: View. Newport Bay Condominiums. Indianapolis

This example is therefore sold as an animated, romantic and historically styled living space.

Details

- Marriott Jefferson, Arlington. VA.
  Architect, Cochran, Stephenson and Donkervoet.

An expensive hotel type residential development like this sells expensive facilities, in-built skilled care, services and a social atmosphere developed through the wintergarden, coffeeshops, pedestrian streets. shopping streets. and recreational facilities within the precinct, both indoors and outdoors (See Figure 5.27).

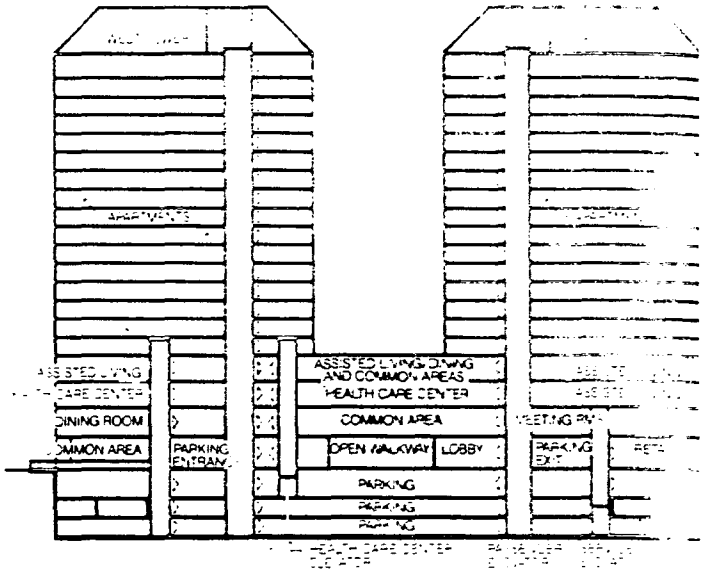
Figure 5.25: Interior streetscape. Newport Bay Condominiums. Indianapolis

Figure 5.26: Apartment front. Newport Bay Condominiums, Indianapolis

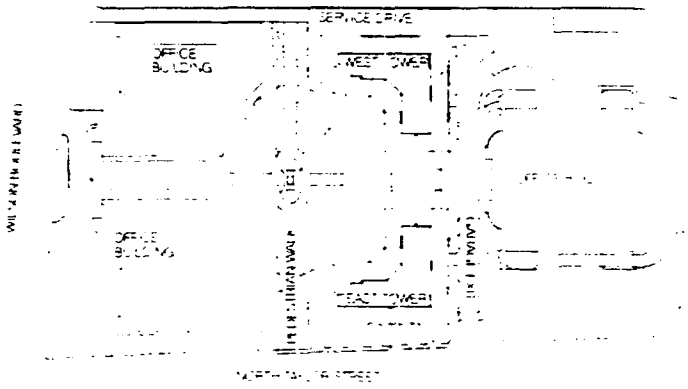
Conclusions

The present, then, puts forward a situation where the circumjacent caters to public life within the precinct as well as provides pools of private spaces. Examples make it evident that the elderly housing industry, be it profit based or sponsored by non-profit organizations, needs to cater to a variety of populations with differing ability levels and requirements co-habiting in one common space.

The landscape caters to various needs, by creating a community and urban relationship, to the development of the identity of the precinct. Economic viability, user satisfaction and demand are dependent on the designer's ability to create a coherent and legible designed space.

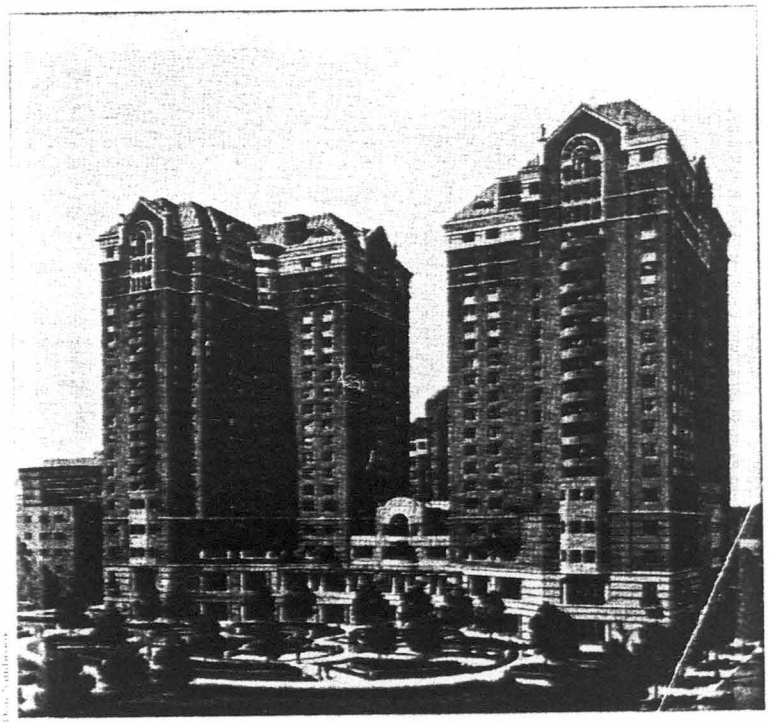


WEST-EAST SECTION



SITE PLAN

Figure 5.27: Section and plan. Marriott Jefferson, Arlington, VA



MODEL OF MARRIOTT JEFFERSON

Figure 5.28: Model of Marriott Jefferson, Arlington, VA

CHAPTER 6. THE CONCLUSIONS AND DETERMINANTS

> The luxury of having community and privacy, with spaces designed for both extremes should be a more frequent design consideration in all kinds of housing. Even households happy with the privacy and independence of traditional dwellings, may desire, in addition, common spaces that support shared activities between households and between households of different ages and livestyles. (Franck, 1989)

In this chapter the major trends and determinants gathered from earlier chapters shall be redefined in a set of "landscape types" that the designer may consider while designing the space beyond the built environment in Elderly Housing. In the beginning, the summary of the trend chapters will be followed by definitions. Then the design program and details will be explained in terms of the major landscapes.

It may be noted that the terms public/private/semi-public/semi-private zones used in this chapter deal exclusively with the spaces within the precinct. Similar spaces in the community and in the urban context will be prefixed as community-public, community private etc.

Summary of Various Historical Trends

Chapter 2: The private picturesque

In Chapter 2, the private picturesque was defined. The buildings set within the pastoral, scenic and essentially passive setting was intended to create an image of the restorative country setting. Such landscapes were a reaction to rapid post-industrialization urbanization.

The landscape, especially the picturesque, was associated with therapeutic and restorative values. For the poor and indigent, cut-off from the main-stream life and community interaction, these arcadian settings were intended to be private restorative places. The picturesque was a private space. Visual connection to the outdoors was a form of controlled social interaction. One could shut oneself away from the world and enjoy privacy through visual communion with nature or decide to socially interact with other residents.

The physical manifestation of such spaces were seen in balconies, porches, windows and walks. These architectonic elements acted as visual connectors.

Chapter 3: Activity settings

In Chapter 3, the landscape was defined as an activity space. The changing outlook of considering the elderly, as individuals with their inherent strengths was reflected in the design of the outdoors. The prevalent attitude towards active social interaction and physical health was also reflected in the use of outdoor spaces.

Thus the development of actively used outdoor spaces within the precinct was emphasized. In other words this is the development of the precinct. The

apportionment and zoning of the site through functions and activities, higher legibility and improved robustness of external social spaces are manifest in elements like courts, gardens, parking areas, separate vehicular and pedestrian access, landscaping etc.

The population of a variety of ability levels is catered to by spaces for active physical recreation as well as spots for vicarious involvement. The use of the prosthetic environment allowed more people to efficiently use outdoor spaces. Thus the robustness of the outdoor spaces in the precinct was of consideration.

Finally, due to the importance of the precinct as an activity setting, the permeability between the building and outside became important.

Physical manifestation of such spaces was seen in courts, walks, road layout and circulation, as well as porches, balconies, and lounges, building orientation, linkages and zoning of the circumjacent spaces into front and back.

Chapter 4: The public landscape

Rapid urbanization and complexity in the community brings a new aspect into the circumjacent. It is the urban form. The link between the precinct and community needed to be defined. Relation between the precinct and neighborhood was an important criteria for site-selection. Proximity to urban amenities, shopping and medical facilities was important. The relationship between the site and neighborhood was stressed by creating a strong back and front to the site often dictated by access to vehicles and the linkages connecting the precinct to the community. This also meant legibility and identity of the precinct.

Physical manifestation of these came about through the use of courts, atria,

garden-terraces and edges created by the morphological form of the buildings.

The squeeze for urban space led to high rises and introverted precincts. Thus while the precinct identity was maintained, links to the community were also reinforced. This complex relationship generated a set of subspaces, which became the focus of gerontological research.

Finally, the two most important criteria for the design of spaces in the precinct depended on the choice offered and the ability of the user to control it. These were factors that reduced the so-called "institutional image" that resulted, among other things, from precincts having less or no connection to the community.

Chapter 5: The complexity of the present

In this chapter the present was searched for changing trends and attitudes. Due to its heterogeneity and complexity, the urban form is characterized by a shrinking public realm associated with a concomitant expansion of the private realm. This is expressed in examples where the private living room is reversed to face the backyard while the kitchen faces the front. The importance of the backyard and the private picturesque has been growing. Within the precinct shared housing such as this has been based on the idea of co-presence instead of the communal living model. This has created the necessity of clearly defined territories with a coherent, legible pattern of control, ownership and privacy inherent in the spaces. Increasing number of minority population has made the designer more sensitive towards the ethnic and cultural roots of the residents and the community.

Finally, the growth of both profit based and non-profit based developers have created various new types of elderly housing models. Architecture is now a

commodity with developers trying to sell their ware through fierce competition. Better facilities, special care and services, and new financing methods are observed.

Definitions

This part of the study will define six major types of landscapes. This is by no means a comprehensive list, but includes the major types of landscapes that were derived from historical research. The first three are site specific or precinct related, while the last three deal with the community and the urban aspect.

The picturesque setting

The landscape or the circumjacent (Blank, 1988) has been variously defined, from the wilderness (vast domain of inorganic and organic matter that is not a product of human activity and intervention) (Kaplan and Tablot, 1983; Wohlwill, 1983), to the urban landscape (Lynch, 1960; Kaplan, 1983; Nasar, 1989). At the wilderness side of the continuum, lies this aspect of the landscape that can be termed as the picturesque. "Untouched by human hands" is not the exact definition for the picturesque. In examples such as the English gardens and the Olmstedian Central Park (Olmsted, 1870), and even in Japanese landscapes, the work of the human hand is evident (Wohlwill, 1983). Yet, the idea of the natural versus the developed is a primary dimension (Ullrich and Ullrich, 1976) in the definition of the picturesque.

In such spaces, the complexity of line, texture and continuity creates an optimum level of human arousal (Wohlwill, 1983). By comparing the kinetic aspect, or the motion in a picturesque setting, with that in an urban landscape, a difference

in the intensities may be discerned. It may be this difference in the intensity of movement in the natural and the artificial world that explains the notion of relaxation and restoration associated with such settings (Wohlwill, 1983).

Wohlwill also talks about other aspects of the environment like smell and sound (olfactory and auditory cues) (Wohlwill, 1983; Blank, 1988). Such qualitative differences need to be further analyzed.

Wolhwill considers the "passive-immovable" nature of the setting with respect to the user. "(T)he individual experiences, so little reaction to or acknowledgment of his or her own presence that the boundaries between the self and the environment become muted and lose definition." Association with such passive serenity with picturesque settings characterizes such spaces (Wolhwill, 1983).

So, for all practical purposes, the picturesque may be considered as a setting, which, regardless of how it is created, corresponds to a natural pristine state and is characterized by an optimal balance of line, texture and continuity that forms it. By the intensity of the kinetic motion and other qualitative aspects like sound and smell within it, such spaces are associated with relaxation and restoration.

This kind of environment tends to become a symbol of passive refuge, relaxation and serenity. Such environments are inherently associated with,

1. An escape from the daily pressures and tensions of the interpersonal and social spheres (Kaplan and Tablott, 1983; Wohlwill, 1983).
2. A restorative experience that may be called the therapeutic nature of the natural picturesque (Olmsted, 1870; Downing, 1853).

Such restorative experience was proved through the Outdoor Challenge Research Program for different types of population (not elderly) (Kaplan, 1974). The

wilderness experience was associated with personal wellness, new perception of self and environment, a realistic outlook to ones own strengths and weaknesses, a greater self sufficiency in the use of ones time and talents, and a positive view of oneself (Kaplan, 1974).

The aspect of fascination which one experiences when attention is effortless (Kaplan and Tablot, 1983) is important to the restorative experience, not only because it attracts people and keeps them from getting bored, but also because it allows them to function without having to call on their capacity for voluntary or effortful attention (Kaplan and Tablot, 1983). This aspect of involuntary interest can rest the components of their mental equipment that are so susceptible to everyday stresses and pressures.

Then there is the component of private contemplation, an inward introspection where one discovers oneself and his relationships to the rest of the world. This occurs because there is a tendency to abandon the implicit purpose of control that we see in a demanding hostile environment, since it is both unnecessary and impossible here.

In the elderly housing communities, the picturesque have been used many times with various interpretations and connotations.

During a period of time when the elderly were considered to be synonymous with the feeble, disabled, indigent or sick, such landscaped settings worked as passive restorative environments. The idea was to create a setting as pristine as heaven (Kaplan and Talbot, 1983). These settings essentially meant withdrawal into a private introspective mood. Later research has proved that the elderly can't be generalized into a class of similar people (Regnier, 1985; Carstens, 1985).

The second symbol of the picturesque is that of temporary escape, or as Wohlwill explains, " as recharging of batteries." This thought is expressed in the examples of leisure homes and retirement villages built away from the urban hub, yet connected with and having all the facilities of urban life. This kind of landscape is used by people to counter the "public realm" (Kaplan, 1983). Thus the assumption in this study is that the picturesque is essentially a more private space, introverted in character, passive and enclosed. The scenery is like a backdrop, against the seemingly infinite expanse of urban space. To Meinig (Meinig, 1979) it is the "landscape as nature" and the "landscape as habitat".

The intermediate landscape

The intermediate landscape is the interface between the inside and outside, and the public and the private realm. The various forms of intermediate landscape that may be encountered in the examples of elderly housing are balconies, porches, backyards, garden strips, lounges, lobbies, greenhouses and patios. They are thus mostly enclosed and semi-enclosed man made spaces, typical of the urban environment.

While the picturesque is a passive setting, the intermediate landscape may be more active. Many times the activities of the private living area spill over into this space. Very little research has been done in the usefulness of this space (Wolfe, 1975). The desires of most people to have this space tied closely to nature (gardens, lawns, etc.) have been found (Kaplan, 1983). Such an environment is more likely to be preferred if they permit "involvement" and "make sense" (Kaplan and Kaplan, 1978).

To enhance involvement in such spaces such qualities like complexity, richness and mystery are required. To make sense there should be coherence and legibility, characteristics that allow interpretation of what is going on. All these should be a function of one's prior experience (familiarity), to make any sense (Kaplan, 1983).

Such intermediate spaces may be termed as "edges." For most people, activity tends to happen at the edges (Bentley et al., 1985) and the edges of a space act as a space itself. The use of the edges also determines the robustness of the building.

Traditionally such spaces were seen in single family housing, in elements such as the backyard garden, sheds, patios, etc. (Cooper Marcus and Sarkissan, 1989). With the advent of apartment housing (Ahrentzen, 1990), the extent of the public and the private realm changed. Studies (Howell, 1978) show a further subdivision into semi-public, semi-private secondary spaces. Ahrentzen cites examples of public spaces ending at the door steps of the private apartments unlike the traditional model of the gate and porch (Hayden, 1984). That brings with it the problems of ownership and personalization of such intermediate spaces (Sommer, 1970; Stea, 1970; Howell, 1978, 1980; Zeisel, 1983).

The inner circle

In the continuum of landscapes in an elderly community, the inner circle or the precinct is the primary public activity space. The kinds of activities associated with these spaces vary, from active recreation, social interaction and personalization to associational relations generated through the legibility of the space. It is called the inner circle since the landscape is associated with the members of the housing community and is often enclosed within the precinct. It is not a truly public space

in the urban sense but a more communal space within a certain community of residents.

The inner circle is defined as a communal space inside the precinct that is used to give visual and cognitive legibility to the built space.

Also, the community is no more as homogeneous as it was. There are elderly residents of various ability levels and age, social and cultural backgrounds. With a specialized spatial segregation of the site (zoning), such as residential facilities, services facilities, medical care facilities, public recreational facilities, the common spaces related to these spaces have also become complex.

There are various ways such social spaces and landscapes are used. It is seen in patios, courts, paths and linkages, car-parks, dining terraces, terraces, recreational social spaces, games areas, shuffle board courts, walks, paths and gardens. The necessity of treating such spaces carefully lies with the necessity of human privacy. This kind of community atmosphere seen in the retirement community and elderly housing requires the kind of privacy defined as "intimacy" where the individual is acting as a part of a small unit that claims and is allowed to exercise corporate seclusion so that one may achieve a close, relaxed and frank relationship between two or more individuals (Pastalan, 1970).

Yet another concept closely connected with the existence of these spaces is that of home range (Gelwicks, 1970). The fact remains that between the private apartments and various activity centers within the housing precinct connected by linkages lie the home range of the individual. For the elderly, characterized by the continuum of losses (Pastalan, 1975), one observes a shrinking home range. Within the "inner circle" there are spaces that act as activity settings or destinations in a

home range, or linkages and sub-settings that link and supplement the major settings.

The design of such spaces are of utmost importance to the use and satisfaction in elderly housing (Gelwicks, 1970). Also, perception of a space as institutionalized depends on the ability of the individual to exert control over the space and his ability to personalize it. The design of the inner circle is thus responsible for the perceived level of institutionalization (Gelwicks, 1970). The success of these spaces also depend on their legibility, the ability of the individual to identify with the space and the role he should play in it and the ability and opportunity to project ones personality upon it (Gelwicks, 1970). Gelwicks therefore proposed that activities associated with a space should be evident and it is this legibility through activity that will make the space succeed.

Another requirement of the spaces associated with the inner circle is variety. In communities with people having various ability levels a variety of spaces that suits everybody's requirements should be provided. There needs to be a balance of places ranging from those that allow active interaction to spaces that enhance passive vicarious involvement. Such common spaces are very successful if facilities for previewing them before use are allowed (Osterberg, 1980; Zeisel, 1983). Designs which allows such previewing, without encouraging offensive surveillance, are generally successful (Zeisel et al., 1983).

The neighborhood park

The neighborhood park can be defined as a public landscape associated with the neighborhood community of which the elderly housing unit is a legible part.

The neighborhood thus represents the greater urban public sphere, of which the precinct is a part. Hayward describes (Hayward, 1989) three major behavioral trends in a park of which the cultural trend is the most important. They are cultural functions, philharmonic-in-the-park-concerts, childrens' theater shows, mimes, jugglers, kite flying contests, ethnic festivals and community fairs. This is in addition to the visual activities linked with the urban neighborhood open spaces, such as active recreation, health related activities, games, childrens' play areas and passive enjoyment of nature and walks (Hayward, 1989; Cranz, 1978).

The neighborhood community social space need not be only a garden or park. Various types of outdoor social spaces that give a distinct identity to the community exist. There are community gardens (Francis, Cashdan, and Paxson, 1984; Francis, 1989), in New York and Boston that have enhanced the meaning and attachment to place, neighborhood and community (Fisher, 1990). There are major streets in the neighborhood that form an edge to a housing scheme, giving legibility to the space by the street life (Nasar, 1989; Appleyard et al., 1964; Jackson, 1987).

The success of a neighborhood public space, irrespective of the type, also depends on the human element that gives it the "stimmung" (character), as explained in the Place Theory (Trancik, 1986). Christian Norberg-Schulz (Norberg-Schulz, 1979), speaks of Architecture and Landscape Architecture responding to and enhancing the identity and sense of place. While studying this aspect of space in the elderly housing examples, three features that influences the sense of place can be identified, viz. legibility, imageability, and control (Bentley, 1985; Lynch, 1960).

Francis (Francis, 1989) talks of the control aspect (individual or group), in the

examples of elderly groups using a park. Many published works, interestingly enough, didn't give details of the neighborhood and community aspect of the retirement housing. That itself points towards an aspect of the external environment that is often overlooked. Research dealing with the analysis of national level data using census tracts, suggests that the elderly are disproportionately represented in older central cities in major metropolitan areas and in smaller rural towns (Struyk and Soldo, 1980). On the average, these areas appear to be fragile, they contain older housing of lower quality and smaller size, and above average vacancy rates (Newman, Zaus, Stryuk, 1984). At the same time these spaces have greater imageability and cognitive coherence.

Research on social characteristics of the elderly neighborhoods is based largely on particular locales, making generalizations hazardous. There is however a suggestion that older people living in the neighborhoods with a high concentration of their peers interact with their neighbors and that the frequency of this interaction is associated with better morale and greater knowledge of available services (Lawton, 1976; Newman, Zaus, Stryuk, 1984).

While designing and studying the elderly congregate housing it is important to keep the larger context of the community and neighborhood in mind.

Urban linkages

This is an aspect of the public-urbanscape that links the neighborhood space with the larger community of the urban fabric. They are not neighborhood streets and are not a spatial element in the smaller neighborhood community. While in smaller towns and communities these linkages may be distinguishable and

characteristic, in the larger metropolis there is the problem of imageability. There is however, a subtle inexplicable yet distinguishable uniqueness in the linkages in different cities in which any citizen will experience. This importance of linkages is echoed by Fumihiko Maki in "The Investigation into Collective Form." "Linkage is simply the glue of the city. It is the act by which we unite all the layers of activity and resulting physical form in the city."

There are many ways these linkages work. For example, they may join neighborhood facilities and housing communities to public spaces such as libraries, town halls, movies, malls, main street, shops, central business districts, hospitals or even other neighborhood districts, where for example, a close relative may live. These destinations or settings that the linkages connect, their use and cognition by the residents, will create an extended home range and a larger sense of place and community spirit. It is this oneness and coherence with the larger community that is instrumental in the process of "aging in place" (*Progressive Architecture*, November 1989). It has been found that migratory retirement is but a small percentage compared to the number of those who remain in their own community in later years. Also, for people who are financially less able, migratory retirement is impossible.

Linkage landscapes are not necessarily transient spaces along which one moves past. Even though vehicular transportation between far flung settings are the only communications here, yet sometimes linkages may themselves act as settings and cognitive images.

Nasar talks about the two types of motivational states that influence perceived environmental quality, viz. specific and diversive exploration (Nasar,

1989). In a fast moving (kinetic) situation, concentration or specific exploration increases, and thus landscape values that are legible are of a different type and scale than the way it is seen in diversive exploration. Yet in cases where the linkages themselves act as settings, this may not hold true. One such example of a street that itself acts as a setting may be the main street, shopping streets, Elm street, sky-walks, alleys and promenades along river-front developments etc. (Attoe and Logan, 1989). Often for elderly residents, shopping streets serve as a setting and destination and window shopping becomes a favorite past-time.

The urban form

The urban fabric of American cities had been described by Logan and Attoe as a collection of diverse rather than uniform parts held together by underlying physical or conceptual order of the grid (Attoe and Logan, 1989). In the larger context of the city, there is the uniform grid, while the diversification lies in its parts. Due to this nature of the city, urban form is dependent on the framed edges of the development around the streets.

The importance of plazas and government offices was seen in early New England with the courthouses and the commons. Now a days, major corporations and financial institutions makes their mark through their plazas, super blocks and buildings. Attoe and Logan lists some of these visual forms that give the city legibility and image. This image will be called The Urban Form. These forms include malls, super-blocks, parking lots, corporate atria, city parks, zoos, fountains, microcosms, use districts, historic preservation districts, arcades, shops and monuments (Attoe and Logan, 1989).

The larger urban fabric may not be a very conspicuous element in the design of outdoor spaces within the precinct, yet it is important in creating the feeling of belonging to the larger community. Failure to create this image may create independent and socially cut-off housing precincts or institutionalized settings.

Design Determinants Affecting the Landscape Types

Urban form

Relation to the social community

- Develop an architectonic relation to the community through spatial manifestation of administration and government, commercial, public and residential settings.

  Administration and government may be represented in the voters districts, civic buildings, and other buildings and spaces associated with governing the urban form.

  Example of commercial spaces are plazas, commercial districts, main street, malls, restaurants, grocery stores etc.

  Other public spaces are libraries, places of worship, sports facilities and gardens.

Relation to services and amenities

- Certain important amenities and services are required to be accessible from the site. The site should be linked to other residential neighborhoods, popular community public places, and other more frequently visited spaces by some

form of transportation. Since not all elderly can drive their own cars, some form of transportation depending on their ability and financial conditions is necessary to provide alternate access to far off places.

Vehicular access to major urban amenities and services are to be provided.

Relation to cultural roots

- Identify any historical or cultural identity of the urban community that may be shared by the residents of the precinct. It may be, for example, a religious or ethnic identity expressed architectonically by a neighborhood church.

Relation to nature

- Identify the public parks and plazas within the city that act as public social spaces.

- Identify the green-belts and picturesque landscape associated with the countryside and natural beauty. While the former relates to the public spaces in the urban form, the latter allows passive vicarious involvement and privacy in addition to social interaction.

Neighborhood park

Proximity to services

- Proximity to services and access to urban amenities and facilities such as medical care, shopping, groceries, religious places, community public and other major spaces within the pre-relocation home range of the individual are

determinants that decide the neighborhood selection. For example one needs to look for public transportation pick up points, distances from the services, grade of the access roads, and the number of traffic intersection that may be encountered within one's home range.

Public spaces in the neighborhood

- Identify the public spaces in the neighborhood.
- Identify the socio-cultural nature of the neighborhood as seen in the population figures, ethnic fiber, age statistics, cultural and religious origins of the residents.
- Identify and link the site to spaces that express the above relations. For example, parks with ethnic festivals and fairs are used as meeting places for social interaction.

Urban linkages

Major linkages joining the precinct to various parts of the urban form need to be identified. The precinct is then aligned so as to juxtapose and relate to the urban form through these linkages.

Link between precinct and community

- The linkages between various urban neighborhood settings in the extended home range need to be identified. Conceptual and physical links should be developed along these linkages. For example, the main link to the

neighborhood often decides which side shall be the front and which side the back. The front edge may be developed as a space where one can watch activities and interact with the neighbors.

- Service linkages may be kept as separate from the main entrance as practically possible.

Link between the precinct and the picturesque

- Identify any sort of linkage between the precinct and the picturesque. It may be either the physical proximity or cognitive and experiential relationship associated with the urban form itself. For example, the site may be next to a green area (physical proximity), or may be associated with a particularly famous landmark or landscape (cognitive and experiential relationship).

The inner circle or the precinct

There are three major requirements in the design of the inner circle, viz., permeability and hierarchy, legibility and robustness. These three characteristics may be enhanced by the following determinants.

Permeability and hierarchy

- Create a strong pattern within the site that distinguishes the front and the back.

- This can be done by a strong coherent entrance, where way-finding is not a problem. This may be achieved by allowing:

- Adequate sight distances in both direction along the street, usually 200ft (Carstens, 1985).
- Close and convenient building access and drop off point.
- Orientation and maximum protection from harsh climates.
- Building access no greater than 2.5% slope with no steps.
- Right side drop off.
- seating and waiting areas visually connected to the activities in the front drop off area.

• Parking.

- Separation of resident parking from staff and guest parking is desirable.
- Provide parking close to and visible from the building.
- Parking should not dominate the entrance views.
- Clear circulation pattern desirable. One way and two way aisles should not be mixed.
- Parking facility for the handicapped with wheelchair accessibility to buildings.
- Provisions for garages and tool sheds need to be provided.
- Clear and identifiable paths from the building to the parking spots are required.

- Building form.
  - The building form should be coherent and should have a identifiable back and front. The designer may also use architectonic and landscape elements to create visual contrasts between the front and the back.
  - Juxtaposition of indoor and outdoor spaces to create a spatial hierarchy.
  - There should be a well defined spatial hierarchy from public to the private creating territories that help in wayfinding, control and personalization. Visual and physical permeability between the interjacent and the circumjacent may be controlled according to the existing edge conditions.
  - In case that the adjacent interjacent and circumjacent spaces are of different types e.g., private inside juxtaposed with the public outside, then proper transition spaces need to be designed.
- Special attention needs to be placed on the control and ownership over outdoor spaces. Individual control reduces in public spaces and grows in the private areas. Thus a properly defined coherent hierarchy of territories defines spaces that can be controlled and reduces confusion.

Legibility of precinct

- The precinct may be distinguished from the neighborhood by the use of visual contrasts and imagery, such as landforms or landscape features and cues that may create a legible image of the site.

- Non-visual cues such as tactile, auditory and olfactory cues can be used, to give identity and legibility to the precinct.
- Focal points of activities can be planned and arranged to create a sense of place.
- Paths joining major nodes, landmarks and districts may create a coherent pattern of sequential spaces that create legibility.
- The building form itself can create spaces that through this sense of refuge and enclosure define a space and make it legible.
- Clear spatial hierarchy and zoning of the site makes the site legible and helps spatial clarity.
- The road layout and linkages are very important. Linkages should link major activity spaces and settings in the home range of the resident. They should be planned adjacent, but not through activity spaces and social spaces, and the layout should be so that it allows previewing.
- Pedestrian linkages should be separated from vehicular linkages.
- Linkages should be easily accessible and visible from major nodes.
- Linkages should have some goal that they are leading to, and these goals should be obvious to the user.

Robustness of precinct By allowing a variety of activities accessible to a variety of users the robustness of the circumjacent spaces is increased.

- Edges.
  - The edges where the circumjacent meets the interjacent, usually expressed in the building skin need to be carefully designed. It is the edge of the building where most activity takes place.
  - The interior and exterior adjacent spaces defining the edge should be similar. For example inside private and outside private, inside public and outside public, etc.
  - Edges should be treated to create a transition from inside to outside.
  - External public spaces should be physically and visually accessible from the edges.
- Linkages.
  - Place major activity spaces near and adjacent to major circulation paths.
  - While designing walks and paths for strolling and pleasure walks, there should be goals on route to increase interest and encourage walking.
  - Design walkway loops for exercise and pleasure with a variety of challenges and offer choices for activity as well as retreat. These walks may connect various activity settings and thereby allow the residents choice to access places from outside without having to use the indoor circulation routes.
  - Walks should be protected from extremely harsh weather as much as possible.

- Design should be barrier free. Slope of the roads should not be more than 5%. Design for handrails, non-skid flooring surfaces, low growing, high branching (min. 6 ft.) plant materials around vehicular access roads and parking, following the major requirements for barrier free design. Security lighting should be placed on major paths and all access roads. Planting at grade or on raised planters, with no edging along pedestrian and bike paths reduce possibility of tripping. Wet leaves are hazardous, therefore small leaved and evergreen trees along walks are desired.
- Excessive background noise that may distract and hinder conversation should be controlled.
- Seating should be comfortable and the layout should promote social interaction. Moveable furnitures should be provided in semi-public, semiprivate and private areas.
- Clear and comprehensible signages are a must for wayfinding and proper use of any space and should be taken special care of.

Intermediate landscape

The intermediate landscape is associated with edges of two spaces. They may be the edge between the interjacent and the circumjacent, the private and the public spaces, etc. Conditions like permeability and legibility of the edges determine whether the edges are active or passive.

- For active edges the possibility of physical permeability and active interaction with outdoor activities must be coupled with spaces for vicarious social involvement and controlled social interaction.

- Defining the edges for control. Another factor associated with these spaces is control over them. Territoriality and control over the edge space may be individual or group, and such should be clearly defined. Undefined spaces, which are confusing, may be appropriated by a few or may not be used at all.
- The best way to define edges is to make them legible through activity. For example, spillover of internal active spaces to the outside creates spaces with similar and thus defined activities.
- Even though use based zoning of edge spaces help in clarity and legibility, yet zoning should be flexible enough to allow adaptations.
- Visual permeability is an important criteria for design. Visual permeability is allowed by elements such as porches, lounges, entrance lounges, balconies and windows. The railings of the balconies should allow visual access for a seated person.
- Protection from glare and harsh weather conditions is necessary.
- Balconies should be wider than seven feet.
- Window heights should be such as to allow visual access to outside even in a seated position or in a wheelchair.
- Seating areas associated with edges should be well laid out so as to encourage social interaction. Moveable furniture allows for personalization and flexibility.
- Edges should be secure and safe.

  - Passive edges don't add to the activity around it and are mainly used for vicarious social and visual interaction with the outdoors.

- Passive edges may be used as transition zones for the regulation of privacy between the inside and outside.

  - View from the edges should be carefully designed with a mixture of activity and a picturesque background.

- In case of apartment buildings, points of physical access to the outside from interior circulation paths are important.

  - Such access should be prominent and identifiable.
  - They should allow for previewing before using them.
  - They should be secure and should not be accessible to strangers and non-residents.
  - The user should be able to access the circumjacent by the shortest possible route without having to enter other types of indoor areas. For example, an individual in a semi-private corridor space should have access to the outdoors without having to go through the semi-public and public interior areas.

Picturesque settings

In an urban setting there are two major kinds of picturesque settings. The first type is wilderness and nature that looks untouched by human hands. The second type is the beautifully landscaped activity setting.

The wilderness and nature This aspect of the picturesque is hard to get in an urban setting, but physical proximity to green zones, picturesque gardens, river valleys and nature reserves act as an added advantage to the housing community.

Visual access to the picturesque may become an identity of the precinct itself. The view of the picturesque from public areas, as well as from private areas, may become a common binding factor that will give legibility to the housing community.

- As per recommendations by the President's Commission on the Americans and Outdoors, 1987, land trusts to preserve river-fronts and landscapes, greenways, scenic byways, nature parks and trails should be developed. Rivers streams and even abandoned rail lines can create linear nature trails. An outdoor code of ethics involving residents, private sectors and local governments are ways of integrating outdoors into the life of the people.

- There should be spaces inside and outside the building that allows the choice of social interaction as well as solitude.

- The view to the picturesque should be visible from a system of outdoor walks that link up various settings and sub-settings which are used by the residents.

- The success of the picturesque setting depends on the ability of the space to make the viewer lose his guards and inhibitions and have privacy even outdoors. This requires a sense of refuge and security in the setting.

The active picturesque It may be practically impossible to find wilderness and nature in a city. In such cases small tracts of gardens, terraces, roof gardens,

balconies with potted plants, or even the view of the city from the high-rise balconies can provide us with a view that falls under this heading.

- Private gardens and communal gardens are examples of nature in an urban setting. Such spaces should be developed by the residents themselves. They may be maintained by the residents as a co-operative venture where everyone has a specific duty to perform or on an individual basis. Both ways involve some amount of control and personalization.

- Research has proven the therapeutic aspects of gardening (Fischer, 1990; Francis, 1989).

  - Private outdoor spaces adjacent to private living areas serve as private backyard for the apartments.
  - The design of the private backyard need not be only for gardening. It could be developed as a outdoor living area.
  - Proper attention needs to be paid to the design of these spaces, so that they may be physically and visually private.
  - In case of garden plots, they should be private, but at the same time should be visible from the public areas within the precinct. This is because gardens often become proud possessions and the residents like to show off their gardens to the others.
  - Outdoor living spaces should be preferably shaded. Pergolas and blinds that can be added by the residents themselves allow them choice.
  - Flexible and moveable outdoor furniture allows personalization and control.

- The back yard should be easily maintainable. Paved skirtings around soil areas, made of materials that can easily be cleaned, are non-slippery and strong colored. This helps to counter the loss of visual acuity.
- Raised planters help the elderly to garden without having to bend down.
- Proximity to a tool shed is a must.
- There shouldn't be steps and sudden level changes. If that is unavoidable, then there should be at least one access through a ramp not steeper than 5%. The design should be barrier free.
- There should be a water tap outlet near the garden.
- Easy garbage disposal facilities should be provided nearby.

• For multi-storied housing, direct access to the backyard garden will be impossible because of level differences. However the following criterion help.

- Visual access to the gardens from the private living spaces.
- A terrace or balcony that is adjacent and physically accessible to the interior living space which offers unobstructed panoramic visual connection to the outdoors acting as a transition space and an orienting feature.
- The balcony and terrace should be wide enough to allow sitting, talking, storing, potting plants, etc.
- For the individual gardens at grade level, there should be some visual and physical separation between two gardens in order to define a territory. The differentiation is site specific, but some examples may be

level differences, fences, bushes, paths, site furniture, planters, etc. The creation of separate territories is important in encouraging use, personalization and involvement by the residents.

- Provision should be made for the maintenance of the gardens of those who can't or don't want to garden themselves. It may be done by the management or by another fellow resident who might be willing to do so.

- For communal gardens and common spaces tended by all the residents, the type of plantings should be decided by the residents themselves and not dictated by the management. Flowering trees that are associated with "home," rather than parks and streets are preferred.

- Flowering perennials associated with a garden image may be used, eg., Geraniums, African daisies, Upright Rosemary, Shasta daisies, etc. (Cooper-Marcus, 1982).

- Plantings that show seasonal change in color and foliage are preferred since they establish a sense of change and time.

- A network of paths and connecting walks may be laid out along the gardens and may join various settings in the home range of the users. Allowing residents the opportunity to reach a setting through an outdoor walk gives them a chance for both private communion with nature and solitude.

- The walks should be interconnected. They should form loops, so that if one starts from one point then he can reach his destination, and carry on further to reach the originating point. This avoids the creation of an

origin-destination-linkage-model, wherein one only uses a particular linkage to reach a particular destination for a planned premeditated reason. This system allows unplanned encounters. Previewing various choices, and deciding to use a space on the way, allows the user choice.

- Games and other forms of active recreation should not be located in such spaces.

CHAPTER 7. THE DESIGN

The Design Program

The final part of this dissertation consists of the design. The proposed design for a medium density elderly housing project in Ames was intended to be an example of how the guidelines derived from the research (See Figure 7.1) could be implemented in the design process.

The design, then pays special attention to the development of the various circumjacent spaces defined in the conclusions to the research and follows the determinants and guidelines developed in the study. The role of the design is to be a practical test for the set of theoretical definitions and determinants developed out of an extensive historical study of the elderly housing projects.

The design program required one hundred unit independent elderly housing apartments and ten additional assisted living units as listed below.

Independent living A. Apartments.

1. One bedroom (500 s.f.), 20 units.
2. One bedroom (675 s.f.), 20 units.
3. One bedroom (750 s.f.), 26 units.
4. Two bedroom (1020 s.f.) 20 units.

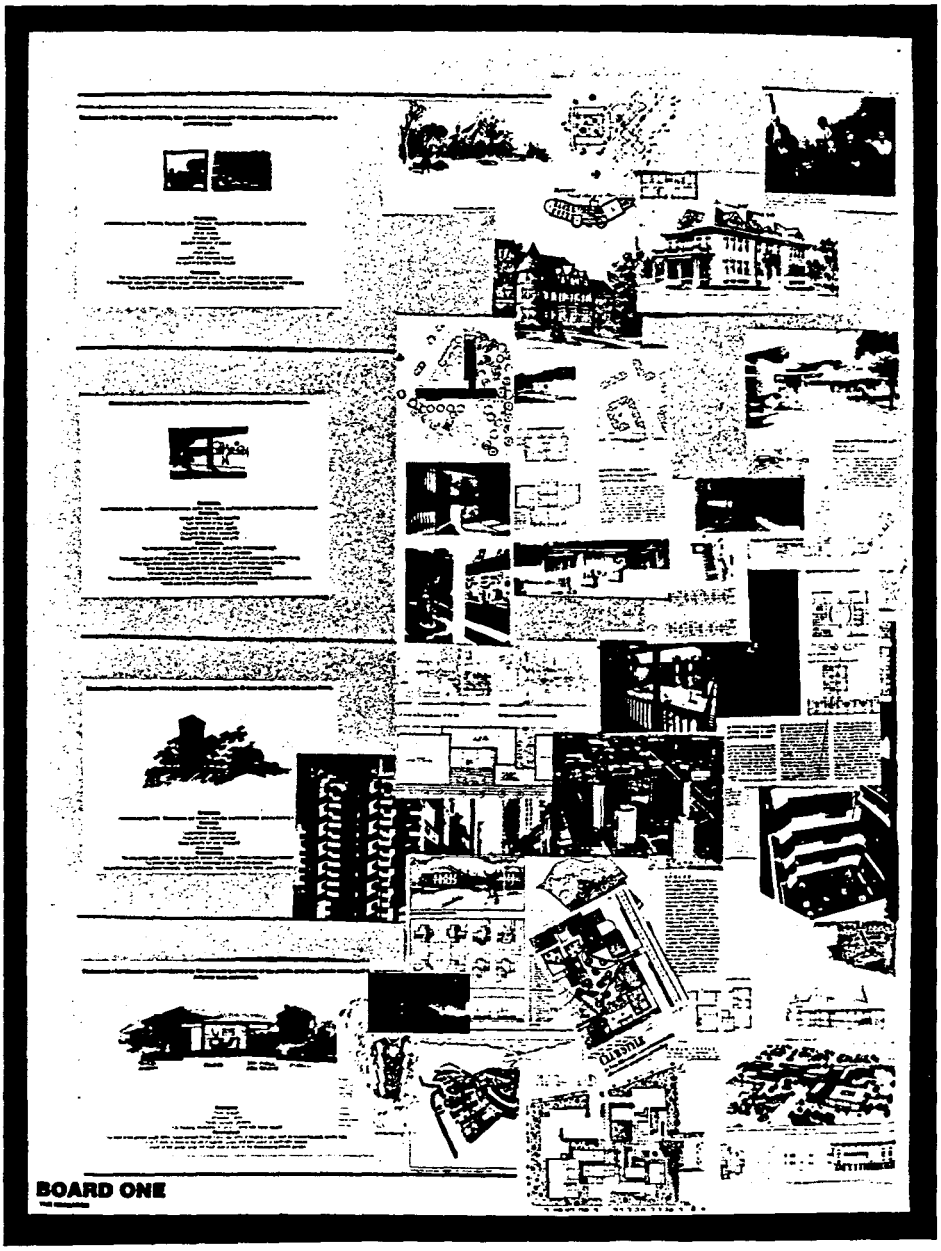


Figure 7.1: Board showing summary of the research through major trend statements

5. Two bedroom (1130 s.f.) 14 units.

B. Residential services.

1. Resident storage (1200 s.f.)
2. Resident lounges and laundries (1450 s.f.)
3. Housekeeping/trash/mechanical (1650 s.f.)

C. Commons.

1. Food services.
   (a) Dining, waitress and buffet (1250 s.f.)
   (b) Private dining, seating 20 and waitress (400 s.f.)
   (c) Commercial kitchen (1500 s.f.)
2. Leisure services.
   (a) Retail and notions store (200 s.f.)
   (b) Arts and crafts (350 s.f.)
   (c) Library and cards room (600 s.f.)
   (d) Beauty parlor and barber shop (350 s.f.)
   (e) Parlor and dining lobby (350 s.f.)
   (f) Greenhouse (200 s.f.)
   (g) Auditorium (725 s.f.)
   (h) Restrooms (350 s.f.)
3. Administration.
   (a) Reception (120 s.f.)
   (b) Vestibule (50 s.f.)
   (c) Waiting area (100 s.f.)
   (d) Lobby (200 s.f.)
   (e) Director and administration (150 s.f.)
   (f) Manager and assistance (120 s.f.)
   (g) Accounts and book-keeping (100 s.f.)

(h) Computers (100 s.f.)

(i) Copy, work room, coat store (80 s.f.)

(j) Conference (200 s.f.)

(k) Secretary (100 s.f.)

(l) Toilet (40 s.f.)

(m) Activities Director (120 s.f.)

(n) Records storage (100 s.f.)

(o) General storage (100 s.f.)

(p) Mail room and lounge (350 s.f.)

(q) Marketing (200 s.f.)

4. Services and support.

(a) Employee dining area and lounge (350 s.f.)

(b) Employee lockers (400 s.f.)

(c) Mechanical, electrical etc. equipments (1500 s.f.)

(d) Receiving (150 s.f.)

(e) Housekeeping, office and storage (300 s.f.)

(f) General storage (400 s.f.)

(g) Commercial laundry (1000 s.f.)

(h) Maintenance, office, shop, garage and storage (1200 s.f.)

(i) Trash compaction and holding (250 s.f.)

Assisted independent living A. Apartments.

1. Studio (380 s.f.), 10 units.

B. Commons.

1. Food services.

(a) Dining and waitress (200 s.f.)

(b) Serving Kitchen (150 s.f.)

2. Hobby room and storage (300 s.f.)

3. Laundry (50 s.f.)
4. Staff and administration.
   (a) Reception and waiting (150 s.f.)
   (b) Office (100 s.f.)
   (c) Lobby (150 s.f.)
   (d) Medicine and nurses store (100 s.f.)
   (e) Restroom (100 s.f.)
   (f) Clean linen (40 s.f.)
   (g) Soiled linen (40 s.f.)
5. Services and support.
   (a) Resident storage (100 s.f.)
   (b) Housekeeping storage and closets (100 s.f.)
   (c) Trash (50 s.f.)
   (d) Employee restrooms and lockers (50 s.f.)
   (e) General storage (100 s.f.)
   (f) Mechanical room (200 s.f.)

The site (See Figure 7.2), located at the eastern end of Ames downtown, abutting the green zone of the Skunk River Valley, and the historic preservation district on the other side, had easy access to both urban amenities and the the picturesque nature (See Figure 7.3).

Physically it was linked to the downtown, and the major administrative buildings. The village greens that crisscrossed through Ames linked the site to the community-private zone (See Figure 7.4).

To the south of the site was the City Physical Plant building, a major visual landmark identified by the Sasaki Associates in their urban planning proposals for the redevelopment of Ames presented to the City Council. In fact, this is the first

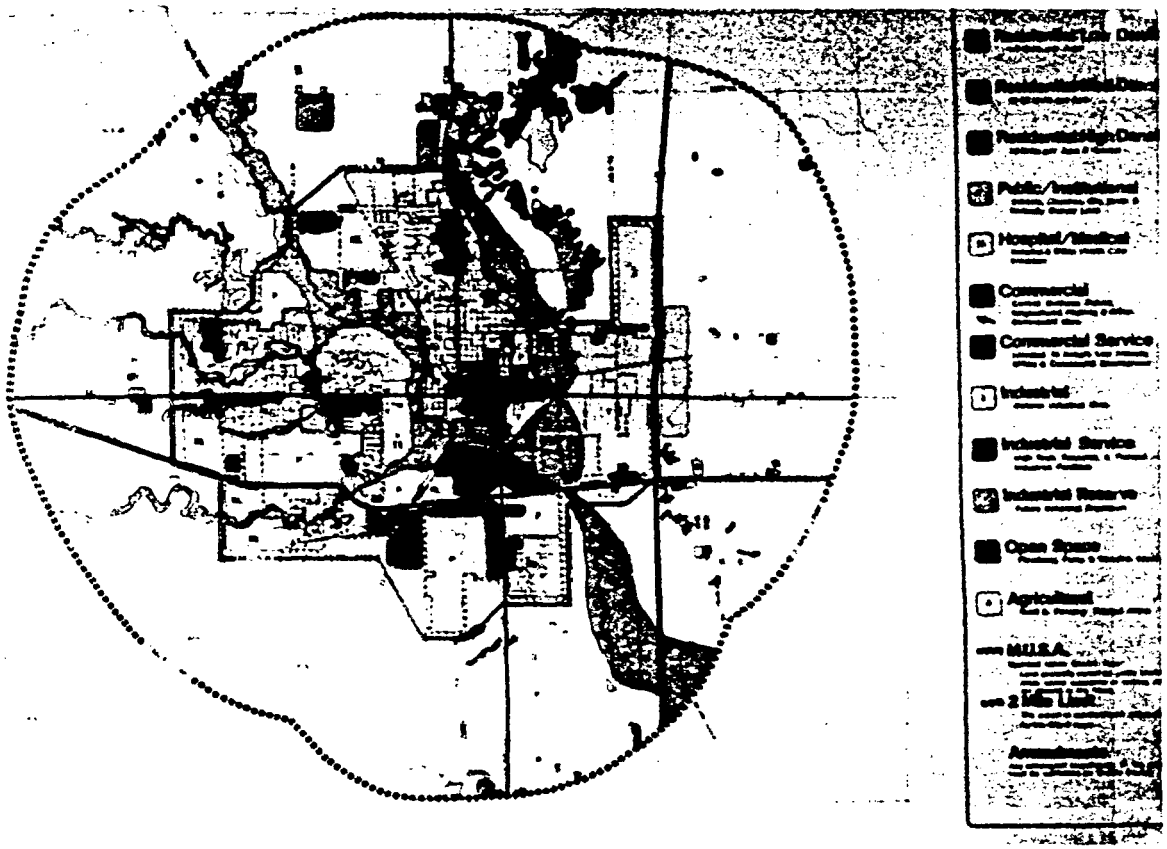


Figure 7.2: Land-use policy plan for the City of Ames

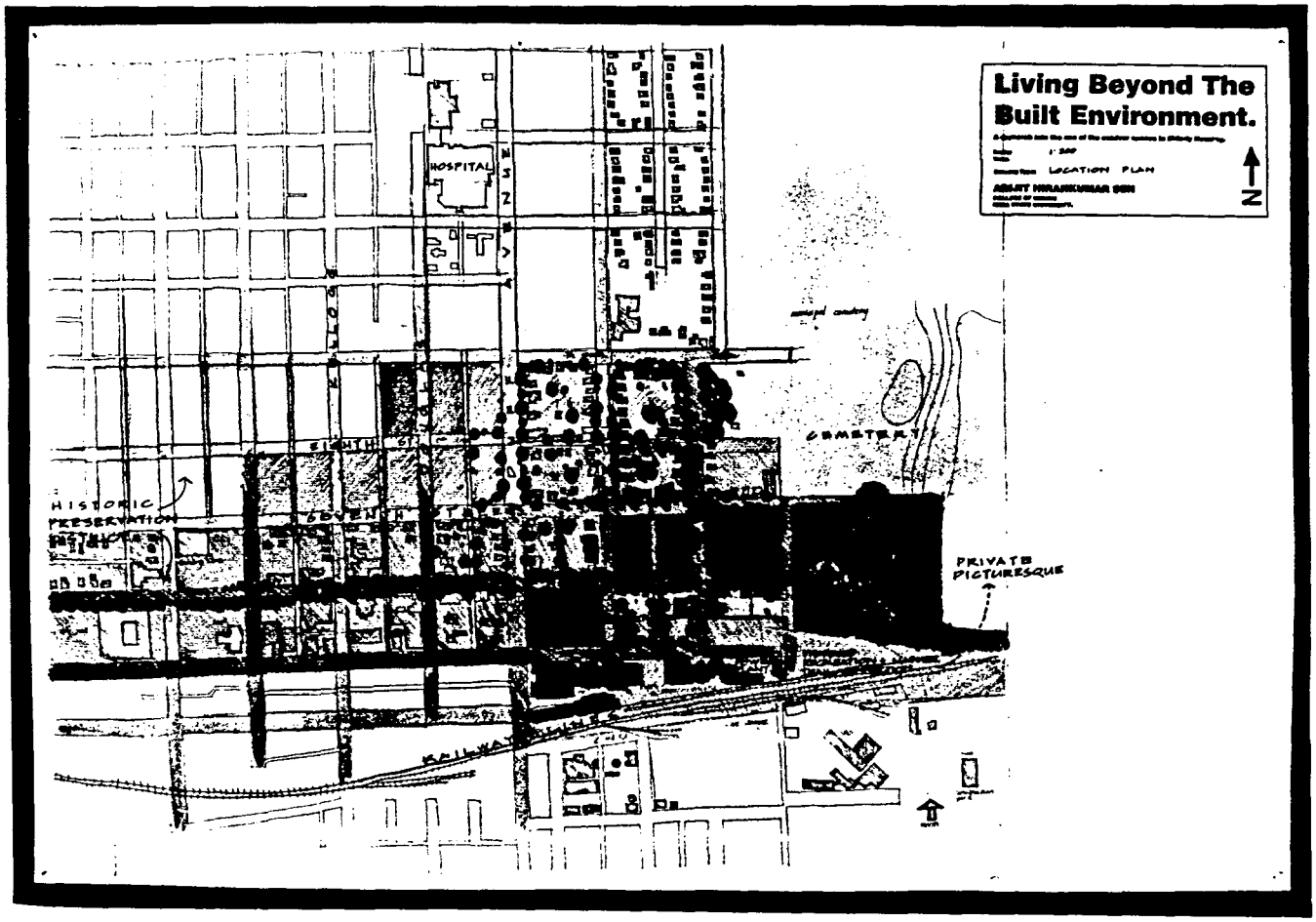


Figure 7.3: Site plan showing adjacent areas and contours

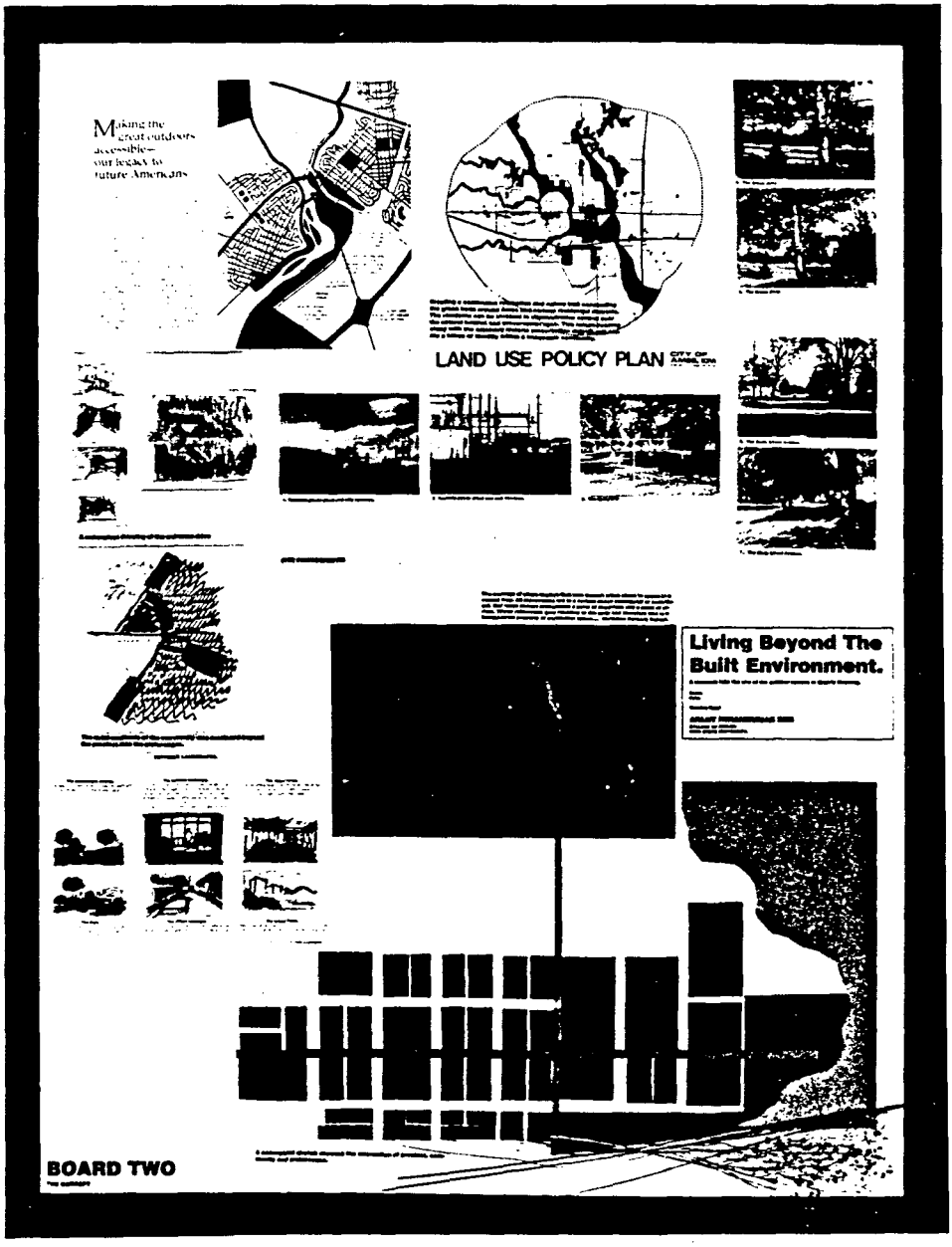


Figure 7.4: The concept showing the link between the community, precinct and the picturesque

building that one sees upon entering Ames from Highway 30 or 35. Other municipal facilities like water supply, sewage and electricity plants are located here too. To the north of the site is the Municipal cemetery, and to the east is the South River Valley Park, Innis Grove Park corridor and the Skunk River valley. The west consists of medium density residential districts, the historic preservation district and a planned commercial zone (See Figure 7.2). Duff Avenue located west of the site is a major urban linkage and thoroughfare. The public transportation pick up points are located on this road. The Ames Public Library, Post Office, City Hall, Fareway Grocery Stores and main street shopping is linked by Sixth Street.

Most of these places are within normal walking distance. Finally, the residents were supposed to be Iowans, and Ames community residents.

The Design

The location of the site allows the design to be oriented towards the Skunk River Valley green zone. The design is built around a central atrium, which is intended to be the hub of all semi-public activities. All major social spaces are designed around and near the central atrium (See Figure 7.5). The atrium continues outdoors into a large semi-public patio. The interface is permeable.

The enclosure of the atrium and the outdoors plaza creats an axis which is accentuated by the covered walk leading to the stepped amphitheater at the edge of the site (See Figure 7.8). This is conceptually the axis of the precinct, the identity of the inner circle that is different from the axis of the Sixth Street that is conceptually the axis of the community. This axis of the precinct encloses a space that faces the south and looks out into the picturesque over the private gardens

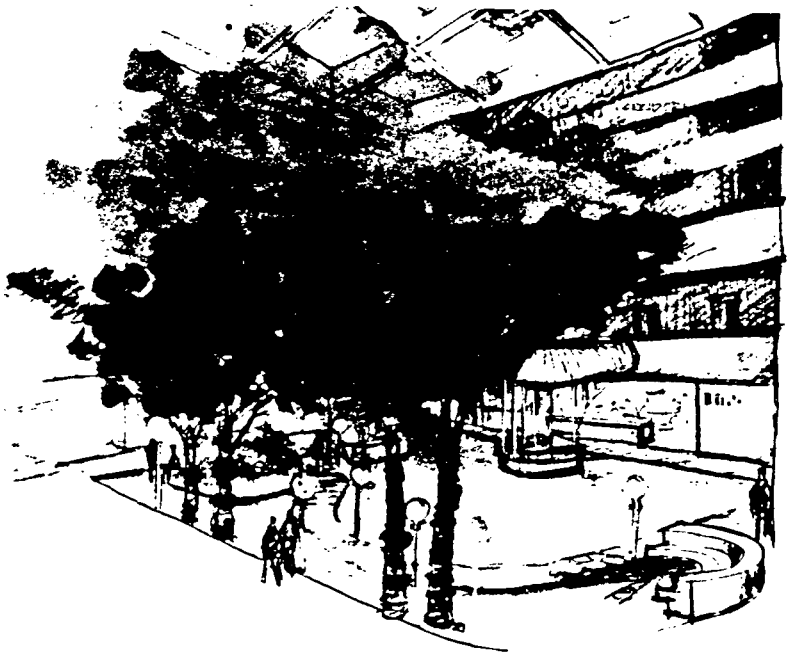


Figure 7.5: View of the central atrium from the upper floors

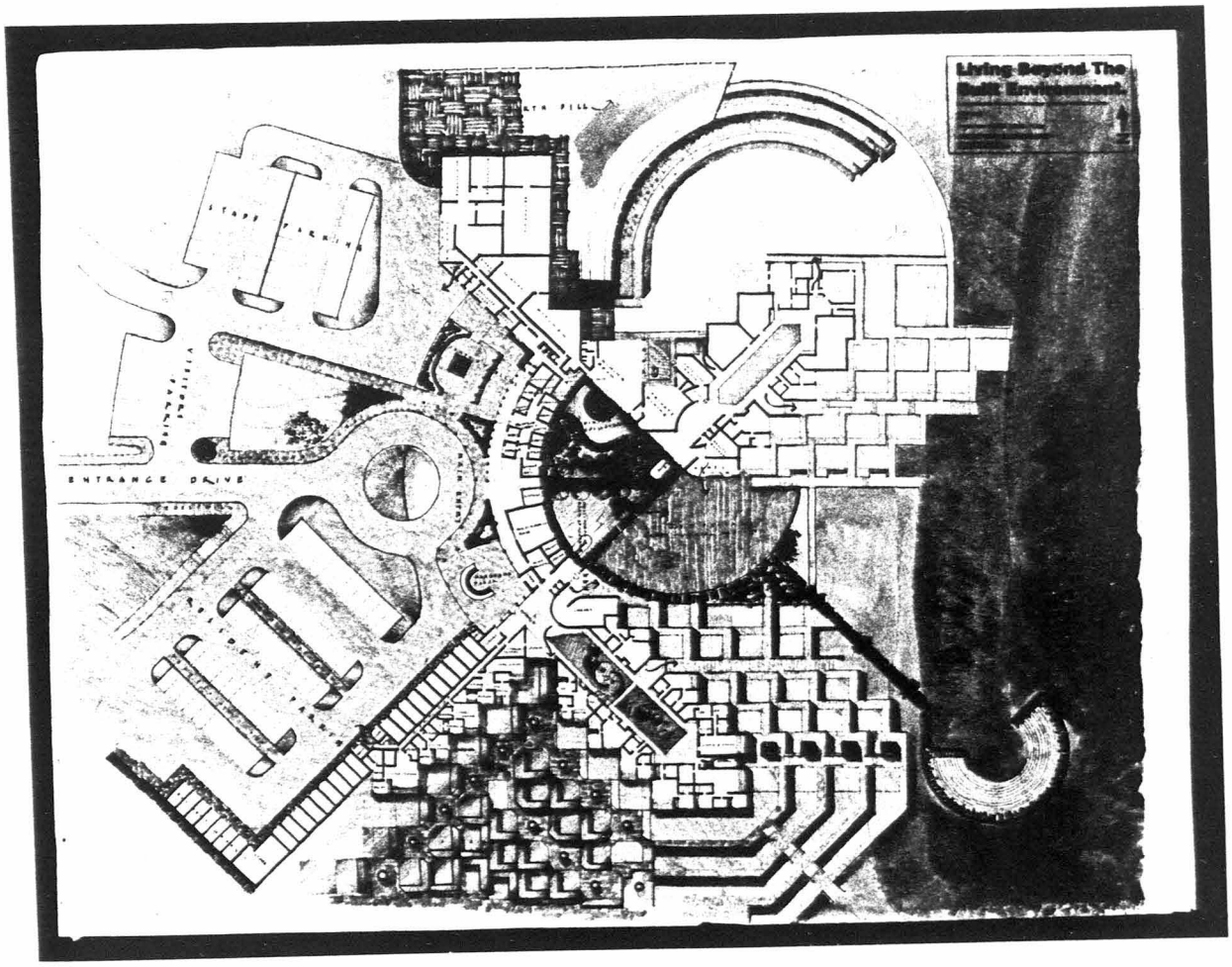


Figure 7.6: Grade level plan showing the circumjacent spaces within the precinct

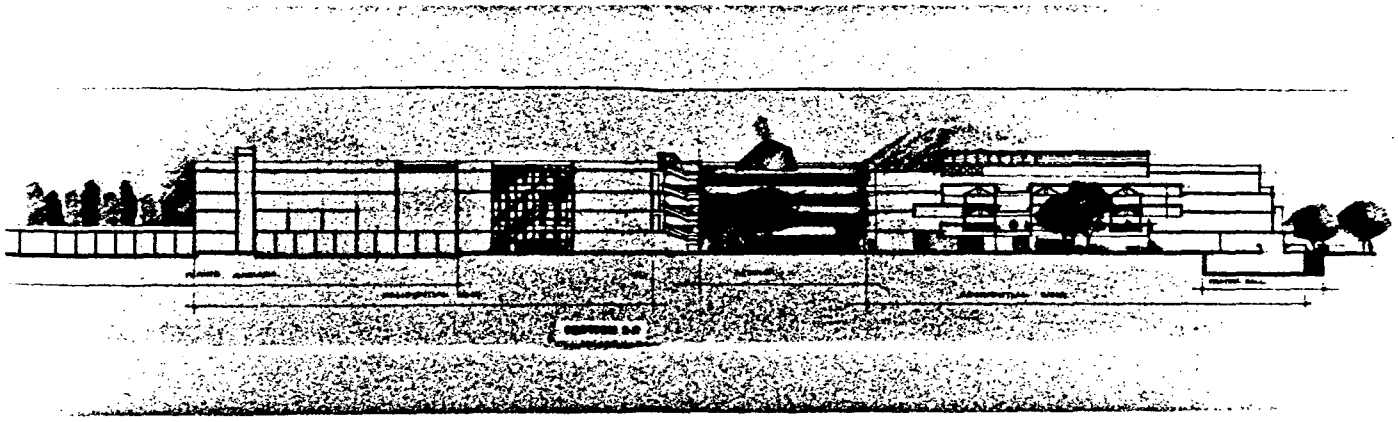


Figure 7.7: Section 2-2 showing the central and wing atriums

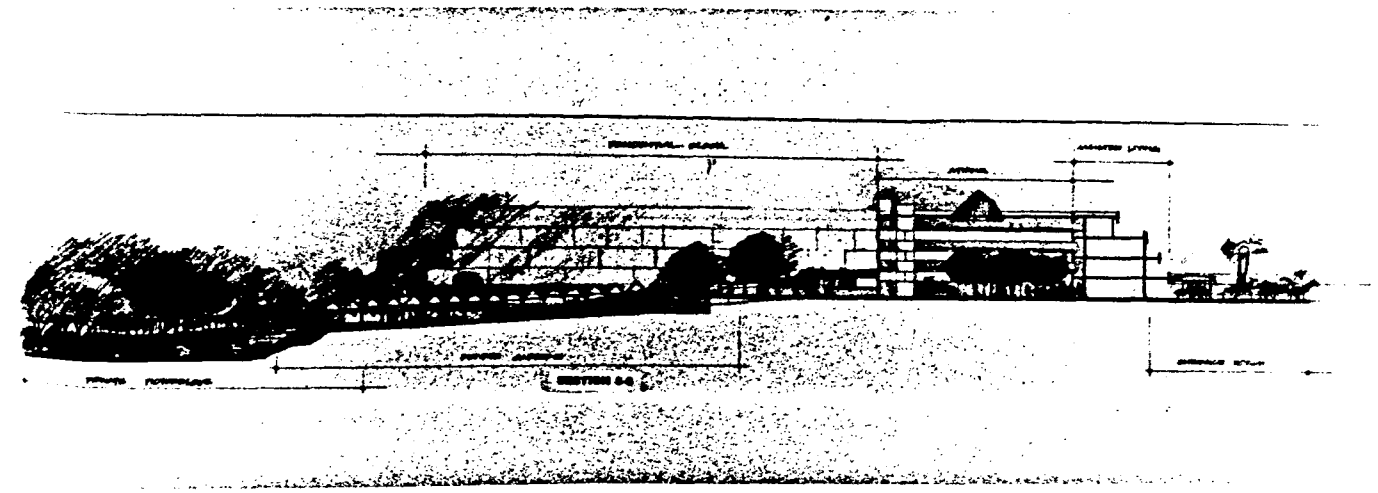


Figure 7.8: Section 3-3 showing central atrium, semi-public plaza and the covered walk leading to the stepped amphitheater

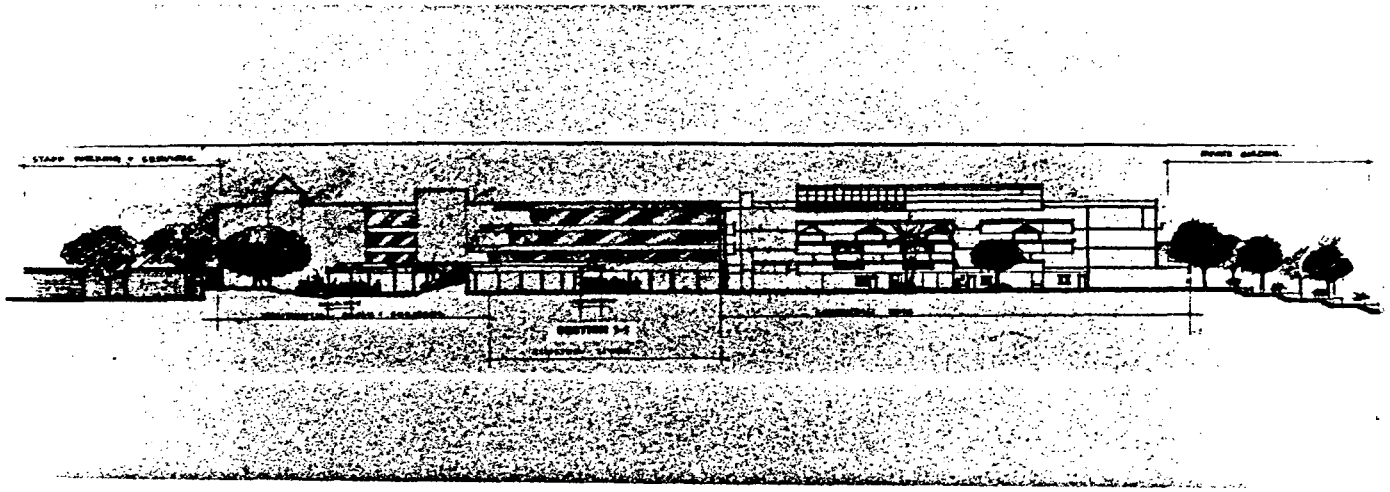


Figure 7.9: Section 1-1 showing a wing atrium and the entrance drop-off area

The apartments are designed along single loaded corridor units that are used in clusters of one or two units (a cluster of two unit had apartments along two single loaded corridors put together across a central wing-atrium (See Figure 7.7). The hierarchy of spaces ranging from the public to the private is maintained through physical zones. The three most important concepts (See Figure 7.10), that guide the design are the central atrium, the axis of the precinct as distinct from the axis of the community, and the apartment wings. The orientation of the building is also affected by the fact that the East end abutted the picturesque along which the apartments and major spaces are oriented. The West end is along the community.

The upper floors consist of apartments arranged around units of single loaded corridors. The apartments are offset on each floor to provide a set of deep balconies for each apartment. They all look out into the picturesque (See Figure 7.12, and Figure 7.11). The assisted living has visual access to both the atrium and the

Figure 7.10: The design process. Major design concepts that molded the design

picturesque as well as the entrance and the community. However, physical access to the picturesque is limited. The assisted living units are arranged on two upper floors along the Western arc of the central atrium.

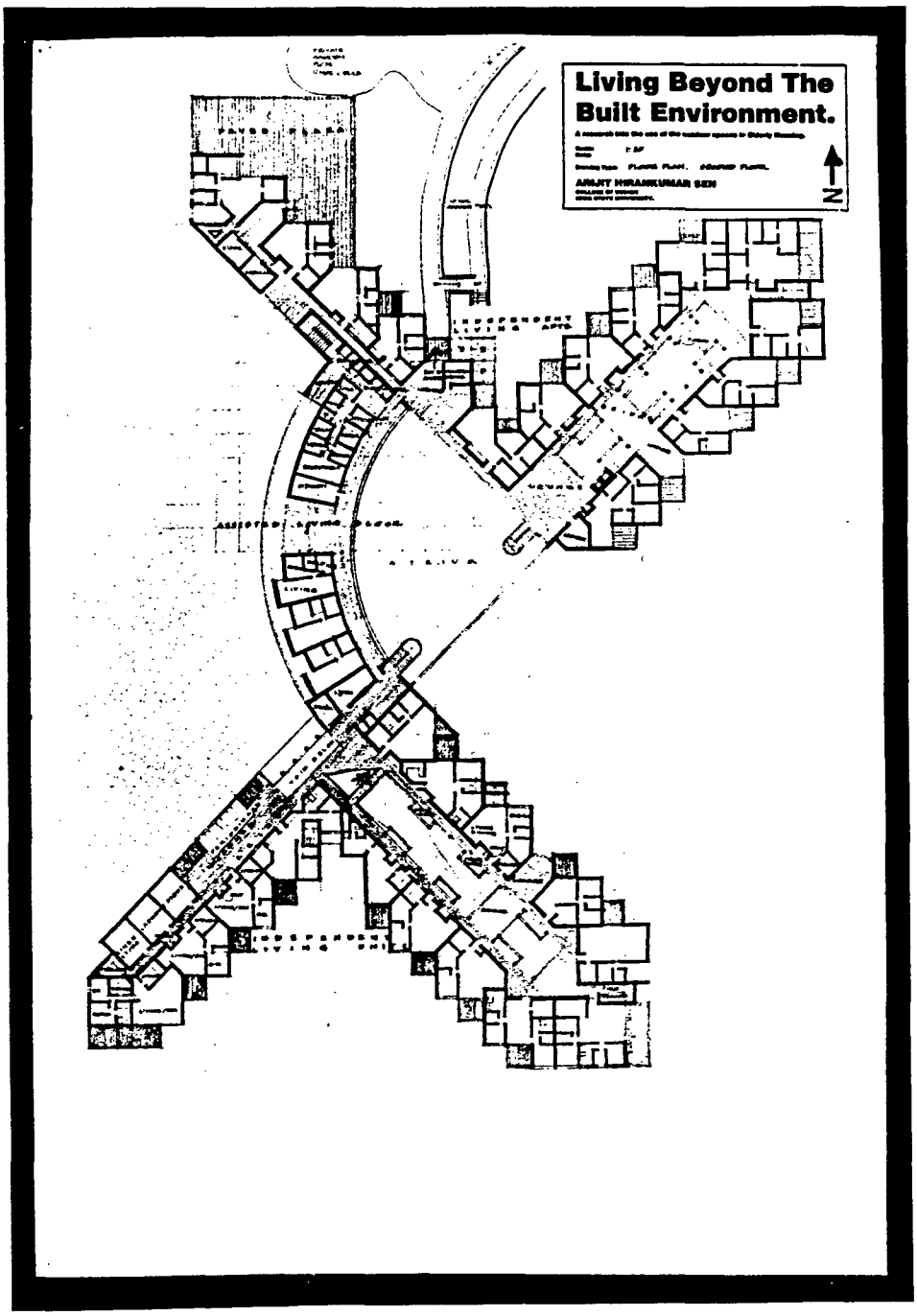


Figure 7.11: Second floor plan showing independent living apartments and assisted living units

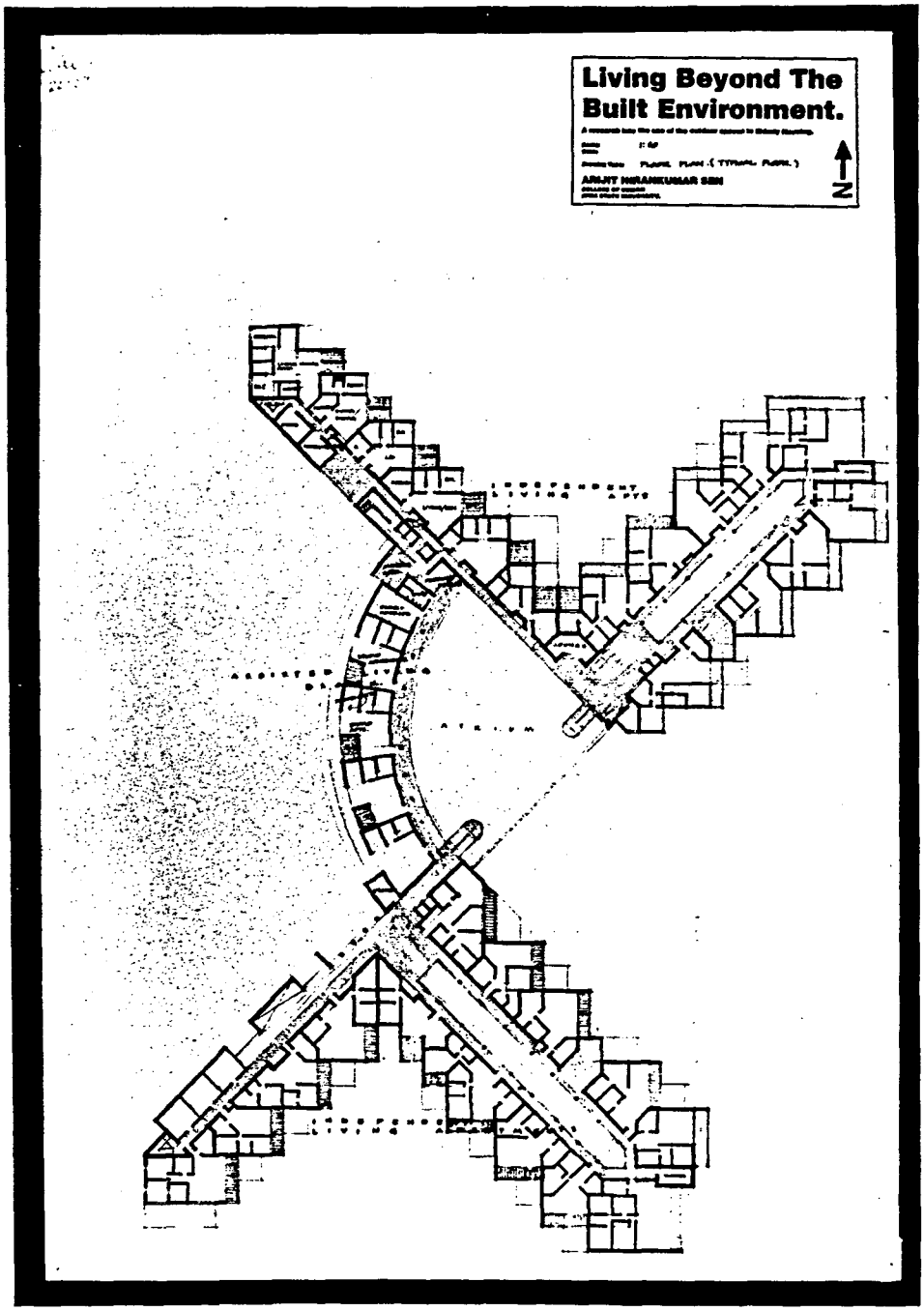


Figure 7.12: Third floor plan

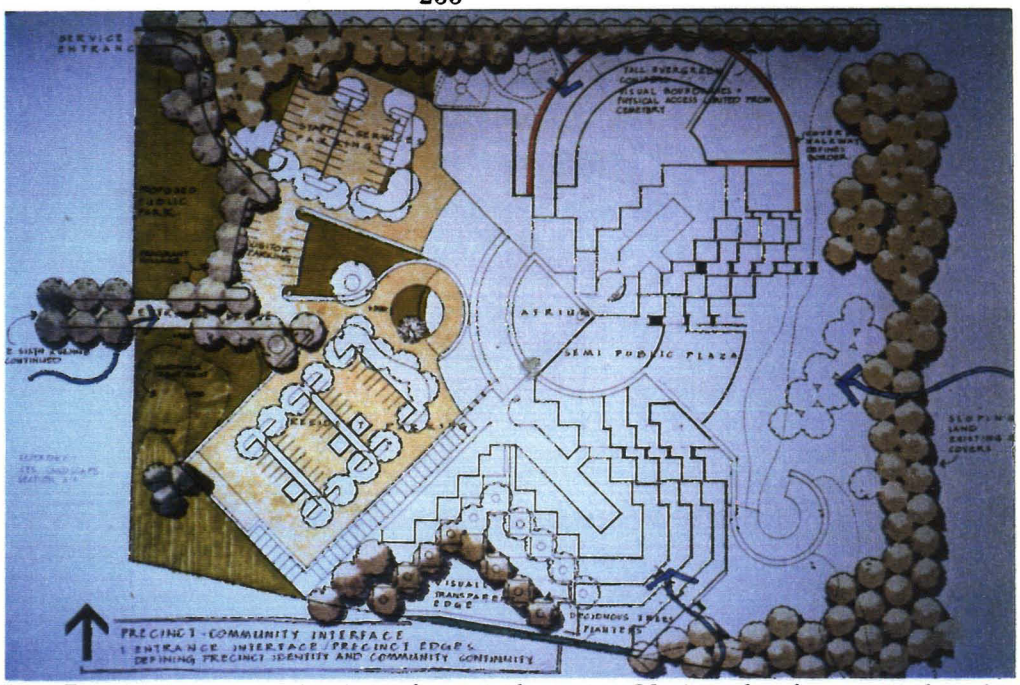


Figure 7.13: Precinct community interface at the gate. Various landscape and architectural features that create an identity for the precinct and maintain the relation to the community

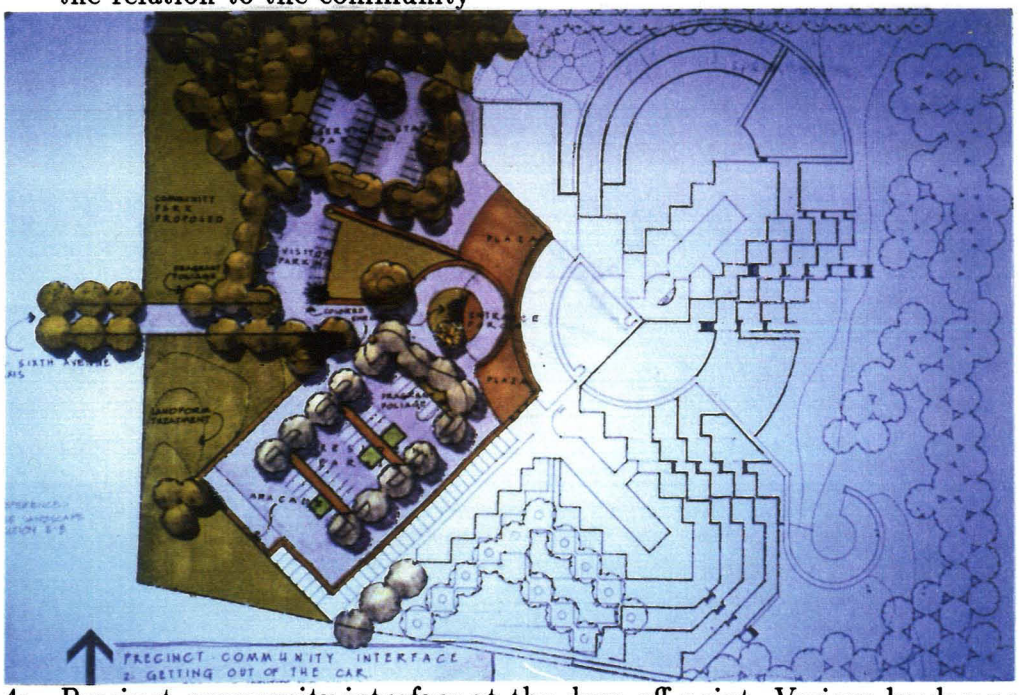


Figure 7.14: Precinct community interface at the drop off point. Various landscape and architectural features that create an identity for the precinct ann maintain the relation to the community

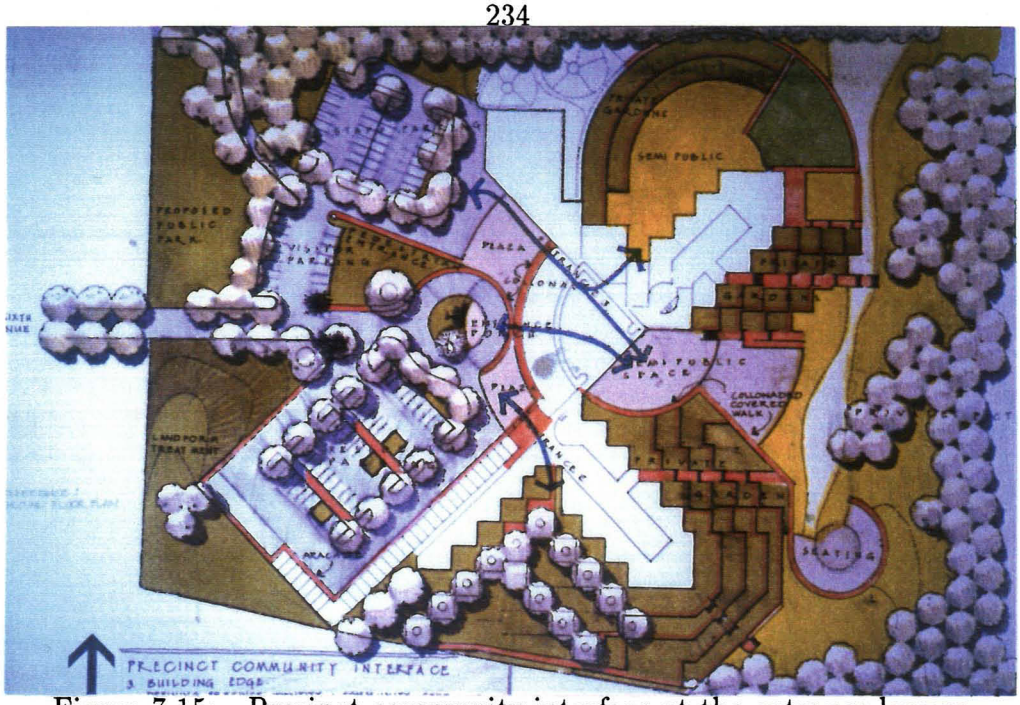


Figure 7.15: Precinct community interface at the entrance lounge

Analysis of the Design

The following parts shall analyze the design in terms of the already defined types of landscapes that is seen beyond the built environment in elderly housing.

The urban form

The design program required a congregate elderly housing at Ames.

Relation to the social community The site selection criteria was to find within the community an area that was adjacent to the various urban amenities and at the same time had some access to nature. The target population was to be from Ames and nearby towns in Iowa. That itself gives a certain amount of continuity to the social and regional roots of the residents as intended in the "Aging in Place" theory. Given such a situation, not only was the urban form familiar, but friends,

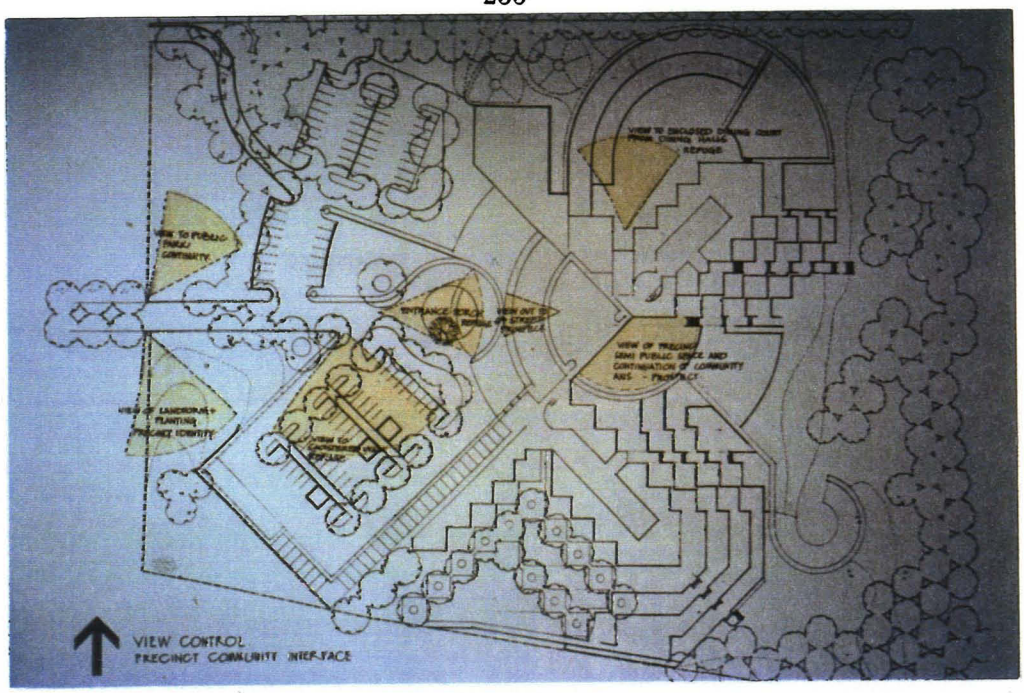


Figure 7.16: Vision cones showing framed views developed for a coherent precinct community interface

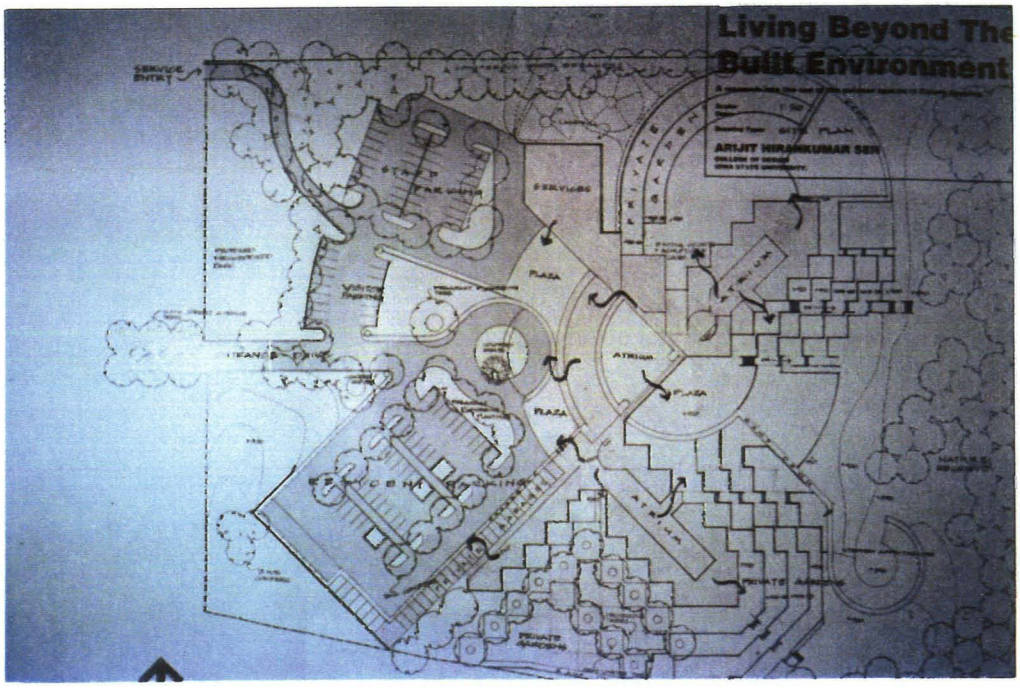


Figure 7.17: Site plan showing major circumjacent spaces and exit points from indoors

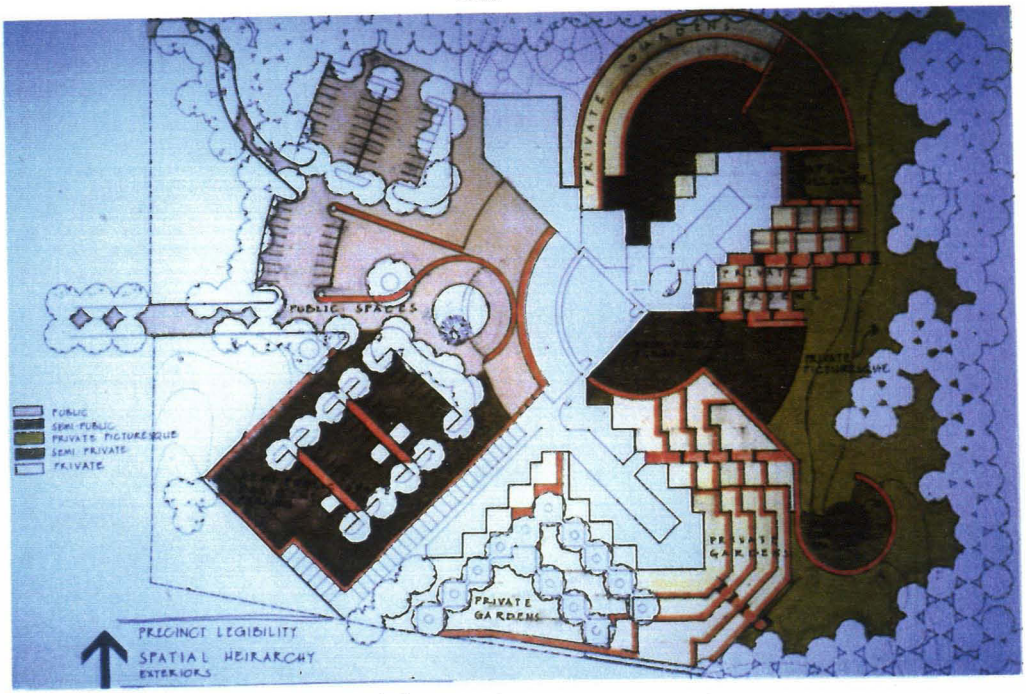


Figure 7.18: Circumjacent spatial hierarchy. A range of spaces varying from the private to public

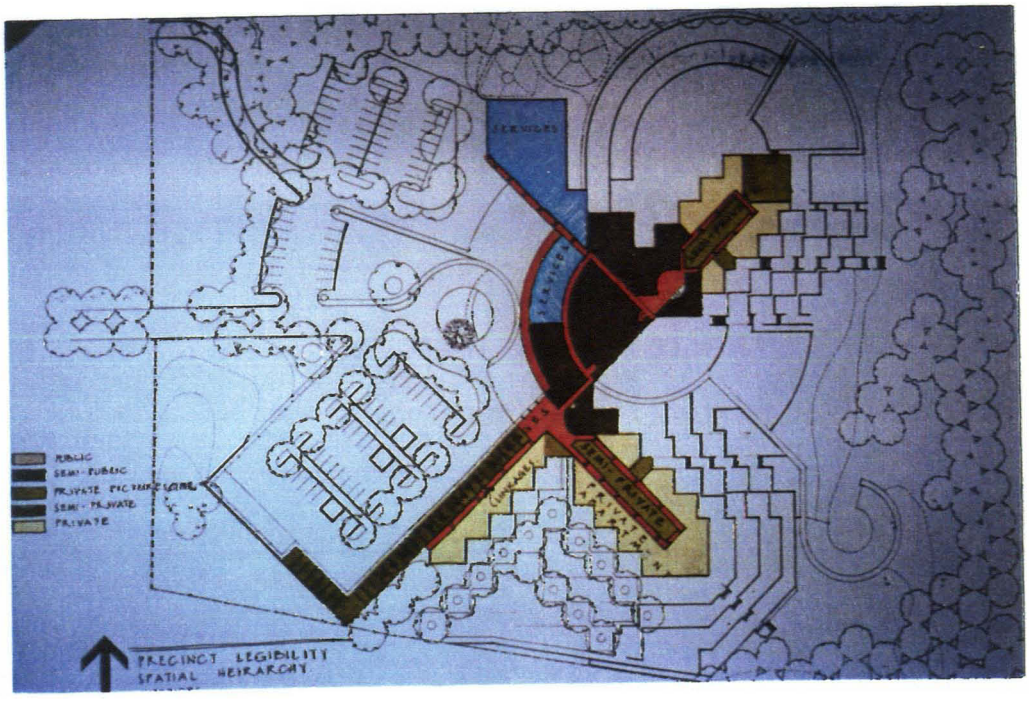


Figure 7.19: Interjacent spatial hierarchy. A range of spaces varying from the private to public

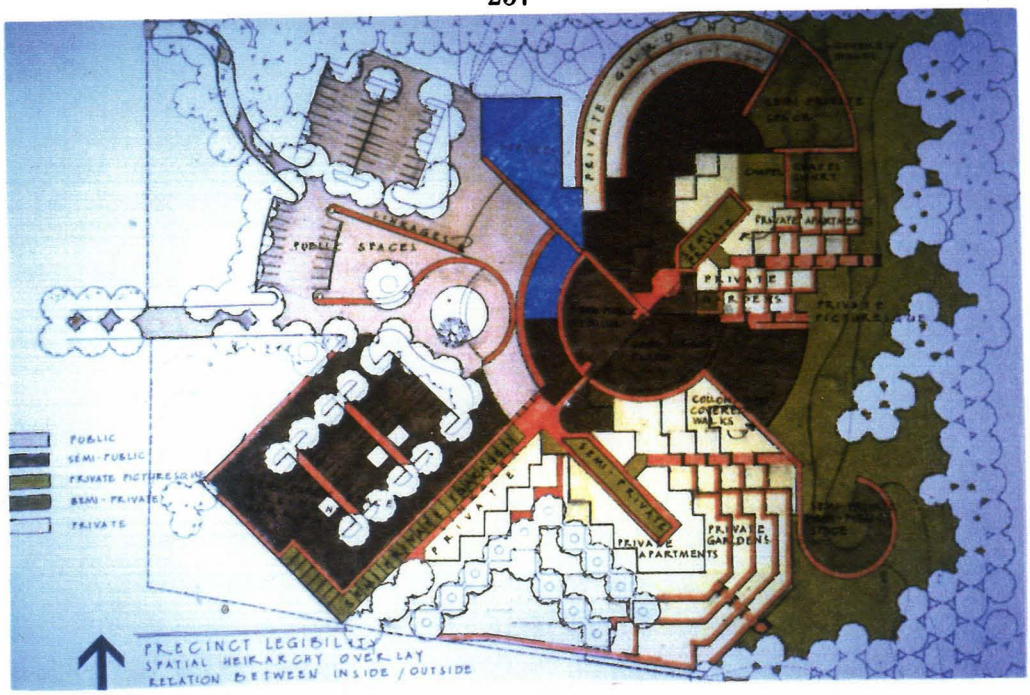


Figure 7.20: An overlay of spatial hierarchy seen in the circumjacent and the interjacent

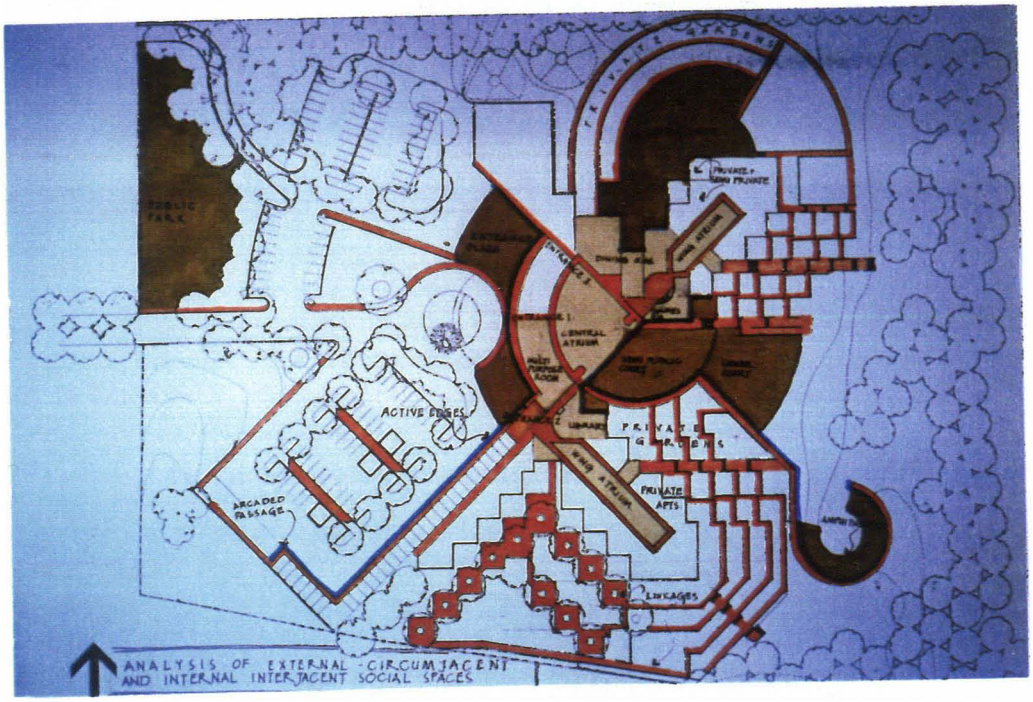


Figure 7.21: Analysis of potential social spaces indoors and outdoors

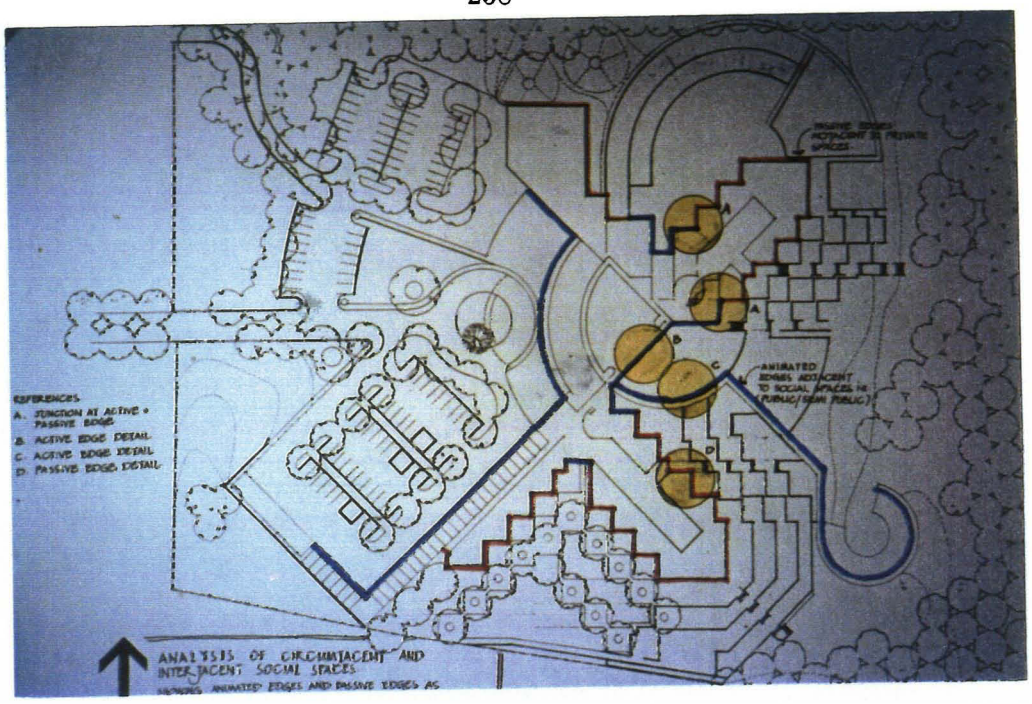


Figure 7.22: Plan showing edge conditions. Animated and passive edges

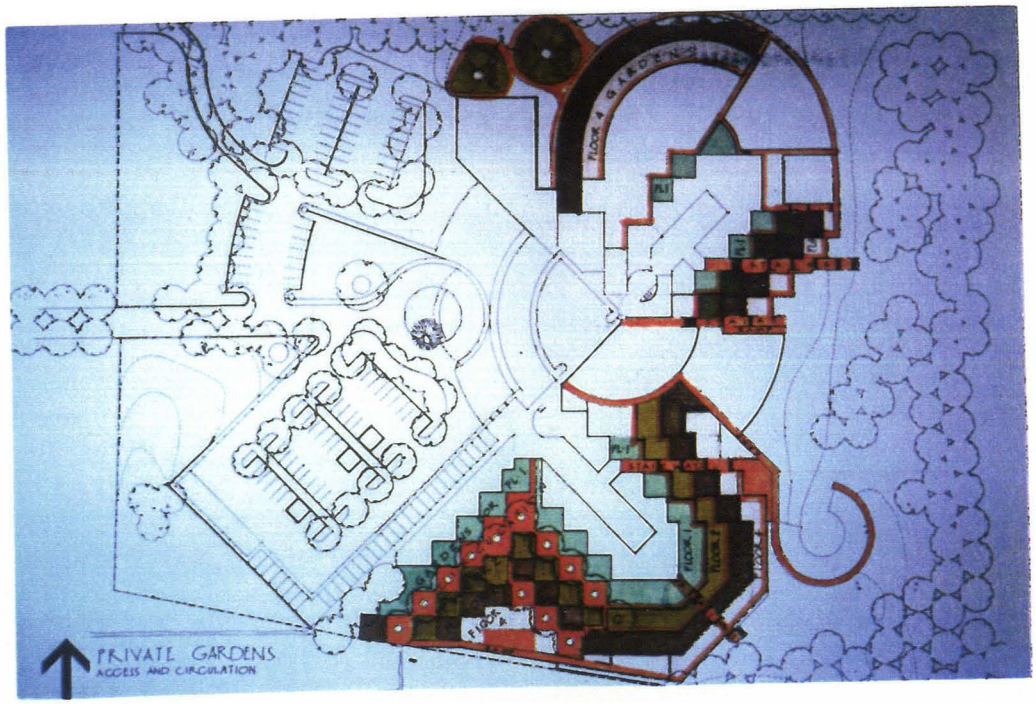


Figure 7.23: Plan showing stepped gardens for each apartments

Figure 7.24: Sectional sketch through private gardens

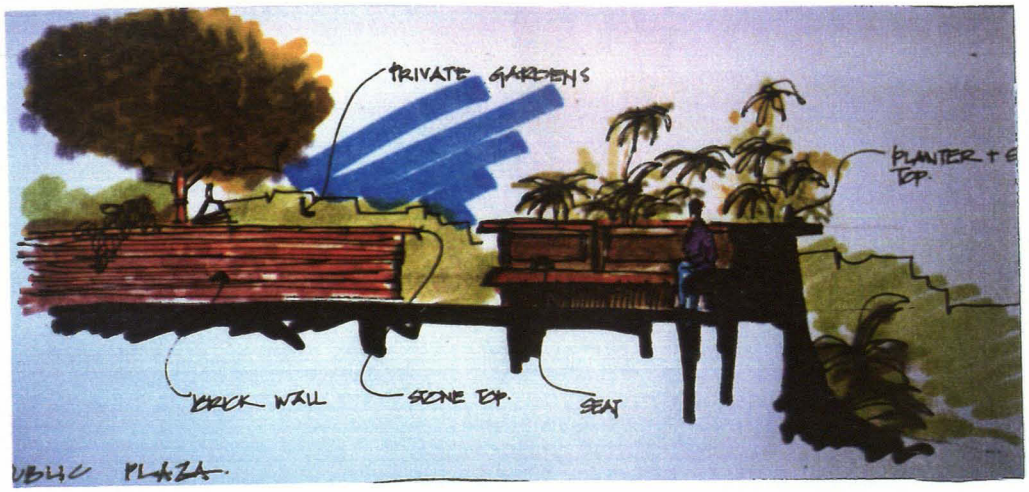


Figure 7.25: Sectional sketch of the semi-public plaza

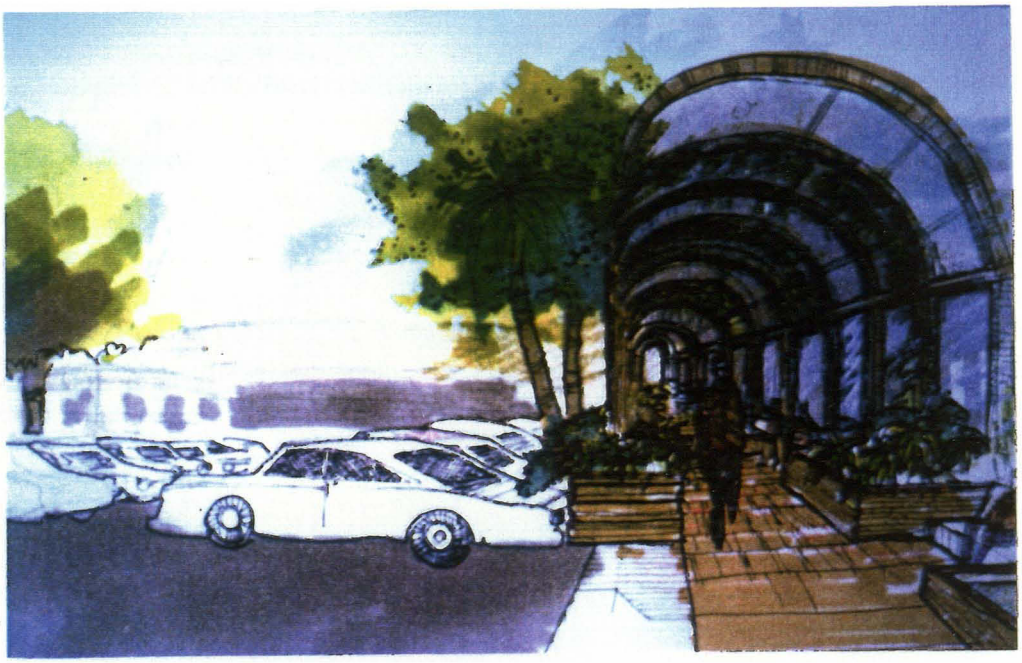


Figure 7.26: Covered trellised walks provide connection from parking lot

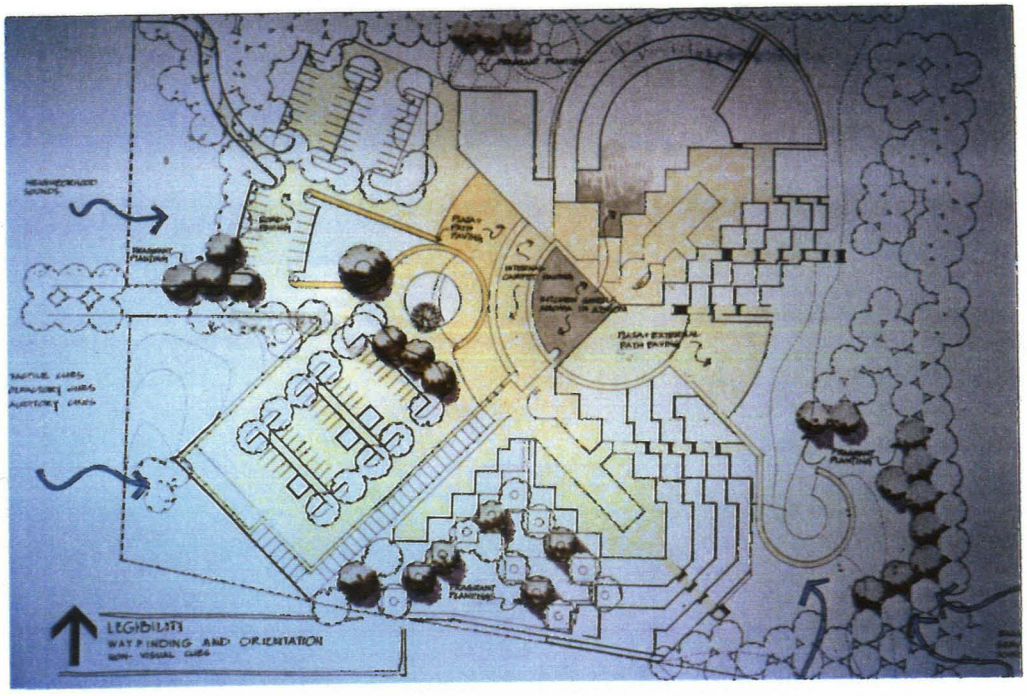


Figure 7.27: Legibility of precinct through non-visual cues

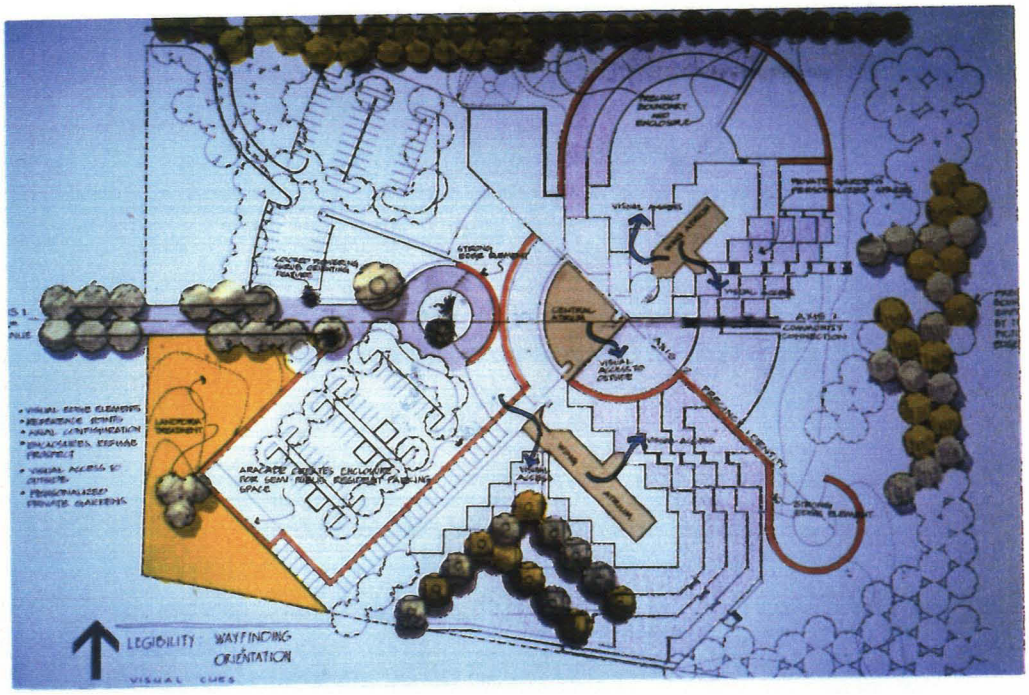


Figure 7.28: Legibility of precinct through visual cues

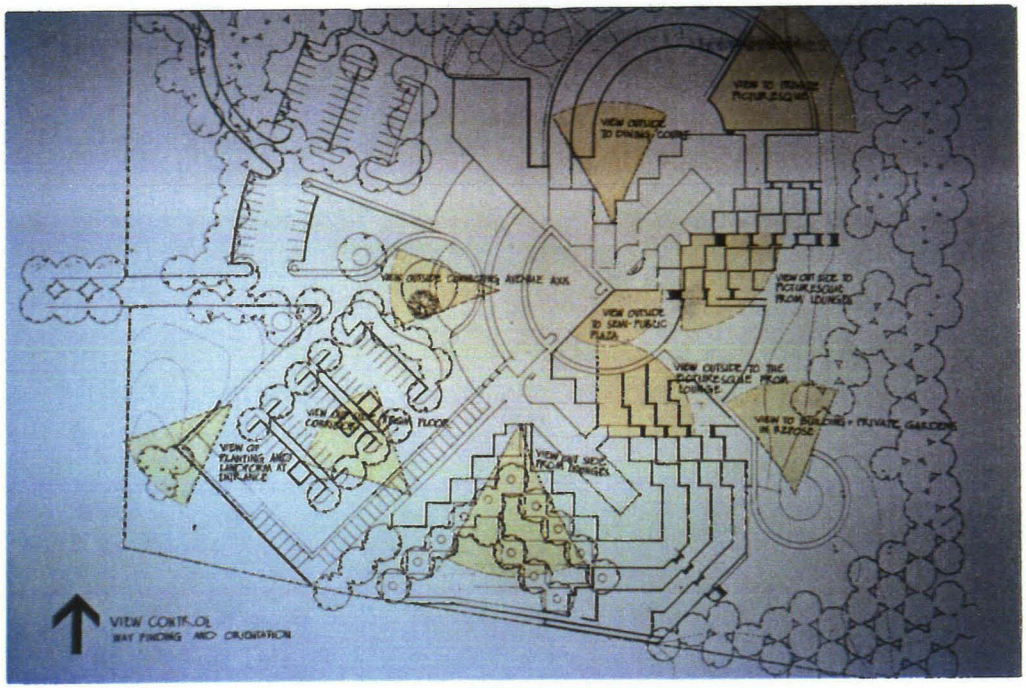


Figure 7.29: Visual cones showing framed views designed to help legibility, wayfinding and orientation

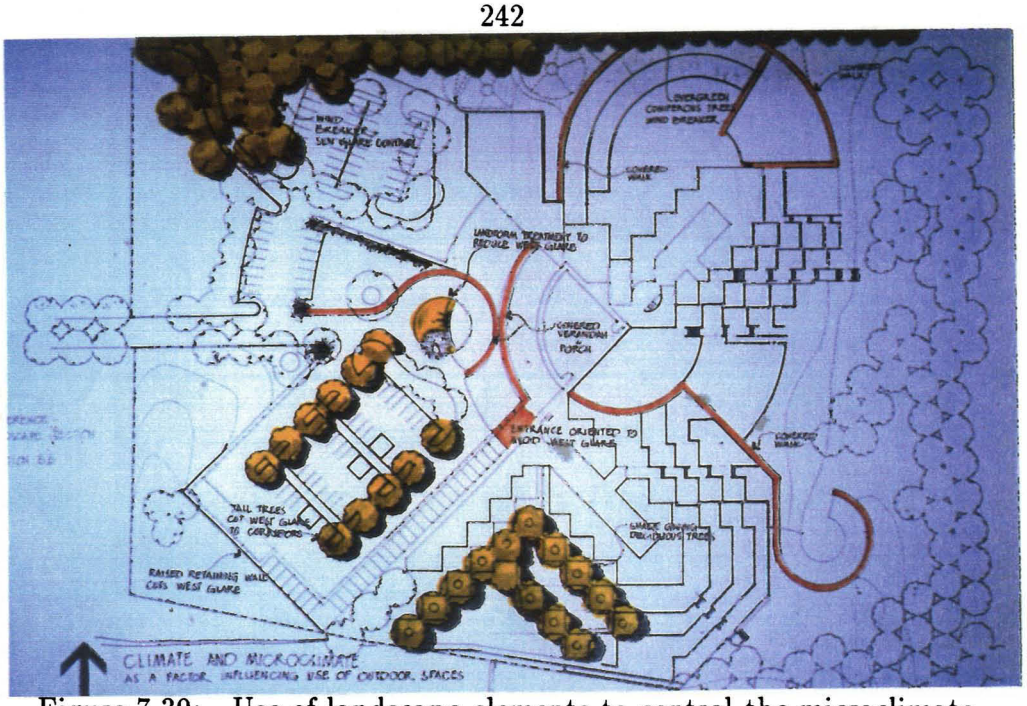


Figure 7.30: Use of landscape elements to control the microclimate

relatives and favorite outdoor spaces associated with the pre-relocation life of the resident were easily accessible.

Relation to services and amenities Proximity to the hospital and medical facilities, and the commercial district were major decisive site selection criteria. Proximity to shopping centers and commercial districts is advantageous, since watching people and window shopping is a popular activity.

Relation to the cultural roots A feature that aided in site selection was the nearby historic preservation district, the City Hall and the Ames Public Library. These buildings literally and physically were intended to be the identity and historical roots of the Ames community. The design thus proposes that a major system of pedestrian linkages and signages along the historic preservation district and the main street be developed to emphasize these cultural roots. This could well

become the focus of social gathering for the community and give an image and identity to the urban form.

The existence of some major buildings along Sixth Street also emphasizes the importance of this street. The grandiose municipal City Hall identifies with the city administrators and representatives of the people in the local government. The Ames Public Library and the various churches express the public domain of the community. At the end of the street, the site expresses the community-private domain, or the precinct. Thus conceptually, along the Sixth Street, three major components of urban form are linked. They are the community-public and the community-private expressed in the precinct. Sixth street thus acts as an urban linkage joining these three aspects.

Relation to nature Yet another concept was the juxtaposition of the community, the precinct and nature (wilderness, picturesque etc.). In the proposed redevelopment plan for Ames, the Sasaki Associates identified the physical form of Ames as a set of districts or villages joined by sprawling and organically spread out green zones, river basins, parks and forested areas.

In Chapter 2, conceptually, the wilderness was considered as the Private Picturesque. The position of the North River Basin and the green belt and the urban community, with the site sandwiched between them, provided the conceptual framework for defining the relation between the precinct, community and nature.

The proposed design is based on the recommendations of the Presidential Committee on Outdoor Spaces in America, 1985. The continuously linked green zone identified by the Sasaki Associates could be further developed into a nature

reserve, preservation areas and nature trails. The Skunk River Conservation Unit includes the Mc Farland Park, The Skunk River Greenbelt and various prairies and marshes. Attractions include a handicapped accessible trail, an observatory and ongoing education programs. The Skunk River Trail leads to Soper's Mill, one of the first grist Mills built in the county and to "Rainbow Bridge," which is on the National Register for Historic Sites.

The trails and reserves near the precinct could be administered partially by the residents of the elderly housing unit. An aviary could well be developed on the basin area, and the existence of wildlife and birds could serve as an interesting feature for the elderly residents.

Neighborhood park

The following points related to the neighborhood landscape were considered.

Proximity to services As described earlier, proximity to the necessary services of medical facilities, shopping and commercial districts, groceries, libraries and churches in the neighborhood were some criteria for site selection (See Figure 7.3).

Public Spaces in the Neighborhood The Bandshell Park was the major community public space identified after the site was selected. The park, located at Fifth and Duff, is the location for summer band concerts in June and July. This three acre park includes a senior citizen area, shelter and play equipment. The concerts in the park are well attended and give legibility and identity to the neighborhood.

Sasaski Associates identified the physical plant as a major public sculpture and recommended development of this public visual element as a feature that enhances imageability of the space.

To link the precinct to the neighborhood, the design uses two major physical forms.

- The axis of Sixth Street is continued into the site to the entrance drop off area. The axis is then visually carried across the building and the atrium into the picturesque view of the Skunk River Valley as a continuous avenue of trees (See Figure 7.13).

- There is a smaller park carved out of the site at the entrance (See Figure 7.13).

  In spite of being a part of the precinct, this park is a public facility open to neighborhood residents and will be a space where social interaction occurs between precinct residents and neighborhood residents. Features like this near the front entrance to the site give the residents an excuse to sit and watch people without being offensive.

This precinct-neighborhood connection or interface is explained (See Figure 7.13, Figure 7.14 and Figure 7.15). The continuity with community is done through the above mention features. Simultaneously, however, the identity of the precinct was maintained.

The land use zone associated with the site was a mid-density residential area and had many older residents of Ames residing here (See Figure 7.2) so the residential fabric was consistent and familiar to the background of the elderly

residents. The cemetery to the North was however visually cut off by plantings and earth forms. The view to the railway lines, depots, and the Skunk River Basin was kept intact as a prominent feature and link to the "physical neighborhood." The major visual cones developed for this visual connection to the neighborhood is shown in Figure 7.16.

The Main Street a few blocks away served as another major neighborhood socialization point and a point of interest. For those residents who were physically able to go there, Main Street was intended to serve as a focal point of interest.

Urban linkages

Urban linkages may be defined as paths or links between various settings and sub-settings. Conceptually in the design, the major urban linkages thus were the connectors that linked the precinct to the community and the precinct to the picturesque.

The link between precinct and community The conceptual link between the precinct and community as already explained (See Figure 7.13, Figure 7.14 and Figure 7.15), was physically expressed through the Sixth Street link. Sixth Street is a very imageable tree-lined avenue physically linking the precinct to major urban amenities. The axis of the avenue was thus used to denote, both physically and experientially, the link between the precinct and community.

Main Street was another urban linkage that the designer took into consideration. In fact, due to the shops located on the Main street, the streets themselves act as activity settings.

The link between the precinct and the picturesque The other major link that was developed was that between the precinct and the picturesque. The green zone, as explained earlier was conceived as a continuous link between neighborhoods and "villages." These continuous nature reserve trails link the private picturesque to the community and the precinct. This connection to nature was different from the connection to Bandshell Park.

The railroad link served to denote a commercial transit. It was preserved and the sight of train movement carrying goods seemed to be good idea to retain.

The inner circle or the precinct

Architectural designs of elderly communities deal largely with the identity and legibility of the precinct. Assuming that the design develops a positive and legible relationship with the larger community, the next step is to create a genius locii for the precinct that is harmonious yet identifiable within the urban community. These points shall be discussed to explain the design of the precinct.

- Hierarchy of physical spaces to cater to a variety of populations and the permeability between the spaces.
- Identity of the precinct that gives legibility and orientation to the physical environment.
- Robustness of the environment through variety of users.

Hierarchy, legibility and robustness are overlapping concepts. Here they have been mentioned separately to enumerate and simplify the explanation. Thus these concepts have a few common determinants as seen in Chapter 3. For example,

zoning and apportionment of the site had been discussed as a determinant for creating an hierarchy of spaces that lead to permeability, but it is also a tool that may be used to enhance the legibility of site-layout.

Hierarchy of spaces and permeability between them One of the factors that can be analyzed is the permeability between the interjacent and circumjacent spaces. Permeability is possible only if a proper hierarchy is maintained. The factors that influenced the hierarchical development of spaces are as follows.

1. Front and back of site.
2. Apportionment and juxtaposition of indoor and outdoor spaces.
3. Hierarchy through control and ownership.

1. Front and back of the site.

   Zoning the site to create a strong front and back helps develop a clear hierarchical apportionment of the site. In this case the following factors were used:

   - Building Form.

     The building form consisted of two mirror images of a "Y." The North wing opened out towards the community and had its center aligned to the axis of Sixth Street. The arc of the entrance colonnade expressed the front of the building, and the entrance and therefore defined the public zone in the precinct. The other "Y" opened out into the common patio

facing the Skunk River Valley to the East. This defined the semi-public "inner circle" zone within the precinct. This zone allowed controlled social interaction and faced the picturesque (See Figure 7.17).

- Visual Contrast.

  A strong entrance drive contrast with the axis of the covered walkway with the stepped seating on the Eastern side. These contrasting visual features were used to create cognitive differences between the front and the back.

- Use Zones.

  Separation of entrance driveways (public), residents parking (semi-private/semi-public), entrance drive and visitors' parking (public), staff parking (public), service areas, office and administrative areas from the residential units and semi-public social spaces and gardens (private and semi-private), was used to create zoned separation of use-related circumjacent spaces.

2. Juxtaposition of the interjacent and circumjacent spaces.

   There are various sub-spaces viz. private, semi-private, public, semi-public spaces (See Figure 7.18. Figure 7.19 and Figure 7.20). The indoor spatial hierarchy is overlaid on the outdoor spatial hierarchy to show the juxtaposition of these spaces (See Figure 7.20). An attempt is made to have similar types of spaces inside and outside which helped consistent transition and allowed for more transparent and permeable edge conditions. Thus, external social spaces were designed to abut internal social areas and this

spatial continuity was expected to allow a variety of activities from active involvement with the outdoors to passive vicarious interaction.

This kind of spatial patterns created edge conditions that may be passive or animated (See Figure 7.21 and Figure 7.22). The edge conditions are physically and architectonically varied and elicit different responses. For example, a passive visual connection of the wing-lounges to the picturesque is different from the more active and physically permeable connection between the atrium and the outdoor patio. Both places elicit different responses from the users.

3. Hierarchy through control and ownership.

Finally, differences between more public and more private spaces were created by the amount of individual control the user could have on each space. Being within the precinct, every resident had a certain amount of control over the entire site. However certain spaces allowed for more control and ownership than others. This created a hierarchy of spaces associated with individual control and ownership over more private spaces and shared control over public ones.

The terraces and back porches are private open spaces (Wolfe, 1975). They allow personalization by the resident who owns it. Within certain constraints one uses it the way one likes to, like a private backyard in a single family detached house.

Garden plots with networks of pathways can be termed private or semi-private. The individual garden areas are private areas and the resident

has full control over them. The paths may be called semi-private (See Figure 7.23 and Figure 7.24).

These spaces open into the semipublic zone, which consists of common spaces used by the residents for social interaction. The covered paths, patios, atrium are all part of the "inner circle."

Public spaces within the site are those places which both residents and non residents use frequently. The entrance drives, service areas, plazas, entrances and administrative areas are public areas. Resident parking is a semi-public area separated from the public spaces by the visual enclosure of the cloistered passage (See Figure 7.25).

Legibility of the precinct that helps orientation These are the following points that determine the legibility of the site.

- Distinction from community.
- Apportionment of site.
- Road layout.
- Use of land-forms and plantings.

1. Identity from the community.

   The precinct is a separate legible space defined through shared privacy. The distinctiveness from the community is served by the three major points, viz. the image, destination and enclosure.

   Image

In Figure 7.13, the entrance land-form with the clump of three conifers attempts to create an image that distinguishes the precinct from other spaces in the neighborhood. The use of fragrant trees, the park at the entrance and the land-forms, all work towards the same objective.

Destination

The action of "entering" a space creates a destination or reference towards which one moves. This reference or destination is the "home" in this case, around which the home range is centripetally arranged. The continuation of the Sixth Street avenue into the site sets up a path whose destination is the precinct. This treatment of the precinct as the genius locii and the destination distinguishes it from other neighborhood spaces.

Enclosure

The use of enclosed spaces and refuge to create a sense of place is seen in the way the enclosure is created by the tree lined avenue, the cloistered colonnades around the resident parking area, and the semi-circular colonnaded space around the central drop off space. These are used to create a distinctive spatial effect to give legibility to the precinct (See Figure 7.26).

2. Apportionment of the site.

As already discussed, the zoning of the site into a front and back and into hierarchical spaces creates legibility. Prominent nodal points, associated with places where two types of space intersected, created a chain of activity settings, which were connected by linkages or passages. For example, the private and the semi-private zone intersected internally at the wing-atrium,

and externally at the garden plots. The semi-public and the semi-private zones intersected internally, at the central atrium and externally at the covered walkways. These node points had common spaces like laundry room, activity rooms, dining spaces, notions store and library adjacent to it, so that social interaction through unplanned encounters was encouraged. Studies have proved, in collective and shared housing such as this, that unplanned social contact is more probable than planned social activities (Wolfe, 1975; Franck, 1989) and the former spaces may thus be the desired criteria for judging the sociability and success of the space than the latter ones.

3. Road Layout.

Separation of resident, staff and service vehicular paths helped legibility and orientation. Linkages join settings and sub-settings in the home range of the individual. Clarity and legibility of the precinct is improved with legible layout of these linkages.

Thus the separation of the services and staff entrances from the main entrance, and the use of the colonnades covered arcade to visually differentiate the residents' parking area were aimed at creating a legible network of linkages within the precinct.

Similarly, in case of the walking pathways that criss-cross the gardens, the paths from the private apartments linked with the semi-public covered walks that created the central pedestrian spine joining the inside to the outside spaces. This logical sequence of pathways from the private to the public help make the circumjacent more legible.

4. Use of land-forms and plantings for orientation and way-finding.

Use of environmental cues.

The landscape can have features and elements that help orientation and increase legibility of the precinct. These features can be visual, or non-visual (See Figure 7.27, Figure6k and Figure6l). For the elderly with failing physical abilities, the concept of redundant cuing helps in increased orientation, way-finding and interaction with the environment. While visual cues (See Figure 7.28), may be created through land-marks and nodes, designed views (See Figure 7.29), colors used, or through the use of cognitive imagery, the non-visual cues (See Figure 7.27) may be tactile, auditory and olfactory. In this design all such cues were attempted.

The paving materials for outdoor paths were warm colored, non-slip and textured. The flooring for internal areas was non-slip and easy to maintain, yet warm, homey and preferably carpeted. The types of flooring both inside as well as outside were kept as consistent as possible.

Similarly, sharp turns and sudden changes in levels were avoided.

The use of fragrant flowering shrubs at the entrance and other outdoor semi-public areas is an example of olfactory cuing. During the flowering season, the fragrance will be a factor that will be uniquely associated with the site and thus give legibility to the precinct.

The sound of the railroad is retained as an element that makes the resident more aware of the neighborhood and thereby increases legibility.

The use of colored shrubs at the entrance, at decision making points and near the stepped amphitheater is an example of visual color cuing.

The vision cones (See Figure 7.29), creates designed views, framing a particular view towards some nodal point that may help way-finding and orientation. The use of traditional and vernacular imagery of the porches at the wing-atrium (See Figure 7.7), is as attempt to create cognitive visual imagery as is the cloistered colonnade along the residents' parking area. Both attempt to create a less institutional and homey image.

Use of gardens and plantings.

Control and ownership over a space allows personalization. This is yet another factor that helps legibility and way-finding. Various types of spaces in the landscape allow various amounts of control by individuals. Thus, the distinction between private, semi-private, public and semi-public spaces through the amount of control possible, helps with the legibility of the precinct.

In this example, every resident is allowed to own a garden space that may be comparable to the private backyard (See Figure 7.23). Such spaces are often personalized, and add to the legibility of the space. Due to individual tastes, there may be different plants in different gardens. These gardens are visible from the paths, making them into a showpiece for the residents. This induces a kind of pride in the display and variety helps the imageability and legibility of the space. However it needs to be mentioned that adequate precautions may be taken to ensure that the administration or somebody else may tend

the garden of a resident, who, for some reason, may not be able to maintain it.

Use of plantings as a landmark is seen at the entrance too, where clumps of three trees on the earth berm (See Figure 7.13), the colored shrubs and the avenues can be observed. The north edge of the site has a row of conifer trees that acts as a visual barrier to cut off the view of the cemetery and also as a dominant orienting feature.

Towards the south, the trees are decidious, so that they allow sunshine during winter months. This contrast in the type of planting used in the south and north boundaries again acts as a feature that increases the legibility of the site edges (See Figure 7.30).

Robustness of the precinct Robustness of the environment depends on the ability of the environment to allow for a variety of activities. To examine the robustness of the circumjacent the study shall analyze the following points.

Edge Conditions.

The line along which the interjacent meets the circumjacent is usually defined by the building edge. To increase robustness, the edge between buildings and the semi-public spaces outdoors must be designed to enable a range of indoor private activities. Depending on the nature of the activities carried on, the edge conditions have a variety of design implications (Bentley et al., 1985).

There are various types of edges in the proposed design. These major spaces that may encourage both planned and unplanned social interaction (See Figure 7.22). These may be termed as active spaces (See Figure 7.21). The intersection of indoor and outdoor active spaces create animated active edges. Such

edges allow controlled social interaction in the form of physical permeability as well as vicarious involvement. In this design care has been taken to juxtapose internal social spaces with outdoor spaces to create active edges and encourage robustness.

At the intersection of indoor private spaces and outdoor private gardens, the edges are called passive edges and they don't usually add to the activity outdoors. They allow passive visual and vicarious involvement. Again these edges may be permeable enough for the users to cross over to the active circumjacent spaces. In the design it is possible to cross over from the porch or the lounges to reach the common areas.

The private gardens associated with the apartments help in increasing the robustness of the circumjacent space. In the case of the grade level apartments, the private gardens are physically accessible from the living room and being in the same level give the resident more territorial control over the space. However a problem arises for the upper floor residents, for whom, the garden plots though visually accessible from the terrace,are physically inaccessible from their apartments. They need to travel to the first floor level to go there. (See Figure 7.23). This physical impermeability creates a territorial problem. How does the designer physically differentiate the garden plots of various apartments to create comprehensive and legible territories?

In this case, the design utilized the natural slope of the land to separate garden plots belonging to apartments on different floors. Ten foot contours are divided into three levels of gardens and each level belongs to apartments from a particular floor. Thus the first floor apartments have their gardens at grade level and the second floor apartments have their gardens at the next level and so on.

This physical separation of plots creates distinctive territories. The entire system of gardens is connected by a system of walkways. This system of private gardens and terraces per unit allows controlled social interaction as well as passive vicarious involvement. The walks allow both planned and unplanned social meetings.

Another feature that is intended to increase robustness is the ability of the residents to gain access to outdoor spaces without having to travel through the semi-private and semi-public interior spaces. The access points to the outdoors are marked in Figure 7.17. One can see that the residents have the choice of going outdoors from the semi-private wing-atrium without having to go through the central atrium and other semi-public zones.

Robustness increases with the use of ramps, handrails and other prosthetic devices. This allows use of the space by a larger variety of people with varying physical capacities. Thus the entire system of pathways and walks is accessible through a central spine that is actually a 1 in 20 ramp.

The semipublic spaces have a lot of seating provided. This increases the robustness of the space as seating and watching acts as magnets for vicarious social involvement. The covered path gives protection from the climate and this helps robustness.

The intermediate landscape

The intermediate landscape necessarily consists of edges of the building which lie at the intersection of the interjacent and the circumjacent and between the public/semi-public and the private/semi-private realm. These spaces may be balconies, porches, gardens, lobbies and patios.

In the design, the edges between the inside and the outside spaces have been divided into active and passive edges (See Figure 7.22). The active edges that lie between two semi-public or public zones are visually and physically permeable (See Figure 7.22). In the case of passive edges, however the inside is a private apartment space. Thus the permeability of the edges is controlled by a transition zone. These transition zones are the terraces. These covered terraces are associated with each individual apartment, and may be used for sitting, viewing the outside, keeping potted plants, or as storage spaces and extension of the living area during fair weather. Sitting here one can watch the picturesque and be "private" or vicariously take part with the activities outdoors.

The importance of the balconies and terraces have been expressed in a study by Wolfe, in which she found that balconies and patios are common and popular among residents of multi-family buildings (Wolfe, 1975). By using such architectonic elements, the designer thus may utilize traditional features and maintain a continuity of the living environment in the pre-relocation housing environment in the elderly housing. Also, while public sitting areas are used more frequently for social interaction, and empathetic behavior, balconies and patios are places for tenants to be outdoors alone. Thus patios and balconies are essentially private spaces.

Another element that is seen at the edges are the windows. Windows are spaces that open up the outdoors to the indoors and allow visual interaction and vicarious involvement. For the more aged and home bound who leave their rooms less often, the view from the windows, balconies and patios takes on a special importance and represents outdoor experiences that are not too demanding.

Lawton, in "Planning Environments for Older People," explains the sitting and watching behavior in the elderly as a substitution of empathetic participation.

> (It is) entirely consonant with the biological decline inherent in the aging process, the inner psychological disengagement of the personality and withdrawal of society from the aging individual. (Lawton, 1970)

The jagged edges of the design increases the skin area of the building and allows more window area per apartment. Thus both the living/dining area and the bedroom have a large window looking out into the picturesque (private) and the gardens and paths (semi-private/semi-public).

Another important intermediate landscape used in the design is that of the corridors along the wing-atrium through which the apartments could be accessed. In front of the apartment doors, there is an offset in the parapet of the passage that pushes out into the atrium space. These spaces are architectonically animated with traditional porch and stoop details including a seat. This animated entrance porch can be personalized by the resident and may help way-finding and orientation. The variety created by personalization is instrumental in removing the monotonous similarity of an institutional corridor.

Private picturesque

In the design, the private picturesque has been expressed through two major elements viz., the visual connection to the picturesque of the Skunk River Valley, and the complex view of the physically accessible private gardens.

From earlier studies (Wolfe, 1975), most residents prefer two major kinds of view outside viz.,

1. The beautiful landscaped picturesque nature.

2. The activities outside.

The picturesque valley fulfills the first kind of visual requirement. Thus in the design orienting the semi-public, semi-private and private areas towards the view was a factor that determined the form and layout of the building. As explained in the introduction, the hypothesis of the design was that this aspect of the landscape is often ignored in urban mid-rise examples and that it can be incorporated in some way.

The response to this requirement will be site-specific. However the necessity of including the criteria of having the requirement of "overlooking a picturesque view" in the site selection stage is important.

The second aspect of the view to the outdoors is fulfilled by the garden plots that overlook the picturesque. In addition to the visual link to the private picturesque, the view to the private gardens also allows one to see activity on the paths.

The stepped gardens are private spaces (See Figure 7.24 and Figure 7.25). The planters along the outer perimeter separates the garden from the common paths. Being in the garden is a private experience.

In the design two more spaces that were a part of the visual link to the picturesque are as follows.

1. The main walkways that link the maze of paths start from the semi-public patio overlooking the atrium, and end in a semi-circular stepped amphitheater. While smaller meetings and gatherings are in the

amphitheater, this space will also serve as the last point in the maze of linkages, where one could enjoy the beautiful view, a sunrise or relish a moment of privacy. This is not to say that this will be an extremely popular space. These spaces, however, by their sheer presence, give the residents a choice to have a private restorative place in the landscape.

2. The second space is seen near the chapel. The chapel lies at the private end of the continuum of spaces which starts at the semi-public main atrium. Taking advantage of the land slope, the chapel was sandwiched below the first floor level. The view from the chapel was towards the picturesque. The chapel thus was the very essence of the "private space" and overlooked a similar setting.

Conclusions

The following set of conclusions are derived from the study.

Results derived from research

The research points at the various trends and outlooks towards the circumjacent expressed through physical architectonic elements. What becomes clear, however, is the fact that "non-physical traces" influence the architectonic manifestations immensely. The "non-physical traces" are results of the urban sociology of the time. Therefore such connections should be drawn between the physical and non physical traces for better understanding of the design of spaces and other architectural requirements in the elderly housing projects. This is going to be more and more difficult as the population diversity of those termed "aged" widens. This points towards the second aspect derived from the study that deals

with plurality. There is a plurality of requirements, population types as well as landscape types. No single answer or guideline is complete. The main lesson derived from this is that there must be a choice and in order to allow for the plurality, one must first find out what the choices may be.

Results derived from design

All designs are site specific and need specific. Research only makes the designer aware of the possibilities available. There seems to be a potential disastrous effect of the gerontological literature. Elderly people are classified in these studies more as target populations and the designer may lose sight of the fact that over and above all these trends, data and inter-relationships, the people are humans. We are not designing for data-sets, but for people like ourselves with maybe, some physical weaknesses. If one accepts this fact then a point becomes clear that we are primarily designing for a condition that caters to an average adult American. In addition to that we are being a bit more sensitive to the special requirements of the elderly.

This brings one back to the concept of choice. Allowing for choice is an important factor in the design of the circumjacent. It helps robustness.

There are various types of landscapes affecting the design in various forms. They vary from one another in many ways, one of them being the amount of privacy and control that they allow on the users. For example, individual control over the circumjacent is least in the urban form and most pronounced in the private backyard and the picturesque. Designing a hierarchy of spaces based on the amount of privacy and control allowed is the main criteria in design. During the design

process an interesting dilemma cropped up. Private gardens and private backyards seemed to be different. A garden is a proud possession of the gardener and although a private area, is essentially a space he or she likes to show off to others. It is the image or identity of himself that one projects to the community. It is more visually public than a private backyard. The private backyard is an outdoor living space, and is visually more private. In the design, balconies, terraces and patios served as the private backyard, while a separate provision was made for the gardens.

Finally, during the design process, while looking into the relation of the residents to the community and the urban form, it was felt that the concept of "Aging in Place," or more appropriately "Aging in the Community," was very important. The question remains, that for a transient dynamic population what may be assumed to be the root community. Whether we divide the population into smaller categories of minorities, ethnic sections, religious divisions, or whether we create a valiant, romantic, idealistic common identity for America as the New World where the community is the melting pot of the entire world, where the convergence is on principles, not on blind myths, debilitating rigid social norms, race or religion, is an ethical question for everyone of us to consider.

Comments on the process

The entire dissertation was a very theoretical process. A major problem encountered while researching and subsequently during the design process was the fact that none of the derivations of the physical traces and the use of spaces, except those from valid research results, were proved to be true. Whether a particular space provided for a certain purpose is actually used by the residents in the way

intended needs to be studied. Post occupancy research into some major examples shown here may validate the findings.

Yet another potential subject that needs further research is on the sub-types within the private circumjacent spaces. Much research has been done on the public spaces outdoors. But spaces that allow control, solitude and privacy need to be studied further. Such spaces vary from the gardens to the picturesque, as discussed earlier.

The last word

No design is a perfect answer, no guidelines are commandments. What remains true even today, is the sensitivity to the needs of plurality. There was a song about "My Cathedral," on the vast expanse of green ground, where the sky was the ceiling. We live beyond our four walls. We are a part of an eco-system. We indeed live beyond the built environment.

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