This is not my beautiful house: Cohousing as an alternative American Dream

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Bachelor of Arts
Brown University
1983

Submitted to the Department of Architecture on January 18, 1991
in partial fulfillment of the requirements of the degree of Master of Architecture at the Massachusetts Institute of Technology

February 1991

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ABSTRACT

This work addresses my hopes and concerns about what a community could be. Somerville housing is made up largely of rental properties. As in any rental housing endeavor the occupants consider themselves lucky if the monthly rent is reasonable and the property is well cared for. They are considered extremely lucky if their neighbors are amiable and they are able to establish a community of friends in the neighborhood. Currently there is little one can do to control rent or improve the prospects of becoming a homeowner, let alone location of friends or the coalescing of a community.

In the past ten to fifteen years the word "cohousing" has been used to describe a strategy that attempts to redress the problems of rising housing costs, work vs. family time, and community isolation. This idea although it has gained strength in Denmark is by no means new. Old models such as the Kibbutz and Pueblo Indian dwellings have long made use of the collective efforts of the community to liberate the time and energy of the individual.

The challenge for cohousing in the United States is to address longstanding cultural and societal expectations of the autonomous single-family home. Although many people may yearn for the familiarity that a strong community or neighborhood brings this should in no way challenge the privacy of the home. Melding this idea of autonomy with the making of a community is at once paradoxical yet at the very center of what cohousing could be in the United States.

This thesis is an exploration of what a cohousing/cooperative living community could be in an urban environment. I am also attempting to define the role of an autonomous housing type in a communal setting, and in doing this redress the expectations of owning a single-family home. This notion of autonomy also extends to the layers between a communal entity and the surrounding neighborhood.

Thesis Supervisor: Fernando Domeyko
Title: Lecturer
ACKNOWLEDGEMENTS:

Thank you!
Fernando Domeyko, I will always enjoy your energy for life and architecture.

My rescuers, Shira, Paulo (cojock), Daniel, Allyson, and Roscoe

My office pals, Peter (the brew master), Knute (the waxer), Avigail, and Laura

My thesis buddies

My family, LaVonne, Denny, Jon, and Dallas

To my sweetheart Allyson, None of this would have been as enjoyable without your support and love.

We Adore Dinosaurs!
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INTRODUCTION

How long before we realize that the solutions to our present problems are not within our present realm of thinking.

-Robert Theopold
How do we define ourselves? Clearly there is no one parameter by which anyone is defined; but there are pieces to our lives so basic that they not only define us but the way we live. The dwelling, home, domicile, or whatever we choose to call it is one of these pieces. For better or worse the physical characteristics of our dwellings also define our lives in subtle and not so subtle ways. The investigation of this thesis is a design based on a reassessment of our current housing and community infrastructure and the definitions associated with it.

As has often been the case the rate at which our societal and social structure change greatly outpaces our ability to build and accommodate these changes. The result of this condition is that we as a society have begun to shape our lives to fit a home that does not match our needs. This home is a product of a building industry that since the turn of the century has been building homes primarily for a nuclear family. The problem is not that these families do not exist it is that they do not dominate our societal landscape as they once did.

As we move into the last decade of the twentieth century it is becoming increasingly apparent that our ability, as a country, to house ourselves is falling short at many levels. Although there was an increase in housing starts throughout the 1980's this trend was largely attributed to houses built for homeowners wanting to trade-up to larger and generally higher priced properties. What that left was a housing gap that was characterized by two major parameters. One: Very few homes were being built with the first-time buyer in mind. Two: Increasing property values and real estate speculation drove the prices of many existing
single-family dwellings beyond the reach of most first-time buyers.

The resulting housing gap was filled by an emerging condominium market. Condominiums were an appealing alternative for many buyers in the early 1980's. The increasing number of single parents found low maintenance relatively safe communities. Many singles and young couples also flocked to the comparative affordability of condos. The appeal of condominiums may have also been related to the densities at which these communities were built. In many cases the density seemed to be an urban overlay on suburban spaciousness and regularity.

Despite the provision for communal spaces and facilities very few condominium developments foster a strong sense of community. This may be due to the general emphasis on what is owned as opposed to what is shared. In trying to satisfy this parameter the condominium mentality produces fewer opportunities for casual interaction within the condo development which in turn fosters a dis-associative social structure. In defense of condominiums they have introduced in a substantial way the notion of housing clusters and higher density living in suburban areas.

As housing trends progress into the 1990’s there seems to be a growing dissatisfaction with the nature how our society is now defined by its housing. Many families and young couples are finding that maintaining current lifestyles requires a paycheck from both the husband and wife. As housing and apartment
Poverty, Squalor, Intemperance and Crime.

The neighborhood here shown is a representation and true type of hundreds of localities which exist all over the face of this fair land. The scene tells its own story—a tale of brutal passion, poverty, base desires, wretchedness and crime.

Rental costs have risen; these same people are finding that doubling their efforts in many cases gets them a qualitatively lesser dwelling than their parents had.

Another issue that complicates this housing problem is the desire by many of the people seeking housing to become a part of a community. People in search of housing are also looking for that good neighborhood, nice street, or something they can connect to. This desire for a sense of belonging is of course not new, but the manifestation of this desire as something built is only beginning to take shape.

If the shape of how people wish to mold their lives and their homes is still unknown, a name for this process has already been given. 'Cohousing', a term being used to describe cooperative living communities was coined by Katie McCamant and Charles Durrett in their book 'Cohousing: A contemporary approach to housing ourselves'. McCamant and Durrett are both trained in the fields of architecture and environmental design. They began to look at housing models and alternative community organization strategies throughout Europe. What they found was something pleasant in Denmark.
The term Bofaellesskaber is a Danish word which translates to 'living community'. Living in this term is not so much defined as a 'living' organism, but more as living in a qualitative sense. In many of the Cohousing communities that exist in Denmark today cooperation is the fundamental fact that organizes and defines daily life. Common houses within the these communities provide a place for inhabitants to socialize as a community. Much of this socializing takes place during communal dinners which are generally held three to four nights a week. Other benefits of these cooperative efforts are the capacity to provide daycare at community level, formation of various social clubs, and the liberation of an individual's time. Initially very few of these cooperative communities shared dinners and the ones that did thought that it would only occur once a week. What they discovered was that by rotating the cooking duties to two adults per meal the rest of the community had the night off; and in a community of twenty to thirty individuals that meant only having to cook two or three nights a month. The result was that community dinners became a strong program element for subsequent cohousing developments.

To some degree it may be easy to trivialize these dinners; and ask is that all that makes up cohousing? Despite the simplicity of this program element these dinners, besides freeing up an individual's time, are a daily substantiation of the quality of life in a cohousing community. To the degree that architecture influences peoples lives the common house is the manifestation of these people's commitment to the community and each other.
The notion of community is strong in many of these cohousing developments, but the autonomy of the home is also well understood. When people hear of these cooperative living communities the image of communes and hippie space farms of the 1960's will undoubtedly come to mind. The realistic question then comes; How much will I have to share? Lessons that were learned from the sixties are clearly and formally apparent. Many of the cohousing communities cited in McCamant and Durrett's book go to great lengths to insure the privacy of the home. In most cases what is owned and what is private are clearly defined and rarely is this done with a fence. Besides assuring privacy another salient feature of these communities is providing more opportunities for casual contact among the community members. In designing for these communities it seems that encouraging communal interaction is a priority and that privacy while provided for in the design is something that the individual regulates. This design for interaction accommodates a basic desire of the inhabitants, and that is a sense of belonging and community.
As was discussed earlier families and individuals in the United States are trying to address some of the same housing and quality of life issues that Denmark has already begun to resolve. Although we can look to the Danish model of cohousing as a reference and starting point we must also come to grips with our own cultural and societal expectations. This does not mean abandoning our cultural and societal expectations, but trying to understand how we might modify our housing forms and expectations to match the times we live in.

Cohousing provides us with an opportunity to reevaluate our current housing condition while at the same time giving us a specific strategy to address the concerns raised by our increasingly frenetic lifestyles. The organization of a community and consensus decisions made by that community are no small hurdles to be jumped. The benefits associated with such a community have only been lightly touched upon here, but seem well worth the effort.

In attempting to understand how a cohousing community organizes itself and what the difficulties were encountered I followed the progress of The New View Cohousing Group. Although it is too lengthy to be included in the scope of this investigation I will surmise it to
say that the social and communal aspects of organizing a cohousing community far outstrip the architecture in the nature of its complexity. What struck me most about this group of people was their commitment to each other and to the formation of their community. When I first met the New View group they consisted of six couples, two of which had children, and three singles. They were actively recruiting in hopes of reaching a total adult population of around thirty-five to forty who would be accommodated in twenty to twenty-five units. Although the New View group was looking at sites in more suburban areas, which differed greatly from my urban site, I used their demographic characteristics as a model for my community. This parameter along with some consideration of groups cited in McCamant and Durrett’s book gave me a composite client group.

14 couples
(with @ 12 children)
12 singles
5 dogs and 10 cats
Besides giving me first hand information about the workings of a cohousing group the New View Group has also given me confidence in the viability of this type of housing. This confidence is bolstered by the fact that there is already a body of information about cohousing and a large number of successful and vital communities started with this framework. It is heartening to see that although our society has changed a great deal we still have the means and desire to build and depend on a community of family and friends.
PROGRAM:

Site size: 360 ft. x 280 ft. @100,800 square feet

16: Party-wall duplexes ranging in size from 960 square feet up to 2000 square feet.

4: Single dwellings ranging in size from 640 square feet up to 1120 square feet

Common House:

Dining area: 800 square feet
Kitchen: 200 square feet
Lounge: 150 square feet
Daycare: 1500 square feet
Office/workspace: 400 square feet
Multi-use rooms: 4 @ 200 square feet
Bathrooms: 100 square feet
Storage: 600 square feet
Workshop: 600 square feet

Total: 5150 square feet

Somerville Food Cooperative:

7000 square feet
You must be like the dog, he will not find the rabbit if he goes directly to the hole. He must first find the scent then he will get the rabbit. If you go directly to the hole somewhere the bunny he is hopping. You never get! (on the importance of site and context analysis)

-Fernando Domeyko
The City of Somerville as it stands today is made-up of large residential tracts broken by the vestiges of earlier industrial buildings. The compactness of this city is apparent yet difficult to grasp; so it is somewhat surprising to learn that in the late 1970's and early 80's Somerville was the most densely populated city in the United States.

Physically the city straddles several hills which help to hide the density of its housing stock and more importantly begin to define neighborhoods and the city. The other major feature which also molded the city is the Mystic river. A source of commerce and industrial sites the Mystic shaped the early organization of the city and ultimately defined the character of the city as a home for working class families.
Manmade intervention on a city scale came in the form of a system of roads and the railroad lines. The roads were organized off the Winter Hill Rd. now Broadway. Using this as a spine that runs the length of the city many smaller roads traverse Somerville via Broadway. This was also the most direct route across the Neck where Charlestown and Somerville meet.

The rail lines were introduced to facilitate many of the small manufacturing companies. This added another layer of definition that would ultimately be abandoned but later reactivated for public transportation. This reuse is predominantly on the Charlestown Branch and the Arlington and Lexington Branch.
Map of Railroads: 1835–1875.
The diagram on the opposite page shows the major roads that traverse the city, the rail lines, major squares(squares), parks and playgrounds(circles), and schools and public buildings(diamonds). This was an attempt to get an understanding of the city and how my site relates to these elements. The site is called out by an arrow near Davis Square between Highland Ave. and the defunct rail line.

This rail line is abandoned and is used regularly as a pedestrian path into Davis Square. The photo on the left shows Davis Square around 1950 and the rail line is clearly visible. The Somerville Theatre is the large building in the foreground defining the northwest side of the square.
My site is located on the edge of Davis Square along the abandoned B&M rail line. One side is bound by a light industry building that provides a wall as boundary. The other side is defined by a Boston Edison substation. The public side fronts onto Highland Ave.
The old Arlington/Lexington Branch of the Boston & Maine Railroad cuts a diagonal swath across Davis Square. In the square the rail line has been occupied by the Redline subway station, and as you follow this line northwest out of Davis Square it becomes a pedestrian park going all the way to the Redline Alewife station 2 miles away.
The path along this abandoned rail line is used on Arlington basis by pedestrians to walk to and from Davis Square. Portions of this walk are quite park like although no formal landscaping has been done by the city. The relationship of the houses along this path is also quite pleasing and there seems to be more than enough dimension to protect residents privacy and define the public domain.
As this path moves through Davis Square it crosses over the Redline subway station, and at this point becomes a small plaza defining the central part of the square. Moving through the square and beyond the entry to the subway the beginning of the pedestrian park to the Alewife station appears.
The previous series of images showed the path on either side of the site. Image 'B' in this series shows how the path becomes a more formal entry into Davis Square. Image 'C' is the end of the dirt path before it becomes asphalt; also shown is the relationship of residential (on the left) and the manufacturing buildings (on the right). Image 'A' is the path directly behind the site (on the left) looking towards Davis Square.
In this diagram the site relationship to the path and Highland Ave. becomes clear. The site is bound on its longest side by the rail line/path and on the opposite by Highland Ave. The sides of the site are bound by a hard edge of a light industrial building that ranges in height from 14 ft. at the street to 20 ft. at the path. It is bound much more softly by a small residential block and a Boston Edison substation.
The street that fronts the site is Highland Ave., a relatively busy road that runs most of the length of the city. The street itself is defined at one end by Davis Square and at the other by Somerville City Hall.

The area directly across from the site is residential and slowly changes to commercial as one moves towards the square. The site is currently occupied by a gas station and an empty warehouse building.
Whipple St. which moves along the south side of the site is a one-way street which defines the small residential block adjacent to the site. Because most of the traffic on Whipple is local and the street is only occupied on one side the roadway often becomes an extension of the minimal front yards and porches. During the summer it is not uncommon to see bikes on the roadway and people working on their cars in the street.
Looking at a figure ground diagram of this portion of Somerville we are able to see the incredible regularity of the residential blocks. Also visible is the how the building sizes and density changes as we move towards Davis Square. What also becomes clear is that when the site is changed to residential block it swings the balance to predominantly housing as opposed to the larger manufacturing buildings that currently dominate this block.
The model shown here was used to come to an understanding of the physical qualities of the buildings in this area, the major routes of movement, and how these elements relate to one another.

What also became clear was the proximity of residential (wood) to many industrial buildings (masonry), and how the rail line defines this relationship. This was also an initial pass at placing housing pieces on the site.
Just because facts are ignored does not mean that they cease to exist.

-Aldous Huxley
When I began to think about the dwellings for the site my initial response was to see what the neighborhood had to offer. As was discussed earlier Somerville is surprising for its population density and to a large degree this is due to the housing stock.

Without bogging down in a discussion of typology I would like to show what I took from my observations. The regularity of types, entry dimension, and fenestration organization can be inescapable within a given neighborhood. What also occurs with great regularity is the spacing between the housing. This space when viewed from the street becomes a continuity of the landscape. Each space provides a glimpse of private yards and gardens and some relief to the unusually tight edges of the street. For the occupant this space is a source of light and air and sometimes battles for privacy. By and large these spaces are generally positive.
Unfortunately this space either cannot be made or is just not planned for. The resulting crevice often verges on the brink of ridiculous for its inaccessibility to people light, and air.
This lead me to look at party-walls with the idea that the six inch space left between some buildings might as well be inside the house rather than sheltering pigeons.

I found some better examples abroad than I did in Somerville. These buildings on the right are fine but they lack any tactile sense that there is something that divides them in half. There is something a little more pleasing about having an understanding of a building and what organizes it. These row houses on the right seem to have that quality.
I began to use this idea of a party-wall as something that would organize the housing and the site. Besides being revealed this party wall would have to be built in a way that was clear and understandable. The reason for this is that many cohousing communities offset some of their building costs by involving the owners in the building process. Given this condition the foundation and lower portion of the wall will be concrete and the upper portion will be concrete block. The idea is to give the an indication of how to expand and what the wall is made of.
The wall should also allow for some definition of outdoor spaces that would begin to define public and private.
Hertzberger halvemerdijk plans

Party-walls and foundations
The initial modelling of the wall allowed me to see how those outdoor spaces might be built. It also showed how the space between units is bound by exterior walls and the units themselves are further bound by the party-wall. Herman Hertzberger in his Harlemmerdijk project used a party-wall define the units, generate outdoor space, define private and public, and give the occupants a sense of what they share. I would be pleased to achieve half of that.
Once I had decided on the wall configuration I looked at Rudolph Schindler's Pueblo Ribera. This example seemed appropriate because Schindler used the party-walls in this project to organize the site as well as the public private relationships.

With this strategy in hand I began to configure party-wall duplexes on the site to see if this system could help organize the Highland Ave. site.
Site deployment of party walls
After many moves between working at the site level and working at the dwelling unit size, I realized no site definition was possible unless I understood the housing elements. This early sketch was a first grasp for a duplex that satisfied the qualities of tactility and had a capacity to be understood by its occupants. Now I needed to figure out how the thing was going to be built.
the party wall

a row of columns

beam added at the top

the joists and roof

hung cupboards and windows

first floor joist
garage and workshop

public and private doors

approach by front steps
I came upon this small infill house built and designed by Edward Cullinan. The elegance and simplicity of the system he employed seemed well suited this cohousing project. What was particularly exciting about this system was its accessibility to the occupant, in both method the of construction and the understanding of growth potential.

Also incorporated in the building was a gap that gave this small house a spacious feel. Armed with examples and a dangerous amount of knowledge I proceeded to develop a building system.
The dwelling unit is a duplex divided by a party-wall that is visible and begins to suggest how the houses are organized. The units on either side of the wall shift slightly forward or back to vary the aspect each house presents to its neighbor opposite the party wall.
The roofs of the duplexes are composed of a skeletal frame and covered with stress skin panels.
The stair for these houses is an external element. This was done to give more space to the areas within the main body of the house. The stairwell also lets light and air in and defines the entry to the house. The setback for the entry was an attempt to engage this space between the units and suggest a shared space while delineating privacies.
The cladding is either shingle or clapboard. This is laid over a standard stick-built infill framing system; most likely of 2x6 stock. The floor would also be articulated with a break in the siding by a cedar veneer plywood. Again, this system is devised to help the owner understand his or her home, and to provide a modicum of tactility to the building.
The frame is made up of 8" x 8" wood columns spaced at 8'-0" centers. The floor joists are 2: 2x8's sandwiched together to cross a 6'-0" span and a 14'-0" span. A bearing wall is replaced by a row of columns supporting the joists and spaced at the same interval as the exterior columns.

Flooring is a 2" thick wood tongue and groove that rests on the floor joists which are placed at 4'-0" centers.
The foundation up to around 18" above ground is concrete; the party-wall and the rest of the foundation are concrete block. Blocks protrude from the wall to provide bearing for the floor joists. The fins perpendicular to the party-wall provide a chase for plumbing and electrical services and give wall lateral stability.
The footprint of one half of the duplex is 21' x 42' with an internal dimension of 20' x 40' if the entire foundation was built on. The idea here was to build a complete 21' x 42' foundation for each house and let each owner decide on how much he or she could afford to build on.

This is relevant issue for many cohousing groups. Often times there is a significant difference in income and space needs among any given cohousing group. This system would allow a range of use for individual owners while clarifying how additions might occur.
EXPANSION DIAGRAM:

- FIXED ELEMENTS

- EXPANSION POSSIBILITIES

- EXPANDED AREA
Minimal occupation plan:
Medium occupation plan:
Ground Floor

Second floor

Maximum occupation plan:
SITE DEFINITION
In the course of exploring the unit design I was still referring back to the site to let one inform the other. One of my early concerns was making a connection to the adjacent neighborhood on Whipple.

Another issue that I wanted to push was a path from Highland Ave. to the pedestrian way on the old rail line. The sketch on the opposite page was an attempt to show the possibilities for that path, particularly along Whipple down the side of the site.
These early passes at a site organization were still strongly bound to the idea of movement across the site from Highland to the path. I was also experimenting with how the party-walls might begin to organize the site.
These site iterations also gave me a taste of the bitter fruit of parking. After many struggles with the parking beast I was saved. I learned that many cohousing groups, while not particularly caring for parking lots desire to have their parking adjacent to the common house. The reason for this is that when ever people are coming or going from the community they will check on the activities in the common house.

I also looked at several of the site organization schemes of communities referenced in McCamant and Durrett's book. Despite the feeling of enclave that many of these communities build the parking organization was helpful to look at.
The final organization of the site after all my deliberation seems very straightforward. The 'L' shaped piece on Highland Ave. has become the public armature for the site. This armature consists of the single housing units along Highland leading up to the Somerville Food Cooperative which turns the corner along the parking lot. The common house is attached to the coop by a shared passage/loading area. This brings the common house to rest adjacent to the parking and very near the center of the site.

My path to the pedestrian way survived all the iterations, and there is even a possibility for the public to walk through the community and not be too disruptive.
Basement level

Second floor plan

Single dwelling unit

First floor
Common House:
1. dining
2. kitchen
3. daycare
4. office/workspace
5. multi-use rooms
6. bathrooms
7. storage
8. workshop

Somerville Food Cooperative:
A. dry goods
B. cash registers
C. fruits and vegetables
"If we do not succeed, then we run the risk of failure"

—Dan Quayle
CONCLUSION

It is difficult to evaluate or draw objective conclusions about one's own work. It is especially difficult when your topic was chosen with much deliberation and represents your personal concerns. As my advisor Fernando Domeyko said early in the semester, "the thesis is not about doing your dream, the thesis is about understanding and resolving a design problem with maturity".

With this in mind I considered my semester's work. My initial intentions were to reference and diagram other housing projects that might relate to my cohousing program. This process was used but not to the extent I had planned. What I ended up concentrating on was understanding the site and how the housing units engaged site conditions. This understanding was gained largely through site visits, sketching, and models. The desire to diagram I believe is a healthy result of my education here, but in this case diagrams did not seem useful for me. For me the process of understanding the architectural issues was defined by examining the facts of the site and context; and with these observations as references begin to make site decisions.

In looking at the project I believe the buildings engage the site in a manner that provides some understanding of the site and the neighborhood in which it sits. Under Fernando's definition I believe I have produced a thesis; it is not my dream but issues were resolved and something was learned.


ILLUSTRATIONS


3. G. Wright


6. ( ). *Beyond The Neck:

7. ( ). *Beyond The Neck:

8. ( ). *Beyond The Neck:

9. McCamant & Durrett

10. McCamant & Durrett


12. Steven Holl

13. Arnulf Luchinger


17. McCamant & Durrett