ALTERNATIVE SUBURBAN SETTLEMENTS

by

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Thesis submitted to the Faculty of Virginia Polytechnic Institute and State University in Partial Fulfillment of the requirements for the Degree of

MASTER OF ARCHITECTURE

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August 1995
Abstract

This Thesis begins with two premises.

As architects:

I. We assume *responsibility* for the built environment.
II. We should *perceive* and *address* change in society.

The focus is an exploration into possible solutions to the paradigm of the suburban settlement.

The condition of life in suburbia is currently drifting away from the ever-changing reality of our culture. The strongly infused notion of a private dwelling amidst a green grass setting has been the normative goal of living for most of our society during its evolution, but particularly since WWII. Much of what is built in suburbia today is done through the inertia of habit. The suburbs continue to be built as if families were large and supported by one income; and as if land and energy were boundless. These conditions have led to patterns of growth which are dysfunctional. The vast land areas covered by this type of settlement require ever-expanding roadways, which in turn become less and less practical to those who live there. More time is devoured daily by getting from one place to another, through a landscape of built sameness. The controlled environments people typically live in: the automobile, workplace, and house, diminish the possibilities of insightful experience that are a part of life in either urban or rural settings. Suburbia, as a place between extremes, offers diluted opportunities for a richness in the quality of life. The architecture of the suburban condition needs to make places which allow both social interaction and truer connections to nature.
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This thesis addresses an alternative to mainstream suburb. The proposal comes partly from a return to the concepts which sought to guide the early growth of the suburbs, and partly from agreement with beliefs held by a current generation of planners and architects who also recognize the problems of suburbia.

Weaving those ideas with aspects of traditional Japanese architecture informed the design of two separate alternative settlements.
Early Suburbia

The phenomena of suburbia is largely a Twentieth century invention, emerging mostly from escalating population growth and constant rural to urban migration. In 1902, Ebenezer Howard's retitled Garden Cities of Tomorrow advocated that growth of cities should not happen by adding layer upon layer of suburb around the periphery, but by establishing rings of satellite “Garden Cities,” each with a certain population, and each with their own industries, shops, and communal buildings. Howard intended his “Garden Cities” to mean a city in a garden (surrounded by open land), not a city of gardens (suburbia). Howard's vision for these satellite cities was that they would emerge around rail stations, focusing upon civic spaces surrounded by village-scaled neighborhoods.1

A similar idea was proposed in the mid 1930's by Frank Lloyd Wright in his concept for Broadacre City. The essence of the Broadacre scheme was a decentralized, horizontal, close-to-nature city. Wright advocated an acre per household, and allowed clustering populations to comprise the density of a village. Wright believed that a strong ideological basis would contribute to social unity. The pattern generated by this scheme was that of a network of self-contained, self-sufficient communities of religious, or political groups. In Wright's view, the project became possible because new methods of rapid transportation had shortened distances.2

I Garden City diagrams, Ebenezer Howard

II Broadacre City concept, Frank Lloyd Wright
Much of the influence of Howard’s Garden Cities concept was expressed through later planners and architects recognized as “the Decentrists”. Their aim in regional planning was to decentralize great cities, thin them out, and disperse their enterprises and populations into smaller, separated cities, or towns. In terms of housing, the Decentrists viewed the street as a bad environment for people. Houses were designed to turn away and focus towards a sheltered green space. The first major American example of a settlement based on these notions was Radburn, New Jersey in 1928. Henry Wright and Clarence Stein designed groupings of homes in superblocks and blocks, which became the basic unit of city design, replacing the street. Radburn provided access to large park areas in and around which were grouped the community, social, recreational, and shopping centers. In the following decades, this settlement became a precedent for establishing communities across the country.

It is important to realize a fundamental difference between the original Garden Cities and Broadacre City concepts, as compared to those of current planners. Many of today’s planners realize that a mixture of uses generates the diversity that supports a thriving urban condition. The original schemes sought to decentralize aspects of the city which supported its life force. Decentralizing can maintain an urban essence only if it provides for a variety of metropolitan conditions. Although the overall scale may be smaller, the new ideas towards settlement recognize diversity as the source for urban vitality.
Suburbia now

The growth of suburbia for most of this century has occurred in a way similar to what Ebenezer Howard had forewarned against. Layers of sprawl extending out from the central core of urban areas has been the typical pattern. This has led to vast landscapes of placelessness, and conditions that alienate the pedestrian. The extensive arrays of chain-store architecture, office parks amidst lakes of asphalt paving, and monotonous subdivisions have emerged as "Edge cities", which act to siphon the life force out of the urban cores around which they surround.

American suburbs are currently designed for a stereotypical household consisting of a married couple with children. This is no longer predominant. The size of households has been decreasing, while the number of singles and single-parent families is increasing (from 29 percent twenty years ago to 38 percent today). During the 1980's approximately 17 million new households were formed; of which 51 percent were occupied by single people and unrelated individuals, 22 percent by single-parent families, and only 27 percent by married couples with or without children. Households with children often have two breadwinners. Married couples with children now account for only 26 percent of the households, down from 40 percent a generation ago.

It is true that architecture reflects the society from which it is created. Our somewhat chaotic current state in the suburban area represents the dilemma that exists in our culture. The idyllic image of life on the suburban frontier has catalyzed its own growth, yet ironically, it has evolved into a condition that is usually more dehumanizing than the place it was attempting to escape. The physical manifestation of suburbia has imposed long commutes, traffic gridlock, and an automobile-scaled environment which acts against the natural instincts of the inhabitant. Suburban dwellings continue to be made for households which occupy only one quarter of the population, and affordability is out of the possible reach for most of society.

The social dimension of suburban living has been overshadowed by the individualistic aspects of owning a private dwelling. While it has been perceived as part of the American Dream to own one's home surrounded by a green grass lawn, it also contributes to isolation when combined with car ownership (which reduces pedestrian interaction) and lack of places to gather as a community. Most suburban houses are moving towards the appearance of automobile hangars stacked over by a nostalgic attempt at a house style of the past. This new trend further alienates the human quality of the home.
Positive Directions

In recent years, a new generation of urban planners and architects have emerged that are advocating timeless solutions to the existent problems. Peter Calthorpe, Andre Duany, Elizabeth Plater-Zyberk, and Daniel Solomon are a few who are often recognized for their moves toward remedying the suburban crisis. They recognize a fixed condition, the automobile as suburbia’s form giver, yet advocate more finely integrated, walkable communities with a strong local identity and dynamic public spaces. Peter Calthorpe, in The Next American Metropolis, recognizes that the forms of these places will and should vary in time and place, but certain design principles emerge as both timeless and contemporary. Timeless in the sense that human needs and human scale do not change with the advent of each new technology, and certain traditions express fundamental characteristics of place and culture which should be preserved. Although these ideas are not new, their re-emergence proves that they are genuine characteristics of human society. For the current generation of planners, the traditional American town demonstrates much of what they are striving for. Their attempt is to adapt these principles to the contemporary situation.

The authenticity of these new concepts relies on the understanding of the difference between tradition and nostalgia. Traditions are passed from generation to generation, and tied to cultural practices. They evoke a timelessness, yet evolve with circumstances of time and place. Nostalgia seeks a connection to the past by using its forms without having evolved upon the principles which lend integrity to the overall expression. Attempts at meaning are derived from sentimental longing of the “old days”. The success in re-asserting principles evoked in the traditional American town can evolve through meaningful expression, or simply decorate suburbia with an old-time style. This depends upon the ability of perceiving and in the quality of adapting new ideas in a traditional way.

The proposed projects draw more from social tradition than from a contextual design form. New materials and methods influenced variations on established types; the rowhouse and the courtyard. The design makes places for social interaction on the scale of a close-knit village, which is a return to a timeless configuration.
Community through Density

The trend in dispersing growth has reached a limit. Planners are currently returning from this other extreme. They believe the existing conditions are too dispersed, and the solution lies in generating denser settlements that incorporate a diverse composition. Attention is focused upon the street which is recognized as a dynamic civic space which must be activated in order to support a lively urban essence. The following proposal could be woven into such schemes. Both proposed projects contain nodal points in the form of community buildings which could serve to link the more private world of the dwellings with the surrounding neighborhood. In the case of the project on the periphery, its nodal center would act to connect the settlement with the nearest town by providing a central place for mass transit links.

Recognizing the decrease in household size, and the quickened pace of life for most people, the alternative settlement is based on smaller, autonomous dwellings, connected by pedestrian-scaled proximity. The focus of the collection of individual units is upon human-scaled public spaces. These spaces are connected to a nodal point where a community structure exists which contains common dining facilities (and possibly other spaces such as workshops, or convenience businesses). This nodal center also acts as entry to the settlement, which would suit the location a transit stop, as well as generate an activated location for a larger central public space. The settlement would also contain a community garden, which would provide another possibility for social interaction, as well food for the common dining facility.
Cohousing

The changing nature of society and household guided a focus towards development designs that were community-oriented. Composed of smaller, autonomous dwellings, these alternative settlements contain unifying elements to bring families, or individuals, together in an environment which weave public and private spaces. This concept is embodied in existing Cohousing settlements in Denmark, Sweden, and the United States.

This type of neighborhood configuration, which began in its present form in Denmark in the 1970s, is adaptable and aims at creating a more practical and social home environment. Inhabitants of Cohousing neighborhoods live autonomously in their own dwelling, yet there exist ample possibilities for social interaction. A common building provides a place for daily meals, and pedestrian public spaces unify the homes. The cohesive bond within Cohousing settlements is not based on strong ideological belief, or religious unification, but instead is essentially a recognition that human interaction beyond the scope of family and work is necessary for a well-balanced life. Although the settlement idea already exists on a philosophical level, this proposal offers new possibilities. One project is intended as an infill on a vacant lot amidst an older suburban neighborhood, while the other project is intended for a site which exists in the periphery of a small Appalachian town, within the current zone of suburban activity.
Unity and Relatedness

Traditional Japanese architecture expresses a clear sense of unity within itself and to its site. It utilizes a modular system based on the tatami; (about 3'x6'). This system of proportion allows a regular geometry to emerge which gives the overall construction a perceived consistency. This particular size closely connects to the scale of a human. This type of construction uses materials efficiently and honestly. By designing in dimensions that relate to the production of materials, there is less waste. Absolute expression of forces or intentions does not require any added pieces to decorate or adorn. Much of the beauty of this way of making is in its tendency to reveal tectonics. Load transfer, space partitioning, and thresholds are clearly visible.
Enframement

Engaging the site through visual connection unifies the shelter to its surroundings. An interconnected relationship between the site and the built form is essential in this type of design. Orientation towards a significant aspect of the site is focused through constructed elements to contribute to a sense of spatial connection between inside and out.
Perceiving natural cycles of change allows the inhabitant a truer relation to the movement of time.

Flowing Space

Traditional Japanese architecture embodies the Zen concept of space in a continuum. The perception of built form as a sheltered fragment of continuous space is reflected in a variety of constructed examples.

Contrasting elements generate flow between adjacent positions.

- light---dark
- outside---inside
- partition---structural massing
- transparency---opacity
- smooth---coarse
Modern Expression of Continuous Space

Space... is never complete and finite. It is in motion, connected to the next space and to the next—and to the infinite space... We (who have learned to move faster—faster than anyone ever moved before) have a new experience of space: space in motion, space in flow. And because we have this new experience we are no longer concerned so much with the tiny detail, but rather with the greater unity of this new and wonderful medium: the flowing space we try to mold.

Marcel Breuer
The decision to develop two different schemes for the same type of housing settlement is in response to the contrasting nature of their sites. Both are in Blacksburg, Virginia. One is an infill project amidst an older suburban neighborhood, now somewhat urban, and the other is on the edge of town, in proximity to other “fringe” neighborhoods.
Nature of Design for the Proposed Settlements

To realize the designs of the houses for the projects, principles found in traditional Japanese architecture, as well as modern interpretations of these principles, provided a source for decision making. Rational systems based on six-foot modules were used to order the nature of the constructed dwellings. This module size relates the buildings directly to the scale of a person. The modules were divided or added to establish the various aspects of the home (window and door openings, room sizes, garden size). By utilizing a regular system, the houses evolved with a sense of relatedness, yet are individually suited to the nature of their particular site.

The essence of the house is intended as a fragment of continuous space. Although designed with a regular geometry, the rooms of the house evoke a sense of flow partly generated by the contrast of darkness (public-facing planes of mostly solid massing) moving towards the natural light of the garden courtyard (planes of transparency). From the interior courtyard of both projects, elements guide attention outward into the public pedestrian areas, thus a sense of movement is guided continuously between the private and public spaces.

A common aspect to both projects is in the integration of interior rooms to natural gardens. Each room flows in its connection to an outdoor garden. The presence of nature reinforces the understanding of the continuous cycle of change which contributes to a sense of connectedness.

The nature of construction for both projects utilizes the structural elements of the roof to direct a flow of spatial energy from the interior to the exterior.

Both sites utilize one particular house design and through repetition generate density. The ordering principles for each house type are different. The house for the in-fill site is organized linearly, while the house on the periphery is organized circularly.
Contrasting Orders

Periphery Plan

In-fill Plan

Servant - Served

Geometry

Public - Between - Private
Circulation to use

Out - Between - In

Structure
The lot size of the infill project established long and narrow boundaries, which suggested a form for the settlement. To establish a sense of harmony with the existing street, the common building fronts the road in a similar manner as the majority of older existing houses. Front porches on the existing houses focus upon Lee Street. The proposed project provides a similar outdoor room which allows possibilities for the community building to engage the street partly through social interaction. This establishes a link to the community of the town’s street.

Behind the common building exists eight dwellings (for this lot size it is equivalent to 14 units per acre). The homes form a boundary to an interior pedestrian street which they focus towards. The pedestrian street connects to the interiors of the individual houses through either a central entry, or a private garden courtyard. The form of the houses is derived from the essence of the urban row house. Its long linear form reflects density amidst narrow lot sizes, yet its particulars do not necessarily follow any established row house configurations. The lower floor of the buildings are masonry supporting a second story of wood.
Common Building

The unifying element in the alternative settlement is the Common building. Not only serving as a place to gather for the inhabitants, it also serves as the settlement's link to the outside environment.
Project for Periphery Site

The site of the project on the town’s periphery is a hill with a southerly aspect. In designing for a site with relatively few established limits, the challenge was in understanding and accentuating its natural attributes. Courtyard houses were chosen as the type to adapt to this situation. A basic plan was configured which fronts a public room to the pedestrian street, and encircles a private exterior garden with a linking volume which contains a bathroom, and a private room to be used for sleeping. A heavy masonry wall running east to west for each house provides an anchor for the clustering volumes, while acting as an edge for the neighboring garden space. The nature of the house in relation to its garden courtyard allows possibilities for future growth. Being just over 2300 square feet, the initial house permits future growth which stays consistent with the original order. The overall scheme for ten houses is equivalent to a density of six houses per acre. The common building to the settlement is located as a nodal point to the pedestrian street, establishing an entry and edge to the central public room of the neighborhood.
Growth and Change

The plan of the terraced courtyard house allows for future growth and change. Within the boundaries of the initial design, sufficient place is given in the exterior courtyard that could develop into enclosure that would continue with the original pattern of massing encircling a court.

1 Palace, Katsura
Both proposals strive to establish a more harmonious living environment for the suburbs. By increasing density and establishing a neighborhood focus within a pedestrian scale and maintaining personal autonomy within the individual dwelling, both aspects of an ideal living situation would be achieved. Ample opportunity for social interaction is balanced by maintaining a private life, connected by a continuous flow of natural spaces.

These schemes could contribute to current attempts at re-directing suburban living. The true test of their success can only be perceived through their manifestation.
Endnotes

5. ibid., p.23

Quotation Sources:


Works Referenced


Type:

Helvetica on title page, point sizes 12 and 14.
Times font is used in remaining pages using 12,14,and 18 point sizes.

Software:

Graphics worked through Photoshop 2.5 & 3.0
Text entered in Microsoft Word
Document composed on Pagemaker 5.0 on tabloid layout and reduced to fit 8 1/2 x 11
Printed at 600DPI on the Xerox XPS DocuTech network system

Hardware:

All work done on a Macintosh Power PC 8100/100
Acknowledgements

Eternal appreciation to my parents and family for their constant support.

I am indebted to my committee for their relentless guidance through the thesis.

Special people in Cowgill's studio have helped to bring an understanding of Architecture, and friendship to new levels. Particularly Christopher Bertjesen, Louis Bockler, Steve Andersen, and Cory Gibson.

Many thanks to my mentors, Ellen Braaten for guidance through the realm of ceramics, and to David St. Jean for sharing knowledge of woodworking.

Thanks must go to the town of Blacksburg and the network of friendships it has supported. The genius loci of this town will always be a part of me.

Vita


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