Building Houses For People

by Anne E. Townes

Bachelor of Arts, Washington University
St. Louis, MO
June 1991

Submitted to the department of architecture in partial
fufillment of the requirements for the degree of
MASTER OF ARCHITECTURE at the
Massachusetts Institute Of Technology

February 1995

Signature of the author

_____
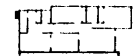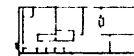Anne E. Townes
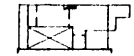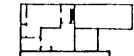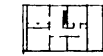Department of Architecture
January 13, 1994
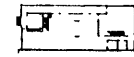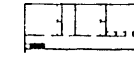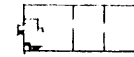
Certified by

_____
Shun Kanda
Senior Lecturer, Massachusetts Institute of Technology
Thesis Supervisor

Accepted by

_____
Ellen Dunham-Jones
Chairman, Departmental Committee on Graduate Students

About the Title:

The title of this thesis comes from a discussion that I had with one woman during my initial meeting with the residents of the Brooks School Co-op. The residents were very concerned that they get a copy of the report that I would be making for the Boston Public Facilities Department about their design participation. In talking about the report, I was given a lecture about its language. The following is a paraphrased version of what I was told. I do not have a direct transcript since they objected to being recorded, however, I hastily took down these words in my notebook at the time.

"Don't call them low income houses or even affordable houses," she said. "Don't label the houses at all. It gives the architect and the builder a preconceived notion about what these houses should be like. We need quality houses just like richer people, even though we don't have a lot of money. Don't say what kind of houses you are building. Just say, '**We are building houses for people.**'"

2

Building Houses for People

by Anne E. Townes

Submitted to the Department of Architecture on January 13, 1995 in partial fulfillment of the requirements for the Degree of Master of Architecture

ABSTRACT

". . . shelter is part of daily human life and will come about wherever and whenever people will share space. Today, in a new age where so much more is possible, the professional plays a crucial role in that process. Yes, our participation is important." [1]

This thesis examines the role of the architect in practice, specifically the architect's relationship with the low income client in the design of their dwelling. In the process examined here, the architect is seen as just one of many participants in the design of affordable dwelling units. This role requires the architect to be multi-faceted. In addition to the traditional role as a designer, the architect must act as a consultant, a mediator, an advocate and a communicator of built form to non-professionals.

"Experience and knowledge resides with lay people as much as with experts." [2]

In this thesis I have designed a method to allow users to design their own homes. The method includes the use of a personal interview and two model kits, as well as some two dimensional design representations. I have worked with eight individuals from the Five Streets neighborhood in Roxbury in a dialogue of active participation which has resulted in the design of two dwelling supports. Each support can accommodate many variations in unit size and arrangement. At the same time, they satisfy the space and budget requirements of the sponsoring, government agency.

The thesis documents this design process and shows the evolution of the two support designs. It also initiates a critique of participatory design methods and the techniques for design communication. The skills of the architect to communicate design ideas to the community is the key to successful participatory design. The architect, more than any other professional, has the ability to use a variety of techniques to enable non-professionals of any income to visualize and synthesize a physical design.

"...the process should be clear, communicable and open. It should encourage dialogue, debate, and collaboration." [3]

It is my hope that the methods used for this particular project can be translated into other projects as well. Though the process would remain the same, each new design would reflect the individuals involved in the process.

Thesis Supervisor: Shun Kanda
Title: Senior Lecturer

---

[1] N. J. Habraken, "Who is Participating?", Taken from Tom Woolley, The Characteristics of Community Architecture and Community Technical Aid, p. 5.
[2] Henry Sanoff, Integrating Programming, Evaluation and Participation in Design, p. vii.

---

[3] Henry Sanoff, Integrating Programming, Evaluation and Participation in Design, p. 56.

This thesis is dedicated to my parents.

Dad, whose constant, quiet support has lifted me up and given me stability.

Mom, whose creativity and enthusiasm has always inspired me.

"We must not misunderstand the reason for...uniformity, for it is not due to the action of the machine, but to the non-action of man." [4]

The potter
The architect
My mom
and me.
Both of us make vessels for people to use.
Celebratory vessels,
Commemorative vessels,
Useful vessels.
Some for nourishment,
        Some for delight
Some because we are driven against the tide.
Our work is long and arduous.
It takes years,
Many years to get good,
But we go on creating
Imperfect vessels
While great machines churn out identical pots
        and plans
With skill and ease
At half the cost.
We go on creating
Because it is our action on life.
It is a reflection
Of the imperfection of humanity.
It is a mirror toward our faces.
It is our mark.
It is ourselves.

---

[4] N. J. Habraken, <u>Supports</u>, p. 21.

Table of Contents

1.

INTRODUCTION

Fig. 1.1 Squatter house on the site

Fig. 1.2 Housing joins two
spheres, N. J. Habraken.

The corner stone of the architectural
profession has traditionally been the design
of collective buildings and public spaces,
where the natural role of the architect is to
bring form to the ideals of a group or
community in the service of a single client.
The issues of publicly subsidized housing,
however, require an extension of this agenda
because there are two clients: the end user
and the community. Housing involves both
the collective, public domain and the
individual, private domain. The exterior
appearance of housing has a great influence
on community form. However, the interior of
each dwelling only affects one household or
family and their visitors. The interior should
therefore be able to reflect the needs and
character of the residents.

> "...we get on the one hand a role for the
> individual: the final act, the act of living
> somewhere, of settling into a place. This
> is an individual act. But it is an act which
> takes place in a community; in a given
> framework, in response to requirements
> laid down by the community." [4+]

Designers must therefore consider the needs
of the end user as well as the collective needs
of the community especially in housing
design.
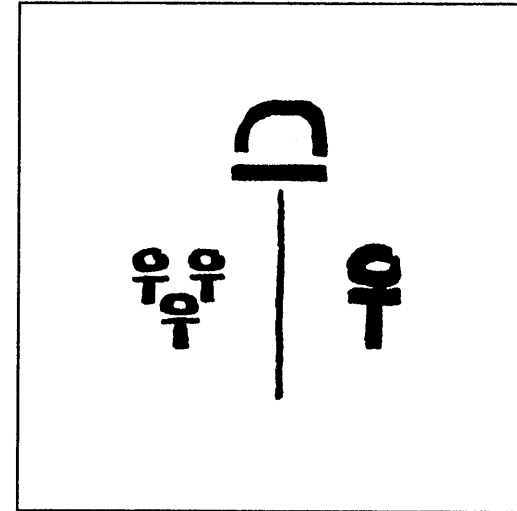
> "There are two spheres in which the
> process of housing is carried out. . . .
> There is a sphere in which a
> community acts and a sphere in which
> an individual acts. . . . A home
> connects the two spheres." [5]

[4+]N. J. Habraken, Three R's for Housing, p. 3.

[5]N. J. Habraken, Three R's for Housing, p. 4.

Fig. 1.3 When community
dominates the process, N. J.
Habraken.

The thesis documents an existing proposal for the development of 15 houses in a subsidized home ownership program in Roxbury. The design process currently followed by the Boston Public Facilities Department (PFD) for this project involves neighborhood residents in the decision making process, but not the potential end users. It substantially limits the eventual occupants' opportunity to influence the design of their unit. The PFD's process involves a staff architect and neighborhood residents in developing proposals for house designs. The process involves a series of community meetings where residents visit other housing developments and study plans of the proposed designs which have been approved by the staff architect. Completed buildings are marketed to qualified buyers and final owners are identified by lottery. Architects and neighborhood residents, not end users, are involved in the design of the interiors. This situation is not a new one. It was even described by Habraken over 20 years ago in his book from 1970, Three R's for Housing (see fig. 1.3 right).

My own method, based upon the methods of John Habraken, Nabeel Hamdi, and Henry Sanoff, explores the potential for more involvement of the end user in the design of housing. It offers a direct connection between the individual, potential resident, whom I will often refer to as the client, and the architect through a series of interactive design charrettes using several model kits that I have developed. The clients' involvement in these charrettes goes further than the opportunity
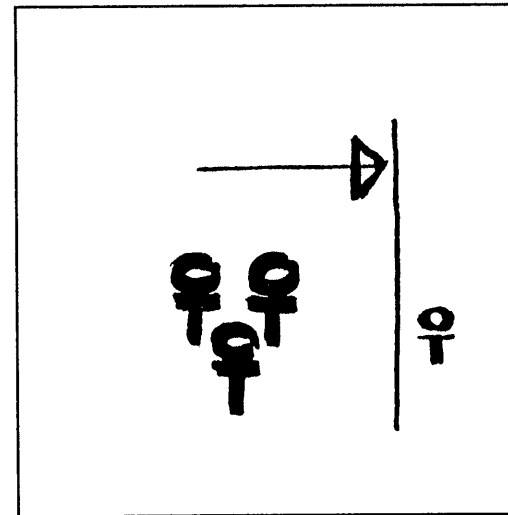
"At present the community is building homes for individuals who are unknown. The community wants to build completed homes. The homes are completed even to the extent of a mirror above the washbasin and the paper on the walls..... The sphere of the individual is almost lost. The occupant is almost eliminated." [6]

to influence the architect's decisions. The aim is to give the client tools which allow them to be leaders in the design process.

---

[6]N. J. Habraken, Three R's for Housing, p. 5.

Why Design With Participation?

People have a natural urge to create spaces of their own that reflect their personality and lifestyle. People need more than a simple shelter to protect themselves from the elements. They need functional spaces that are comfortable and familiar. With every new space that we dwell in, we do something to make it our own. Perhaps it is a nesting instinct left over from our past evolution. Or perhaps it is territoriality and the need to mark what is ours. Nevertheless, there seems to be a natural impulse to make a space of our own that will protect what is familiar to us and offer a comfortable retreat from the public world.

Some may choose to fulfill this impulse by building for themselves or by hiring an architect to do it for them. Others choose their dwellings from what already exists and, for example, change the color or remove a wall. These are choices that are not available to the low income individual. Very few have time, money, or skills to build their own dwelling, and their income restricts choice to a very limited number of pre-existing units. Income level can also significantly limit ones ability to personalize living space. This thesis addresses the issue of personalization for occupants of publicly subsidized housing by developing tools and methods to allow each individual chosen to live in a particular public sponsored housing development to design their own dwelling unit.

Fig. 1.4 Squatter house under a New York Bridge, <u>New York Times.</u>
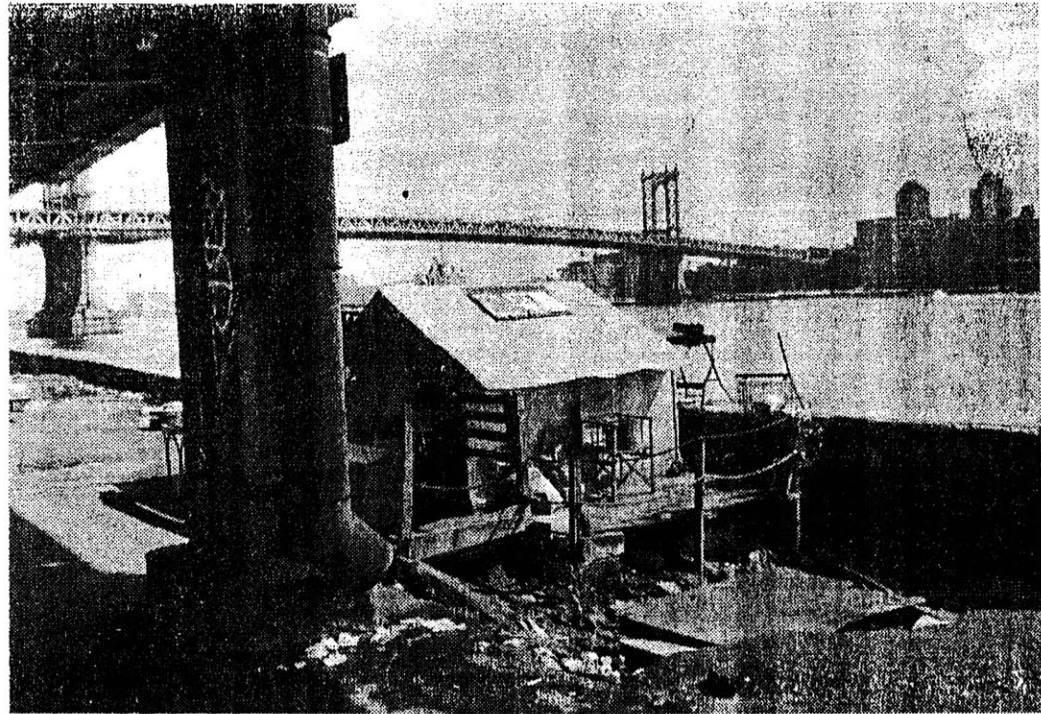
Edward Keating/The New York Times

Choices Limited by Economics

Most of us do not get to design our own homes. Instead, when we need a new place to live, we tour various houses or apartments on the market, find the most suitable one, move in and make it our own. It seems unnecessary for most people to design their own home. Many would ask why low income residents should have a privilege that most of the population decide against.

This way of thinking assumes that the low income individual, while having less money than most, has the same kind of opportunities as everyone else. Given their income level, the people chosen to receive housing subsidies by the PFD would have little chance to find decent housing in the private market. Even the cheapest of houses would be priced out of their range. They are financially unable to select from the various units on the market to find the one that suits them best. Eventually, if they do seek assistance from a government agency, they will most likely end up having only one or two different units to choose from because of the current government procedure for designing units and placing tenants. Therefore, economics, not the suitability of the house, is the deciding factor in their choice. If by chance, the unit design turns out to be less than suitable, then the burden of the cost of moving, combined with the same lack of unit choices may force them to stay in a place that does not satisfy their needs.

"Two main purposes of public participation in design are: to improve new housing environments, [and] to provide certain social benefits to participants. These potential benefits generally apply to low-income people. Middle and upper income groups usually exercise choice and control of their housing environment by selecting a house from the pre-designed range offered by the private market." [7]

In addition, their mortgage payments, though subsidized by the government, will consume a substantial part of their income. This leaves them little or no extra money to change or improve the house to make it more suitable for their family. The buildings traditionally provided by architects and planners for this group have denied the individual any personal expression by using policies and building materials that make even surface changes to the individual unit impossible.

---

[7]CMHC, Tenant Participation in Housing Design, p. 44.

Fig 1.5 The architect has no connection with the anonymous end user.

Getting It Right The First Time

The mass housing blocks of the 1950's are the ultimate example of what can happen when the individual, the end user, is taken out of the design process.

> *"Do architects recognize that their failures in public housing were inevitable, because of a flawed design philosophy? Do we see the futility of designing hundreds of apartments for occupants who are not even known? We must change our course if we want to give the poor a humane place to live."* [8]

Involving the individual to the greatest extent possible also provides a check for the architect to ensure that their design is not far removed from the needs and desires of the potential residents. Through working together on the design, the architect receives a great deal more information about the prospective residents. This may account for a better fit between the new dwellings and their occupants.

> *"An architect who deals with a living person as client will find a guarantee in this contact that his [or her] design will be in harmony with the life which is to be housed."* [9]

---

[8]Christopher Newton, "Anarchistic Architecture: Contextual Change", <u>Crit 20: Housing, Our Unfinished Project</u>, p. 16.
[9]N. J. Habraken, <u>Supports</u>, p. 31.
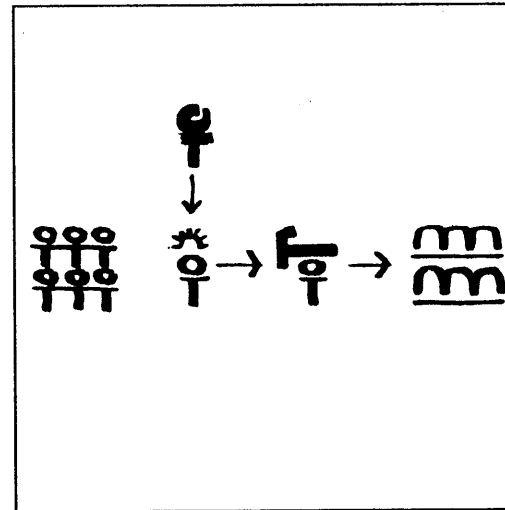
> *"The 'seventh' type of relationship is a non-relationship. . . .. the occupants really take no part in it. They are unknown during the process of decisions which leads to the production of dwellings. It is for this reason that in the above diagram nothing reaches the architect from the group of the "anonymous multitude of people.""* [10]

---

[10]N. J. Habraken, <u>Three R's for Housing</u>, p.

From Recipient to Participant. . .

In addition to providing low income residents with a dwelling to fit their needs, individual participation in housing design changes the relationship between the sponsor or government agency and the individual. The goal is to move the process of providing subsidized housing away from its historically paternalistic path. By giving residents the power to make decisions, informing them of constraints, and offering professional assistance as needed, they move from the role of passive recipients to that of an active participants.

. . . empowerment

This in itself begins to change the products of government sponsored housing projects. Instead of simply producing 14 houses, the project can produce 14 houses along with a community of people who, through working on their house designs, have confidence in their abilities to work together as a community and to accomplish personal goals. Instead of owing their improved living situation solely to the government, they have themselves and their hard work to appreciate too.

It has been shown that people who participate in the design of their housing end up with a feeling of accomplishment and are empowered to translate that confidence into other areas of their lives.[11] Also, participation encourages contact between future residents in a housing development. These connections help lay the foundations for a strong community in the future. This may be even more important in a high density development where the strength of the community has a great impact on the success of the development.

---

[11]CMHC, Tenant Participation in Housing Design, p. 31. Also F. D. Becker, User Participation, Personalization, and Environmental Meaning, p. 10.

"Your house shall be your larger body. . . [it] shall not be an anchor but a mast." [12]

. . . to make changes

User participation in design also gives the individual the confidence to make changes in the design over time. As their family size changes, if they find they need a home office, or if the kids are growing up and there is no longer a need for a play room, they have a working understanding of their house, its structure, and how to go about making changes. Not only that, but they will feel they have a license to change things since it is their own design.

> *"With user input, there is no clear boundary point at which user involvement logically stops. The people who provided the information are still in the setting. They have increased confidence in their ability to provide useful information and vested interest in influencing their surroundings."* [13]

. . . to stay longer

It is also hoped that people who have been involved in the design of their own house will feel a greater attachment to it and will keep it in better condition over time. Moreover, they will tend to remain in the same place longer, thereby adding to the stability of the neighborhood.

---

[12]Kahlil Gibran, The Prophet, p. 31 - 33.
[13]Franklin D. Becker, User Participation, Personalization, And Environmental Meaning: Three Field Studies, p. 12.

The Role of the Architect. . .

"..shelter is part of daily human life and will come about wherever and whenever people will share space. Today, in a new age where so much more is possible, the professional plays a crucial role in that process. Yes, our participation is important." [14]

The role of the architect in this process becomes multi-faceted. The architect is no longer the only generator of design ideas. This role is in fact diminished as other roles increase. In this process the individuals who will be living in the units also join in the design process, adding their own ideas for the interior layout and design of each dwelling. The community participates in design decisions like the placement of the buildings, the landscaping, the massing, the materials, and the general design of the facades. Of course there is also the sponsor, or government agency that has their own design guidelines and cost requirements for the project. The architect interacts with all three groups and uses information from them to generate a physical design for a new housing development that, hopefully, all three parties will approve of.

"Architects by no means occupy a position of power in the housing process. . . . they may well become marginal figures. Yet it is they who stand closest to the relationship between man and the built environment. They are trained to make the connections between human problems and technical solutions." [15]

. . . Mediator

So, on the one hand, the architect serves as the mediator between the desires of the individuals and the desires of the community. The solutions to problems between the two are born in inventive design solutions by the architect.

. . . Advocate

Through their work on the design, the architect, the community and the users will begin to build relationships with each other. The architect will become more informed of their needs and desires which can then be represented to the government agency overseeing the process. This not only gives the community a representative and advocate in upper level decisions, it also helps the community to stand united on issues they feel strongly about.

---

[14]N. J. Habraken, "Who is Participating?", taken from Tom Woolley, The Characteristics of Community Architecture and Community Technical Aid, p. 5.

[15]N. J. Habraken, Supports, p. 95.

. . . Facilitator

In order to facilitate the process of participation, the architect must develop many different methods for communication of design. These techniques typically require frequent adaptation and modification. Not only do they change from one group to another, but they also change within specific groups. There may be differences between what participants can understand and express in a group session and what they can understand in a one-on-one session. Understanding a drawing may depend on whether it is the first time they have seen the design. The architect must be versatile, with a variety of tools and methods at hand to aid in communication of the design. This is something that architects are all trained in to a certain extent, however, it is critical that methods be tested and quick changes be available so that clear, understandable design decisions can be conveyed.

Methods that are interactive are always preferable since they allow participants to build, draw, or diagram what they cannot express in words. Architectural training tends to emphasize design communication that is not interactive. It is important that the architect who takes a part in participatory housing design has experience with interactive communication methods as well as the more traditional forms of design documentation. The set of techniques I employ is only one of many possible approaches. For example, there are also several new techniques that have recently evolved using improved computer design and rendering programs which are easy for the viewer to manipulate.

Once the participants understand what they are looking at, and can visualize it as a real house, the level of discussion rises, and the door is opened for creativity and exploration.

. . . Designer

In relation to the traditional role of the architect as sole designer, the role that the architect plays as a designer in participatory housing is reduced. It does not, however, disappear. The designer must constantly suggest and convey design options to address various needs that the participant does not know how to address themselves. For example, issues concerning light quality, noise transmission between rooms, climactic appropriateness of ceiling heights and window placement, etc., are issues that require some expertise in their execution.

> "...[the architect] knows about buildings, he [or she] can see what is possible technically, economically and aesthetically." [16]

In addition, the architect is called upon to make decisions about what is common among all the units. The structure of each unit, the costs of additional elements, and the quantity of materials to be used are factors to be considered in the standardization of building materials and elements. In order to lower cost, delays, and confusion in the construction process, some standardization among all the units is essential. It is the architect's responsibility to design a standard framework

---

[16]N. J. Habraken, Supports, p. 31.

that will easily incorporate most variations in the end users' designs. The end result is not 14 customized layouts, but 14 variations within the basic frame.

In the process that I have designed, the architect must combine ideas from interviews, from several different models, and from diagrams to understand the activities and needs of each client's household. Once that is done for every client, it is the architect's responsibility to create the common framework in which these needs can be addressed. Through this process, the architect also begins to know the individuals well enough that small details can be included in designs to address individual tastes and needs. For example, one client in this study put a small planter inside the kitchen of her model. Through later discussions and work sessions, I found out that she was quite a gardener and raised plants from seeds in the house to supply her yard with a continuous stock of flowering plants. While it seemed to be only a small doodle in her model, it became clear later that this was an important activity in her life that should be somehow supported by the design of her home.

The architect must also address the design of the dwelling units on a community scale. It is the designer's role to suggest the proportions and the scale of the buildings, and to design an appropriate community form to complement the existing context. The community will participate by responding to the architect's designs. This begins a back and forth dialogue between the community and the architect that continues until a satisfactory design is reached. Once again,

the skills of the architect to communicate these ideas to the community will be of great importance. The ability to use a variety of techniques to enable non-professionals to visualize a physical design is something that no other professional can do as well as the architect.

"I would most like to have a kitchen with a good view. I run a catering business from my home and so I have to cook a lot.... I think the kitchen should be the biggest room in the house."

"I like an open kitchen so I don't have to be yelling to people."

"You have to have a door to the kitchen so that you can close it and the smells won't get out and smell up the rest of the house."

note: all quotes are taken from client interviews unless otherwise noted.

Commonality in Individual Designs

Despite the individual design processes of the end users for their own unit plans, I have found many elements shared among the designs. This reaffirms the findings of a 1975 Canadian participatory housing design project.

> *"Related to this issue is a criticism that the experiments will produce custom housing appropriate only to the participants. . . . However, tenant choices appear to confirm and refine findings from recent good user studies of family housing and the designs may therefore be appropriate to other families."* [17]

The differences that did exist in the individual designs are not variations in the basic diagram, but small differences that reflect the particularities of each household. Some clients needed a bedroom on the first floor to accommodate a disabled or elderly relative. Others needed an extra space to serve as a home office or music room.

> *"I'd like to have a place for a keyboard and a microphone so that I could practice my singing here."*

Smaller details differed in response to the activities of each household:

---

[17]CMHC, Tenant Participation in Housing Design, p. 44.

19   INTRODUCTION

"I have a soup tureen collection. Well, actually I only have three because I have no where to put them. I'd like to have room to put shelves all around the dining room to display them."

The individual designs, therefore, differ in ways that do not change the position of structural supports or plumbing locations within the house, but do differ in ways that make the house suited to each particular household's needs. Through participation in design, the client will end up with a house that fits their particular situation well, and in all probability, these small design differences will become an asset when the original client leaves and another family eventually moves in. This quote from Frank Becker describes how changes made to traditional tract housing actually became selling points.

> *"All families in single family tract housing had modified their housing in some manner, ranging from paint and decoration to building partitions, patios, decks, adding windows, etc. . . Several families had purchased their house in a large part because of physical modifications made by previous owners."* [18]

---

[18]Franklin D. Becker, User Participation, Personalization, And Environmental Meaning: Three Field Studies, p. 10.

Precedents

I have selected three precedents to highlight here: John Habraken, Nabeel Hamdi, and Henry Sanoff. There are many others who could have also been included. These three were chosen for the following reasons. Habraken has a well defined theoretical base which has been a major influence on my thesis development. Hamdi was chosen as an example of a built project that is well documented and considered highly successful. Sanoff is also included because of his exploration of a wide variety of techniques for participation.

John Habraken: Supports / Infill

John Habraken proposed the idea of using Support and Infill components in housing design in his book Supports (1961). The concept called for the architect to design a Support system for dwellings that reflected collective agreements about housing. Then an Infill system of "detachable units" provided the means for individuals to design their own units within this support.

Several notable projects have been designed using this technique; however, the initial level of participation in the early designs was somewhat limited. One specific example was the Molenvliet project in Holland.

This project used supports in the form of structure, specific materials, stairs and paths of access, two types of units (duplex and garden apartments), and a pitched roof to symbolize home. An infill kit of prefabricated

components (i.e., appliances, closets, and partitions) was also designed and provided by the architect. The first involvement of the potential residents was at a meeting where the concept was explained and blank floor plans were handed out to each household. They were each instructed to arrange a unit for themselves on the blank floor plan and to schedule an appointment to discuss it with the architect. By the end of two weeks, each household had spent two 45 minute work sessions (which frequently ran longer) with the architect to come up with a plan that suited their particular family. Those sessions went something like this:

> *"Sitting around a table we started talking: Should spaces be open or closed? How important is an entry room for you? Do your children sleep in one room? Where do they play? What kind of activities do you do as a group? Do you have hobbies? Where do you want to locate the bathroom? What happens when grandmother comes for a couple of days?"* [19]

The resulting dwellings reflected differences in the activities and lifestyles of each household. For example, one man isolated his bedroom from the daytime activity of the house because he worked nights and had to sleep all day.

Molenvliet residents were highly satisfied with their dwellings and made changes and

---

[19]C. Richard Hatch, The Scope of Social Architecture, p. 36.

improvements over the course of the years. A study made of the project by Ans Gotink also found that,

> "there was a correlation with the degree of participation: there was a much greater chance that those who didn't participate [in the design of their units] wanted to leave." [20]

This implies that those who did participate were more likely to stay in the project. As successful as this project was, however, the residents were not asked to participate in the design of anything outside of their own units. They had no input on the design of the initial support system which in fact restricted the spaces that they could design. The overall size, the entry location, the stairs, and the services were all predetermined without any participation from the residents.
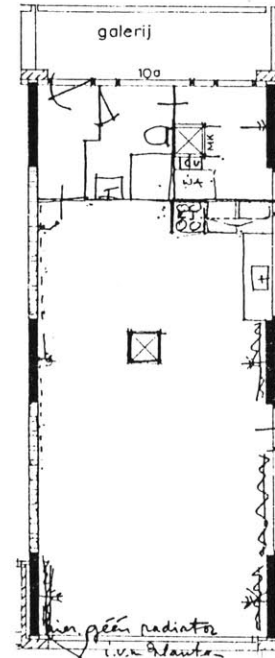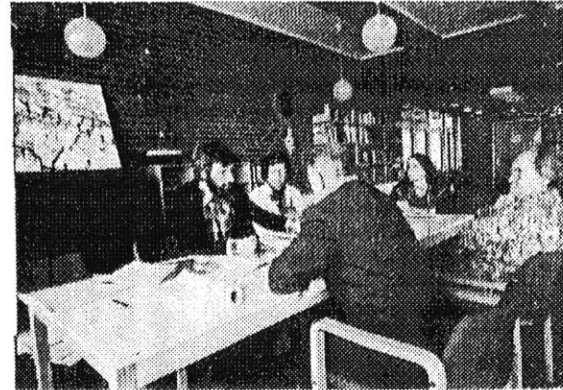
[20]C. Richard Hatch, The Scope of Social Architecture, p. 39.
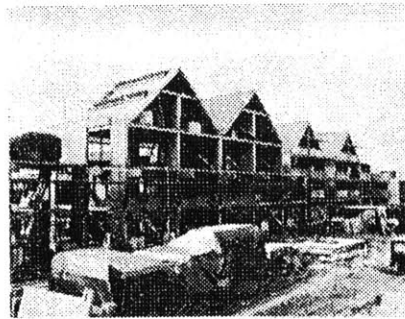
Fig. 1.6 Molenvliet Supports waiting for Infill.

Fig. 1.7 Molenvliet clients work with the architect, sample plan drawing of client's unit.

Nabeel Hamdi: PSSHAK Project, London

One of the more integrated Support/Infill projects was Nabeel Hamdi's PSSHAK project in London. This project followed a process similar to the one in the Molenvliet project, with some very important differences.

The PSSHAK project began with a structural support containing primary mechanical and electrical connections, that could accommodate units of a variety of sizes (from one to eight people). So, the residents had the freedom to determine the internal space divisions for themselves. The variety of unit sizes, the position of front entrances and windows were all chosen by the tenants themselves. In addition, as family sizes changed, people moved out, and new families came in, the units could easily be adapted to fit each household size as well as interior organization.

Secondly, the project had the support of the Bruynzeel Corporation of Holland which designed a standardized kit of parts to be given to the residents in order to design their individual units. The kit of parts·contained vertical service ducts, partitions, doors, cupboards, kitchen units, bathrooms, and stairs.

Participants met together as a group and were each given a design handbook. The handbook included a questionnaire, cut-outs of furniture, instructions on reading plans, etc. They had two weeks in which to study the handbook, and prepare some design ideas which were then brought to the architect for a consultation where a preliminary design was conceived. A three hour site workshop followed in which each family visited the site to see and stand in their own, unfinished unit space. This gave them an idea of the scale of the space and an understanding of where their own unit fit into the whole.

The next step was to build a model of each plan, according to their initial schematic design. Hamdi's process even went to the extent of collecting photos of the furniture in many families' houses to make into model pieces. This gave each family a piece of their own model that was familiar to them. Discussions around these models were able to address detail design decisions like the location of light switches, etc.

The project resulted in many unorthodox solutions to each resident's needs. One resident, for example, decided to access one bedroom through another to save space. Another unit provided a connecting door to the next unit to allow them to assist an elderly neighbor.

The project had a budget for a specific number of standardized components to be used in the final unit designs. However, some families found themselves with too many parts, while others, not enough. Each family was able to benefit by trading pieces with each other, giving away what each one did not need. This provided greater flexibility to the unit designs without changing the overall budget. Finally, each tenant had about a month to make small changes or adaptations to their designs before the final components were ordered and sent to the site.
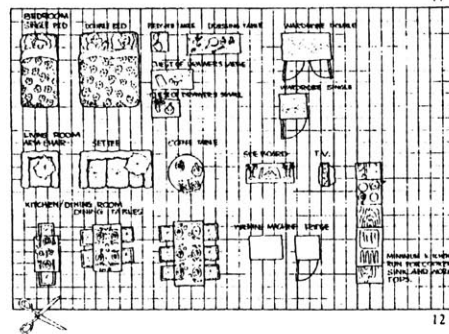
ADELAIDE ROAD, CAMDEN TENANTS' MANUAL
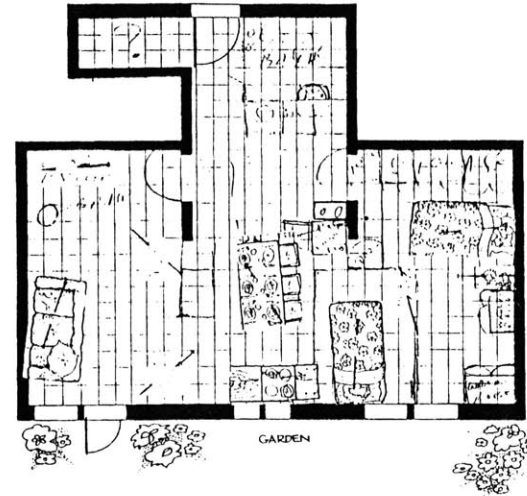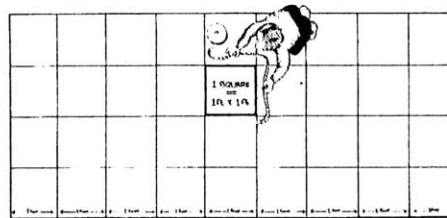
Fig. 1.8 excerpts from the PSSHAK client handbook, Sample plan of client's unit, Hamdi working with the clients.

Despite the efforts to familiarize each family with the scale of their spaces, there was some disappointment at seeing their completed designs which were much smaller than anticipated. There were also many problems with the installation of the manufactured kit of parts. *"The kit required tolerances within the shell to be accurate. . . . Many adjustments were required . . . to secure a good fit of kit to Support."* [21]

The main problem with this project, however, was that the architect and the public agency went too far in predetermining the tools for the process. Hamdi talks about the architect as a "skilled enabler" providing the tools necessary for the users to participate in the creation of their own dwellings. However, the PSSHAK project goes too far in confining the users' design choices to a pre-set kit that is in itself quite limiting. This is a problem that is inherent in any design kit to some extent unless there is a possibility for the adaptation of the components by the end user. Compounding this problem, the public agency clung to rules requiring residents to receive permission before they could make any interior unit changes. In addition, the agency refused to include the residents in the overall site or building support design. In fact, the residents had no opportunity to influence the exterior appearance of the buildings at all. From the outside, there is no indication of the diversity of unit types inside.

"...[in this project] users are locked into specific forms of construction that are highly industrialized, they are [therefore] reduced to the status of passive users or "consumers" of subsystems that they can only assemble. . . since the materials the components are made from are difficult to use or modify or combine with other materials using hand tools, user control is further reduced." [22]

Despite its failures in addressing true user control, the part of the process between the architect and the individual households was quite admirable. Hamdi was able to incorporate several different methods to help participants understand the plans that they were creating and to feel a sense of attachment to their designs. The handbook that was given to each potential resident included engaging drawings of people measuring spaces, and familiar shaped furniture which served to humanize the design process and make it accessible to everyone.

What the two projects that I have discussed so far do not do, is to focus on the methods and techniques of participation. In theory, they are engaged in the methods of participation, however, in practice they are predominantly focused on the resultant architecture and Support design.

[21] Nabeel Hamdi, taken from C Richard Hatch, The Scope of Social Architecture, p. 59.

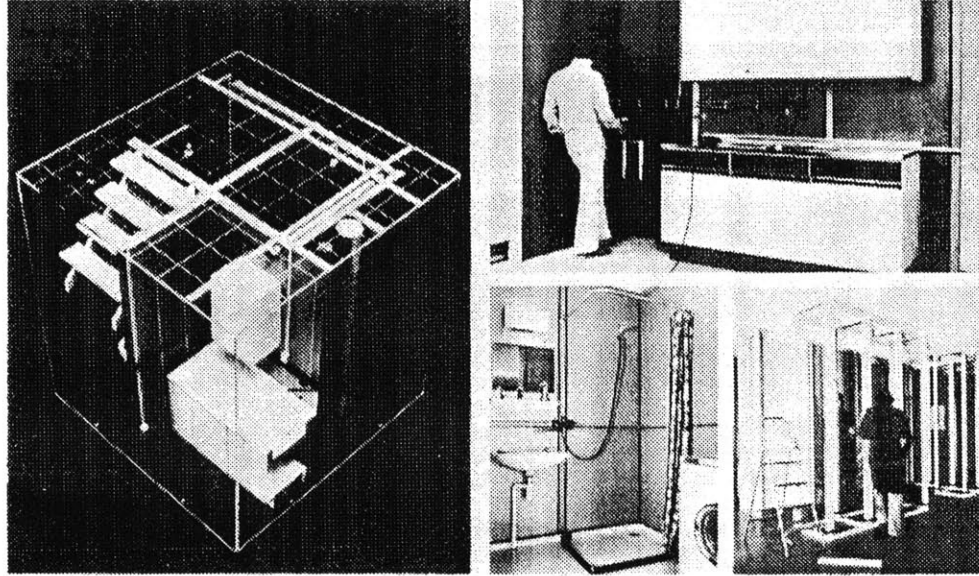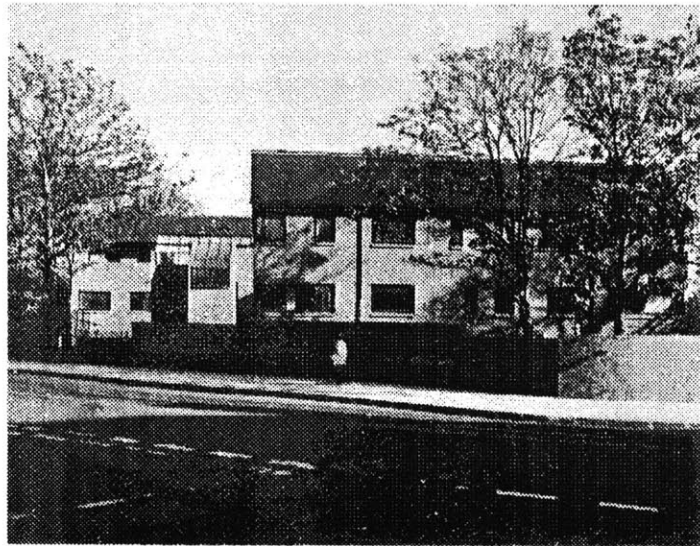[22] John Turner, taken from C. Richard Hatch, The Scope of Social Architecture, p. 61.

Fig. 1.9 Standardized
components for infill.

Fig 1.10 Exterior of PSSHAK.

Henry Sanoff: Design Games

Sanoff, on the other hand, has numerous books precisely addressing the methods of participation. His approach is simple.

> "Experience and knowledge resides with lay people as much as with experts. " [23]

It is his desire to facilitate the process of participation through teaching, visual images, and design games. These methods help participants to understand their existing environment and the impact that a new design might have on their everyday lives.

> "...the process should be clear, communicable and open. It should encourage dialogue, debate, and collaboration." [24]

Sanoff believes that architects and the public often have different "aesthetic values." Therefore, this approach provides designers with a "deeper understanding of people's perception of their environment," and the tools to engage in an "effective dialogue with people who use the environment.". [25]

He also points out several side benefits to the use of design games. Not only do they improve communication between the

participants and the architect, but also between different members of a household. By using these methods, for example, children and parents are able to communicate their needs for private spaces to each other, thereby avoiding housing options that do not suit the needs of the entire family. Enhancing the participants' understanding of their environment also begins to build "the sense of citizenship essential for the care and improvement of the world we live in." [26] After raising the level of concern for their environment, participants will eventually work toward the improvement of their surroundings.

Sanoff defines the role of the architect as one who participates by raising the level of understanding and awareness of the users, and proposing a solution from the dialogue that ensues.

> "The designer's energy and imagination will be completely directed to raising the level of awareness of the client users in the discussion, and the solution will come out of the exchanges between the two; the designer states opinions, provides technical information, and discusses consequences of various alternatives, just as the users state their opinions and contribute their expertise." [27]

---

[23]Henry Sanoff, Integrating Programming, Evaluation and Participation in Design, p. vii.
[24]Henry Sanoff, Ibid., p. 56.
[25]Henry Sanoff, Visual Research Methods in Design, p. xii.

---

[26]Henry Sanoff, Visual Research Methods in Design, p. xiii.
[27]Henry Sanoff, Integrating Programming, Evaluation and Participation in Design, p. 79.
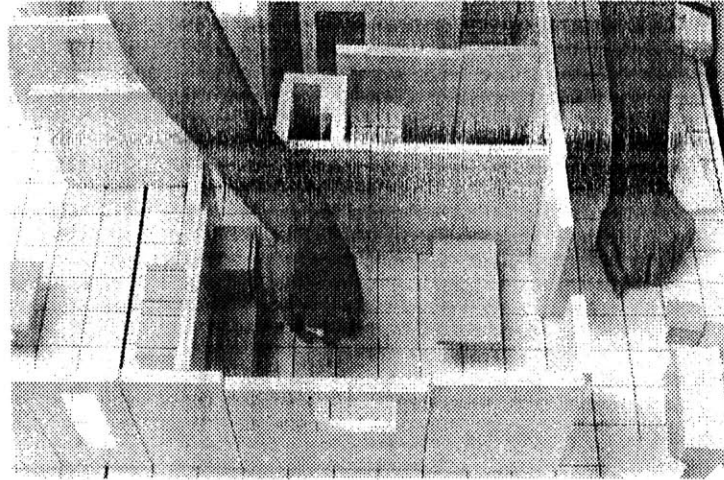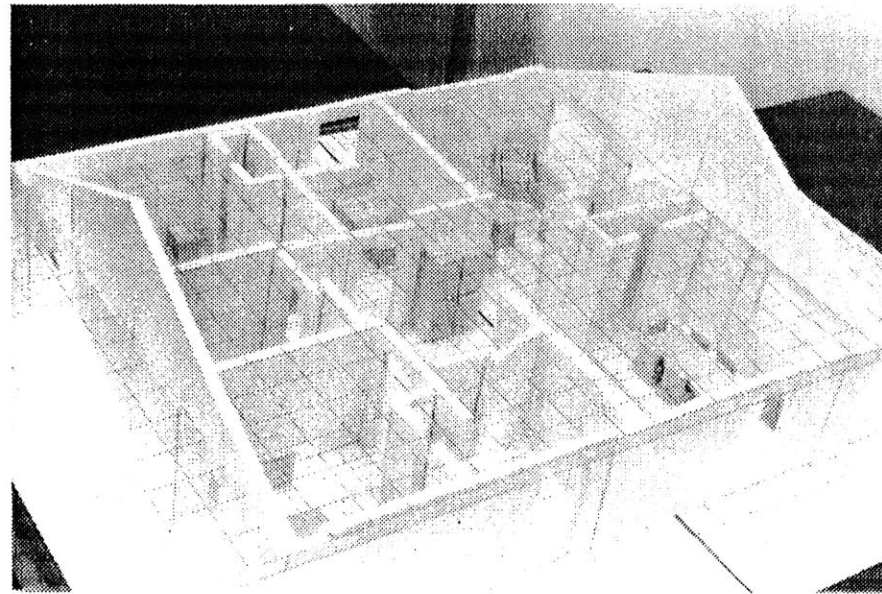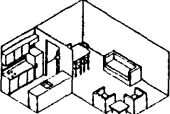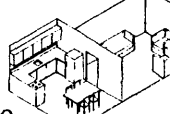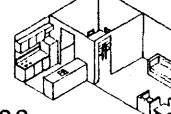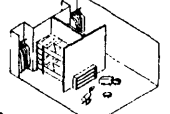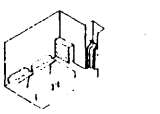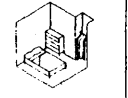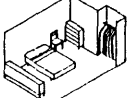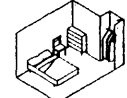
Fig. 1.11 Canadian clients use a model kit to design their cooperative.

Fig. 1.12 Gridded plexi glass creates a second floor.

After looking at the overall building or building environment, there may be some trade-offs that must be made to meet the project's budget. Sanoff provides this simple game (Fig. 1.13) to introduce this concept. Each family must sit down together and discuss which room arrangements they would like to have in their dwelling unit. Each option is assigned a point value which corresponds to its relative cost. The family must come up with a set of choices that does not exceed 45 total points. If they do not succeed at first, they must make alternative choices until the point value drops below 45. This exercise illuminates a family's priorities by showing which spaces are most important to their lifestyle.

Fig 1.13 Dwelling unit layout options, Sanoff.

part 2 # workshop

HOUSE ACTIVITIES

RESULTS

1a) LIVING-DINING & KITCHEN
1b) LIVING & DINING-KITCHEN
1c) LIVING & DINING & KITCHEN
2a) LARGE CHILDRENS BEDROOM WITH PLAYAREA
2b) LARGE CHILDRENS BEDROOM
2c) SMALL CHILDRENS BEDROOM
3a) LARGE PARENTS BEDROOM
3b) SMALL PARENTS BEDROOM
4a) BATHROOM
4b) HALFBATHROOM
5) STORAGE ROOM
6) GREENHOUSE

TOTAL

18	20	22	10	6
1a) LIVING-DINING & KITCHEN	1b) LIVING & DINING-KITCHEN	1c) LIVING & DINING & KITCHEN	2a) LARGE CHILDRENS BEDROOM WITH PLAYAREA	2b) LARGE CHILDRENS BEDROOM

4	8	6	5	3	3	2
2c) SMALL CHILDRENS BEDROOM	3a) LARGE PARENTS BEDROOM	3b) SMALL PARENTS BEDROOM	4a) BATHROOM	4b) HALFBATHROOM	5) STORAGE ROOM	6) GREENHOUSE

In working with the larger community to generate design discussion, Sanoff advocates this method for the placement of a new house within an existing context (Fig. 1.14-1.16). The drawings show possible sizes and locations for the new house. Along with each possible option, the participants are also given reasons for why they would or would not work. This information generates a discussion of relevant issues concerning parking and the building's distance from other buildings as well as the street. Following this discussion, a drawing of the existing context is given to each participant. They are then asked to design the facade of the building that they think should go there. The resulting drawings begin to isolate characteristics that are the most significant in matching the design to its context. This is a method that would be invaluable in discussing housing designs since images of what a house should be are often very strong.
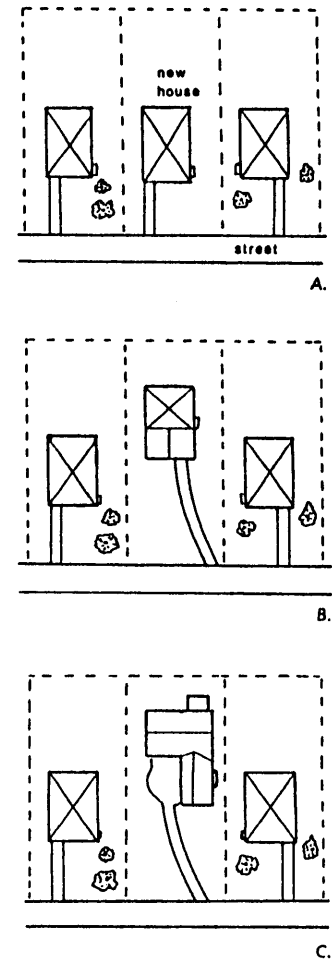

Fig. 1.14 Variations for infill housing design and placement, Jeff Bishop.
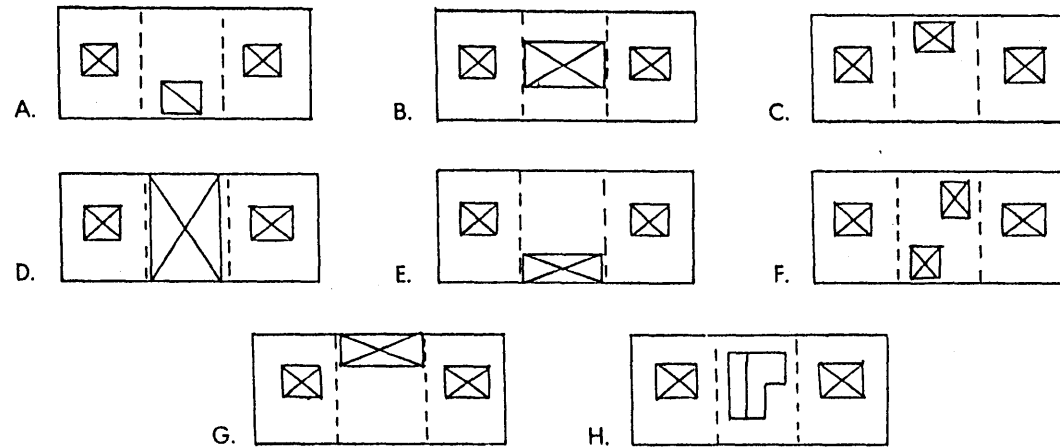
Fig. 1.15 Options for infill housing placement.

Fig 1.16 Streetscape with space for infill design.

Other Methods

In his book Visual Research Methods in Design, Sanoff illustrates several methods by other people that are applicable to the process of this thesis. To communicate three dimensional space, he advocates model kits like the one used for a Canadian cooperative housing project in 1980 (Fig. 1.11-1.12). This is very similar to the one that I have used in my own investigation. In addition, he discusses more elaborate techniques like the full sized model workshops (Fig. 1.17-1.18). These have been used in Switzerland and Denmark and have given designers and users the ability to test spaces and make changes before money is spent on the construction. This technique has also been shown to give public housing residents *"confidence in their own creative abilities."* [28]

Two other techniques for three dimensional representation which do not involve active participation, are the model scope and the computer modeler. The model scope creates images from a model that appear to be taken from a person's eye level. If the model is detailed enough, the photos can appear very realistic. The computer models can produce images in many different forms. It can show an abstract three dimensional image, similar to a model, or it can create realistic renderings of proposed buildings in the existing context. Both of these tools provide powerful visual images that will lead to much discussion, however, since they are not interactive tools for groups of people, they seem to be best left to the later stages of design when participants are already actively involved in the design.

---

[28]Henry Sanoff, Visual Research Methods in Design, p. 146.

Fig. 1.17 Fullscale Model
workshop based in Denmark.

Fig 1.18 Life-size model from
the Laboratory of Architectural
Experimentation, Switzerland.
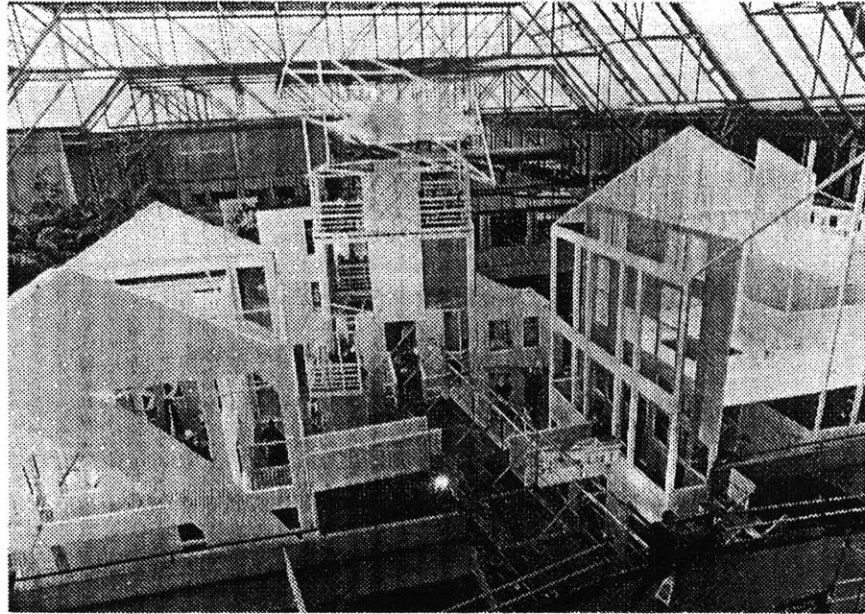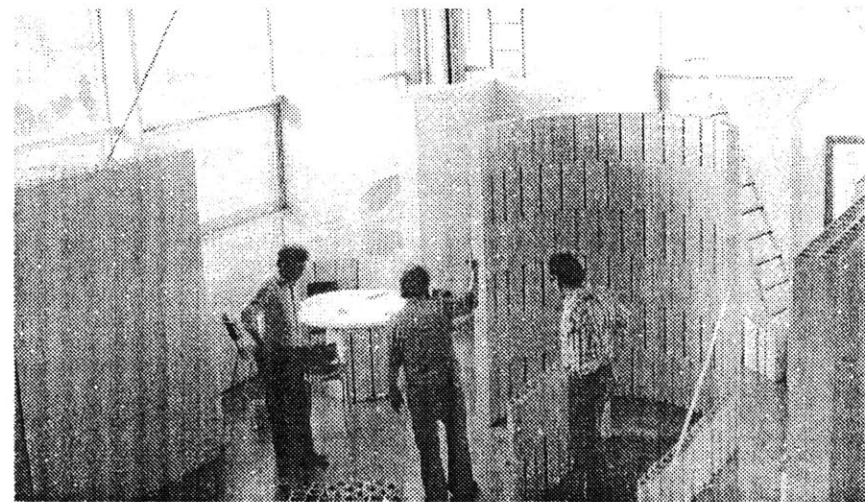
Thesis Assumptions

My thesis tests a method for involving individuals in the design of their own home and suggests a new approach for future Public Facilities sponsored housing projects. For the most part, local government agencies have been steered away from mass housing and the total exclusion of community participation. Today they often include community groups in planning and design decisions that involve their neighborhoods. However, it is not always the case that the community is able to get involved in a meaningful way. Often the architect's methods of design presentation are not accessible to the average person. Many are unable to understand the drawings or the architecture jargon, and are afraid to speak up in a group for fear of ridicule. Therefore, no beneficial communication or discussion is achieved. The method used for participation is the key to its success.

It is even less often that the potential end users of a development are included in the design of the dwelling unit itself. In fact, government policies concerning the selection of residents do not allow anyone to be selected until the units are complete and ready to be occupied. This is certainly true of the PFD's policies for the development project used in this thesis. Although this policy insures that those selected will receive housing right away, it reduces them to a passive recipient of a government funded commodity. A commodity can be liked or disliked, resented or appreciated. If instead, the recipients take part in the creation of the units, it has been shown that they will take pride in the completion of each unit, overlook minor flaws, and hold onto their own unit for a much longer time.[29] The issue of waiting a few months longer for a completed unit is justified by these benefits. It is also possible that a list of prospective residents could be made from people currently in another form of government sponsored housing, thus insuring their stability until the completion of the unit.

---

[29]C. Richard Hatch, The Scope of Social Architecture, p. 39.

Surrogate Clients

Since this is the current policy for selection of potential residents, there are no actual clients for the houses to be designed in this project. I therefore chose to use surrogate clients in their place. The surrogate clients were chosen from residents of the immediate area around the site. Some were involved with the community organization in partnership with the PFD. Others were residents of a recently completed, PFD sponsored housing co-operative. All the participants wanted to live in this area, and were of a similar economic and cultural background.

The essential problem with using surrogate clients is that they have little stake in the resultant design. Since they themselves will not be living there, design decisions may seem inconsequential to them. At most, they will be personally affected by the outside appearance of the dwelling since it is in their neighborhood and by the type of person / family that moves in. Surrogate clients may also refrain from voicing an opinion about a design decision because they assume that they cannot make decisions for people that they do not know. The surrogate client must be made to feel personally responsible for their designs in order for their input to be useful.

To address this problem, I asked the surrogate clients to design a dwelling for themselves, as if it could be built on the site for their own household. This allowed them to see themselves as potential residents, thereby acting as a real client would. Several of the participants also asked me to write a

report of my process and conclusions and to submit copies of it to each of them as well as to the PFD. By agreeing to this, I was able to raise their stake in the project by giving them a voice to be heard by the PFD. In effect, they would be able to say to the PFD, "If I were going to build a house for myself, this is how I would do it." The clients took their role in the process very seriously. They enjoyed speculating and building models of the ideal dwelling for their family. They eagerly participated in all of the meetings that I organized and were adamant that I present a report of the process to the PFD.

Fig. 1.19 Members of the Five Streets Neighborhood Association which includes some of my clients. (Photo given to me by Martha Williams)

Methodology

The basic premise of my method is to allow the clients to lead the design as far as possible. In a complete participatory housing process, this would involve the individual clients in the design of their own dwelling and the community in the design of the framework and guidelines for the overall development. Since the PFD is currently involving the community residents in the larger design issues, I chose to concentrate on the process with the potential end users (represented by surrogate clients) in the design of their own dwelling unit.

My process took each client through several one-on-one and group sessions with me. These sessions included an interview, two model making sessions, and one community meeting. Interwoven with this interaction with the clients was my own design analysis and investigation. After each new discovery, I would return to the clients to verify my conclusions.

This is by no means a complete process. Rather, it is an in-depth investigation of the initial involvement of the potential end users in the unit design. Further meetings would be necessary with each client to finalize their design decisions and to incorporate details specific to individuals. Further community meetings would be needed to address design decisions about the location of the units, their massing and scale, facade elements, and their relationship to the street. The following section provides a detailed journal of the method and the results from my process with eight surrogate clients in the Five Streets neighborhood of Roxbury.
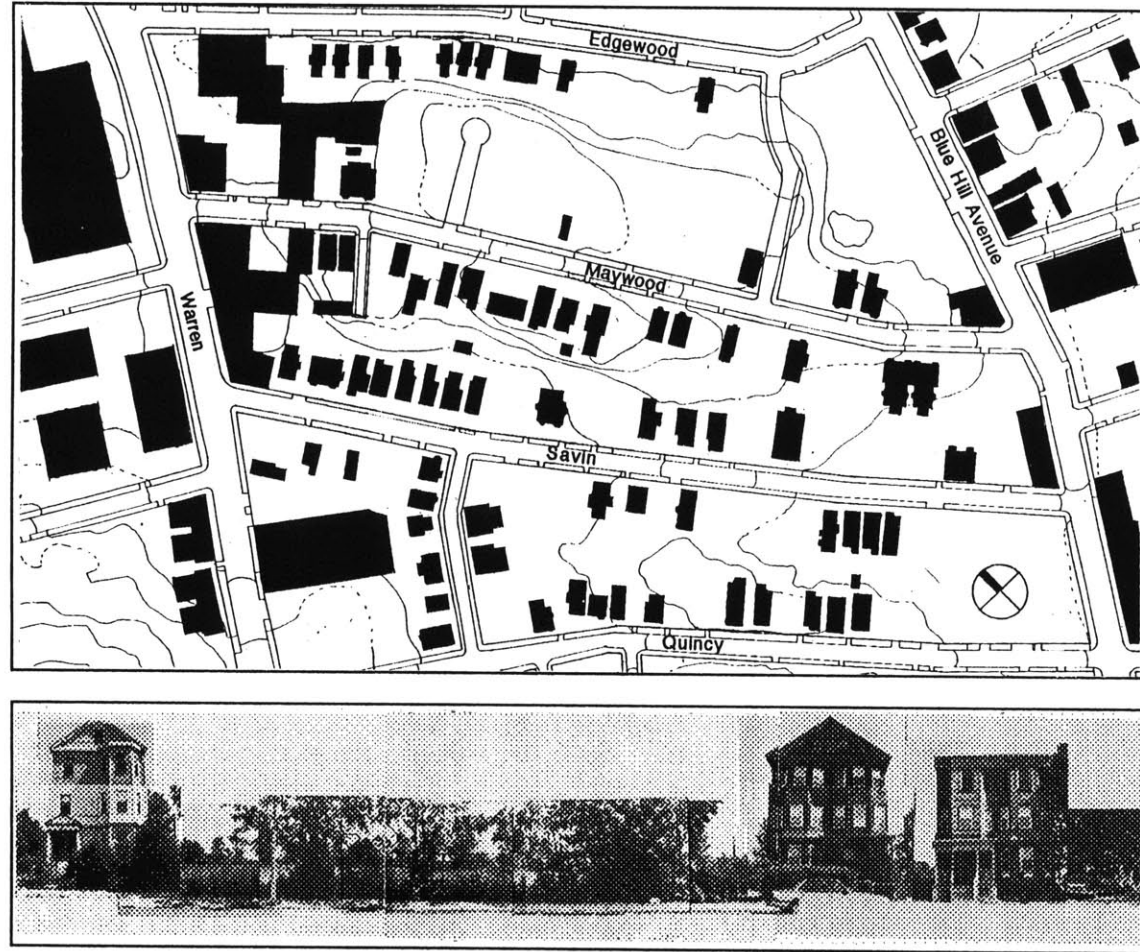
2.

METHODOLOGY AND PROCESS

Fig. 2.1 Site Map and partial
Maywood Street elevation.

Interviews

My process began in June with a search for a city sponsored housing development and a neighborhood group with members who were willing to act as surrogate clients. I found both in the Five Streets neighborhood in Roxbury.

The group of surrogate clients is made up of people from the Five Streets Neighborhood Association and from the Brooks School Housing Cooperative, all of whom are residents of the area.

After my initial introduction to the clients, I began a series of individual meetings with each of them. In the first meeting, my focus was on a verbal method of design communication. The interview focused on the design of the interior of the dwelling unit.

The questions that I posed during the interviews were mostly open ended questions to generate discussion. For example, I asked each of them to talk about what they might change in their current dwelling unit and to describe their ideal home. This was a deliberate attempt to allow the client to participate in an exchange of dialogue with me and to offer them the chance to ask questions as well.

The purpose of the questions was to elucidate their dwelling needs in these three areas:
- the practical or tangible : 'We don't need a dining room because we never eat together.'
- the intangible: 'I like to feel free and uncluttered in my house.'

- and the programmatic: 'I need laundry facilities, community facilities, nearby parks, etc.'

As much as possible, I steered discussion toward issues that would affect the form or organization of the dwelling unit. However, on their own, the responses to my questions do not point to any physical form. Only in combination with the second and third meetings do the interview responses begin to create a complete picture of the dwelling unit. The interviews did give me a good initial introduction to the clients and helped me to form the tools for the second meeting.

At the end of the interview, I asked each of the clients to diagram their ideal place to live. They were instructed to draw a circle to represent each room (or space within a room), label it, and draw a line between rooms that connected. Some also included adjectives to describe the most important quality of each room. The size of the circles was to reflect the relative size of each space. Figure 2.2 shows a sample of these diagrams. They range in style from the simple bubble diagram to more plan like drawings with windows, closets, and a back yard swing.

Note that several of the clients requested that their names not be used in this thesis. In order to accommodate this request for anonymity, I have given each of the clients a number from one to eight. Clients will be referred to by these numbers instead of their names.

The complete set of diagrams, questions and answers are included in the appendix.

Fig. 2.2 Each client made a diagram of their ideal place to live. Four are shown here.

"I can never sleep in a room that has no windows. I love natural light."
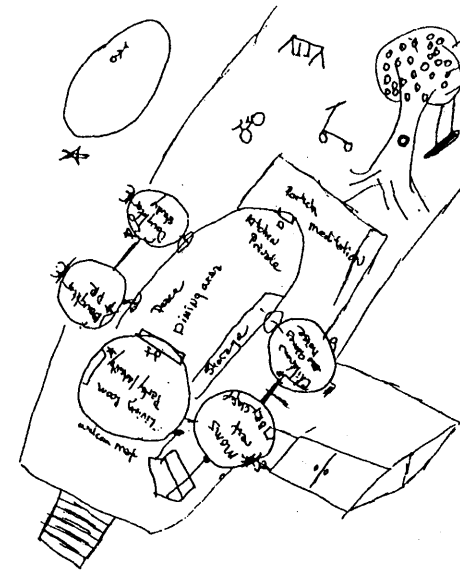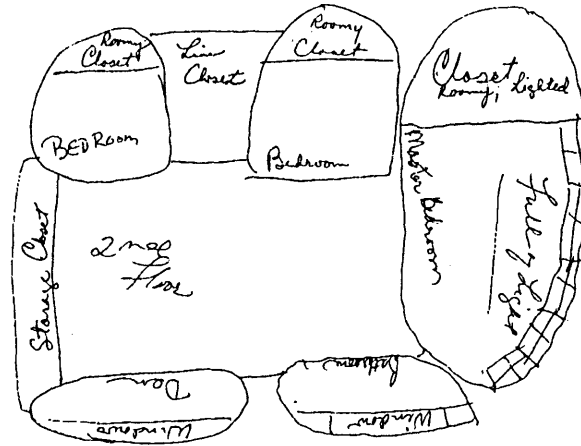
"This basement is fully finished with a locked safe for important papers, documents, wills, etc. Family artifacts, home movies, pictures, trophies, albums, projector, screen, and other artistic hobbies can be housed in this basement."
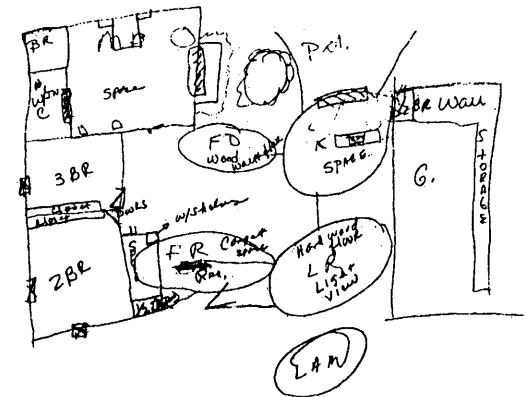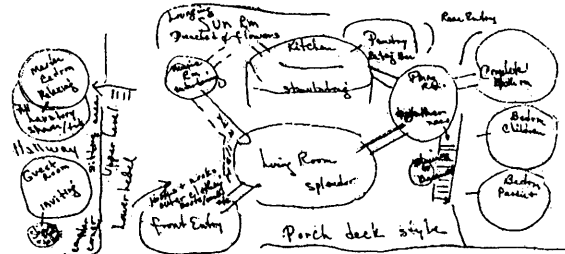
The Model Kit

The second individual meeting with the clients began a more spatial representation of what they had conveyed to me in interview. I brought with me a model kit of walls, doors, stairs, people, trees, and a plan of one of the lots. Each client was asked to build a model of their ideal dwelling unit on the lot. The only restriction was that it had to be attached to another unit on one side.

Most of them were eager to start as soon as I opened the boxes to show them the pieces in the kit. For those clients, I offered my assistance by questioning the size of rooms they made, the lack of light or windows, etc.. The rest of the design was their own. A few, however, were apprehensive and needed a lot of help to form a model out of their ideas. With these clients, I initially had to make more design suggestions and begin experimentation with different ways to address the issues that they brought up. However, by the end, even they were moving walls and telling me what to do. At the end of each session, I photographed the model before re-packing the kit and going to the next person's home.

The model kit was a great success. Everyone got actively involved in the designs and were eager to have another meeting to see what everyone else had done. The only problem was the small scale of the model. It was made at 1/4" = 1'. This was done specifically because we usually worked on the living room coffee table, and at that scale, it would just barely fit. Because it was small, it also made it difficult to visualize the scale of the spaces.

Therefore, in my later analysis of their designs, I base my assumptions on the relative, not actual, sizes of rooms.

Fig. 2.3 Preparing to go to a client's home with model kit in hand.

Fig 2.4 The complete model kit
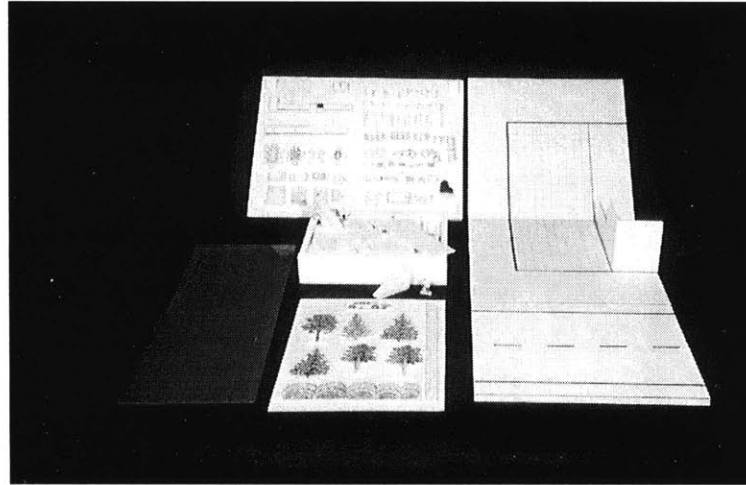
Fig 2.5 Detail views of the model
pieces: furniture, walls and trees.
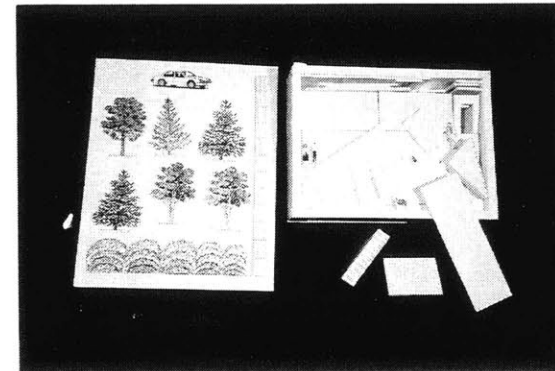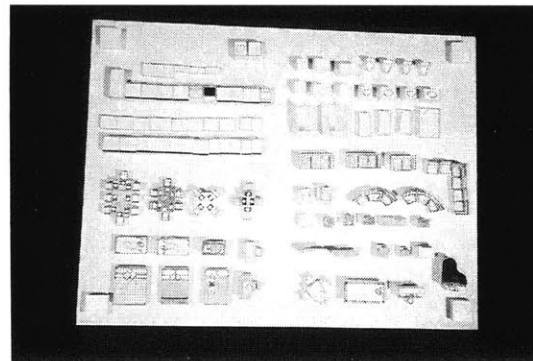
Fig. 2.6 Client number six
explains her model to a friend who
dropped by to visit.
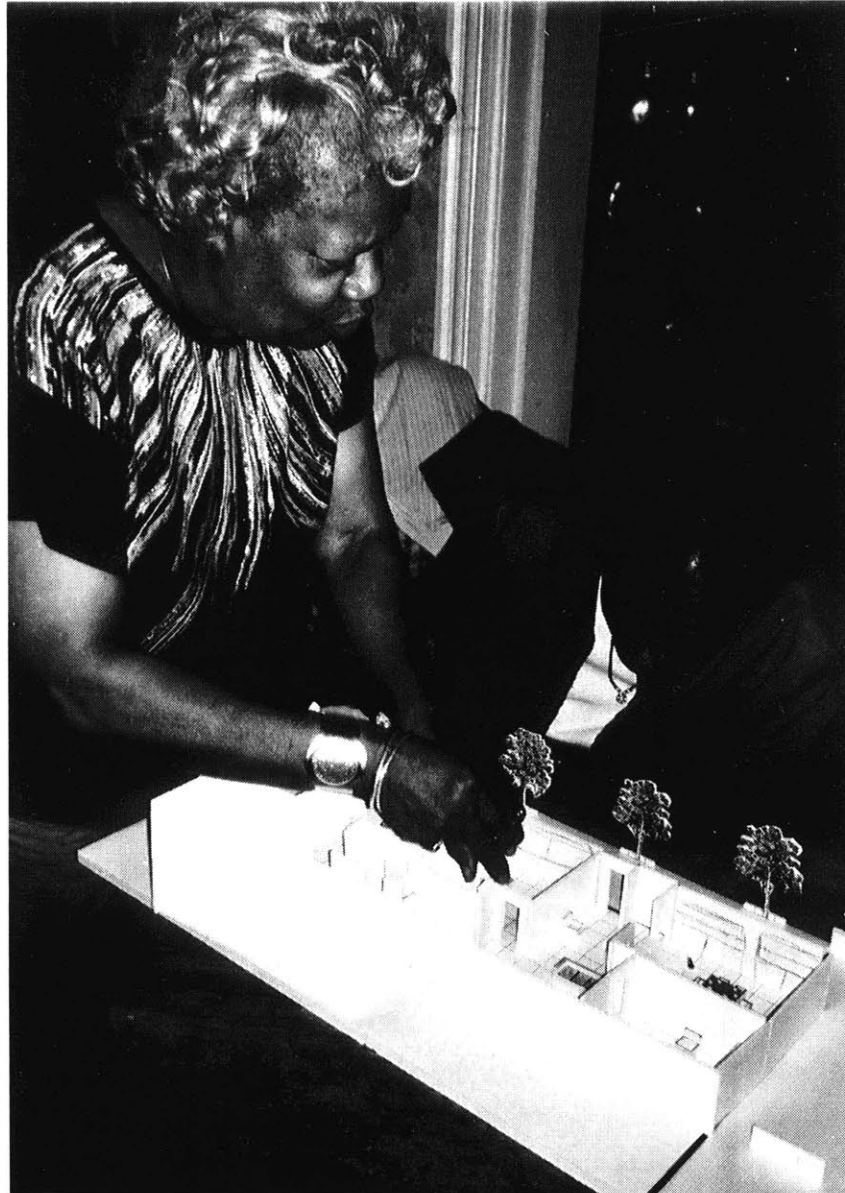
Fig. 2.7 Detail of kitchen space and eating bar in client number six's model.
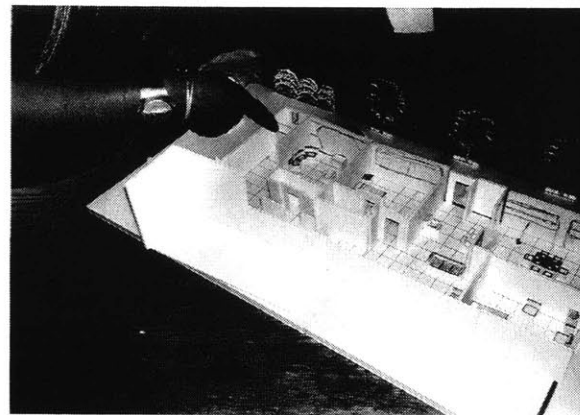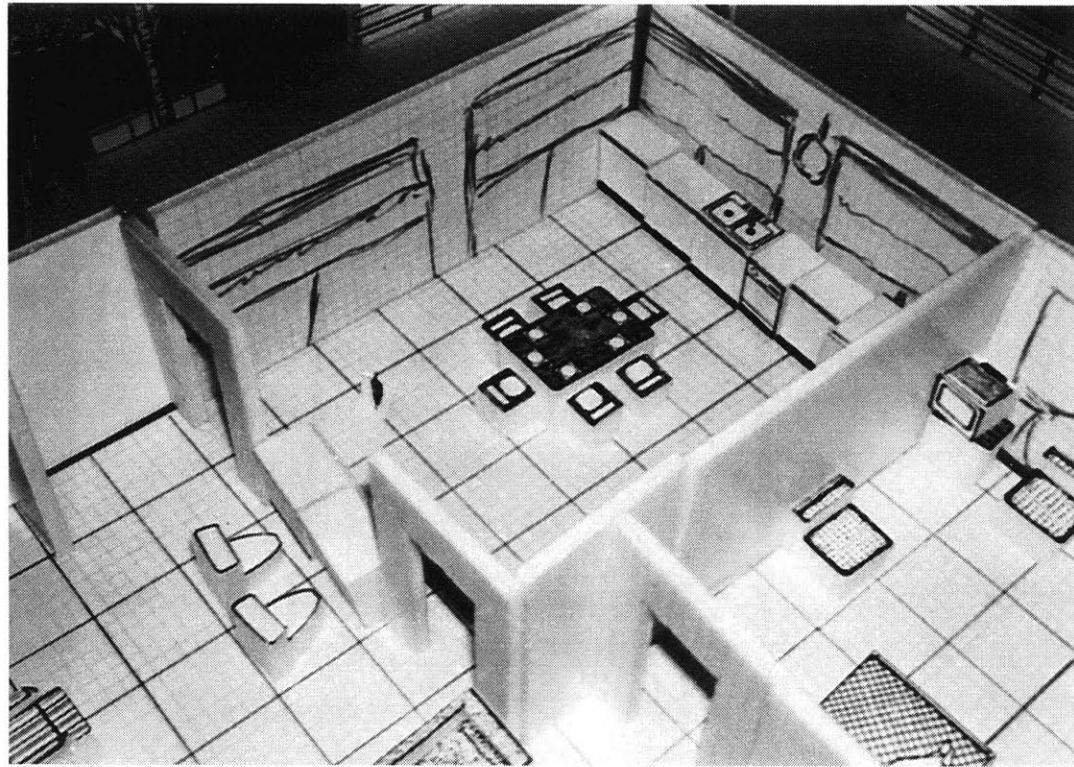
Fig 2.8 Pointing out the extra half bathroom near the living room.

Fig 2.9 (Right) Plan view of model number 3.

Fig 2.10 (Far right) Plan view of model number 4.
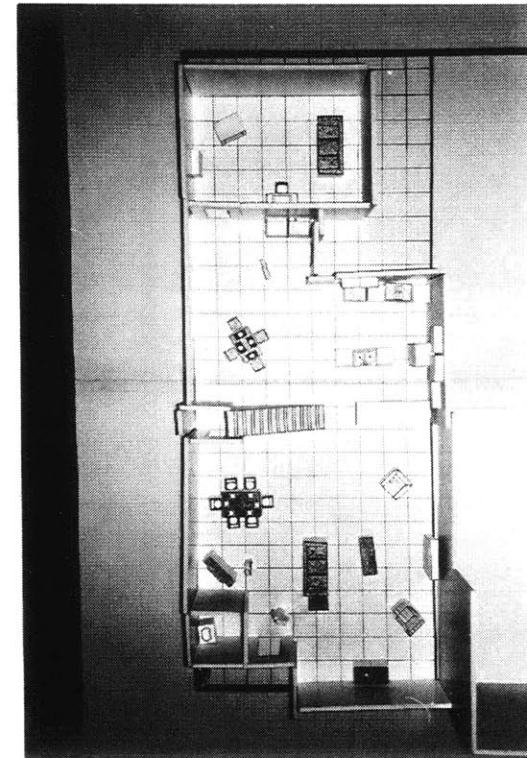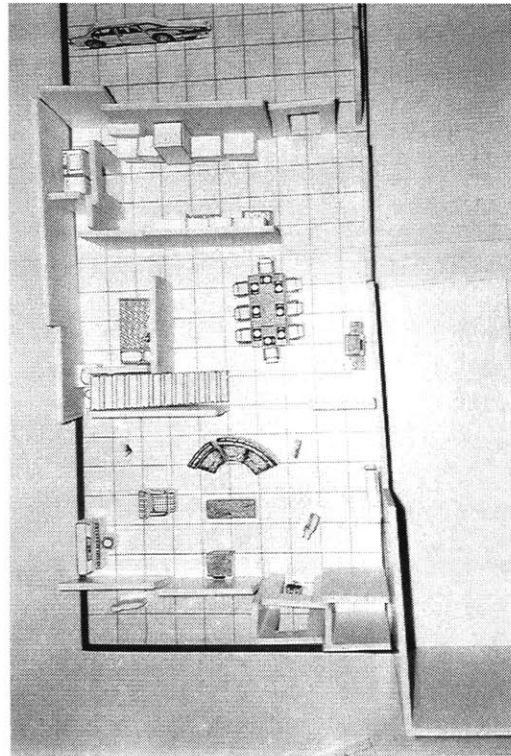
Fig. 2.11 (Right) Street elevation of model number 3.

Fig. 2.12 (Far right) Street elevation of model number 4.
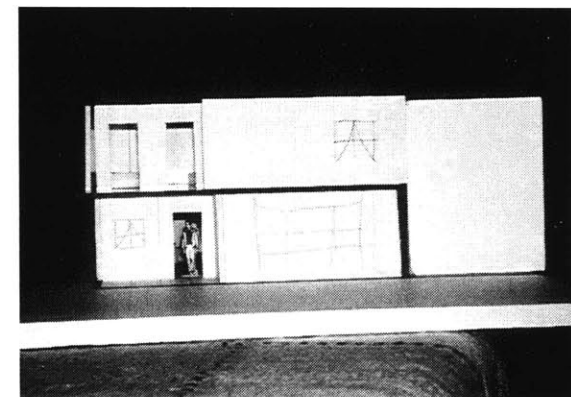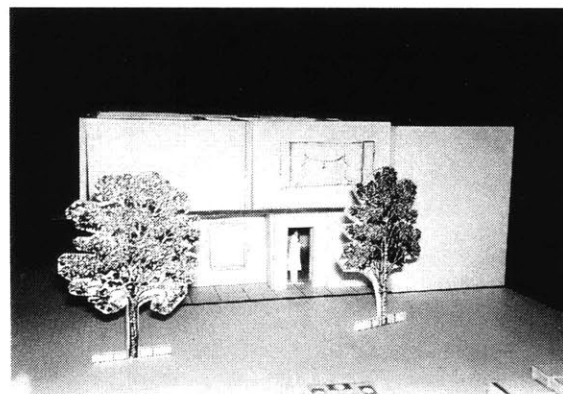
Fig. 2.13 Detail view of kitchen space in model number 4.
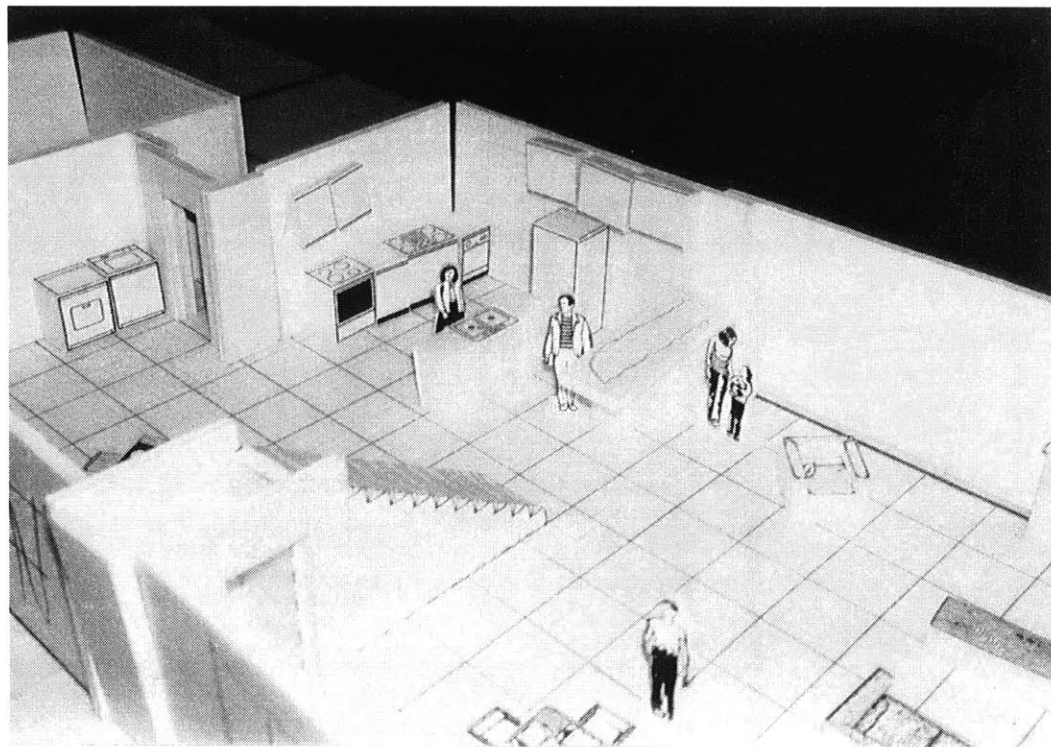
Fig. 2.14 (Right) Street elevation of model number 1.
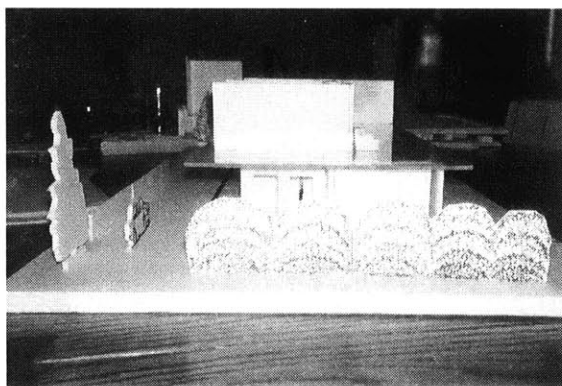
Fig 2.15 (Far right) Street elevation of model number 2.
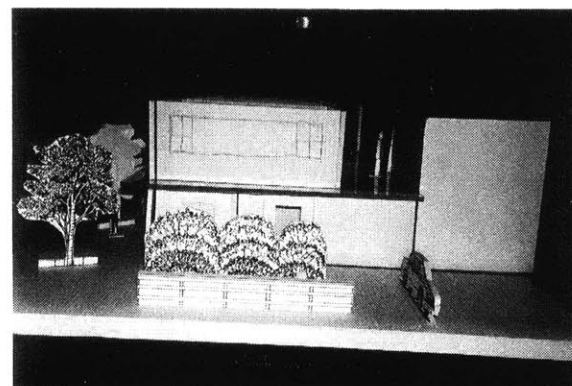
Fig. 2.16 Client working on her model.

Fig. 2.17 Plan view of model number 8.
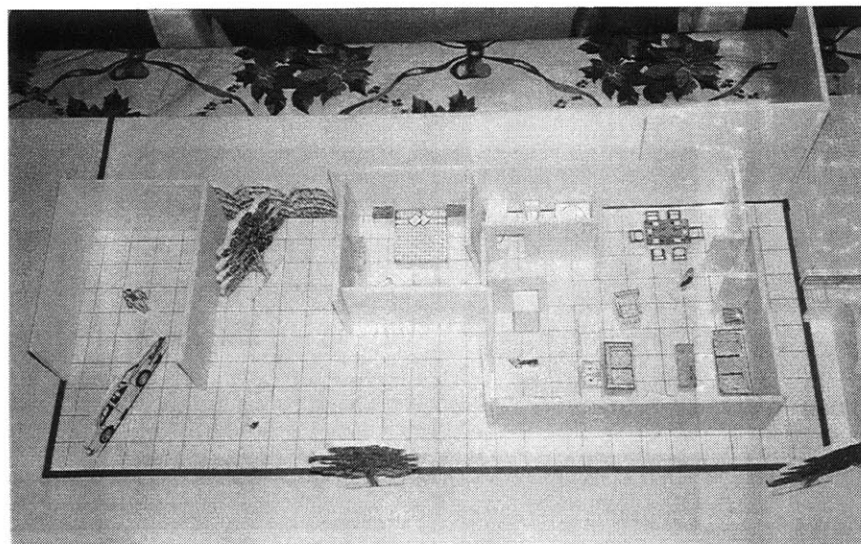
Fig. 2.18 Clients with finished
model.

Analysis

After all the clients had completed a model and each one had all been photographed, I drew plans of each design and began an analysis.

I used standard diagrammatic techniques to look at the organization of each unit plan and the relationships between spaces. The analysis showed many similarities in the number of collective rooms that they designed, as well as in their relative locations. It also showed that the designs could be categorized into two groups according to the movement through the unit and the basic relationship of interior to exterior spaces.

The first diagrams shown are plans of each unit as it was designed by the client. These pages are followed by diagrams of collective / individual spaces and movement.

PLANS

Fig. 2.19 (right and next page)
Drawings of models 1 through 4
designed by the clients.
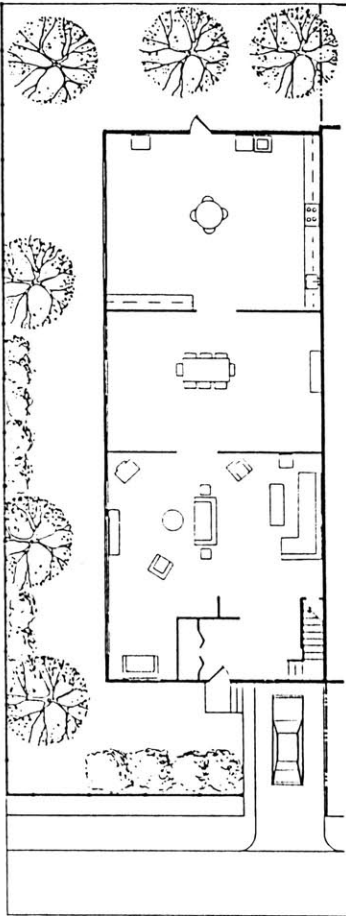
Client number 1
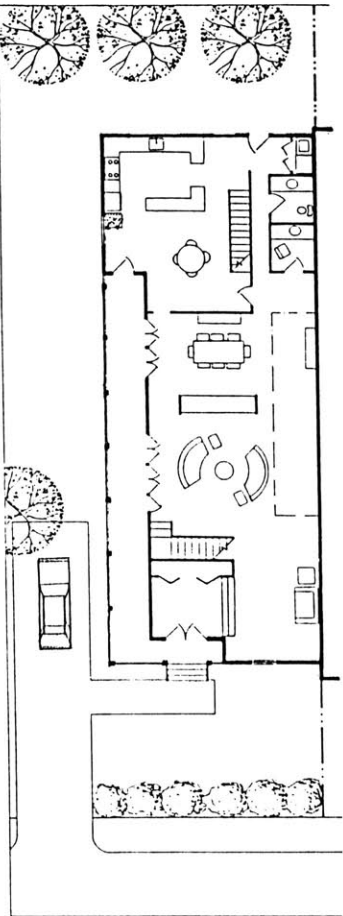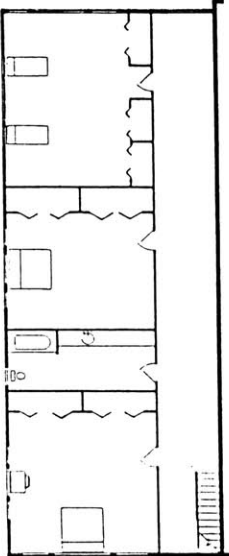
Client number 2
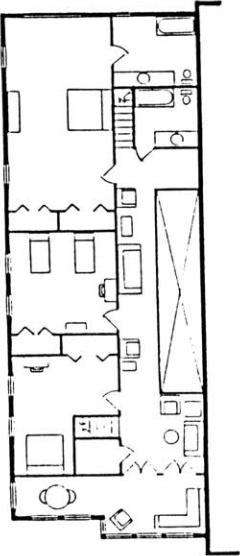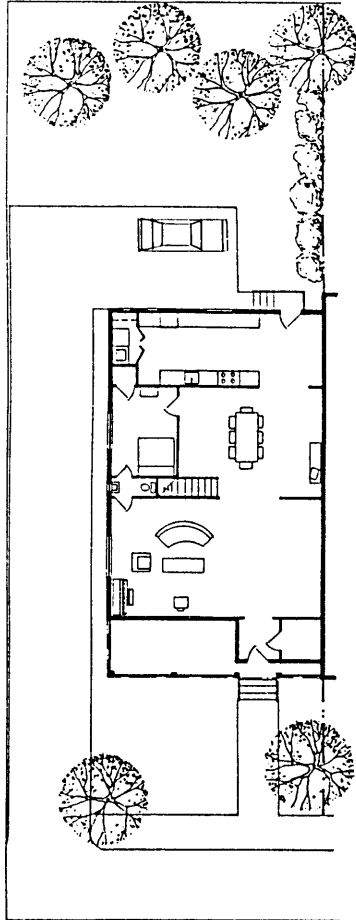
Client number 3
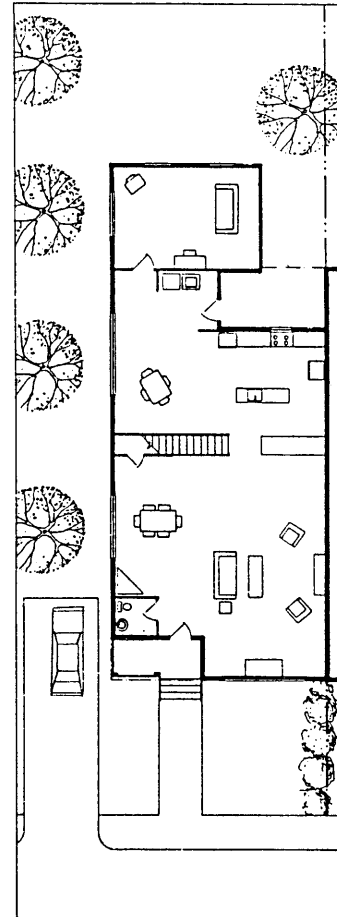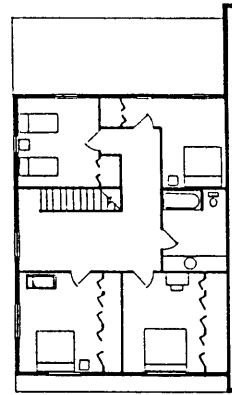
Client number 4
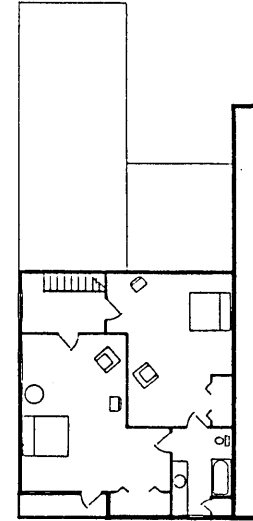
PLANS

Fig. 2.20 (right and next page)
Drawings of models 5 through 8
designed by the clients.
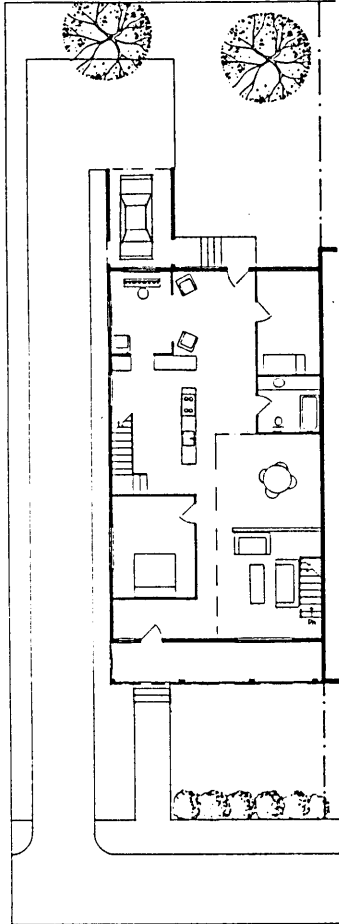
Client number 5
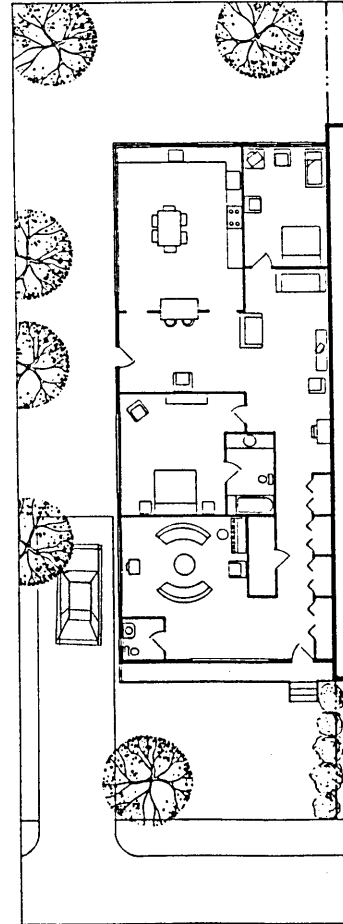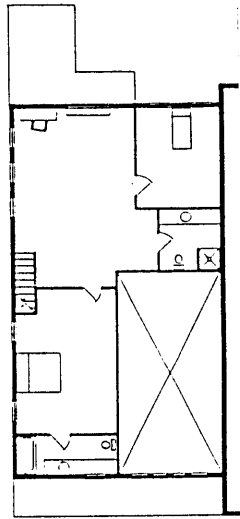
Client number 6
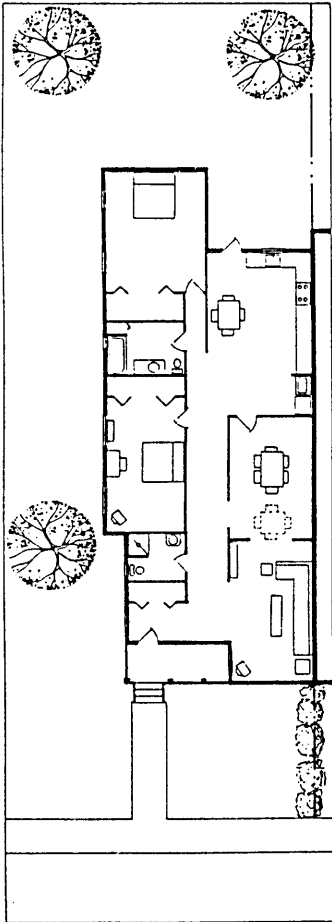
Client number 7

Client number 8

53   METHODOLOGY AND PROCESS
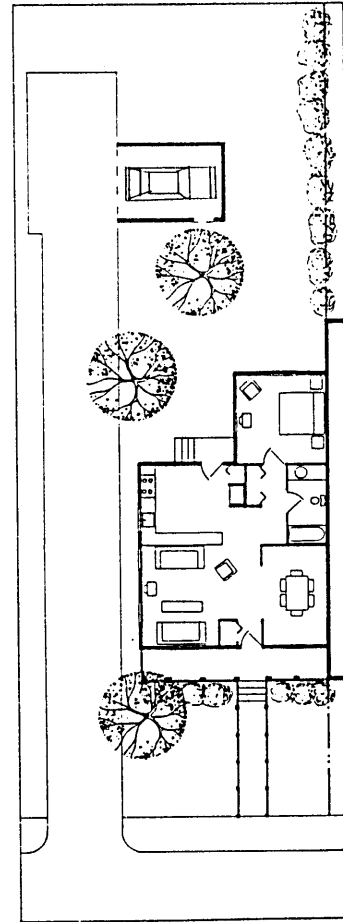
COLLECTIVE / INDIVIDUAL SPACE

Fig. 2.21 Each unit's primary collective space is shown in the darkest tone. Secondary collective spaces are shown in the lighter tone. Private spaces are shown in white. Notice that almost every design includes a semi-public space on the first floor.

1   First floor   Second Floor

2   First floor   Second Floor

3   First floor   Second Floor

4   First floor   Second Floor

5   First floor   Second Floor

6   First floor

7   First floor   8   First floor

MOVEMENT

Fig. 2.22 Shows the primary paths of movement through the unit in the darkest tone and secondary paths in the lighter tone. Notice that numbers 2, 5, and 7 use circular pathways to connect the most public spaces.

1   First floor   Second Floor   2   First floor   Second Floor   3   First floor   Second Floor

4   First floor   Second Floor   5   First floor   Second Floor   6   First floor

7   First floor   8   First floor
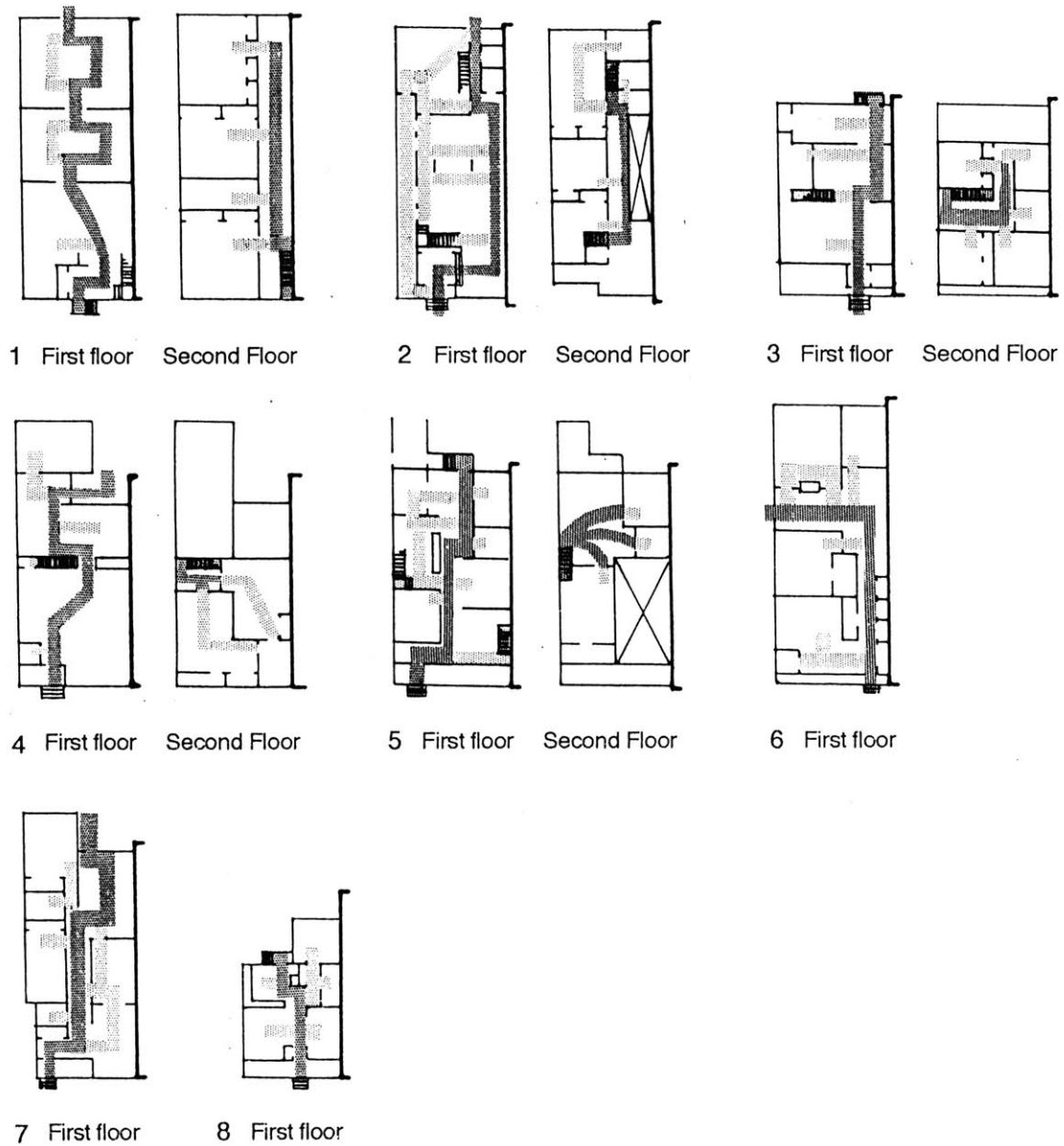
Classification Of Zones

Horizontal zones

Upon close observation, it is easy to see that every unit plan, without exception, can be divided into three horizontal zones or spatial divisions. Fig. 2.23 shows these zones highlighted in two representative plans, one which is a fairly straight forward plan and another that is more complex. By having three horizontal zones, the unit plans achieve a variation in the relationship of rooms to the exterior. The rooms in the front of the unit have a more direct connection to the public street, and therefore, tend to be the most public type of room, like a formal hallway or living room. The rooms in the rear of the unit tend to be the less formal, collective rooms, like the kitchen or family den, and have a direct connection to a private exterior space. The zone in the middle offers a transition from the formal to the informal, the public exterior to the private exterior. The next section of analysis will discuss the programmatic applications of this middle zone which tends to have less light and a more internal focus than rooms in the other two zones.

Vertical Zones

In addition to the horizontal zones, there is a vertical zone structure which carries another layer of information. After examining the plans and the movement diagrams, it becomes clear that the designs can be classified into two different groups (Fig. 2.24).

Group 1 / **two zones**:
- all rooms have a view toward the side yard.
- movement occurs *along the party wall.*

Group 2 / **three zones**:
- contains spaces that relate to the front or back of the unit as well as spaces that relate to the side yard.
- movement occurs *through the center of the unit.*

The three zone plans leave one space next to the party wall with no direct access to light and air. The clients have dealt with this in a number of ways. Some have chosen to leave this space open to another room to provide light. Others have solved the problem programmatically by placing rooms that need less light , like bathrooms, in this position. Plan number four takes a more sophisticated approach and eliminates the room in the rear of the unit along the party wall so that there is direct access from all the spaces along the party wall to the outside (see fig. 2.28).

Fig. 2.23
**HORIZONTAL
ZONES**

3 Horizontal Zones   Plan Number 1   Plan Number 5

Fig. 2.24
**VERTICAL
ZONES**

2 ZONE   **3 ZONE**

zone 1   zone 2   zone 1   zone 2   zone 3
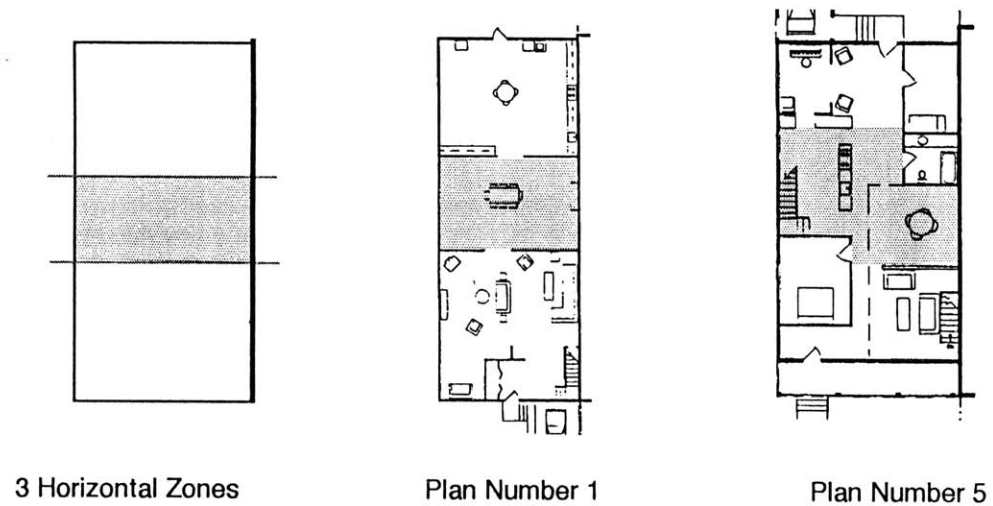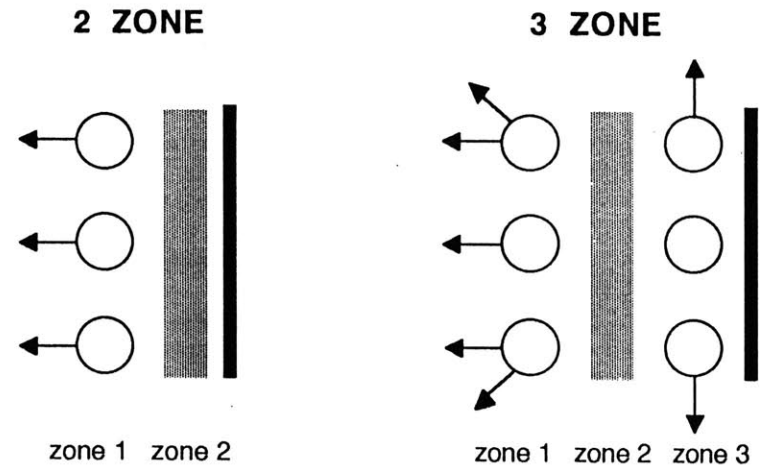
Location Of Rooms, Stair And Entry

The next step in the analysis was to look at the location of each room type, entry, and stair as well as the relationships between each of them.

The type of rooms in the client's models were for the most part predictable with a few notable exceptions. 7 out of 8 of the designs include a separate dining room in addition to space provided to eat in the kitchen. I asked several people whether they might do without the dining room and their answer was no. The dining room is used as a home office, for writing bills, for the children to do their homework, and for displaying hobbies like the soup tureen collection mentioned before, or the hand painted ceramics of another household. The dining room table was even used by one client to write her 600 page novel. Many of the social gatherings that these women participate in also center around the dining room table. It can be used as a meeting table or as a bridge club table. It is a neat and organized space suitable for serious thought, conversation, and business transactions. Although it may only be used on occasion for formal dining, it is a necessary programmatic addition to dwellings today.

The other surprising addition to the program of the dwelling was the inclusion of an extra space in 7 out of 8 designs. The extra space satisfied a different household need in each design. For some it satisfied a specific need for a music room or a computer room. For others, it was simply a quiet space, slightly removed from the other collective spaces, in which to read or relax.

The following diagrams examine the locations of every room type and make conclusions about their placement and function within the dwelling unit.

Fig. 2.25

KITCHEN
Observations:

- 4 out of 8 are located in horizontal zone 3 (the rear of each unit).

- the other 4 are in horizontal zone 2, but have direct access to the back yard and one outside wall.

- most are located away from the party wall: 3 run the width of the unit, 4 are on the outside corner, only one is along the inside party wall.

- all of the kitchens include a space for eating. 5 out of 8 include a table and chairs, and the other three include an eating bar.

- 3 out of 8 include a washer and dryer.

Conclusions:

- Kitchens are seen as less formal communal space within the dwelling unit. Their location in the unit reflects this fact. Located in the rear of the unit, they have less connection with the public street, but maintain their collective nature in the dwelling unit.

1   First Floor   Second Floor   2   First Floor   Second Floor   3   First Floor   Second Floor

4   First Floor   Second Floor   5   First Floor   Second Floor   6   First Floor

7   First Floor   8   First Floor

Fig. 2.26

BATHROOM
Observations:

- Location is not specific, but most fall within or around horizontal zone 2. 6 are in horizontal zone 1, 6 in zone 2, and 3 in zone 3.

- 7 out of the 10 main bathrooms are along the party wall.

- In relation to other spaces, bathrooms are almost always located off of hallways. The exceptions are two of the 1/2 baths which are located near the front door.

Conclusions:

- Bathrooms require some privacy. They should be located toward the interior of the unit and open onto a hallway rather than into a living space.

1   First Floor   Second Floor   2   First Floor   Second Floor   3   First Floor   Second Floor

4   First Floor   Second Floor   5   First Floor   Second Floor   6   First Floor

7   First Floor   8   First Floor

Fig. 2.27

LIVING
Observations:

- Living spaces are <u>always</u> in the front of the unit.

- 4 out of 8 are completely defined spaces, separate from spaces with other functions. The remaining 4 are combined with either a kitchen or dining area, yet are almost always spatially defined with a half wall or counter. Only one design treats living and dining as the same space.

- Most often located on the outside edge of the unit, 2 run the width of the house, 3 are along the outside edge, and 3 are along the inside party wall with views only to the street.

Conclusions:

- Living spaces begin to define the public edge of the dwelling unit, mediating the space between the street and the interior of the unit.

1 First Floor Second Floor 2 First Floor Second Floor 3 First Floor Second Floor

4 First Floor Second Floor 5 First Floor Second Floor 6 First Floor

7 First Floor 8 First Floor

Fig. 2.28

DINING
Observations:

- 7 out of 8 designs include a separate dining area.

- Almost exclusively located in horizontal zone 2.

- Usually located along the party wall: 2 are located on the outside wall, 1 spans the width of the unit, and the remaining 4 are along the party wall.

Conclusions:

- Dining is a stationary activity which occurs most often at night and does not need as much light and access to the outdoors as other rooms. It is also seen as a formal necessity although the room may be seldom used for dining. The dining area is, however, used for other activities such as a home office, or a place for the kids to do their homework. It is therefore seen as a necessary room. The room size could be small, determined by the size of a dining table.

1   First Floor   Second Floor   2   First Floor   Second Floor   3   First Floor   Second Floor

4   First Floor   Second Floor   5   First Floor   Second Floor   6   First Floor

7   First Floor   8   First Floor

Fig. 2.29

SLEEPING
Observations:

Sleeping spaces were different depending on whether or not the design was one story or two.

One story designs:
*   All three have a bedroom located in horizontal zone 3.
*   2 out of 3 have a bedroom in horizontal zone 2, located off of a hallway that runs from the living area to the kitchen.

Two story designs:
*   3 out of 5 located all their bedrooms on the second floor.
*   One has two bedrooms upstairs and 2 downstairs.
*   One has a "guest" bedroom on the first floor.

Both designs:
*   All bedrooms, with the exception of the "guest bedrooms" have some level of separation and privacy from the main living spaces in the house. They are either pushed to the rear or second floor of the house.
*   For those designs that included closets, bedroom closets were very large, often running the length of the wall.

1   First Floor   Second Floor   2   First Floor   Second Floor   3   First Floor   Second Floor

4   First Floor   Second Floor   5   First Floor   Second Floor   6   First Floor

7   First Floor   8   First Floor
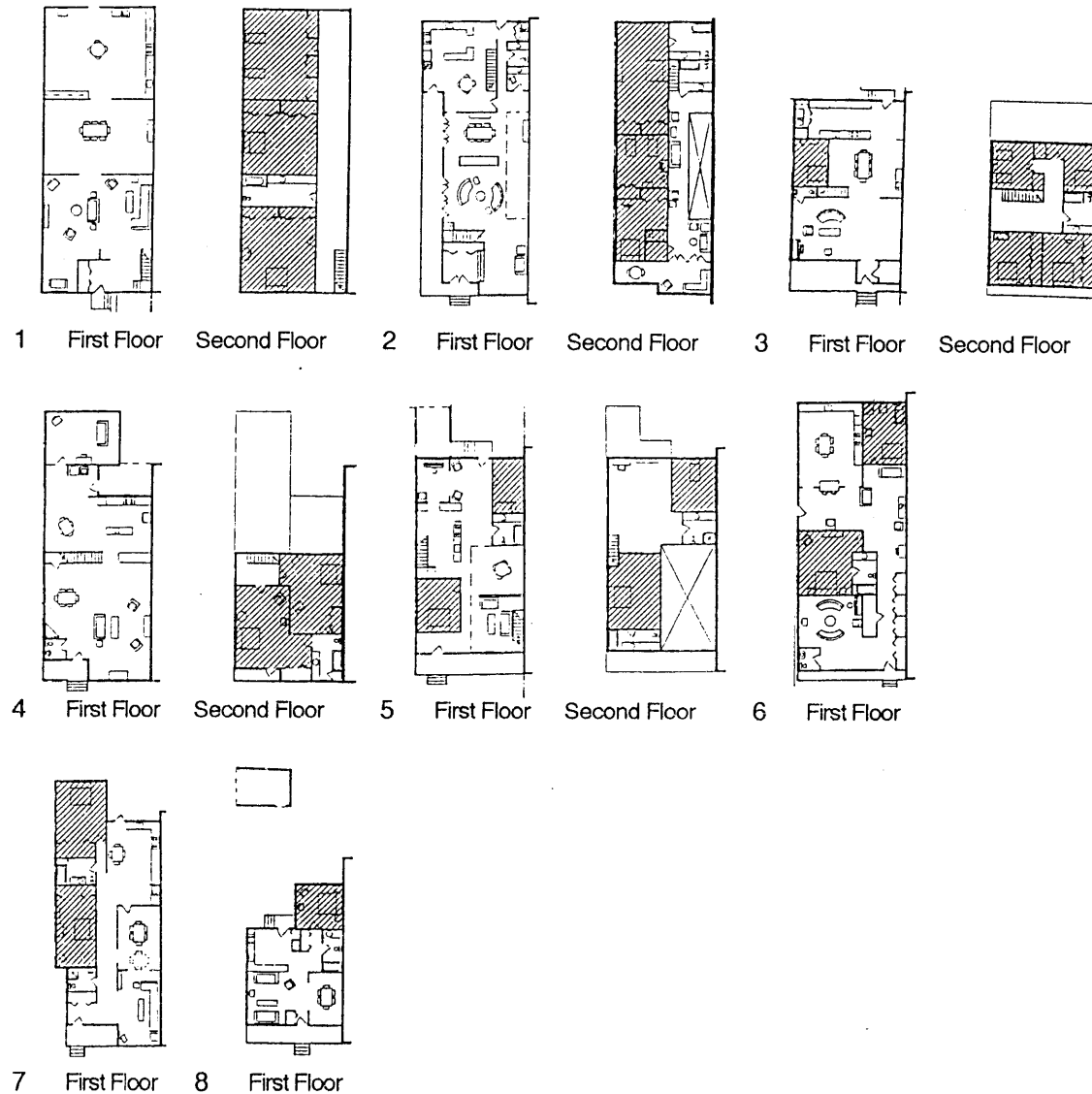
Fig. 2.30

ENTRY
Observations:

- In 7 out of 8 designs, the front entry is a defined space which includes a closet.

- 2 are located near the party wall, 2 are located in the center of the unit, and 4 are located near the outside corner of the unit.

- All 8 create a movement sequence in which one enters the house and then turns 90° to enter the main living space.

Conclusions:

Entry   Living

1   First Floor   Second Floor   2   First Floor   Second Floor   3   First Floor   Second Floor

4   First Floor   Second Floor   5   First Floor   Second Floor   6   First Floor

7   First Floor   8   First Floor
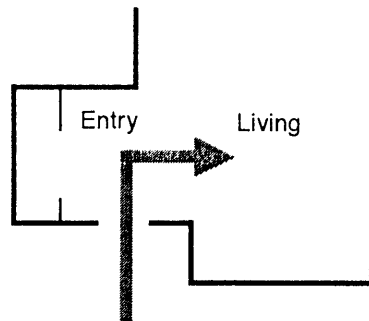
Fig. 2.31

STAIR
Observations:

- The stairs almost always act as a spatial divider or transition element.

- 3 out of 5 are located in zone 2 and act as a divider between zones 1 and 2

- The remaining two act as part of a transition from the entry space to the living space.

Conclusions:

- Stairs should be viewed as an element that creates spatial definitions both in plan and in section.

| 1 | First Floor | Second Floor | 2 | First Floor | Second Floor | 3 | First Floor | Second Floor |

| 4 | First Floor | Second Floor | 5 | First Floor | Second Floor |
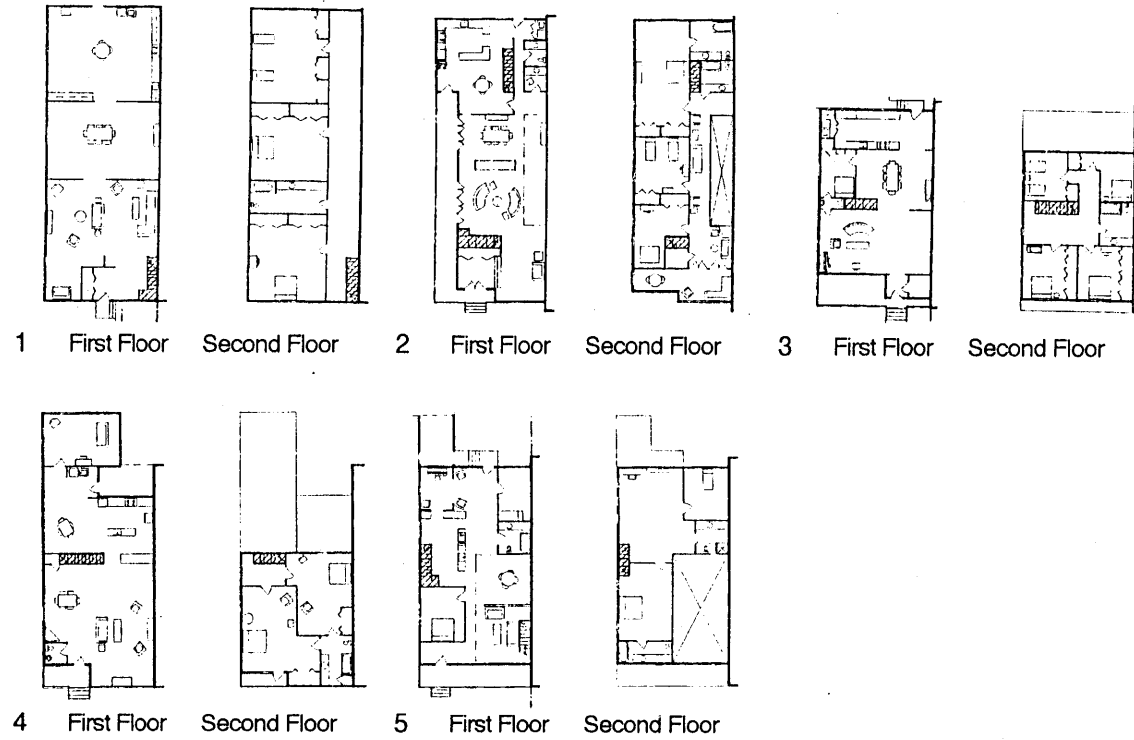
Fig. 2.32

EXTRA SPACE
Observations:

- 7 out of 8 included a special, extra space in their designs. They ranged from a small alcove for quiet reading alone, to extra living or guest space, a work room, or garage.

- 5 out of these 7 are located at the extreme front or rear of the unit

Conclusions:

- These extra spaces were very important to those who included them. Their positions in either the extreme front or rear of the plan gives them a certain degree of privacy and flexibility.

1   First Floor   Second Floor   2   First Floor   Second Floor   3   First Floor   Second Floor

4   First Floor   Second Floor   5   First Floor   Second Floor   6   First Floor

7   First Floor   8   First Floor

SUMMARY / DESIGN GUIDELINES

Fig. 2.33 Summary diagrams showing the conclusive locations of two rooms within the two and three zone schemes.
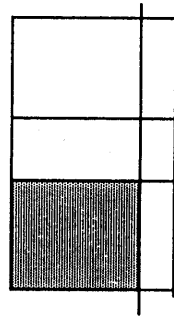
• The **Living Room** is always in the front of the unit with views toward the side yard.

• The **Living Room** is always in the front of the unit, usually with a view only to the street.
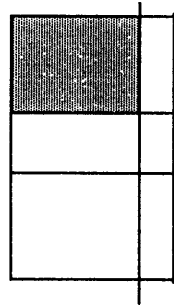
• The **Kitchen** is always in the back of the unit with **two** outside walls.
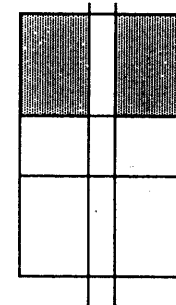
• The **Kitchen** is always in the back of the unit, but may only have **one** outside wall.

67   METHODOLOGY AND PROCESS

SUMMARY / DESIGN GUIDELINES

Fig. 2.34 Summary diagrams showing the conclusive locations of entry and stair: two space defining elements within the two and three zone schemes.

2 ZONE
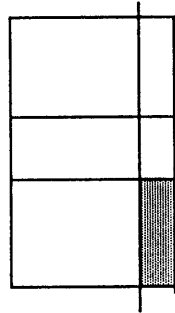
- The **Entry Space** is always located on the front of the unit between the center line of the unit and the **party wall**.
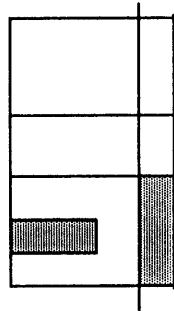
- **Stairs** are usually near the entry and tend to run parallel to the front of the unit. They are most often used to divide major collective spaces within the unit.

3 ZONE
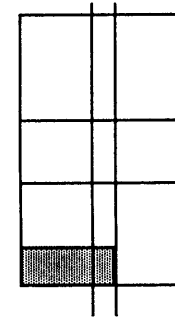
- The **Entry Space** is always located on the front of the unit, between the center line of the unit and the **outside wall**.
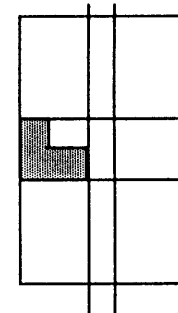
- **Stairs** are located toward the middle of the unit and tend to run parallel with the front of the unit.

Design of the Supports

After the clients designed their ideal dwelling and I had analyzed them, I realized that there were enough common features to justify standardizing some of them. I decided to test whether or not it would be possible to make a base dwelling unit for this particular group which would still allow individual clients enough freedom to create a dwelling suited to their household. This base unit or units would be similar to Habraken's Support systems of collective agreements about housing. It would consist of a foundation, structural walls or beams, and a plumbing wall, all consistent with the clients' initial design decisions. The rest of the dwelling would be free for the clients to manipulate.

The incorporation of a dwelling Support into the process would also address several practical problems with the implementation of this type of process. It would identify the extent and location of all the major structure and service elements for a particular development. This would aid contractors in estimating the cost of the project and bidding for the contract. It would also lessen the waiting period for the client, by reducing the work done between unit design and completion.

Since the common elements in the clients' designs seemed to fall into either a two zone pattern or a three zone pattern, I designed two separate base units. Walls or beams were fixed in each model to eliminate the need for long spanning structural members. The spaces that these framed corresponded to the location of major spaces within the clients'

designs. The location of the plumbing wall was fixed in a position to accommodate several variations of kitchen and bathroom location, near the rear of the unit since the kitchen never fell forward of the center horizontal zone.

There were a few differences between the two and three zone models. The two zone model does not fix the location of the stair and leaves two or three options for its placement. This was a reflection of the clients' designs (see fig. 2.34) which were not completely location specific. The division of spaces within the two zone model left smaller, function oriented spaces or circulation along the party wall, and one large space along the outside wall which could be divided as necessary.

The three zone model left space for movement through the center of the unit. Its three larger spaces encircled this center and could be made separate or connected. Interestingly, the three zone model also fixed the stair location on an outside wall. The most influential of the client design guidelines (see fig. 2.34) were the following: the plumbing wall should stand free to allow the maximum number of different kitchen locations; the living room is located in the front of the unit along the party wall and is most often connected to another room, the entry space is located toward the outside wall. By process of elimination, the stairs could not be successfully placed anywhere else. Although my architectural training indicated that this was not a desirable location for a stair, it was commensurate with the clients' designs and later generated some interesting design investigations by the clients.

2 ZONE SUPPORT

Fig. 2.35 Dimensioned plan of the
two zone Support model.
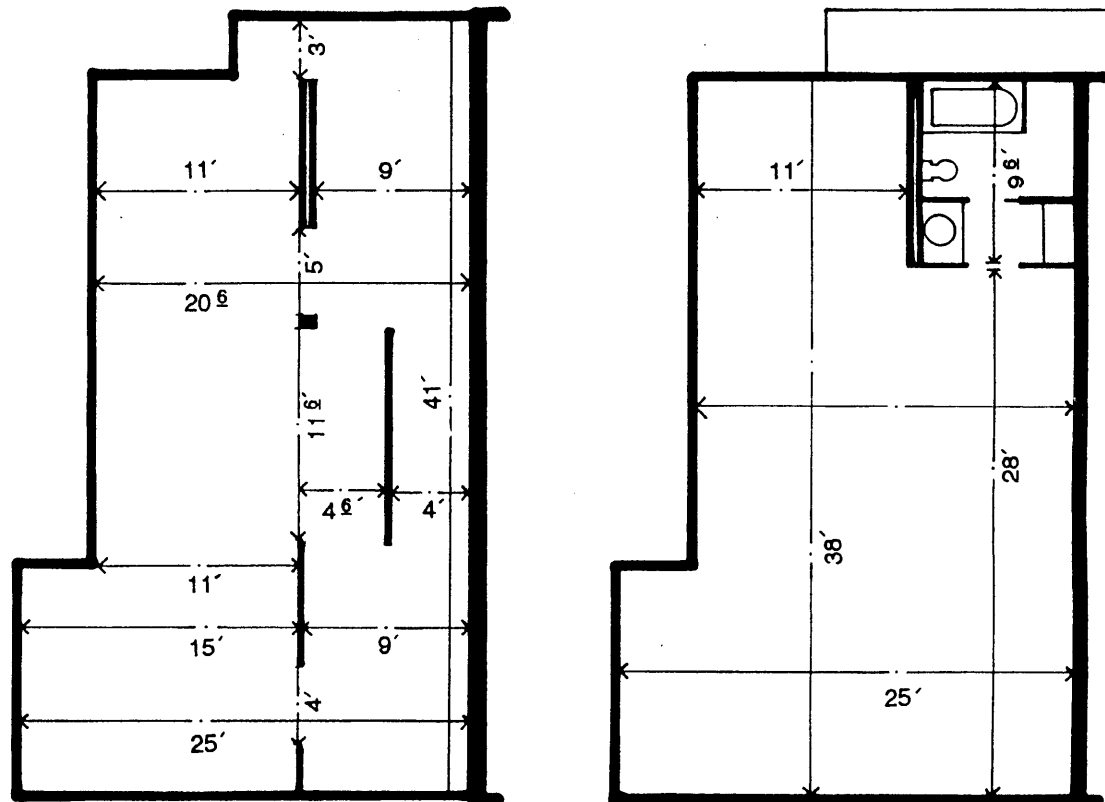
3 ZONE SUPPORT

Fig. 2.36 Dimensioned plan of the three zone Support model.
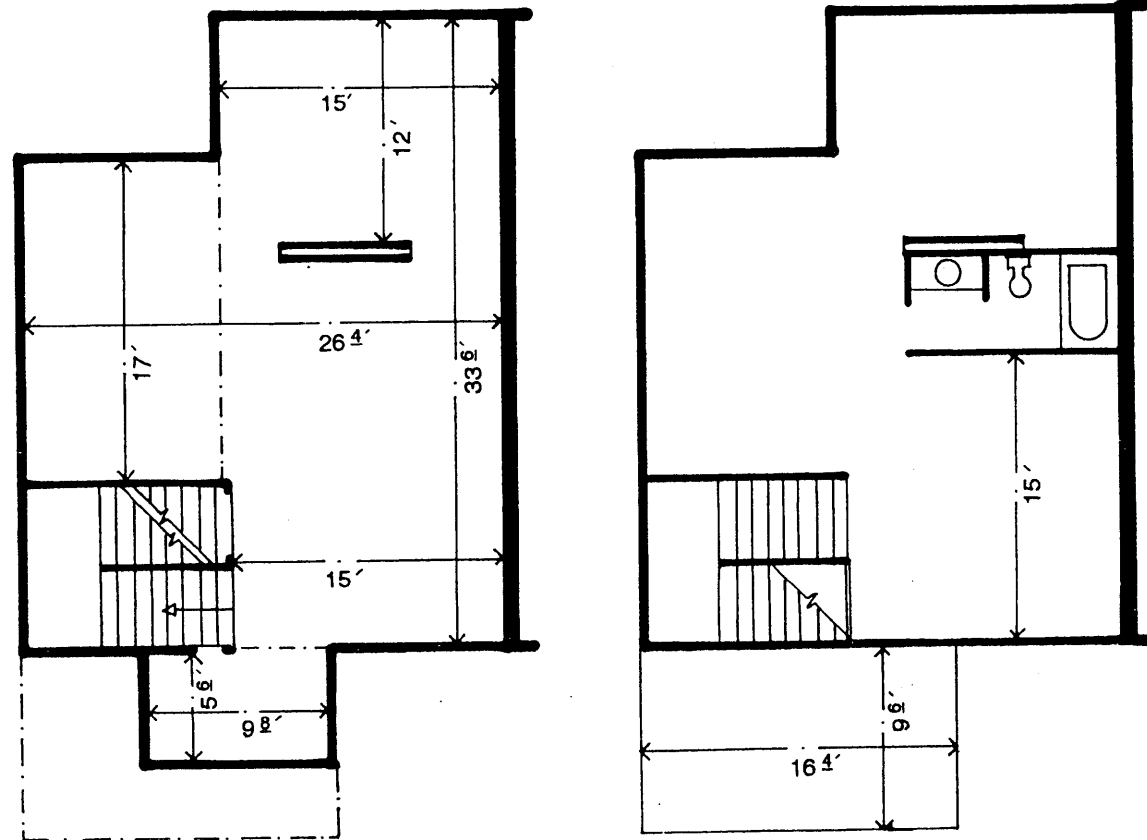
Back to the Client

In order to test the success of these two Support designs, I returned to the clients with a second model kit. This kit consisted of a model of the Support (in white) and a kit of parts for the clients to design with. The clients were given a 2 zone or 3 zone Support corresponding to the layout of their initial design. The kit of parts contained the following: walls (in brown), a scale figure, an entry stair, a porch, several sheets full of furniture (two dimensional), a picture of wood and stone, scissors, tape, and glue.

The clients were instructed to design their ideal dwelling within the support model. The kitchen and bath had to be as close as possible to the plumbing wall, and they were free to enclose as much space as they needed, and add balconies or porches.

The models were successful. Every client was able to design a unit that they were happy with, and, although the units were a great deal smaller than the clients' original designs, no one complained about lack of space.

The following pages show the base model kit as well as a sample of the clients' own designs.

Fig. 2.37 Kit of parts given to
the clients with the second model
kit.

Fig. 2.38 2 Zone base model for second model kit.
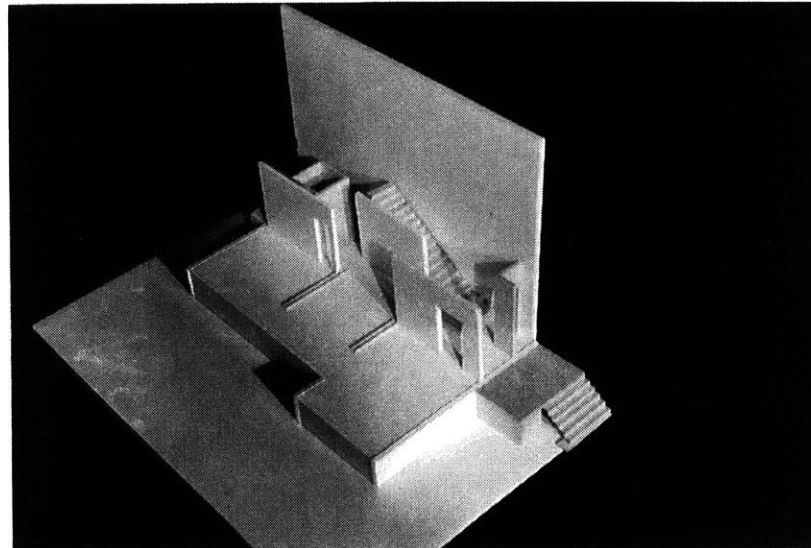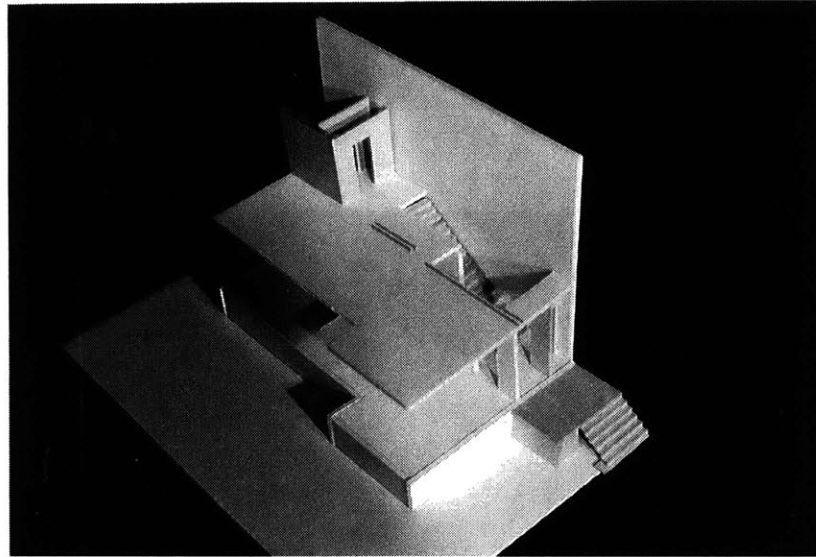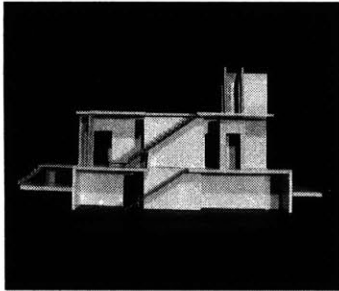
Fig. 2.39 3 Zone base model for second model kit.
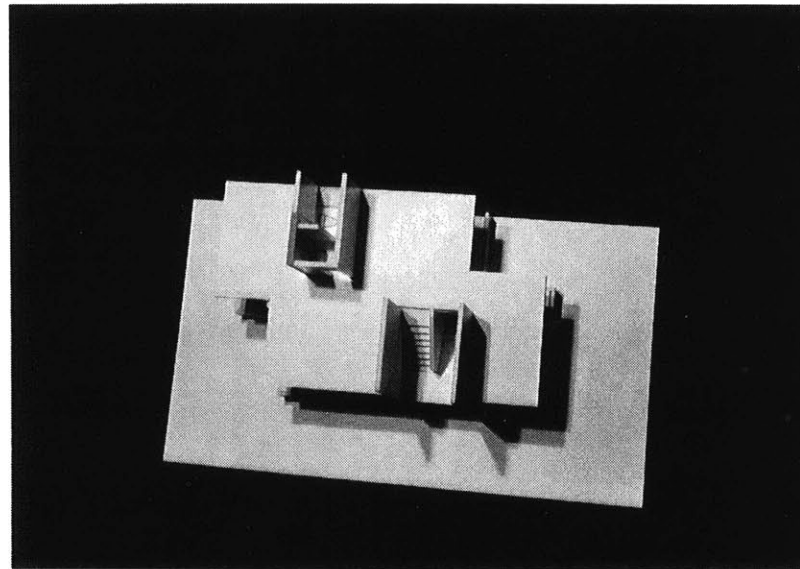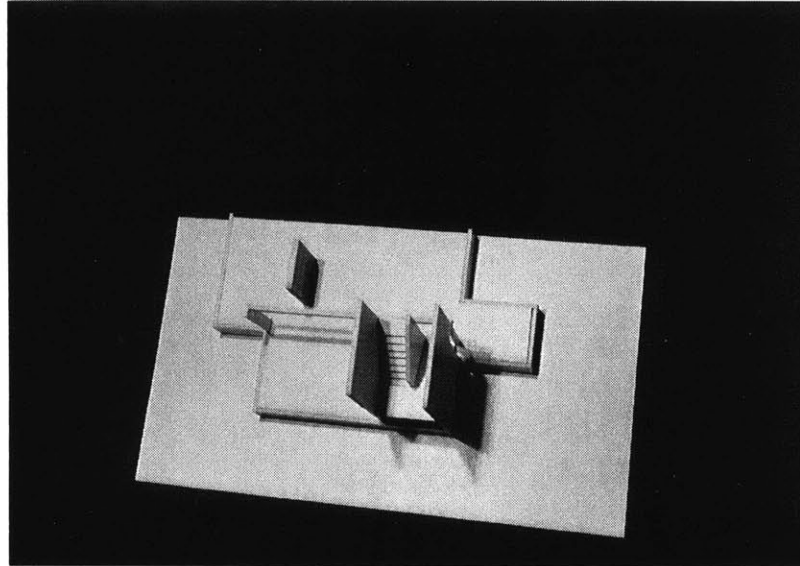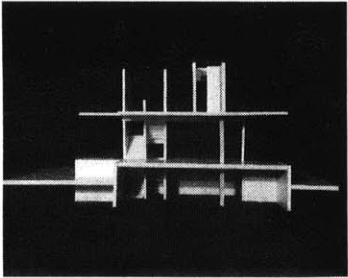
2 ZONE
CLIENT MODELS

Fig. 2.40 Model by client number 1 using the 2 zone base model kit.

Observations:

1. This client separates served and service spaces.

2. This hallway gives a second path of movement from the kitchen or bathroom to the front door and stairs.

3. The placement of this closet serves to define the space of the living room and dining room as separate. It also obscures the view from the entry into the dining room.

4. The client added a fire place in the living area.

5. A two story space provides a way for light to reach the otherwise dark hallway on the first floor.

6. A small study and television room added as an informal collective space.

7. A home office is located on the second floor with a view to the street.
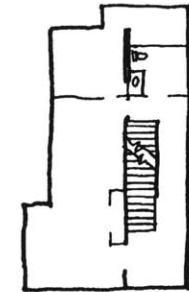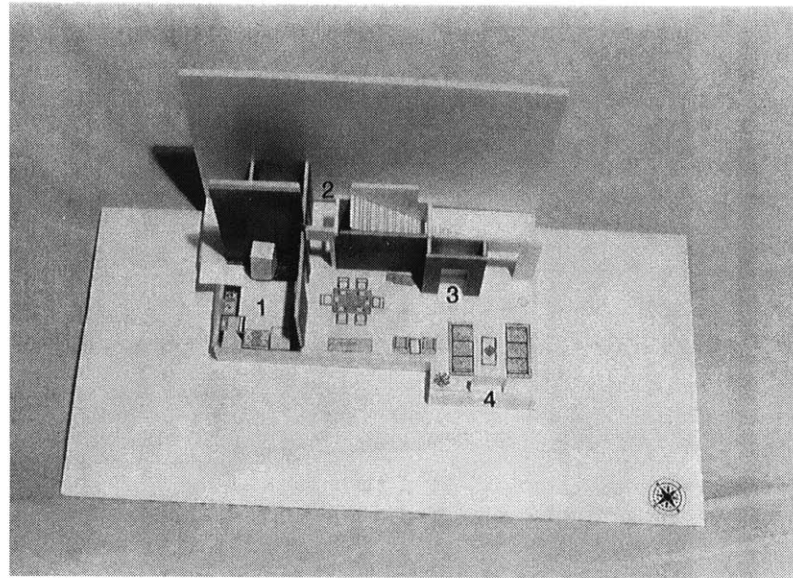
First Floor
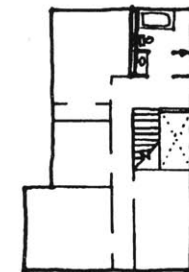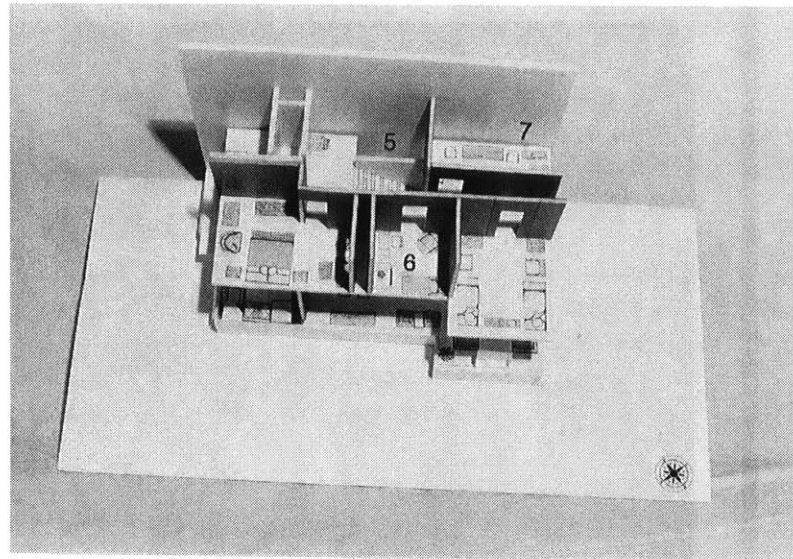
Second Floor

2 ZONE
CLIENT MODELS

Fig. 2.41 Model by client number 2 using the 2 zone base model kit.

Observations:

1. Separation of served and service spaces, but equally sized living room and kitchen.

2. There is no separation between the dining and the living room.

3. Master bed room is the largest room in the house.

4. The stairs to the basement are opened up to the second floor to bring light into the basement at its darkest point.

5. This client added a tiny bedroom near the kitchen - a special quiet space for her to get away from the children. The only access to this room is through a bathroom so that she can have two locked doors between her and the kids.

"When you have kids, you forget about privacy. They will come in the bathroom when you're taking a bath and put the lid down on the toilet, sit down, and start up a conversation. There is no place where the kids don't go."

First Floor

Second Floor
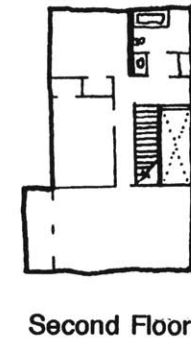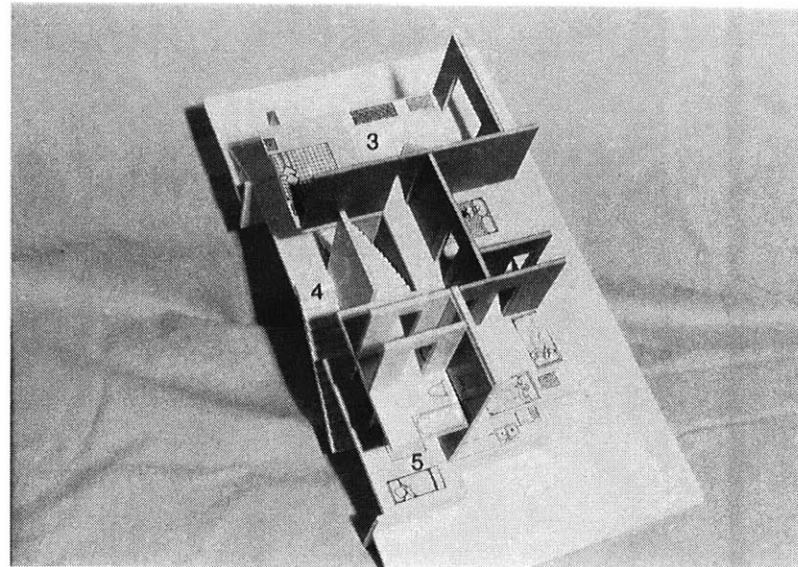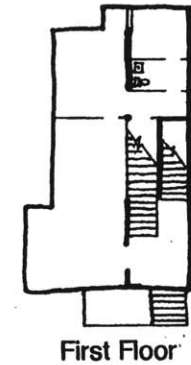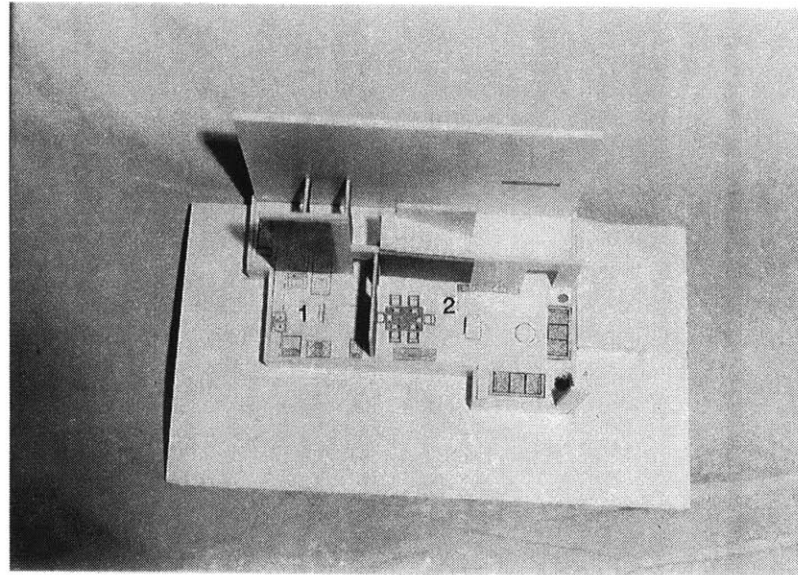
3 ZONE
CLIENT MODELS

Fig. 2.42 Model by client number 3 using the 3 zone base model kit.

Observations:

1. The client has placed the bathroom so that there are three distinct living spaces:
A. Living
B. Dining
C. Kitchen

2. To my surprise, when I turned the model over I found that the client had also put furniture in the basement and created a large social space and work area for her children.
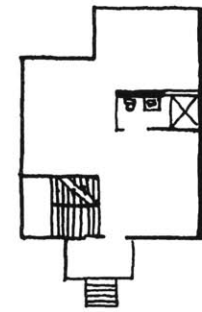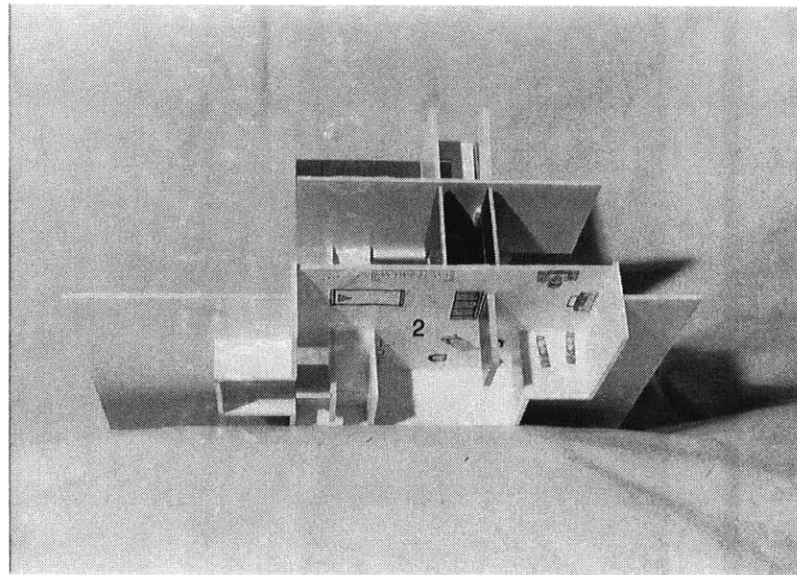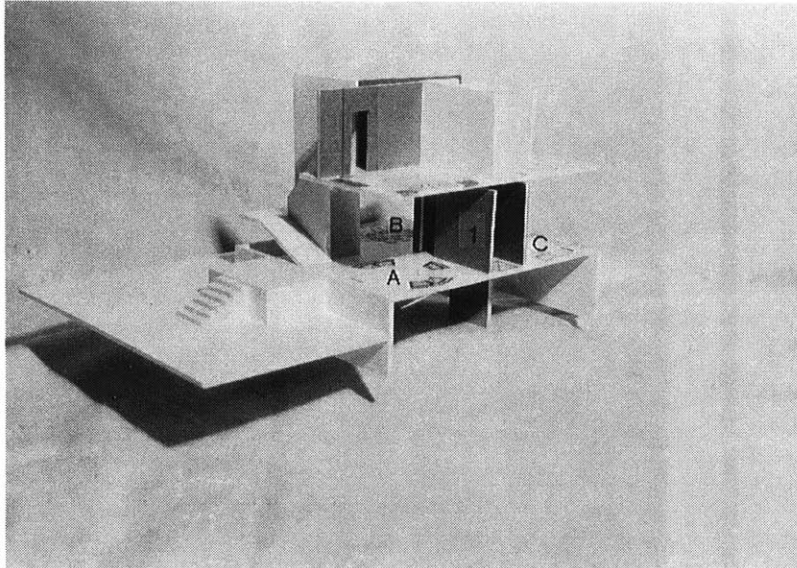
First Floor
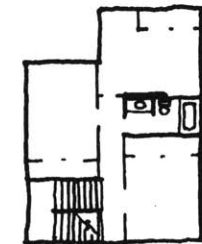
Second Floor

3 ZONE
CLIENT MODELS

Fig. 2.43 Model by client number 4 using the 3 zone base model kit.

Observations:

This client placed a high importance on light in her design.

1. The client points out how the master bed room overlooks the stairs and lets in light.

2. Smaller windows for the bedroom.

3. A round window over the kitchen sink was very important to this client.

4. Windows along the sides of the front and back doors let in light, celebrating the threshold between inside and out.

5. Large "picture" windows frame the social spaces of the unit - the living room and the den. The den also doubles as a guest room for her mother who cannot climb stairs.

6. The stairs command the largest window with glass up to the ceiling, celebrating vertical movement and the tallest space in the unit.
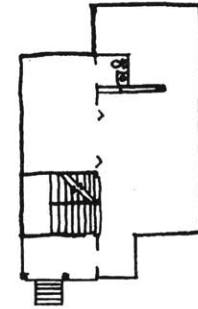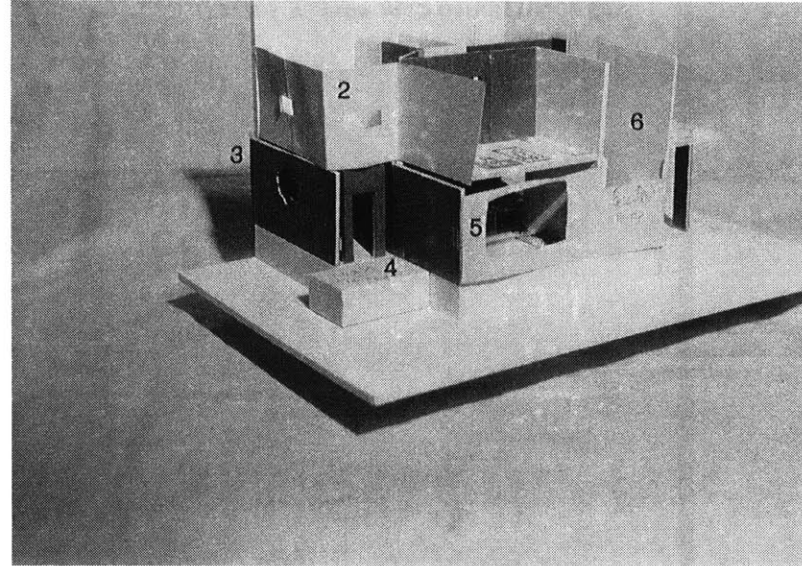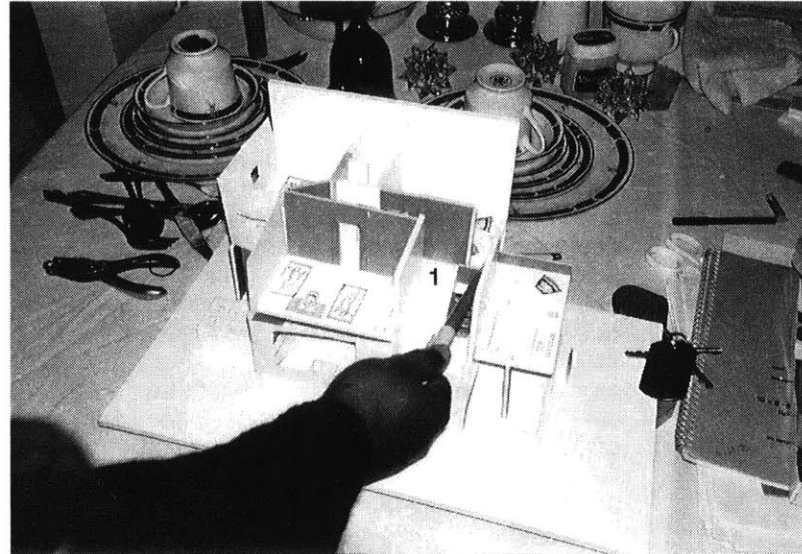
First Floor

Second Floor

Time Progression

The base models that I have designed make it clear how a unit could be altered over time. Initially, members of the community could meet with the architect as surrogate clients, just as I have done here. Their models could be analyzed to come up with one or more base model designs. These base models could then be presented to any household selected to receive a new unit. This household would then have the opportunity to design their own unit within the Support. When a final design is agreed upon, the architect would draw up the plans and the design would be ready to be built. Depending on the needs of the household, their unit design could be built with a ready-made degree of expansion. The following drawings illustrate how a base model unit could expand from a core, one bedroom house into a five bedroom house over several years.

3 ZONE SUPPORT

Fig. 2.44 The client might initially receive a model like this one in which to design their unit layout. The given design features would have been determined from an analysis of designs by neighborhood residents acting as surrogate clients.
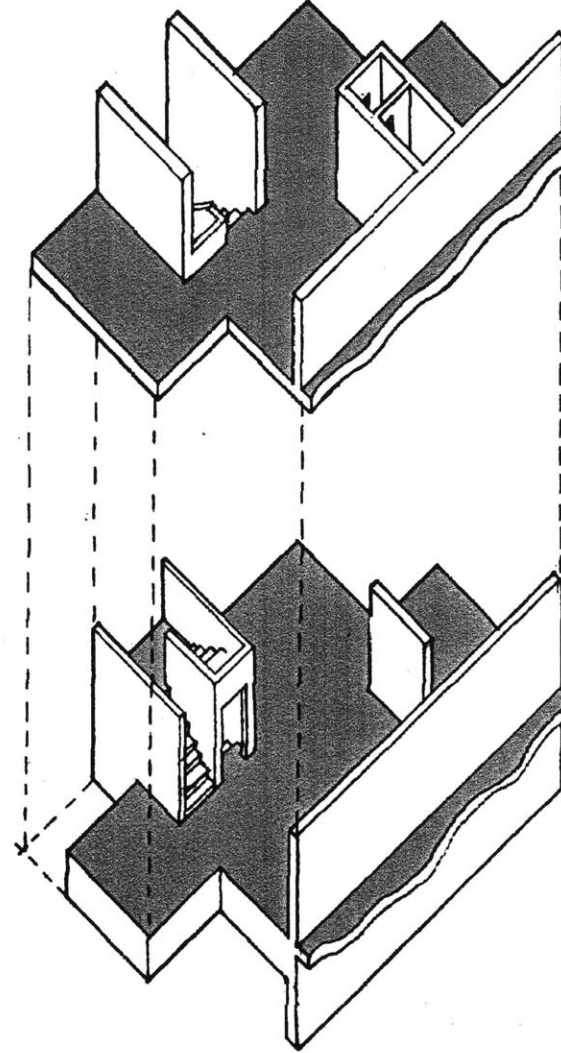
FIRST BUILT ITERATION

Fig. 2.45 Client and architect meet together to design a unit layout for the client's household. As shown on the right, the client may choose to have as little as one bedroom, a skeletal kitchen and bathroom built at the time that they move in. Then they could build the rest of the unit themselves in exchange for a lower mortgage. Alternatively, a more complete unit could be built for the clients to move into.
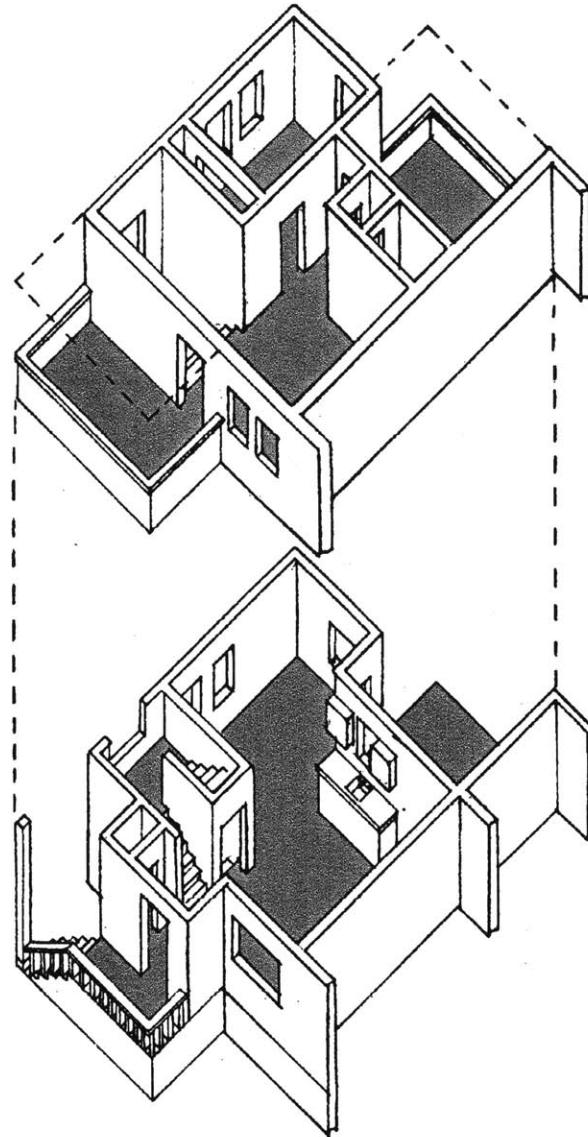
FIRST USER EXPANSION

Fig. 2.46 A possible expansion of the initial unit layout shows two bedrooms, an expanded kitchen, a new utility room, and an additional half bathroom. The front facade is also enhanced with ornamental porch railings.
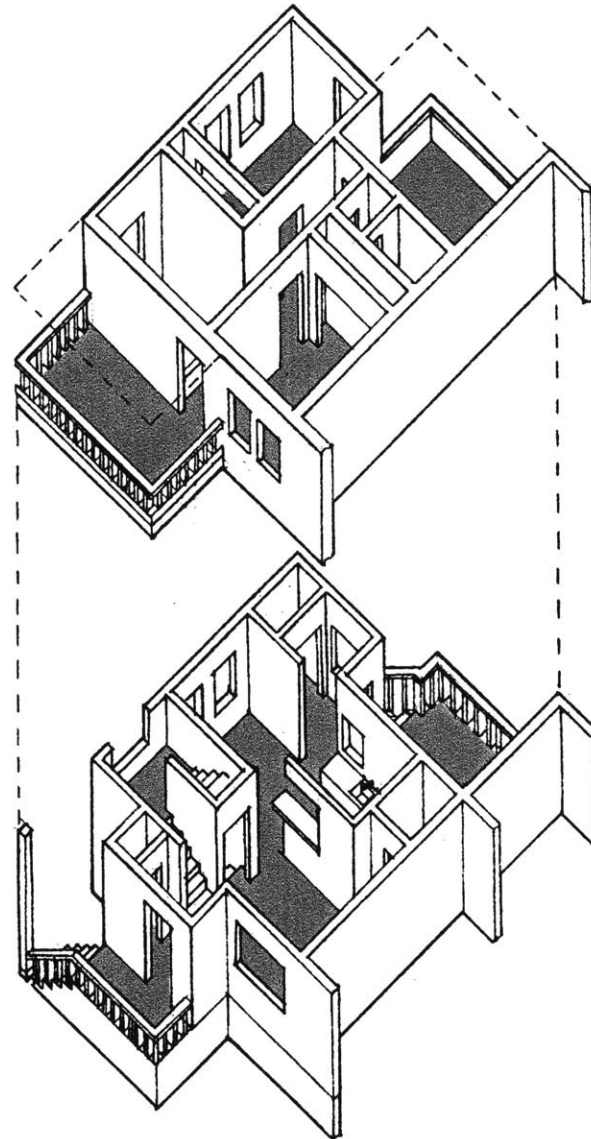
FULL CAPACITY / FINAL EXPANSION

Fig. 2.47 A number of years have passed and the unit has reached its full capacity. Here it is shown with four bedrooms, an expanded entry space, and a large den or family room.
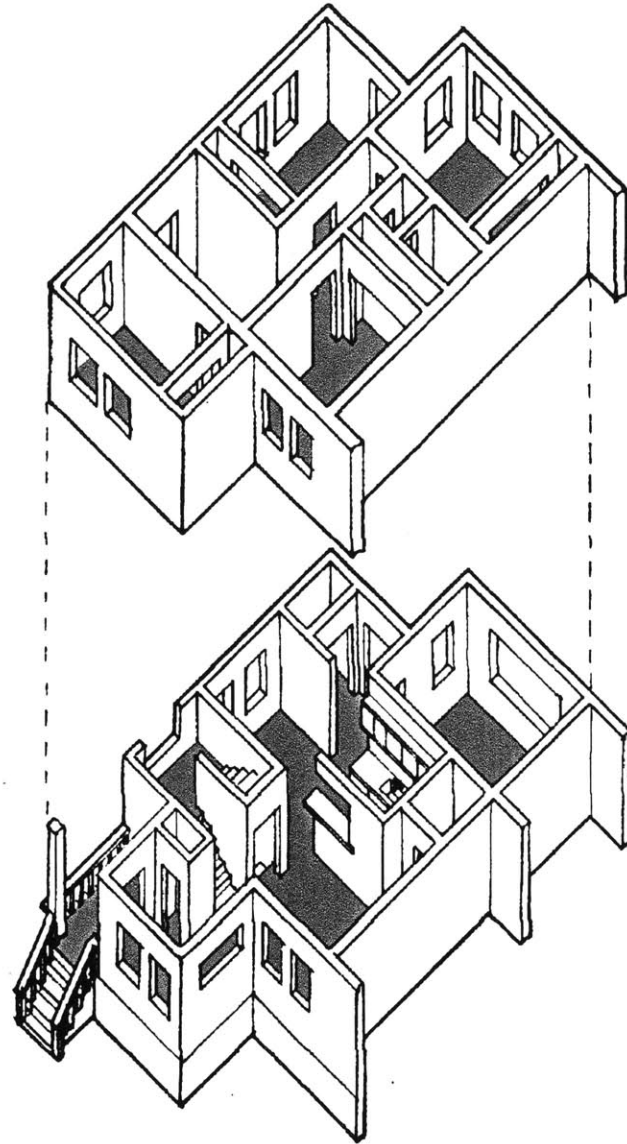
Variations

In addition to the Supports' adaptability over time, they also have a high degree of initial design flexibility. Many different unit layouts will fit in the base Support model. I came up with five variations for each Support. The clients' came up with their own. None of them were exactly the same.

The following pages illustrate some of the variations in the relationships between rooms, number of bedrooms, and sectional changes.

VARIATIONS
Kitchen To Dining
Relationships

Fig. 2.48

2 ZONE
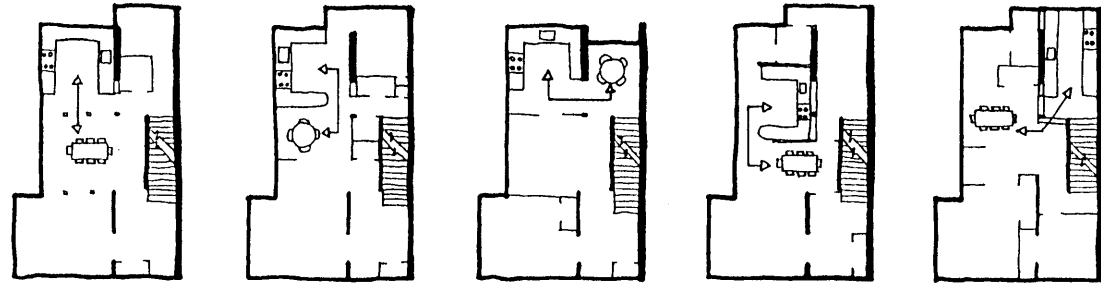
3 ZONE
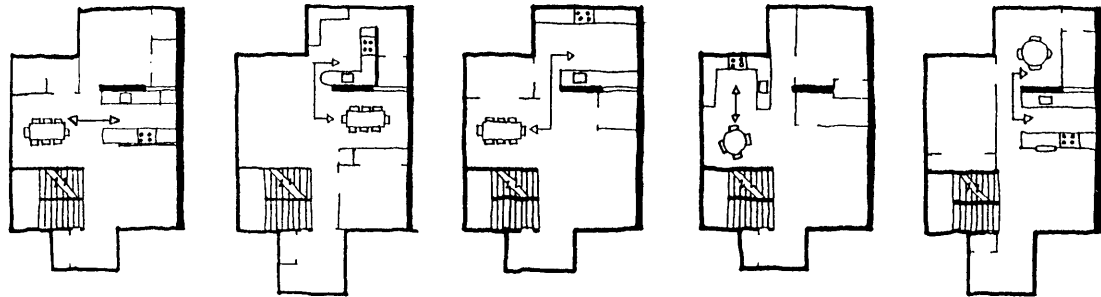
VARIATIONS
Kitchen To Living
Relationships

Fig. 2.49

2 ZONE
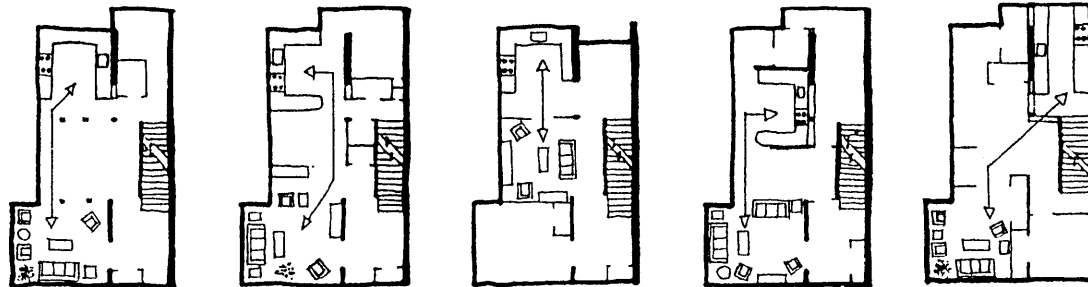
3 ZONE

VARIATIONS
Bedrooms

Fig. 2.50

2 ZONE

METHODOLOGY AND PROCESS

VARIATIONS
Bedrooms

Fig. 2.51

3 ZONE

SECTIONAL VARIATIONS

Fig. 2.52
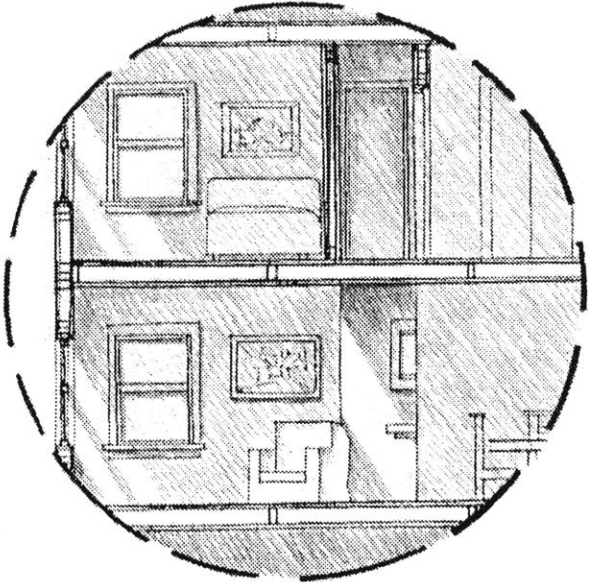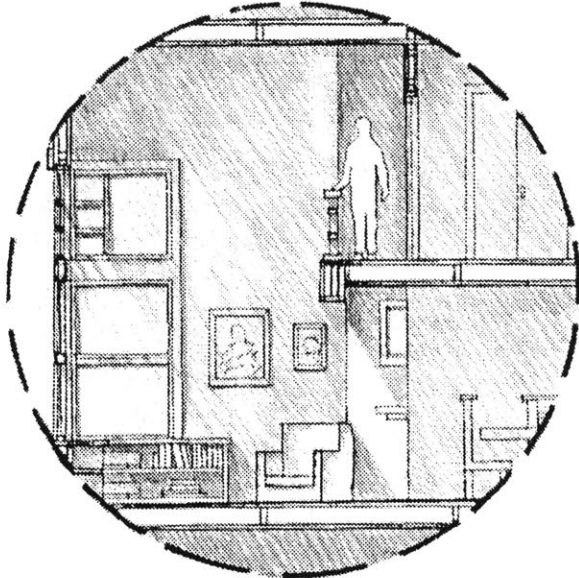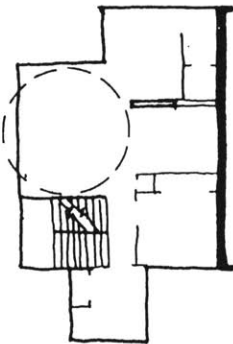
SECTIONAL
VARIATIONS

Fig. 2.53
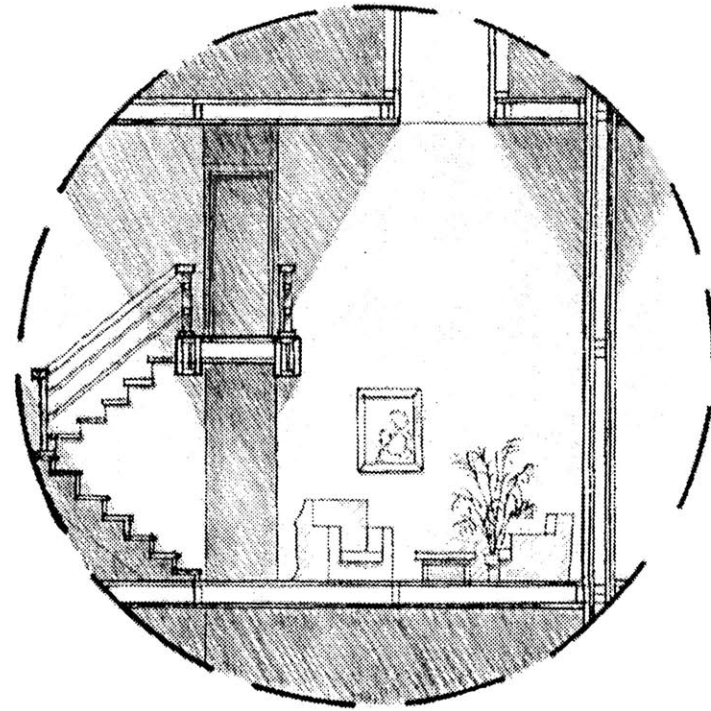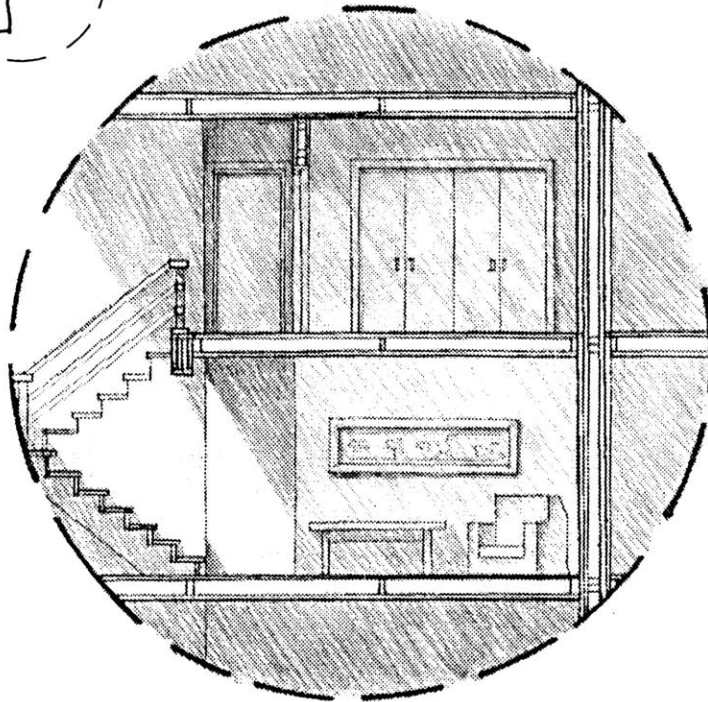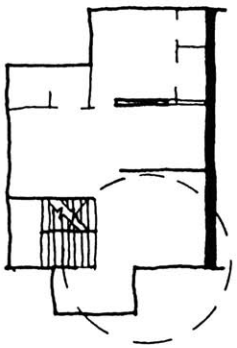
Neighborhood Scale

The methodology and design investigation at the neighborhood scale are incomplete as presented here. However, this is not to lessen the importance given to this step of the process. It may in fact prove to be the most important. This piece of the investigation, however, could easily become the subject of another thesis.

The steps that I have taken to date at the neighborhood or collective scale are outlined on the following pages. All the information was gathered at one meeting. All but one client attended the meeting, and several friends, children, and neighbors came along, too.
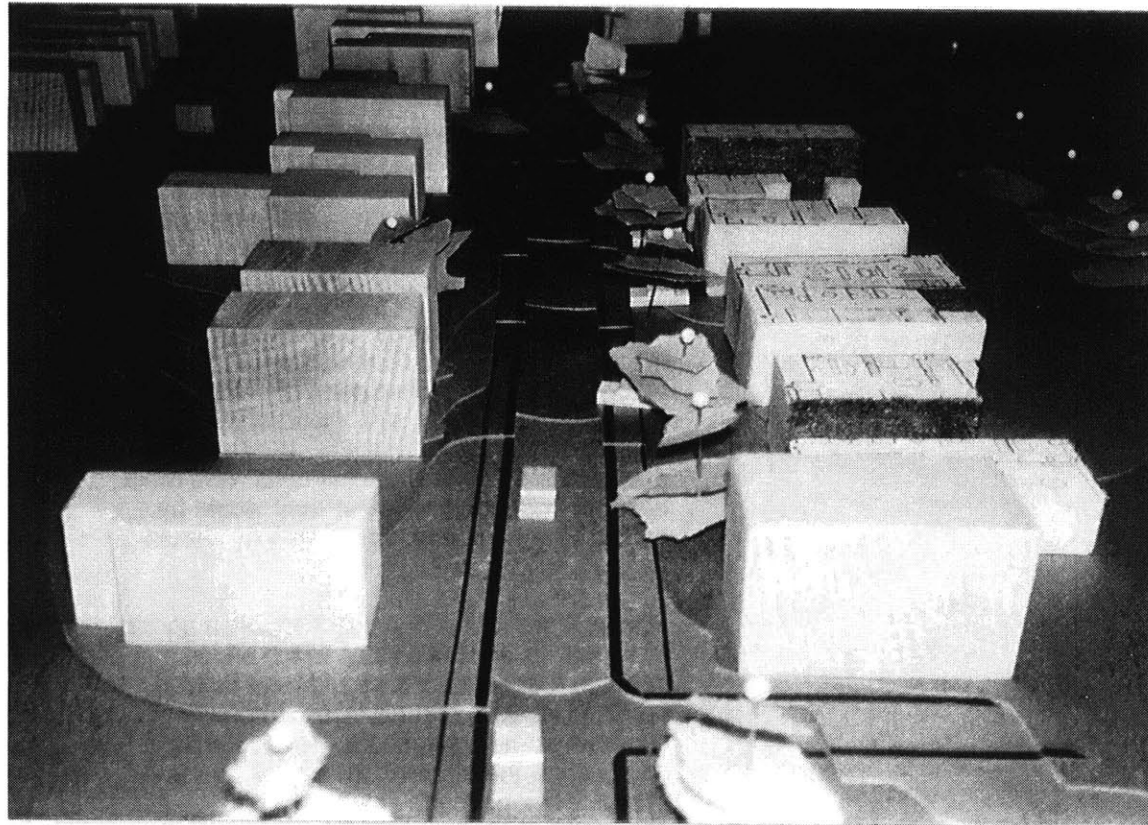
Fig. 2.54 View of the site with the new units as placed by the clients.

Fig. 2.55 The son of one of the clients helps set up the model before the meeting. (photo by Masaaki Yonesu)

Fig. 2.56 Clients gather around the photos of their models, enjoying being able to see them again.

The meeting began with a social time, eating cookies and fruit, talking with neighbors, and wandering around to look at the photos and drawings that I had on the walls. When everyone had arrived, I began the meeting in earnest. Introductions were exchanged for those who did not know each other and we all sat around a large table.

I first passed out plans of each of the designs that the clients had made and we had a small discussion around the features of each unit. I then presented three plans which I had altered in an attempt to make them more practical to build. The units were drastically smaller and some rooms were even moved, but none of the clients who had originally designed the plans objected. In fact, they were excited and honored that I had made their designs buildable. It did not matter to them that I had made changes because it was still *their* design.

The meeting then turned to examine the neighborhood scale. Gathered around a model of the site, I asked each of them to place their unit on the site. None of them would place theirs individually. Instead, they decided as a group where the units were most needed, how close together they would be, and how far back from the street they should be.

Finally, there was a vigorous discussion about individual vs. shared spaces which ended in a decision that every unit should have its own porch, front walk, and driveway, completely separate from its neighbors. The following pages show the atmosphere as well as some of the decisions made at the meeting.
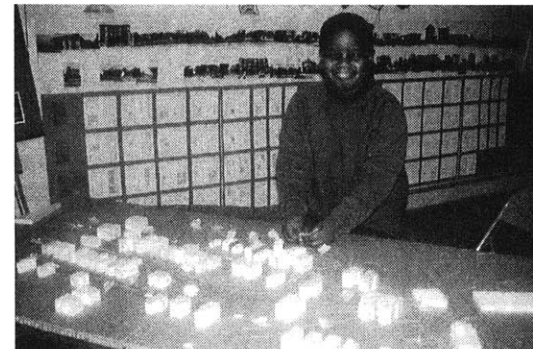
Fig. 2.57 Talking to the group.
(photo by Masaaki Yonesu)
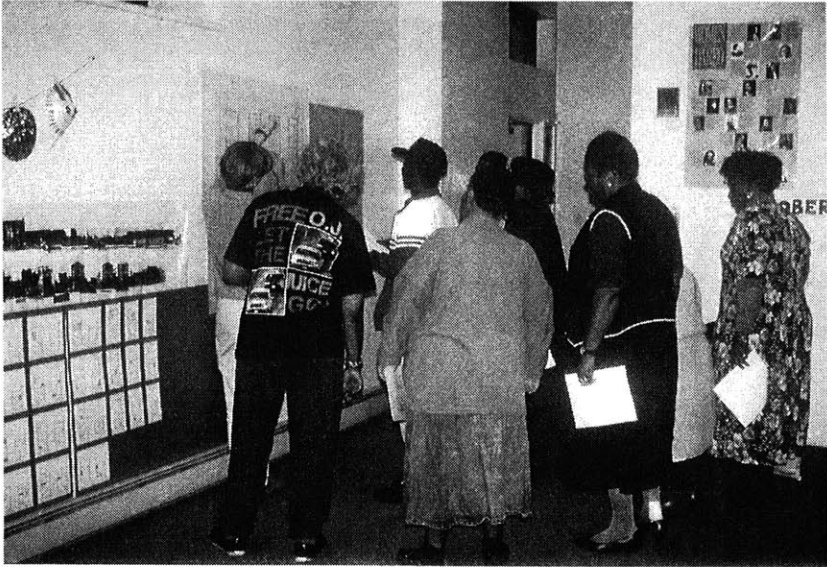
Fig. 2.58 Explaining one of the plan transformations to the group.
(photo by Masaaki Yonesu)

Fig. 2.59 Discussion about entry location and safety. (photo by Masaaki Yonesu)

Fig. 2.60 Discussing the unit placement on the site. (photo by Masaaki Yonesu)

Fig. 2.61 Shows the clients'
placement of the units and trees on
the site. Existing housing stock is
modeled in wood. Client models
are in black and white.

COLLECTIVE DECISIONS MADE AT THE MEETING

- Units should be placed further back from the street than the existing housing stock, and the provided with slightly larger side yards.
- Trees should be planted along the sidewalk to redefine the edge of the street without blocking the view of the unit entry (for safety reasons).
- All units should have separate entries, in full view of the street.
- All units should have separate walkways, porches, driveways, and entries. Fences should be provided for the back and side yards as well as down the middle of the front yard to designate clear ownership of property. The front edge along the street should be left open for each unit to define themselves.
- There should be variations in unit type and exterior style on every street.
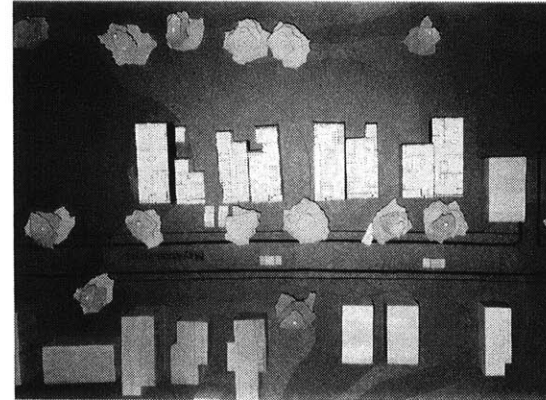
3.

ASSESSMENT

Conclusions

Common Features / Design Guidelines

One of the most surprising outcomes of this thesis is that despite my encouragement of individual expression in the design process, there were many common elements in the resulting unit designs. Occasionally, the similarities were so strong across the board that I was able to develop common rules (page 67 - 68) that guided my design of the basic unit Support. In addition, details about unit entry sequence, stair, living, dining, and kitchen location, and the amount of light and privacy associated with each could be used as guidelines in any individual design for this community (pages 54 - 66). Exterior design guidelines were also commented upon even though my investigation at the community scale was brief. There was a clear consensus on how far back the units should be from the street and about clarity of territory and ownership.

However, this does not mean that these guidelines should be used for other projects in other communities. The goal of user participation in design is to give the end users a voice in the design process. Participation design engenders pride in the community involved, empowers individuals to take on other improvement tasks, and encourages households to remain in their neighborhoods longer. It also provides a check for the architect to ensure that their designs match the daily needs of the individual end users. It remains to be seen how these needs change from community to community, culture to culture.

Client Participation

It was encouraging to see how eagerly the clients participated in this process. I initially thought that it would be difficult to get people involved. However, my experience was quite the opposite. After explaining the process fully, I had 11 volunteers, 8 of which followed through to the end. They were serious and realistic about the process. Even though I gave them almost complete freedom in their design options, they designed rational, livable dwellings based on the everyday actions of their own lives.

Success of Methods

The methods that I have used in the interactive design portion of this thesis were for the most part successful. However, there were some that did not work at all and were abandoned along the way.

The first of these was an interview question which focused on activities within the dwelling. This was devised in order to prevent the clients from thinking about traditional rooms in a dwelling and to re-examine what spaces they actually needed to accommodate the activities that went on in their household. Unfortunately, this question resulted in clients putting up their guard and refusing to tell me anything. They did not want to tell a complete stranger what they did in their household even if it was only that they woke up, ate breakfast, and left for work. According to them, that was private business which could

not be shared. It could be that a written questionnaire to be completed in private might have been more successful. But in my experience, questionnaires left with a client over several days, would usually not get done.

Another tool that I used was a scaled plan drawing. I showed each client a drawing of their own design and asked them to color in what they liked or did not like and to note anything that was left out of the design. I found that none of them could read the drawings. In fact, they did not even recognize the drawings as their own designs.

Models, however, were different. The clients immediately identified with the model kit process. Most of the energy and discussion about the designs were generated by the three model sessions. The models were highly effective in generating meaningful dialogue and excitement from both the clients and myself. Whenever something could not be expressed verbally, it could easily be modeled on the spot. The clients had a good understanding of the spaces that they were designing and could immediately see the results of their invention.

Interestingly, the crudeness of the model kits turned out to be an asset. The clients were not afraid to touch and manipulate the models which did not look finished. Also key to the clients' ability to express their design ideas, was the familiarity and simplicity of the tools and the skills needed to make the models. The first model only involved picking up pieces and arranging them on a board. The second model involved simple cutting and pasting. There were no new skills that the clients had to master in order to produce a three dimensional representation of their design ideas. This put them on an equal level with me and removed any obstacles in the way of the design investigation.

In summary, it is clear from this process that:
- Reasoning behind questions that are asked should be clear, in order not to raise suspicion about the underlying motives.
- Drawings are unsuccessful in conveying design information to the clients, especially in a group setting.
- Models are very successful. They are fun to make and generate a higher level of discussion.
- Crude models tend to bring about more in-depth responses from the clients.

Future Viability

The question of the future viability of this process has many determinant factors, not the least of which is whether or not architects would choose to pursue such a process.

In general, it may be said that architects do not pursue this type of design process for the following reasons. First, as illustrated in this thesis, this type of process does not usually yield the kind of design that would be published in an architectural journal. The resultant designs tend to be more traditional with only small detail inventions. An architect who desires to become expert in this method of design will inevitably find it difficult to gain respect from peers and from the architectural community.

> "In architectural criticism, the worst you can say of an architect's work is not that he is inept or had bad judgment, but that he did what someone else already did before. Indeed, in the course of time, the idea that architecture is the special within the ordinary has been developed in the idea that originality is the prerequisite of good architecture" [30]

Secondly, architects are trained to design as individuals, rewarding singular creativity and achievement over collaboration and compromise. Yet to some degree the latter are unavoidable aspects of dealing with most

---

[30]Habraken, John 1985. From <u>Housing without Houses</u> by Nabeel Hamdi, Van Nostrand Reinhold: NY, 1991.

clients. The process outlined in this thesis, however, emphasizes collaboration with non-professionals which goes against the conventional understanding of the role of an architect.

Finally, even when architects are willing to put these obstacles aside, they face yet another impediment. Since the public often does not value this role of the architect, the design and development of a collaborative process are frequently left unpaid or under paid. Thus most architects must decide between cutting their allotted work time, and donating their time without pay. Few architects have the ability to work for free. Thus, most end up short-changing the design process and using traditional, standardized unit plans for every community. This produces a design which is somewhat less suited to the community. However, this results in an even greater social loss as well. None of the positive results of the process, such as building a community that can work together, or cultivating stable and conscientious residents is achieved (see chapter 1). Until architects are paid fairly for this type of work, it will be very difficult for even the best intentioned to pursue the plan proposed here.

Another major obstacle to the viability of this process is the dependence on government subsidy. Politics plays a key role in where and to what extent funds are distributed in housing design. Currently, local housing authorities are heavily subsidized by the federal agency of Housing and Urban Development. However, it has recently been announced that this agency is to be eliminated, leaving local housing authorities

on their own. Every four years, there is a possibility that federal policy will change, leaving this dependency on federal government funding highly unstable. Local government funds can be just as unstable since they are based on the rise and fall of public opinion. If this type of housing process is to succeed, private sources of funding which are less sensitive to the political climate must be cultivated.

A Step Back

Despite these obstacles to the success of this process in the development of subsidized, affordable housing design, this design method is still viable for any design project regardless of the program or client's income. Methods like the ones used here are not the traditional methods for communication between client and architect, but perhaps they should be. The client has something of value to offer to the design process and the architect has the skills and the tools to access this information. This sort of collaboration on the design will then result in a proposal specifically suited to the client's needs.

Using this process, I quickly gained knowledge about my clients and developed a language of design communication that we all understood. This helped to build a sense of trust between us and facilitated a positive outcome. In the end, putting the architect in the role of participant rather than solo designer creates a richer experience for the client and architect, and eventually could lead to restoring the public's confidence in the profession.

Future Research

This thesis concentrated on methods to involve the individual in the publicly sponsored housing process. The community scale design process was only touched upon at the end of Chapter 2. The process of designing dwellings for this community is therefore incomplete. Several more meetings with the community as a group would be necessary before conclusions could be drawn about the community scale design. The tools offered for this design investigation would continue to be based on model form and would look in depth at the unit placement and design of the exterior from the front facade to the street. Issues of community cohesion and identity would be qualified and some conclusions about proportion and scale would be made.

Beyond the scope of this thesis, it is important to test the validity of the method in other communities and cultures, in order to determine whether or not this process would generate an informative design dialogue between the architect and client. Such research would also reveal whether or not there would be a different design outcome for a group from a different culture or climate.

Of course it goes without saying that the method as described here should also be refined. It is also possible that additional design tools should be incorporated. For example, a computer model and animation sequence may be very helpful in creating a realistic image of what the clients have designed. On the other hand, it may also intimidate clients and keep them from

responding honestly to the design. Tools
such as this one should be tested with other
groups to determine their suitability. In
addition, the methods for using each of the
tools tested in this thesis should be refined to
reach the maximum potential of each design
tool.

4.
APPENDIX

Interview Transcripts and Client Diagrams

The following is a transcript of a few audio tapes and my notes of the interviews I had with clients. Note that the questions are not all in the same order and sometimes differ completely. This was a conscious decision on my part to informalize the questions that I asked, and to create a more conversation-like interview. Therefore, the questions flow according to the clients' interests and responses. Some clients had a lot of time to spend with me. Their interviews tended to be longer and touch on several tangent issues. Others were rushed or trying to attend to small children while we were talking. Their interviews were shorter and tended to stick to the standard questions.

Following each interview transcript is each client's diagram of their ideal place to live.

Client Number 1

Background information:

She is 47
There are 4 people living in their current home
Ages range from 7 - 47
one boy, one girl, and two parents

Housing history:

has mostly lived in rental properties since she reached adulthood.

She grew up in a very large house in an affluent neighborhood in Savannah, GA with 9 brothers and sisters. Her description of it is as follows:

"There was a large dining room with black, hardwood floors. The dining room furniture all had huge claw legs and there was a big china cabinet that contained my grandmother's china. There was a big back porch where we ate dinner in the summer. There was also a washer and dryer out there."

"The streets had parks in the middle of them and we had a huge backyard with Pecan trees. Everybody in the neighborhood knows everybody else. They've all been there forever."

How long do you intend to stay in your present home?

She doesn't know. Her husband hates their current home, but doesn't want to move to the country either.

Why did you choose this particular house?

"Because it is a housing Co-op"

Has it turned out as you expected?

She rated it a low 2 out of a possible 5 and has been disappointed with the lack of involvement of other families in the Co-op.

What is the most important thing about the place you live?

Safety and comfort

Do you have any household rules?

"I always make my kids go to church and Sunday school every week."

Kids must pick up and clean up their messes

What is your ideal home like?

Her ideal home would be in the country where there would just be trees and lawns. There would be a big, rambling house that was open and spread out. The rooms would be large and sparsely furnished - open and airy.

On present house:

There is nothing that she's ever thought of as an obstacle.

There is no need for extra space for relatives to live there.

She would consider moving the walls around if she could.

Does not feel restricted from living the way she'd like to.

What would you change over time?

"If I could change anything it would be the size of the bedrooms."

What one thing would you change other than making your present house bigger or more expensive?

nothing.

On outside appearance:

Rated a 4 out of 5 - exterior appearance is very important to her.

On inside arrangement and appearance:

Rated a 3 out of 5 for importance of interior arrangement and appearance.

Rank the following:

She ranks them all as the most important:
#1 - maintenance
#1 - style
#1 - materials - "What I think I'm getting when I buy the house, I'm not getting."
#1 - landscaping

What is your attitude toward privacy?

"When you have kids, you forget about privacy. They will come in the bathroom when you're taking a bath and put the lid down on the toilet and sit down and start up a conversation. There is no place where the kids don't go.

On bedrooms:

"I can never sleep in a room that has no windows. I love natural light."

As a child she was locked in a closet in a vacant house with 6 other kids. They thought that no one would find them and were trapped for over 2 hours. She is now quite claustrophobic.

She likes to sit in bed and read by natural light.

On kitchens:

Would most like a kitchen with a view. She cooks a lot and even runs a small catering business making meals for working families who don't have time to cook for themselves. The size of the kitchen is therefore very important to her. She would like it to be the largest room in the house.

On bathrooms:

Would like a bathroom large enough for more than one person in order to lower the morning demands for bathroom space.

She keeps towels, toilet paper, and cleaners in the bathroom as well as the washer / dryer and laundry detergent.

She described the kind of window she'd like to have in the bathroom - It would be high up with an arched window flanked by two operable rectangular windows.

On recycling:

They don't recycle but would if the city actually picked it up. She would also love to have a clean and easy place to store recycling items.

On dining:

Everyone eats together, but not every night.

Would like to have a special place for eating and to be able to eat outside.

On clothing:

Would like a special space near the door to sit down and take off wet clothes and snow boots.

Would like to have the laundry in the basement instead of the second floor bathroom where it is now. The space on the second floor could have been utilized better for another purpose.

On views:

The most important view is to a private yard - from any room in the house.

On cars:

Would like to keep it in her own driveway.

Do you need any space for special objects or collections?

She has a soup tureen collection, but says, "I only have three because I have no where to put them. I'd like to have shelves and put them all around the dining room."

What are the three most special occasions for the household?

Birthdays, Christmas and New Year's Eve

On parties:

They do have parties, particularly on New Year's Eve.

Future dreams:

To own a house.

Tradeoffs:

She would definitely trade a smaller house or yard for one specifically designed for their family.

Kitchen

Window

Counter

Counter

Picture Windows

Dining Room

Living Room

Picture Window

1st Floor

Closet

Door

Full of Light

Closet

Master Bedroom

Closet

Bathroom

Window

Bedroom

Closet

2nd Floor

Door

Window

BED Room

Storage Closet
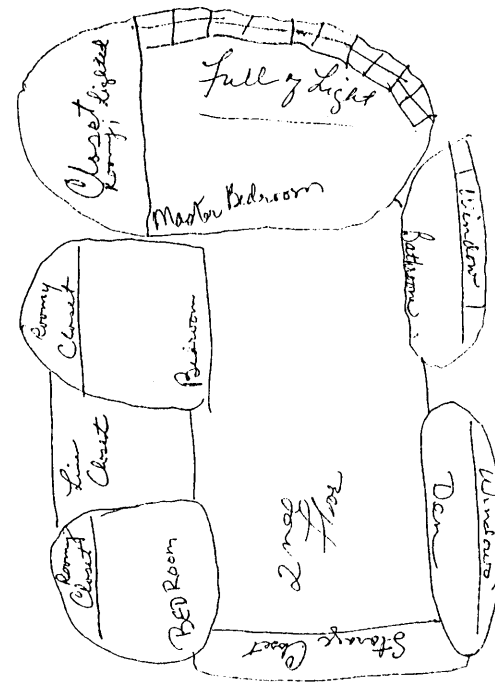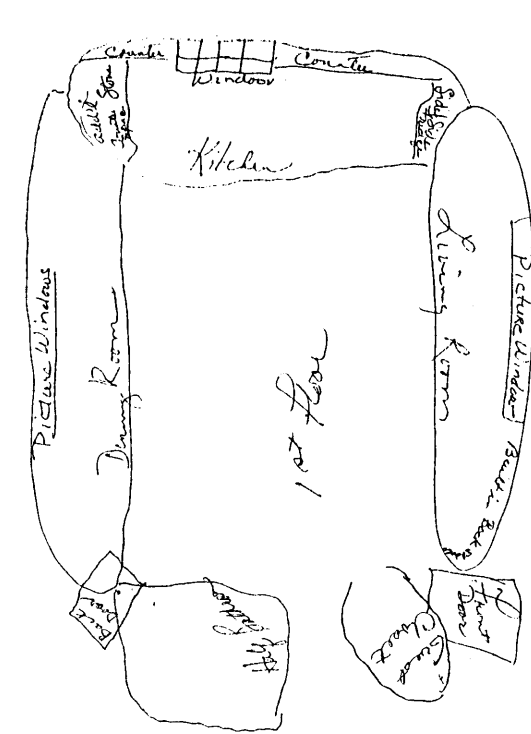
Client Number 2

On Present House:

This client's house was build in 1910 by Hewey Nawn, the "builder of Roxbury." It was a triple decker built for his foreman with high quality construction. However, when the building was acquired by her, inherited from her mother, it was just a shell, and she single-handedly renovated it. *Her expectations of living in the house have since grown to be better than she ever expected. "When I moved here, I had no idea that I could put down floors, put up panel and paper and change a lousy house into something that is beautiful and unique." One evening, "my fella said, 'this is the only house I've ever been in that sparkles.'" "In the long run, you get a feeling of accomplishment."*

Design wishes for her present house:

"I would design the inside to nice living." She would like to make one huge space in the attic to have as a game room with card tables and a pool table. It would have a white oak floor, and sheet rock walls. Later, she could turn it into an apartment for someone to come to live and take care of her when she is too old to take care of herself. (She has seen bad care of friends in nursing homes and does not want to ever leave the comfort of her own home.)

She believes that a two family flat house with a single owner would be a better solution than the side by side fee-simple house that the PFD is advocating for several reasons. Primarily, as she puts it, having two owners in a single structure makes *"all chiefs and no Indians"* If there are any problems with one occupant in maintenance or behavior, there is no recourse for the other because they are both equal owners. She would rather see one owner with a rental unit below so that it is clear who controls the building and there is only one boss. This logic can also be extended to clarify why there are problems with condominium ownership. If there is one owner who does not keep their property maintained, or lets their children misbehave, there is no recourse for the other owners in the building. The other reason that she is advocating a owner, renter relationship in every building is her feeling that there is a great need in Boston for good, affordable rental space. There is a long waiting list for section 8 applicants which she believes could be combined with the PFD programs to provide houses for more than one need.

"The paper comes in like snow. . . Paper, I hate paper. I could live for the rest of my life without seeing another piece of paper."

The exterior should look like it's designed, distinctive, and not so much like the one next door. The designer could use color and landscaping at the very least to create differences between the houses.

On having only one room:

"I love to get the feeling of huge space. I don't mind if [my house] was one room." It would have a balcony bedroom over the living space. She gives two references in Boston to spaces like this: one being a South End row house where the second floor was knocked out to

create a two-story living room with a huge stained glass window, and a balcony bedroom overlooking the living room. The other being the church on Mass Ave in the Back Bay that was converted into housing after a fire destroyed the building.

Have you ever felt like something in your house was an obstacle?

Being surrounded with empty lots and people who don't take care of their property. Even her own yard is tough to control. There is an overgrowth of weeds. Mrs. Williams thinks any new houses should use as much concrete, brick patios, and driveways with plantings around them so that people don't have to take care of the grounds. There should be lots of shrubs that will last a lifetime.

What are the most important Special occasions for your household?

Every Monday she plays bridge and once a month she hosts the bridge club at her house. *"We're supposed to put on the dog."* i.e.. an elegant spread for the party. She further describes the attic room that she would like to build. It would have a cone fire place and a mini electric kitchen with a bar and cabinets above. There would be a shower and a bathroom and the rest would be open. She would also put in a skylight.

Would you move walls if you could?

"Yes, I already have." She took out doors, enlarged doorways, connected the three front rooms, moved and rearranged closets, enclosed the back porch, and added two

doors to the porch. Every doorway in her house is celebrated in some way. One with gold reflective material around the portal with a light to illumine it all, another with decorative, scalloped molding around the door.

Why did you move in to this particular house?

She inherited the house.

Do you feel restricted in any way from living the way she would like to live?

No.

What is the one thing that you would change about your house if you could?

The attic as mentioned. Also, the cellar. She has always envisioned making it more a part of the back yard. Adding a toilet and a little kitchen so that you didn't have to come all the way up to your apartment if you were outside. Having a little room with furniture so that you could get out of the rain if you were having a party there.

Rate the importance of interior arrangement and appearance.

5 - *"I have three company rooms and they don't have to go into my private room or my kitchen. Even the bathroom they can get to. The rest I can close the door. That way, I feel like I have two units, a private part and a public part so that people don't have to trample through the private to get to the public parts."*

Rate the importance of outside appearance.

5 - The outside is tough to take care of and should be designed with ease of care in mind.

Rank the following

#1 - materials - start with good quality
#2 - maintenance -
#3 - landscape - it's something the owner can do something about - especially the later generations - *"I can change the landscape on a continual basis"*
#4 - style

What changes or additions would you make to your house over time?

I'd make the attic into a real apartment. There'll be two rooms, a bedroom and a living space and I'll furnish it very sparsely. There is a really nice view from the top floor at night. You can see downtown Boston. *"It's like a necklace"* She'd also have a flower garden in the front three windows with gravel and flower pots - begonias, patient Lucy's, and African violets

HALF
BATH

UTILITY
CABINET
KITCHEN

POWDER
ROOM

DINING AREA

CONTEMPORARY
LIVING ROOM AREA

COATS

VESTIBULE
HIGH

MASTER
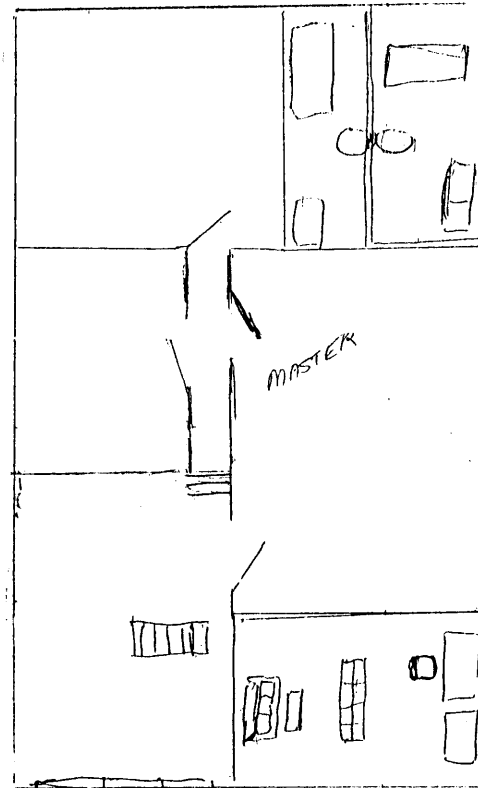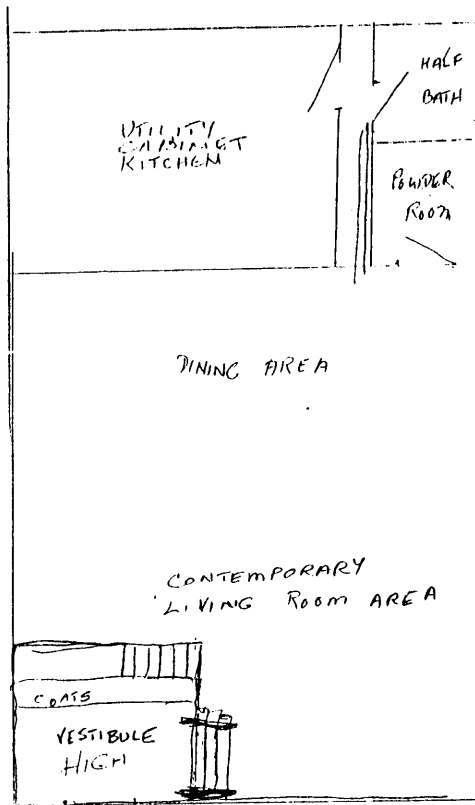
Client Number 3

Background information:

38 yrs. old
has 3 children
3 grandchildren

She is widowed
lives with two daughters and two
grandchildren
Ages of children are: 17, 19 and 23
Ages of grandchildren in the home are 16
months and 4 months.

The unit has 3 bedrooms and one and 1/2
baths.

She has always lived in a house with a yard.
Before moving here, she lived on the second
floor of her sister's house.
There you had to walk through the living room
to get to the bedroom and there was always
traffic going through the bedrooms.

Housing history:

She grew up in a 3 family town house in the
South End with her 17 brothers and sisters.
Her favorite place to be was any place with her
parents and family

**Why did you choose this particular
unit?**

When she looked for an apartment, she asked
herself, 'can my furniture fit in here?'. The
furniture is her most costly possession and
she wanted to get a place that would fit what
she already had. She has one dresser that is

very tall, and so she was looking for a place
with high ceilings. This place fit the bill.

She also looked into buying a townhouse but
found them to be too small in dimension.

Is living here as you expected?

rated a 4 - for the most part, yes, but she
would like to have a fireplace and walls that
you could hang pictures on.

"These walls are bare and if you can't put
anything on the walls, what's the use of having
them?"

Ideal image of home:

"out in the boon-dox."

She loves nature and woods but also loves
people and life in the city. She loves having
access to public transportation.

Her ideal house would be a 2 story house or
one floor with a basement.

I'd like to have mirrored closet doors not only
to function as a mirror, but also to make the
room look larger.

She'd also like to have air conditioning and
lots of storage.
A walk in closet would be ideal for storing a
bike, snow shovels or a mattress or fold-away
bed for guests. She had to get rid of a lot of
her possessions simply because there was no
room to store it. She had to give her washer
and dryer away since there was not even a
place to put it until she had time to sell it. She

also had a vacuum cleaner with a rug shampooer that she had to get rid of because there was not a closet that was deep enough for it to be stored.

Things she'd change in present home:

The one thing she'd change is the closets. There is not enough room to store toys and things like bicycles and vacuum cleaners.

She'd also like to have air-conditioning to keep the air clean. The oversized windows in the unit now make it too hot in the summer and offer little privacy from the neighbors. The upper windows do not open to let in air, and the lower ones are unsafe to leave open. However, she does like the high windows in her bedroom because she can leave the curtain off of the top portion, lie in bed at night, and look at the stars.

The walls are unsuited for hanging pictures - they fall right off

She also doesn't feel comfortable and safe with a window right next to the door.

On Safety:

"I like people, but I also like privacy."

She gets a feeling of safety by knowing all the people in the neighborhood.

safety is most important
she likes her grandson to be able to go outside and to listen to birds.

"I want him to feel safe outside and to hear the sounds of life."

Personal safety should also be considered and she would like to have a place to escape from the bedrooms in the event of a fire.

On community and length of stay:

"I do not like to move."
It becomes comfortable after a while. You get to know the neighbors and we all band together.
"I don't plan to move unless I absolutely have to."

Which is more important, the outside or inside appearance of the home?

Outside - 75% and inside 25% importance ratio.

The outside appearance as well as the view from the inside to the outside is very important to her. She commented on the view from the living room window - "That wall that I look at is very depressing."

Rate the following:

#1 - Materials used to construct the house
#2 - Maintenance of the house
#3 - style of the house
#4 - landscaping

On the interior room arrangement:

she would have put closets behind door swings to save wall space for other things like a dresser or vanity.

Materials:

Materials used to build the house was rated the most important thing in her book.

She would really like to have a solidly built house. She doesn't like sheet rock walls and thinks they are flimsy.

outside:

Outside there would definitely be a garage and a swing set.

On the kitchen:

She'd like an option of a kitchen that could be closed in as well as adjoining another room, but always with a view from the sink area.

Would like to store dishes in closed cabinet in the kitchen

On the bathroom:

She'd like a bathroom big enough for more than one person
"I wish my bathroom was bigger. I can't put a hamper in there."
She'd also like a separate shower and tub.

She keeps extra towels and cleansers in the bathroom and would like to have a built-in laundry hamper and room for a towel stand.

On recycling:

She does recycle garbage and needs a place to store the recycling until pick-up - ideally,
this would be in a cabinet where it is all hidden from view.

On dining:

This family likes to eat in a special place for eating that is separate from the kitchen

On clothing:

Wet clothes and shoes should be taken off outside on the porch or in a bathroom

She'd like to have a place to wash clothes in the kitchen.

On views:

The most important view from the inside of the house is a view of the sky. She loves to lie in bed at night and look at the sky.

She also would like to be able to see where the kids play.

Storing the car: If you had a car, where would you keep it?

"In my bedroom where no one could steal it."
"I wish I had a car that I could fold up and take inside."

She'd like to enter into the heart of the house from the car - through a side door.

Do you need any space for special objects or collections?

"I'd like to have a place for a keyboard and a microphone" - She is a professional gospel singer.

She'd also like a place to have a computer and generally, some extra space to work with.

Tradeoffs:

She designed and built a house down south and says she is no stranger to understanding space and design ideas.

She would definitely trade a lower level of finishes for a bigger house overall.

APPENDIX
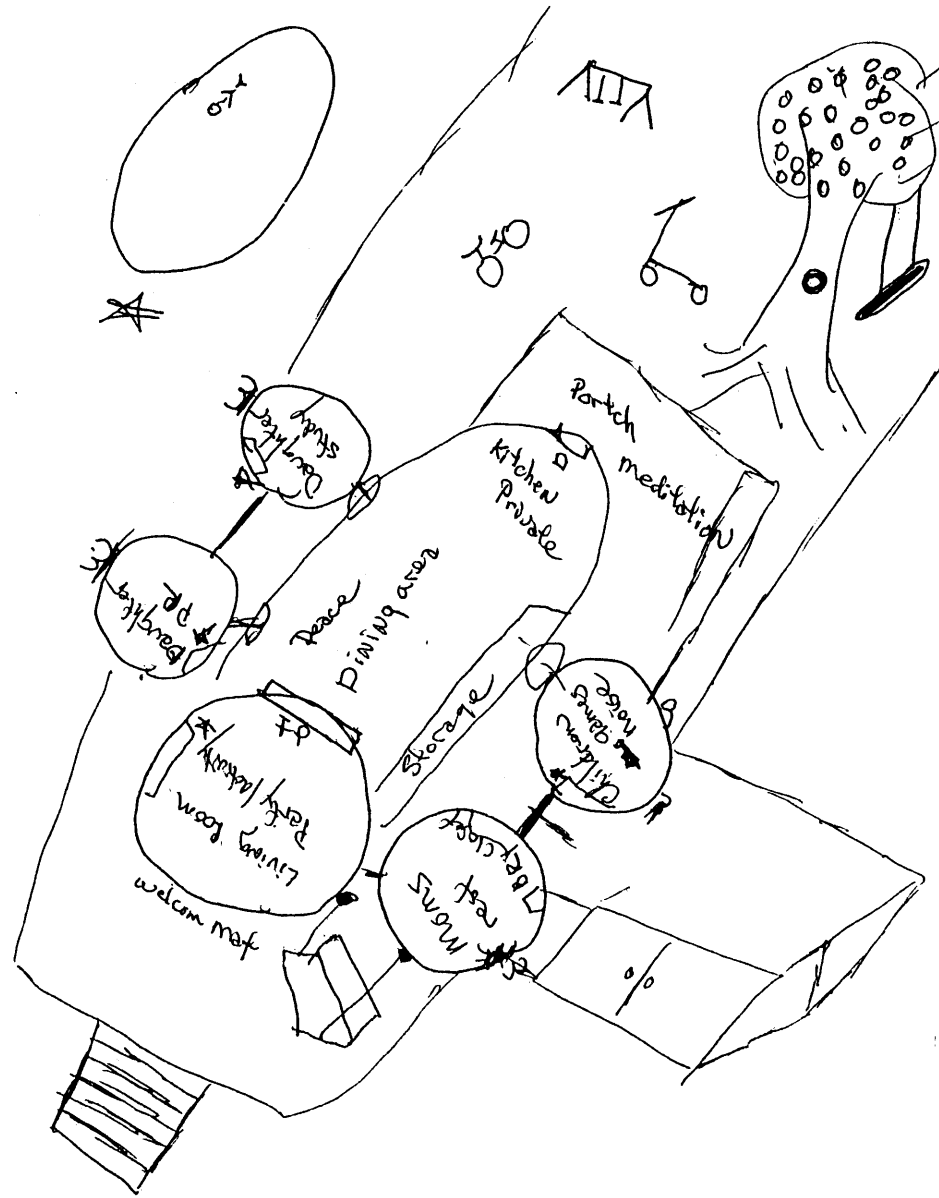
Client Number 4

Background information:

Age 38
lives alone

Housing history:

She grew up on a farm and likes to have a lot of space.

She'd like a place where the "next door neighbor is not on top of you."
Everywhere she has lived, there has been someone else living next to her or above her.

She has always lived in apartments since she became an adult.

Currently lives in the Brooks School cooperative main building.

How long do you intend to stay in your present home?

She would like to stay here, but would also like to live in her own house.

She expects to live here until she retires, which she says will be in 9 or 10 years.

Why did you choose this particular unit?

She moved here because the co-op arrangement offered something more than renting and group ownership was affordable to her. She had left her last two apartments because of bad landlords who refused to make repairs, etc.

The price for this particular unit was affordable.

Has it turned out as you expected?

"Yes, this is where I live. I can voice my opinion. I don't have to chase the landlord and the management company works for us."

Do you feel restricted from living the way you would like to live?

not really.

Describe your ideal home:

"I'd like a large back yard for my nieces and nephews to play in. I'd like them to have a safe space to play without being watched all the time."

Her ideal home would have a lot of room inside to move around. It would have lots of light in certain areas. There would be a nice size bathroom and a backyard space.

She would rather that her house was not near the street or sidewalk, but set back somewhat.

She doesn't care whether it is one or two stories as long as there is a bathroom on every floor and that all the door openings are 3' wide to accommodate a relative in a wheel chair.

Ideally, she would like to have a house built into a hill so that there was a view

She had a very specific idea of what her ideal house would be like. The following is a summary:

There would be an eat in kitchen, a foyer, a formal dining room, a family / entertainment room, a living room, and a patio off the kitchen connected with sliding glass doors. There would also be an "L" shaped master bedroom with it's own bathroom and a walk-in closet.

The family room and the living room would only be separated by a 1/2 wall so that they are connected and open feeling. The kitchen should have an opening onto the living room covered by decorative doors that could be left open or closed depending on the need for privacy.

Attached to the side of the house, there would be a garage with a place for storage and a 1/2 bath that opens into the house. The garage would be the main storage area, since she does not like the idea of having a basement or an attic which are normally so dark that she would not use them.

In the front of the house, there would be a small roof over the front door, but no porch. "I wouldn't consider a porch. I wouldn't want an area where people would be sitting out front chit-chatting. If you are going to entertain, it should be inside or in the back yard."

She would also like a clear physical and visual path from the front door, through the kitchen and out to the backyard. "I'd like my house to be easy to move around in - not too many corners, left, right, left, right - this kind of thing."

She is actually considering having a house custom built for when she retires. It would have a place for everything, and a sloping backyard with flowers, trees, and a good view.

On present home:

The kitchen nook is good for cooking, but the dining area is much too small.

She also likes to have a little more space than she has here. Her last apartment had a "roomy" bedroom that was about 14' X 16' and had a sun room off of it. Her bedroom here is only 10' X 12'. The kitchen and living room were about the same percentage larger in her old apartment, too.

There is not enough storage space. They were promised space in the basement to store things, but it has not been made available.

What would you change?

She'd make the living room and bedroom bigger.

She'd supply operable blinds for the windows which are unusually tall and difficult to make curtains for.

She would add more storage space.

She would add more counter space in the bathroom.

What is the one thing that you'd change that wouldn't make the house bigger or more expensive?

She would seal the windows better and put a ceiling fan in the living room.

On outside appearance:

It is very important to her - ranked a 5 out of 5.

"The outside appearance tells the community that the people inside care."

She has even done research and written recommendations for landscaping the grounds of the Brooks School but got no answer.

Rank the following:

#1 - materials
#2 - landscaping
#3 - maintenance
#4 - style

On kitchens:

She would like a kitchen with a view - just a small window somewhere.

She would like to have enough cabinets to put all her dishes and cooking utensils away and out of sight. She doesn't want to have anything where people can see it.

On bathrooms:

She would like a bathroom which is completely private but also big enough for more than one person. She would like to have more counter space than in her current unit.

A linen closet should either be inside the bathroom or just outside of it.

On recycling:

She does recycle and would like to have a built-in compartment especially made to store recycling in the garage.

On dining:

She would like to be able to eat both in the kitchen and in a special place for eating.
An option to eat outside would also be appreciated.

On clothing:

Wet and muddy clothes should be taken off in a special area or room made for this purpose.

The washer and dryer should go in the basement, or alternatively, the kitchen or garage.

On views:

Most important views are to the yard and to the street.

She would like to see the yard from the bedroom and kitchen.

She would like to see the street from the living room and dining room.

On cars:

Would like to have a garage to keep a car in.

It doesn't matter how you get from the car into the house.

Are there any special objects or collections that need space?

no.

Tradeoffs:

She would not mind finishing the house in exchange for a larger amount of space. As long as there would be one bedroom, one bathroom, and possibly a small den finished so that she could live there while she was finishing the rest.
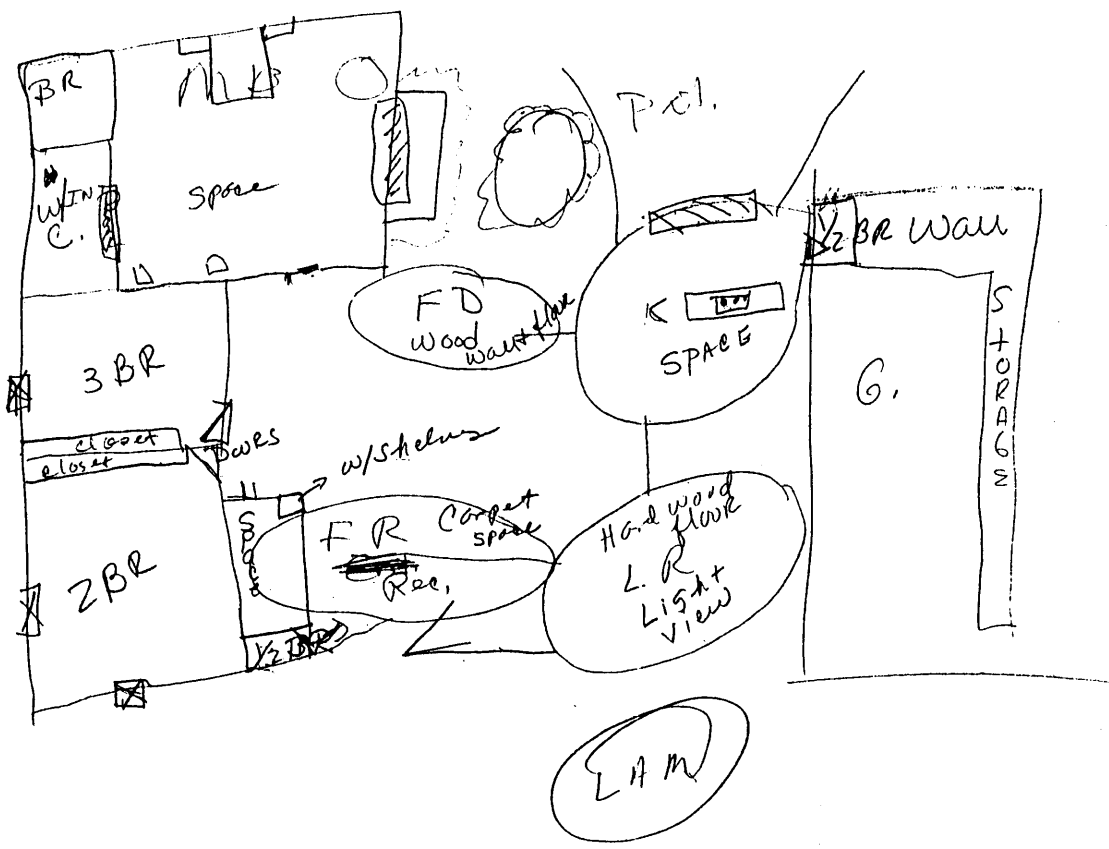
Client Number 5

Background information:

Age 63
Has seven children
Lives with husband, two sons and a grandson
Age range 18 - 70

Housing history:

Lived in an apartment on the third floor of a triple decker which she hated.
Has also lived in a townhouse, a duplex, and a 4 story row house in the South End, Boston.

Her favorite place that she has lived is the South End house where she lived with her extended family. They occupied the entire four floors and had a small backyard as well.

What changes have you made to your present home?

She has had the downstairs kitchen remodeled and brought up to date, replaced toilets and bathroom fixtures, took off wall paper, sanded floors, replaced doors, put in energy efficient windows and storm doors, added insulation, replaced the furnace, and removed paint from the marble fireplace. In all of the changes that she made, energy efficiency was the most important. "After a while, a big house really consumes you."

On the house size:

It is a big house and has 15 rooms. When her children were young, it was ideal. When reflecting on the past, she remarks, "We really lived here." Now, however, she has grown tired of all the space. She rents out rooms, but there is a tremendous amount of upkeep. "Had I had my choice, I wouldn't have bought such a large house. In the end, I have too much of a load on me."

What would you like to change?

The circulation paths in the house are confusing. There are too many doors and circuitous routes between rooms. She would like to remove some of the walls from the second floor to improve this condition. "You'd get lost in this house," she warns me, "In fact, we did." She would like to make the whole house more simple and understandable.

She would also like to make the fireplaces workable again and to add a music room. "My whole family was musical. A music room would've been nice."

Describe your ideal home:

"I like a split level house. I also like a duplex [one unit above, one below] with porches... I like brick and stucco... It would have a play room with a fireplace. I wouldn't even have to have a front room." The house would also include a music room, a study, a dining room, and a kitchen with room for everyone to eat there and a cooking area in the middle of the room.

Is there anything about your present house that you feel is an obstacle?

"Yes, not having enough money to do what you want with the house."

What are the three most important special occasions for your household?

Birthdays, holidays, and graduations.

Do you have parties?

No, except for birthday parties.

Describe a day that you would like to have:

"I wouldn't have to get up. I'd eat what I want, when I want. I'd sew a little, have a garden, grow vegetables, and not have to go to work."

Would you ever move the walls in your house?

Yes, each floor has a bath, but only two floors have a kitchen. I would put a kitchen on each floor.

What are your dreams for the future?

To leave Boston and move to Virginia or Georgia. But, she says, "things keep holding me here."

Why did you choose this particular house?

"I was forced to find a place to live fast, and I got this place cheap."

Has it turned out as you expected?

Rated a 3 out of 5. "Not really, but I can work with anything."

Do you feel restricted from living the way you would like to?

"In that I have to work too much, yes. I can't do a lot of things that I would do because I'm too tired."

What one thing would you change about your house?

She'd make the windows smaller. "Whenever I had to repair them and clean them, it was expensive because everything has to be bought extra large."

On importance of outside appearance:

rated a 4 out of 5. The outside appearance is pretty important.

Rank the following:

#1 - materials
#2 - landscaping
#3 - maintenance
#4 - style

Would living in a modern style, concrete house bother you? probably not.

What might you change over time?

She would improve the yard. "My father used to live here and he kept up the grounds nice."

On kitchens:

She would most like a kitchen with a view.

She would like to have everything in the kitchen immediately viewable, on open shelves and hanging from pegs and racks.

On bathrooms:

She would like to have a bathroom with a view. She also keeps extra towels, cleaning supplies, and a large variety of hair care and beauty products in the bathroom.

On recycling:

She does not recycle, but if there was a clean and easy place to store items for recycling, she would consider doing it. The best place for this storage space would be near the door where it will be taken outside.

On dining:

Everyone in the house eats separately now, but when they were children, they ate together.

She would prefer to have a special place for eating, but not necessarily in a separate room from the kitchen.

On clothing:

There should be a special space for taking off wet or muddy clothes and shoes.

The laundry should be near the place where she likes to be, the kitchen.

On views:

The house should have views "surrounding the entire scope of the house from varied areas in the house."

The view from the bedroom should be secluded and open to the sky.
The view from the kitchen should be to the surrounding houses and land.
The view from the dining area should be more secluded, possibly looking onto a garden area.
The view from the place she likes to relax should be away from the bustle of the main street and activities.

On cars:

She would like to have a garage to store the car in and to enter from the car through the back door.

Do you have any special objects or hobbies that require space?

Summer and winter tools and garden furniture as well as unused household appliances need storage space. She would prefer that these were stored in a basement storage space.

She also has a sewing machine and sewing supplies for which she would like to have a small room or area in the basement.

"This basement is fully finished with a locked safe for important papers, documents, wills, jewelry, etc. Family artifacts, home movies, pictures, trophies, albums, projector, screen, and other artistic hobbies can be housed in this basement."

APPENDIX
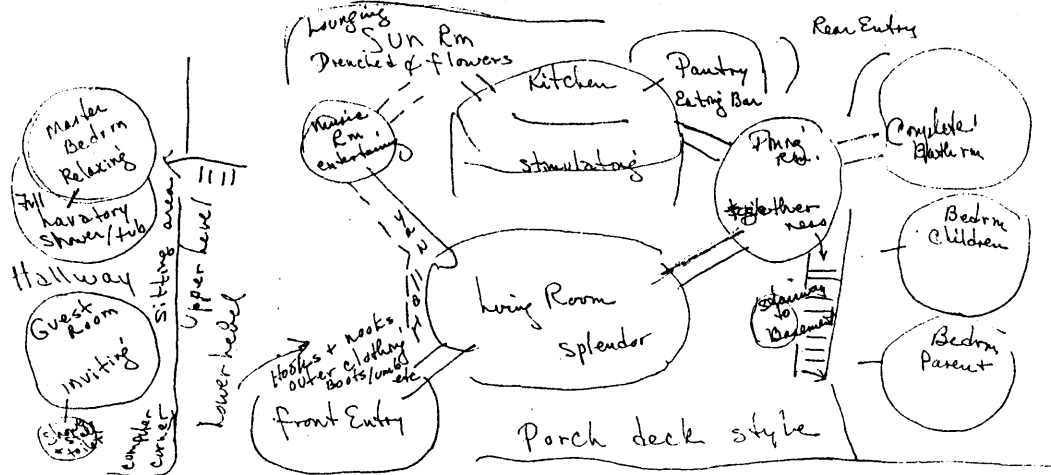
Client Number 6

Note: This was a difficult interview to conduct because the participants were two elderly women one of whom could not hear very well. Many questions went unanswered, misinterpreted, or misunderstood despite my efforts at yelling. They also tended to go off on tangents and begin talking to each other, almost forgetting that I was there.

Background information:

Neither of the women would tell me their ages.

Housing history:

They both currently live in triple deckers on Maywood Street. One woman also lived in a side by side duplex, but did not like it because you could hear everything that went on next door. She felt like she had no privacy.

What kind of new housing would you like to see on your street?

"I like brick houses," says one woman. "But the kids don't have any place to play. They need a playground or something." She would also like to see porches on the back of the houses with a nice fenced in yard for the kids to play in.

Describe your ideal home:

One woman would like to have a den connected to a living room so that you could have both large and small gatherings. The bedroom would be cozy with one big window to let light in and a patio to go out onto. She grew up eating in the kitchen, so she does not feel like she needs a dining room. But there should definitely have a private front porch to put furniture on and visit with friends.

The other woman decided that her ideal house would have the dining room in the center of the house, connected to the kitchen. But, she added that she wouldn't buy a house at all unless there was a rental apartment included to help pay for it.

They both agreed that a side by side duplex would be better than a duplex with one unit upstairs and one unit downstairs. But, the yards should be fenced separately so that dogs could be controlled and ownership would be clear.

What is the one thing that you would change about your house?

They would both put in a driveway.

What might you change over time?

One woman said that she would put in new windows to make the house look neater.

On inside arrangement and appearance:

Closets should be planned to hold a lot of clothing because winter clothes take up so much room.

On importance of outside appearance:

rated a 5 out of 5. Both thought that the outside appearance is one of the most important aspects of the house.

Rank the following:

They both ranked them all equally important.
#1 - maintenance
#1 - style
#1 - materials
#1 - landscaping
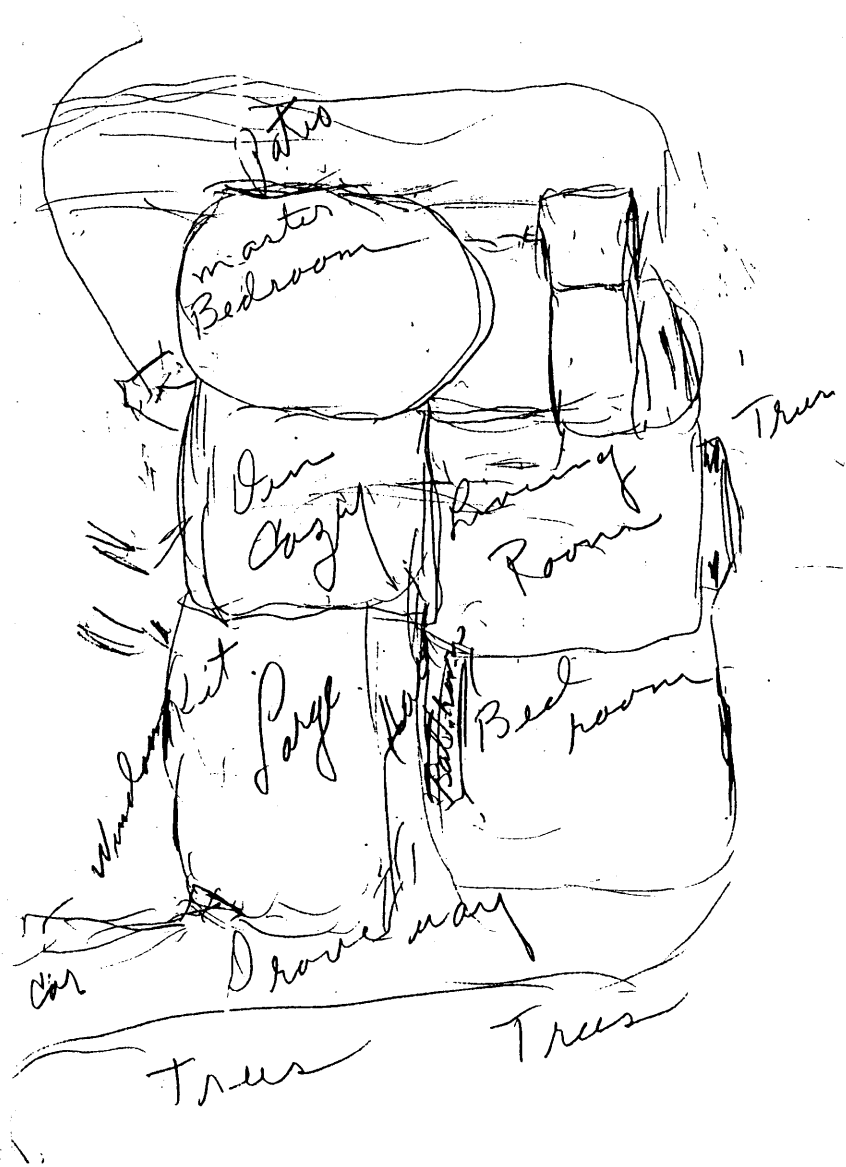
Client Number 7

Background information:

Age 69
Has three children, one lives in the house
Three people live in the house - range in age from 44 - 73
There is an 8 room apartment downstairs

Housing history:

Before her present house was purchased, she lived in a large 6 room apartment which she describes as a good place to live. "There was no shooting, nothing."

Her favorite place that she has ever lived was a house provided by the US military. Her husband was in the military and was provided with a house to rent in Nevada. It had 1 1/2 baths, a front room and dining room. The whole house had wall to wall carpet. There was also a garage that they shared with one neighbor. There was a yard on 3 sides. It was all on one story. She loved the house and there was a certain amount of pride in having a high enough position in the service to be provided with a house. But, the most important thing to her was that it was safe and clean. People cared about their houses as if they owned them. In fact, the military would make the occupants pay for cleaning and repairs if they left it dirty.

On present home:

This house was "just a shell" when she moved in. That is how they could afford it. Over the years she has made quite a few improvements. She has had the floors sanded, the walls repainted, windows repaired and replaced, bathrooms tiled, furnace and hot water heater replaced. She also took out the pantry and part of a wall in the kitchen to make it look larger and more modern, but she now regrets losing the space for storage. The largest change was to divide the house into two apartments so that the downstairs could be rented for income.

She feels restricted by the lack of safety in the neighborhood. "I've been robbed three times." She now carries mace whenever she leaves the house.

Why did you move into this particular house?

The price was right and the street was quiet.

Has it turned out as expected?

"The first 20 years were fine. No one came tramping through my yard."

She feels like the neighborhood has gone down quite a bit since she first moved in.

What is the one thing that you'd like to change about your present home?

She would like to insulate the attic and finish it so that someone could live up there.

What is the most important thing about the place that you live?

Location and safety.

"When you are buying a house, you have to think of the neighborhood and who your kids will play with."

Do you have any special activities or items that need special space?

She plays bridge and has the bridge club over once a month. The card table and chairs doesn't fit in her present house and has to be accommodated by moving the dining table aside after they have eaten, and setting up the card table alongside it.

She also has a large ceramics collection which needs space for display.

What are the three most important special occasions in your household?

The bridge group comes over once a month.

On the outside appearance:

She thinks the outside appearance is very important.
"You want to have a house that you feel proud of."
But, she adds that she would have rather spent money on fixing up the attic than on new siding

On the inside layout and appearance:

Very important - she bought the house because of the layout and the big yard

Rank the following:

#1 - style

#2 - materials used to construct the house
#3 - landscaping
#4 - maintenance

1st floor

Porch length of house side
driveway on one side
a way to back yard

huge

living room

Garage

Bedroom

Large front
Landscape lawn
3 Exotic Trees
11 America
Rare flowers

→ hallway ←

Master
BedRoom
"sunny"
"Quiet"

Bath
Large enough
dressing
table

Dining
Room
"spacious"

walk in
Closet
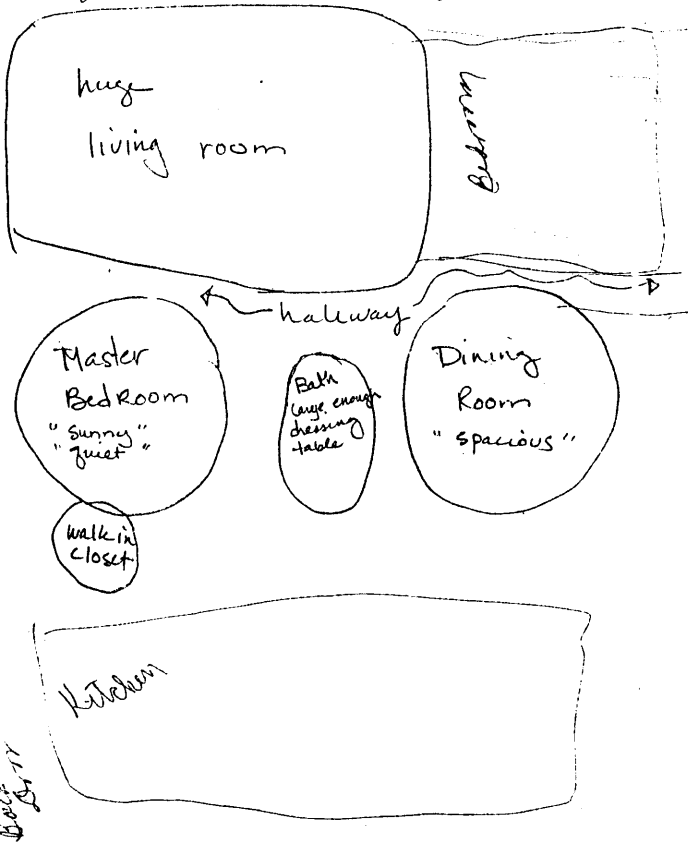
Kitchen

Client Number 8

Why she moved to the Brooks School Cooperative:

There was too much crime in her old neighborhood and this was the first thing that came along, "so I just took it."

On present home:

she'd like a linen closet and a bigger kitchen
the bathroom is o.k.
she'd like lower ceilings
no rugs - "I hate carpet. I'd like to wash and scrub my floors. I like to see the floor shining."

"I used to barbecue all the time [in my old house], but here there's no place to barbecue." Her old apartment had a barbecue grill outside the living room door.

She'd also like to have a balcony with an umbrella and a table.

"Before I moved, I had company all the time."

"A lot of people [at the Brooks School Cooperative] got broken into before I moved in here."
"There's a lot of places someone could hide in the hallway." There are also apparently prostitutes doing business out of the laundry room.

Describe your ideal home:

"I'd like an open kitchen so I don't have to be yelling to people."

"I'd like a kitchen with a window and a back door to go out."

Rooms she'd like:

she wants a big kitchen with lots of cabinets - open onto other rooms
big living room
big bed room
basement
linen closet - in her present home, "there isn't even a linen closet. I'd like a nice linen closet."
Also, "I'd like a walk in closet with clothes on both sides."

"I'd like a washer in the basement so that it doesn't interfere with the rest of the house."

a space by the back door to take off coats and boots

separate rooms for dining, but near or in the kitchen

Would also like to have one extra room if she could afford it to do things like crochet - it would be "like a sitting room so I don't have to be in my bedroom all the time."

On views:

Most important view is to a private yard.

View from the kitchen to look out into the yard
View from living room to street
view from dining room to street

On yards:

"I'd like to have a big back yard with a fence around it."
She would like to have a town house - I think that access to the outside and to her own piece of ground is important to her.

Do you need any extra space for relatives or children who may need a temporary place to live in the future?

No need for extra space for relatives

Social Occasions:

Doesn't have parties

Do you feel restricted from living the way you would like to?

She likes the Brooks School overall and does not feel restricted.

What would be the most important change you would like to make in your unit?

The most important thing for her to change would be the size and connectedness of the kitchen to the rest of the house.

Rank the importance of the inside and outside appearance of your unit:

The inside appearance and arrangement of the rooms is rated at 5 - best
The outside appearance is rated just slightly lower at 4

On kitchens:

would like an open kitchen with a view from the sink

She likes to be able to eat in the kitchen

The most used entrance to the house should be through the kitchen, but guests should be able to come in through the front.

On bathrooms:

would like a large bathroom - big enough for more than one person and possibly with a window.
Only keeps toilet paper and cleaning supplies in the bathroom other than personal hygiene items.

On Recycling:

She does not and will not recycle her garbage.

On dining and dishes:

Everyone eats together everyday in her house

She'd like to keep dishes and silverware in a china cabinet in the dining room.

make bed
TV
eat -sometimes
sleep

bathroom

laundry
~~cook~~
linnen closet

hall to
from

Cook
eat (counter)
wash dishes
~~dishwasher~~
watch TV

Watch TV
relax
Crochet

balcony
BBQ

dining room
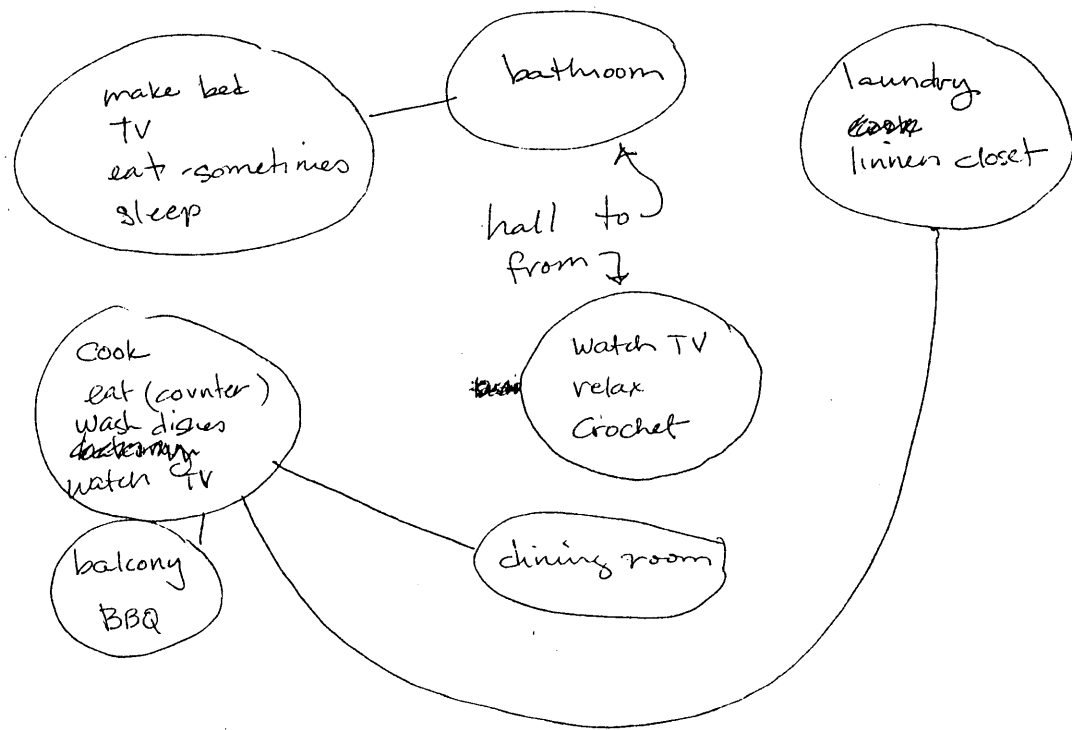
Client Number 9

This client dropped out of the process after the interview session. She does not live in the immediate Five Streets Neighborhood, but had attended the neighborhood meeting where I asked for volunteers.

Background Information:

Age 34, divorced
Has two children, a girl age 6 and a boy age 14
All three live together and sometimes her boyfriend stays for several days.
Age range 6 - 34

Housing history:

She grew up in the suburbs and has lived in a 2 bedroom and now a 3 bedroom apartment in the Mission Hill development, part of Boston's public housing system. She likes living in the city and enjoys having public transportation, etc., but says that people in her housing development aren't clean enough for her. They throw trash on the ground or in hallways, and she is embarrassed to invite guests over to visit.

Describe your ideal home:

She would most like to have a single family house in a fairly quiet neighborhood surrounded by respectable people. It would be two floors with a kitchen, living room, den and bathroom downstairs, and three bedrooms and a bath upstairs. There would also have to be a back porch and a yard to have barbecues and parties with relatives.

How long did you expect to stay here?

"I didn't expect to stay here long. My son was two when my husband and I moved here and we thought that by the time he was in second grade we would be able to leave, but we got divorced, and I ended up staying here. It's OK for me to be here, but I don't want my children to have children here."

What are your dreams for the future?

She wants to move away from Boston because of the violence she perceives. She wants to eventually move back to Norfolk, Virginia where she grew up.

What is the most important thing about the place that you live?

The most important thing is that she doesn't have to pay utilities, especially in the winter. She remembers practically freezing in the winter in order to save money.

Her son piped in that the most important thing to him is that there is a good basketball team and court in the neighborhood.

Do you have household rules?

Yes, they are: don't make too much noise, don't "eat around the house," keep rooms clean even under the beds, and company must respect these rules as well.

Is there anything about your house that you think of as an obstacle?

no

Does everyone eat together?

Yes, but only on Saturdays and Sundays.

Would you ever consider moving the walls of your house?

Yes, she'd change the kitchen, make it bigger and add more cabinet space and a storage closet for her Christmas tree, etc.

What is the one thing that you'd change?

She would have a cleaner communal hallway and lock some of the kids out.

Rank the following:

#1 - landscaping - particularly a fence and a trash can
The rest are second.

On kitchens:

She definitely does not want to be in a secluded area, and would most like to have a view to the outside.

Would like to be able to eat in the kitchen.

On bathrooms:

The bathroom should have a high window, and be very large. She wants to be able to

walk around in the bathroom and she has lots of ideas for ways to decorate it.

She would keep lots of things in the bathroom including plants.

On recycling:

She does recycle her garbage and it is picked up every day, so she has no need for a storage area specifically for that, but would like to have the communal trash collection space locked to prevent it from being used to hide drugs.

On dining:

She would like to eat everyday in the kitchen, but would also like a formal dining room to be used only by company.

On clothing:

Wet and muddy clothing should be taken off outside on a porch.

She would like to have the washer and dryer in the basement.

On views:

She would like to have views to her private yard, the street, and her parking space.

She would like to see a tree from her bedroom.
She would like to see water and trees from the kitchen.
She would like to see the yard from the dining area.

She would like to see trees from the living room.

On cars:

She would like to have her own driveway with a garage, but would give up the garage if it meant that she would have to have a smaller house. The door from the garage should open directly into the rear or side of the house.

Do you have any special objects or hobbies that need space?

She would like to have a little room for all her books and her stereo. Her bicycles would go in the basement.

Burst family

Front Door

[Hall]

Door Stairs.

(Kitchen) — (Hall) ⟶ (Bathroom)
(cozy) (Window cozy Peach)
white

No

(Living Room) Walk ⟶ (Dining Room) (Dim light)
(cozy) way (off white)

upstairs

MyRoom   Bathroom
(Bedroom) ⟵ (Bedroom) — Hallway
(Warm White)

Bed
(Porch) —   (Bedroom) Daughter
                                   Pink

(Hallway) ⟶ Boy
            Bedroom
            Blue
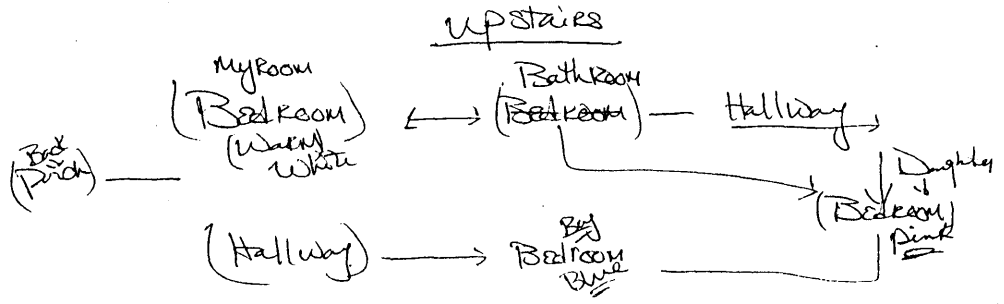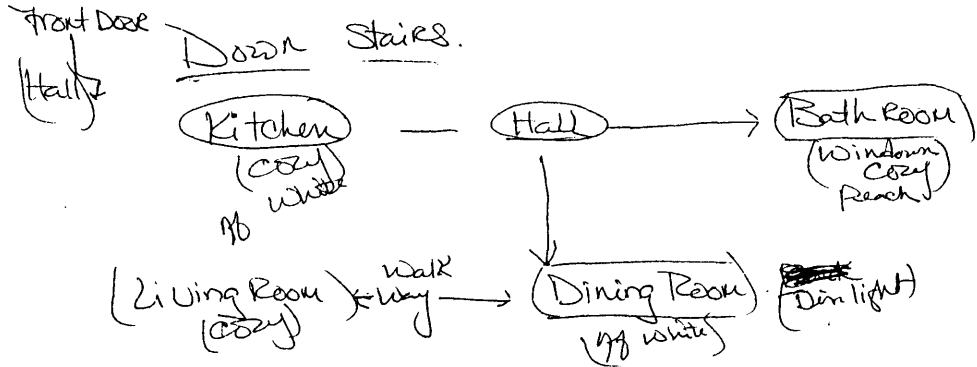
Initial Meeting With Brooks School Co-operative Group

summary of notes from the meeting of five women of the Brooks School development 6/22/94

All felt that the architects should more fully explain everything that they are doing - their drawings and designs - to show what it's really going to be like.

They also want a copy of my findings brought to the PFD and the architects chosen for the Savin Maywood sites.

Meeting times were also discussed. Most of the community works during the day and the residents were unhappy with the fact that the public agencies wanted to have meetings during the days. *"They play games with the community."* They say that they want you to participate but make it impossible for you to do so. It lets them make the final decisions without the community and say that the community just didn't show up - but in reality they just had the meeting in the middle of the day, or didn't notify anyone until the night before when it was too late for anyone to change their plans.

"Don't call them low income houses or even affordable houses," cried one unhappy neighbor. *"Don't label the houses at all. It gives the architect and the builder a preconceived notion about what these houses should be like. We need quality houses just like richer people, even though we don't have a lot of money. Don't say what*

kind of houses you are building. Just say, 'We are building houses for people.'"

They have had endless trouble because of a bad general and sub-contractor causing shoddy and incomplete work. Some of which caused a rat problem, heating problems, and a serious fire hazard that was, thankfully, caught in time by the fire department.

Construction work and materials should be of a high quality, even if the jobs do have to go outside of the community.
"I'd rather see vacant land than to see something thrown together. ... If you want to raise the quality of people's lives, do it right and help them to keep it right."

General problems with the design of the existing buildings:

The organization of units in the School building was called into question. - There's a wall in the middle of a window - If they are making a unit in that area, why not just make it a two bedroom instead of a one bedroom and then you would avoid that problem.

All units should have a guest bathroom - esp. the 2 bedroom houses with only one bathroom upstairs which leaves guests tramping through the private zone of the house.

The kitchen stove is next to an unprotected (simply painted - no tile, etc.) wall which means that it is very hard to clean and the oven door scrapes the wall when you open it.

All the bedrooms are too small.

The windows on the flats are large, but offer no privacy from the yard. Flats have larger bedrooms and more closets.

The first floor of the townhouses are fine, but the second floor is cramped. One woman would prefer that all the units were flats and the building was more like a triple decker than the cramped townhouses that they have.

It would be nice to combine the space of two bedrooms for the master bedroom.

The ceilings are two low to have bunk beds and the rooms are too small to have beds next to each other.

The pigeons love the sloping roofs and there needs to be some deterrent to them.

There is a real problem with lack of storage space.

You can hear straight through the walls - mostly a problem in the school building - you can hear water running in the pipes - you can hear people in the bedrooms next door. **Bedrooms should not be sandwiched in-between bedrooms of other units.** They should adjoin another type of room to avoid this problem?

Journal Entries

I intended to keep a journal of everything that happened during the process of my thesis. However, the amount of work that I had to do to keep the process moving smoothly prevented me from making daily entries. The following is a set of the journal entries that I did make. Hopefully, they will shed some light on the nature of the process, the frustrations and successes that I experienced, and a few of my thoughts along the way.

Journal 6/23/94

My first journal entry - I will attempt to catch up on the important incidents that have happened so far.

My initial attempts to contact members of the surrounding community were not very successful. However, after refining my introduction, finding other channels and persisting, I was able to get in contact with two women who lead two of the communities involved. First was Martha Williams, president of the Five Streets Neighborhood Association. Mrs. Williams agreed to meet with me on June 10, 1994 at which time I explained who I was, what I wanted to accomplish, and went into detail about her hopes and dreams for her neighborhood and home.
Mrs. Williams and I got along very well. I found her to be a remarkable woman with great ambitions and confidence. Along with her neighborhood activism, a long-time interest of hers, she is also searching for a publisher for her 600 page novel, about the relationship between a famous musician and the woman he imprisons. We talked for over three hours in a casual and unstructured manner. A little

over a week later, on June 20, Mrs. Williams introduced me to members of the neighborhood at the Five Streets meeting. I was able to get four names and phone numbers to contact later for an interview.

Secondly, I was able to contact Pearl Plange, president of the Brooks School Co-operative, a nearby housing development also guided by the Boston Public Facilities Department. Mrs. Plange arranged a meeting for me on the 22 of June. There were five people at this meeting, four members of the Brooks School co-op and one neighbor who was heavily involved with the PFD during the development of the Brooks School. I presented my introduction letter, gave out a list of questions to think about, and answered a barrage of slightly paranoid questions thrown at me. At the end, all five were willing to proceed and help me with my thesis research. It is also noteworthy that several of them expressed interest in buying some of the new houses to be built on Savin and Maywood streets. I was also prepared with plans of the Brooks School development which spurred controversy over who had the biggest and best space in the building, and where each would like to move within their own development. Finally, I should also note that on the whole, this group seemed to be young and energetic, with high level of motivation as well as education. However, there was one member who seemed a little behind the pace. She was an older woman who may not have been able to hear as well, or read without glasses, and seemed confused at times. It is important for me to reach out to members like these, since they may not be as likely to reach out themselves. I believe that a

one on one structure or simplifying the entire presentation to words and large pictures that I explain in detail might have been better to start with. Regardless, I will have a second chance with her in an individual meeting next week.

Journal 7/7/94

It has been on my mind for nearly a week now, what exactly am I getting from these interviews. This is not a cohesive group of people planning something together. these are individuals telling me that the closets aren't big enough for their vacuum cleaner. So how will this drive my design in the fall? How can I be excited about designing the eat in kitchen with a big closet?

Well, I think there's a couple of things. First, although the answers I get from each person are roughly the same so far, each one points out some little detail that is often missed by the architect which, in the end, makes living in the space quite difficult or uncomfortable. And, I am coming to know the people that I will be designing for. I am leaving behind my view of life through architect's eyes and remembering what it is to go about daily life. I am learning the ambitions and dreams of this small group of people. I am learning the problems that they have to get along with every day.

Still, I am not sure that this kind of personal involvement with the clients is necessary for every project, but it is definitely an experience that every architect should have to go through at least once in their lifetime, and anytime that

they begin to revert to a view of life through architect's eyes.

For this design process, I will probably draw lot of perspectives and larger scale detail investigations of space. The function of each space is of paramount importance. I should look at diagrams of circulation, public/private zones, activity and noise travel, heat and ventilation and light studies. And most importantly, options:

  a) homes designed for specific families
  b) different finish options
  c) sweat equity options
  d) generic homes with optional room arrangement: i.e.. several rooms that could be interchanged, walls that could be moved, a room that could be subdivided, shell-infill, etc.

Journal 2/12/94

The last interview was not very successful in terms of information gathered. There were two older women and one could not hear well enough to answer 90% of the questions even though I was speaking very loudly. I was there for about two hours, but only gathered a small bit of information.

I did have a revelation, though, and that was that the people in this neighborhood are used to living in the existing housing stock of the South End, Roxbury, and Dorchester which were built as elite places for middle and upper income residents. However, when the more wealthy residents moved to the Back Bay and west to more suburban locations, these houses were left to deteriorate. They subsequently became affordable to people

with lower incomes. Despite their dilapidated condition, these houses were designed for higher income people. They have large rooms, high ceilings, big windows, and some even have dumb waiters in the back. Now developers of affordable housing are asking these same people to pay for a new house, built in 1994. In order to break even, while offering an affordable cost home, the cost of construction must be lower than what it would cost to build houses similar to those that currently exist. Therefore, the new houses seem doomed to be smaller, darker, and less convenient than what these individuals are currently used to.

Journal 8/5/94

Today's model sessions were very taxing. It seems that the more I have to lead people through their designs and the more I have to teach along the way, the more energy it takes out of me. The first couple of model sessions that I did were very easy because the participants had a very clear idea about what they wanted, and as soon as I got out all the pieces, they grabbed them from my hands and began to build. Today, however, was different. The first woman basically let me design her house for her. I was working from her initial diagram and a description of a house that she had in mind, but she was unable to turn these descriptions into a design of her own. As much as I could, I gave her options and asked her which she would rather have, but she ended up telling me to build her a house just like her friend's house. In the end, she exclaimed that the model was too small to get the sense of any of the spaces.

In the second session, I was enlisted to help a woman recreate her childhood home. She had very specific ideas about how it should be, but the scale of the model was too small for her to visualize. She did not recognize how much space she was using and made enormously oversized rooms. For example, she had about nine feet between the chairs in the living room and several yards between the refrigerator and the rest of the kitchen.

So, the model was a bit of a failure today. At 1/4" scale, I expected it to be fairly clear. I am sure that it would be better if it was larger, but I am not sure that I would be able to carry it around and set it up in people's houses. As it is, the model base is almost the size of a coffee table, which is often the only table clear enough to work on. Perhaps if I had done the model session in two steps, it would have been more effective. The first step could have been to leave a two dimensional plan of the site, walls, and furniture with each family. They could have played with if for a week or so, experimented with different ideas, and then been ready to build the model and simply make alterations in three dimensional space. On the other hand, I was fairly unsuccessful in getting responses to questionnaires that I left with people. It seems that most of them had to have time scheduled to sit with me and answer the questions. Without me there, it was out of sight, out of mind. Hopefully, this attitude would be different if I weren't using surrogate clients. If they had more of a vested interest in the final outcome of the design, they might be more willing to take time out to work on this process without my constant intervention. But, it is not something that I would count on until I saw it for myself.

Journal 8/9/94

The last interview that I did was with a woman who lives in the Mission Hill Development. It is not really within the neighborhood of Savin and Maywood, but her boyfriend works for the city and is somehow involved with the Savin and Maywood developments. He brought her to the first meeting that I attended and she signed up on my list of volunteers.

She went to college at Northeastern, but after a divorce, rejected her family's offer to help her financially and remained in the projects. She says that it is her way of being independent. She has old fashioned morals and high aspirations for her children. Her son has decided that he wants to be a famous basketball player, but she pushes him to read and wants him to go to a good college. I should mention, however, that during my entire conversation with her, I had to raise my voice to be heard over the television, even though no one was really watching it.

Although she has high aspirations for her children, she seemed to have resigned herself to staying in the projects. Her responses to my questions were somewhat colored by this. She was afraid to, or unpracticed at imagining what she might have. Her thoughts always shifted to how she could personalize or decorate the space. She stayed away from large spatial and layout decisions. She focused instead on the colors of the rooms and how she could decorate the bathroom if it were a little bit bigger. I am interested to see how the model session turns out.

Note:
After writing this, I have had an extremely hard time getting in touch with this person to complete the model session. She has canceled two appointments at the last minute, and I haven't spoken directly to her since. I think that I might not be able to complete it at all.

147   APPENDIX

148

Bibliography

Participation Theory

Becker, Franklin D.. User Participation,
Personalization, and Environmental
Meaning: Three Field Studies.
Ithaca, NY: Cornell University Program
in Urban and Regional Studies, 1977.

Crit 20. "Housing, Our Unfinished Project."
Washington, D.C.: American Institute
of Architecture Students, Inc., Spring
1988.

Habraken, N. J.. Three R's for Housing.
Amsterdam: Scheltema and Holkema,
1970.

Habraken, N. J.. Supports. London: The
Architectural Press, 1972.

Habraken, J. J.. Variations. Cambridge, MA:
MIT Laboratory of Architecture and
Planning, 1976.

Hamdi, Nabeel. Housing Without Houses.
New York, NY: Van Nostrand
Reinhold Co., 1991.

Turner, John F. C.. Housing By People. New
York: Pantheon Books, 1977.

Turner, John F. C.. Freedom to Build. New
York: Macmillan Company, 1972.

Woolley, Thomas A. Community Architecture
: An Evaluation of the Case for User
Participation in Architectural Design.
Oxford, England: Oxford Polytechnic
Doctoral thesis in Architecture.

User Participation Precedents / Built Works

Hamdi, Nabeel. Housing Without Houses.
New York, NY: Van Nostrand
Reinhold Co., 1991.

Hatch, C. Richard. The Scope of Social
Architecture. New York, NY: Van
Nostrand Reinhold Co. Inc., 1984.

Lukez, Paul. New Concepts in Housing:
Supports in the Netherlands.
Cambridge, MA: MIT Department of
Architecture Design and Housing
Group, 1986.

McDonald, Alan. The Weller Way. London
and Boston: Faber and Faber, 1986.

Woolley, Thomas A. Community Architecture:
An Evaluation of the Case for User
Participation in Architectural Design.
Oxford, England: Oxford Polytechnic
Doctoral thesis in Architecture.

Participation Methods / Tools

Becker, Franklin D.. User Participation,
Personalization, and Environmental
Meaning: Three Field Studies.
Ithaca, NY: Cornell University Program
in Urban and Regional Studies, 1977.

Central Mortgage and Housing Corporation.
Tenant Participation in Housing
Design. Ottawa, Ontario, Canada:
CMHC, 1979.

Hamdi, Nabeel. Housing Without Houses.
New York, NY: Van Nostrand
Reinhold Co., 1991.

Hatch, C. Richard. The Scope of Social
Architecture. New York, NY: Van
Nostrand Reinhold Co. Inc., 1984.

Marcus, Clare Cooper. Home-As-Haven,
Home-As-Trap: Explorations in the
Experience of Dwelling. Washington,
D.C.: Association of Collegiate
Schools of Architecture, 1986.

Moore, Charles and Gerald Allen and Donlyn
Lyndon. The Place of Houses. New
York: Holt, Rinehart and Winston,
1974.

Sanoff, Henry. Design Games: Playing for
Keeps with Personal and
Environmental Design Decisions.
(Experimental Edition) Los Altos, CA:
William Kaufmann, Inc., 1979.

Sanoff, Henry. Designing with Community
Participation. Stroudsburg, PA:
Dowden, Hutchinson, and Ross, Inc.,
1978.

Sanoff, Henry. Integrating Programming,
Evaluation and Participation in
Design. Brookfield, VT: Ashgate
Publishing Co., 1992.

Sanoff, Henry. Visual Research Methods in
Design. New York, NY: Van Nostrand
Reinhold Co., 1991.

Sullivan, Gail and Andrea Nagel. Youthful
Visions: Building a Foundation for
Community: Dudley's Young
Architects and Planning Project.
Roxbury, MA: Dudley Street
Neighborhood Initiative, 1992.

General Information And History

Boston Society of Architects. The Affordable
Housing Challenge: Case Studies of
Selected Developments. Boston,
MA: Boston Society of
Architects,1988.

Gibran, Kahlil. The Prophet. New York: Alfred
A. Knopf, 1951.

Marcus, Clare Cooper. The Spirit of Home.
Washington, D.C.: Association of
Collegiate Schools of Architecture,
1986.

Public Facilities Department. People Talk
About their Housing, Project 747.
Boston, MA: Public Facilities
Department, 1989.

Yonesu, Masaaki. Learning from Each Other:
Participatory Community Design in
the United States and Japan and the
Role of the Architect. Cambridge,
MA: MIT S. M. Arch. S. thesis, 1994.

Illustration Sources

All illustrations and photographs are produced by the author unless otherwise noted.

Fig. 1.2	Habraken, N. J.. Three R's for Housing. Amsterdam: Scheltema and Holkema, 1970; p. 4.
Fig. 1.3	Ibid., p. 5.
Fig. 1.4	The New York Times. New York: Vol. CXLII No. 49,284. March 28, 1993; p. 1.
Fig. 1.5	Habraken, N. J.. Three R's for Housing. Amsterdam: Scheltema and Holkema, 1970; p. 13.
Fig. 1.6	Hatch, C. Richard. The Scope of Social Architecture. New York, NY: Van Nostrand Reinhold Co. Inc., 1984; p. 33.
Fig. 1.7	Ibid., p. 34.
Fig. 1.8	Ibid., p. 57.
Fig. 1.9	Ibid., p. 54.
Fig. 1.10	Ibid., p. 48.
Fig. 1.11	Sanoff, Henry. Visual Research Methods in Design. New York, NY: Van Nostrand Reinhold Co., 1991; p. 142.
Fig 1.12	Ibid., p. 142.
Fig. 1.13	Ibid., p. 172.
Fig. 1.14	Ibid., p. 49.
Fig. 1.15	Ibid., p. 49.
Fig. 1.16	Ibid., p. 51.
Fig. 1.17	Ibid., p. 145.
Fig. 1.18	Ibid., p. 144.
Fig. 1.19	Photo by Martha Williams.
Fig. 2.55	Photo by Masaaki Yonesu
Fig. 2.57	Photo by Masaaki Yonesu
Fig. 2.58	Photo by Masaaki Yonesu
Fig. 2.59	Photo by Masaaki Yonesu
Fig. 2.60	Photo by Masaaki Yonesu

Acknowledgments

This page is much too small for me to thank enough everyone who has helped me with this thesis. From its conception through the frustration of working at "a billion A. M.", and finally to its completion, I was fortunate to have the support and advice that I needed to survive it all.

Thanks...

To my advisor Shun Kanda for his dedication to teaching and excellence and for his unwavering encouragement and support.

To my thesis committee, Reinhard Goethert and Bonne Smith. Thank you for your dedicated advice and criticism. They were invaluable to me.

To my parents for their love and support in helping me to make it this far.

To all of my clients who spent their valuable time teaching me about dwelling and architecture. Especially to Martha Williams and Pearl Plange for their introductions, their interest, their patience, and enthusiasm.

To Edward Daw, special thanks for his "no panico" techniques, his encouragement, and his faith in me. Here's to a better new year!

To Masaaki Yonesu for some of the most valuable assistance I received, for his thesis, his excellent photos, and his general support along the way.

To Pam Sartorelli for her wise "I've been there" advice.

To the level one M. Arch. class who kept me laughing. Don't Freak!

To Aesop who kept me human.

To my thesis buddies who stood together in crisis.

And to those of you who gave me a hand when I needed it most:
    Hershey Hirschkop
    Ron Frankel
    Scott Tulay
    Eileen McHugh
    Denise Peiratos
    Faustina Tsai
    Radhika Bagai