

# Work At HOME, HOME at Work: Building a Bridge Between Private and Public Life\*

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February, 1987

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE OF  
MASTER OF ARCHITECTURE, AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
FEBRUARY, 1992

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January 17, 1992

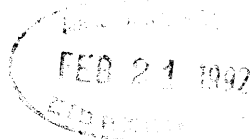
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\*The second part of the title is taken from Dolores Hayden, Redesigning the American Dream (NY: WW Norton & Co., 1984) 167. The student has broadened the context to include home-offices in general whereas she had used it to refer to a specific a home work situation.



#### ACKNOWLEDGEMENTS:

I would like to thank the following people for their input:

Tom Chastain for his valuable insights and steady direction towards the pursuit of good architecture.

Jack Myer for his guidance and for pointing out the subtleties.

Tim Johnson for his enthusiasm and wonderful knowledge on the aspect of light.

Sandra Howell for her wisdom on how and why people use space.

Maria for her confidence in me and my work.

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# Work At HOME, HOME at Work: Building a Bridge Between Private and Public Life

by  
Jennifer Jen-Huey Lin

Submitted to the Department of Architecture on January 17, 1992 in partial fulfillment of the requirements of the degree of Master of Architecture

## Abstract

There is an increasing number of people who have chosen for one reason or another to work at home. The current trend toward working at home due to the advances of technology (computers, fax machines) and changing family structures (both parents working, single parenting) will change the architectural expression of a home and such a change will also affect the neighborhood the home resides in. The thesis work that has been undertaken during this semester is to determine just what those changes and effects might be.

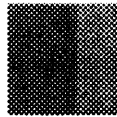
Three levels of design investigation were attempted: Single-Detached Unit, Duplex Unit, Multi-Unit Attached. These three were basic examples that represent the broad spectrum of existing housing types. The variation allowed the investigation to identify the differences and particular issues that went along with each type when it underwent the conversion to a home-office.

Existing buildings on an existing site were used as the vehicle for the design investigations. The site is in Cambridgeport, MA on a residential block in a typical neighborhood setting.

The three building types were clustered together to study what would happen when a substantial number of home-offices existed on the same block. Currently, home-offices are scattered throughout neighborhoods confined to their own property lines. The hypothesis was that the density of home-offices could help form a community-oriented space that would improve the quality of community life in the neighborhood.

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In a few years, over half of the work force in this country will be information workers, meaning that they could work out of their homes. In 20 years, we'll look back at films [videos] of people on crowded highways and subways and say, 'What a ridiculous way to go to work.' People will begin to come to cities for recreational reasons, not to work. Some home-workers will want to live and work in the country; others will find it more pleasurable to live and work in the city.

-Marcia Kelly<sup>1</sup>

## **INTRODUCTION**

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# **Technological and Social Trends**

**W**e are rapidly changing into a society that is increasingly concerned with staying at home. VCRs, Home Shopping, Cable TV and Computers are devices that many people interact with on a daily basis whether it be for leisure or work. Soon it will no longer be necessary to leave the “house” since it will contain all the devices necessary for our existence and pleasure. As such, it will be of prime importance to identify the dangers of technology and know what to avoid:

In our own decade, single family houses designed by many fashionable architects reflect a rather academic approach to the question of how to dwell. Rather than attempting to expand the sacred-hut program or alter the context, many architects have strained to enhance the experience of dwelling with images of the sacred, the arcane, the difficult. Other designers have embraced the engineering tradition. Buckminster Fuller’s Dymaxion house of 1927, suspended on a mast off the

ground were for decades the definitive statement of the machine aesthetic applied to the sacred-hut program, but in recent years Stanley Tigerman of Chicago has outdone Bucky. His futuristic “house that thinks for itself” incorporates home computers and robotized carts to execute many household functions. Here the Victorian dwelling’s spatial program is sustained in the late-twentieth century by micro-chip technology. Shopping, bill paying, and taxes can be done on the computer; the robotized cart can fetch laundry from a bedroom hamper and take it to the washing machine and dryer; the computer provides children’s games to add a second, more engaging babysitting machine to the television, one that can accommodate children’s participation. Surveillance systems of various kinds are integrated into the computer, so that when anyone intrudes into the private haven of this suburban home, the violation is noted and reported to the local police.

Tigerman’s house—patriarchal, isolated, and nostalgic in its traditional plan but science-fiction-like in its use of electronic equipment—hints at the aesthetic choices for the twenty-first century.<sup>2</sup>

As technology progresses, architects should beware of becoming overly fascinated by the seductive nature of electronics. In Tigerman’s house, the incredible gadgetry served only to quarantine the inhabitants. Considering technology as the sole proponent for the design of a home is a nearsighted act. When the essence of a house is a ‘giant computer’, peoples’ associations of the ‘home’ are disemboweled, stripped of humanity:

Vernacular house forms are economic diagrams of the reproduction of the human race; they are also aesthetic essays on the meaning of life within a particular culture, its joys and rituals, its superstitions and stigmas. House forms cannot be separated from their physical and social contexts....These climatic and cultural connections are all the stronger because in the pre-industrial world, house and household goods are a unity. The cooking vessels, the rugs, the doors, the beds, all cling to the dwelling, reflecting the inhabitants’ fears and desires, rituals and

taboos, entwined with the experiences of heat, cold, hunger, feasting, marriage, war, birth, and death.<sup>3</sup>

The key towards understanding the house as both a home and work-place is in understanding how they can cohabitate together, not in defining each as a separate entity.

There is a need to acknowledge the fact that the numbers of traditional one-income earning nuclear families have been dwindling over the last twenty years. Out of 86.8 million households in the United States, 50.3 million families are married but their lifestyles have changed and will continue to change. Greater than 60% of married women with children are having to earn an income compared to 18% in 1950. 53 % of married women with children less than 6 years of age are in the work force. In reality, households with an

employed father, a housewife and children under the age of 18 make up only 10% of the population. More and more, both parents are finding it a necessity to work in order to support the needs of the family. The most rapidly increasing family type is the single person living alone, a group that now makes up nearly a quarter of all households. Single parent families make up 12% of the population.<sup>4</sup>

One reason for such changing demographics has to do with economics. Over half of the people over the age of 15 are earning less than 10,000 dollars per year:<sup>5</sup> The middle-class ideal of the detached, single-family suburban house is becoming less and less affordable. In essence, the decreasing numbers of the 'middle-class' due to increasing costs are forcing many to change life styles along with living quarters—a change that current

structures cannot accomodate. A typical one family house built between 1950 and 1960 consists of three bedrooms, a den, two and a half baths, laundry room, porches and a two-car garage. These two-car garages are often larger than basic shelter for a family in a developing country. In the R-1 design there are few transitions between the public streets and the private homes, no community parks, no space to socialize with neighbors because all space is either strictly private or strictly public. Clearly, the excesses of the Levitt Towns are unable shelter the increasing number of non-traditional family types. Instead, new forms of housing are needed, but with inflation, the most likely and reasonable alternative is to work with existing forms from the 60's and 70's and discover how to adapt them for new uses.<sup>6</sup>

Work at Home, Home at Work

The increasing popularity of working parttime or even full time at home as an alternative to the changing economic forces tends to isolate people, much like the isolation associated with homemakers of the traditional nuclear family.<sup>7</sup> The industrial era not only served to increase production through automation and assembly lines, it also catapulted the social sphere of daily contact with others from the home during the cottage industry out into the workplace. The bottom line, then, is that in order for the home to be a viable workplace, it must be altered so that a wide variety of social and practical needs can be met.<sup>8</sup>

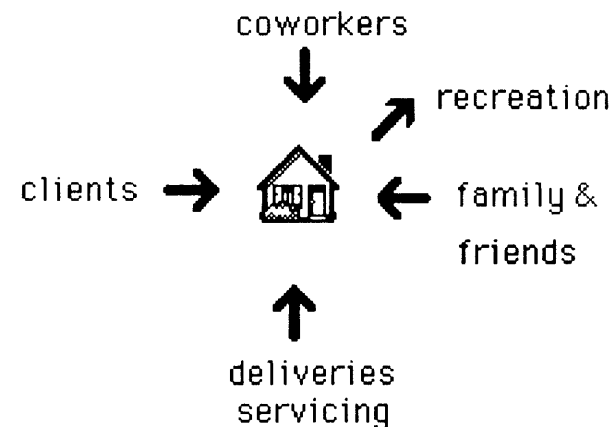
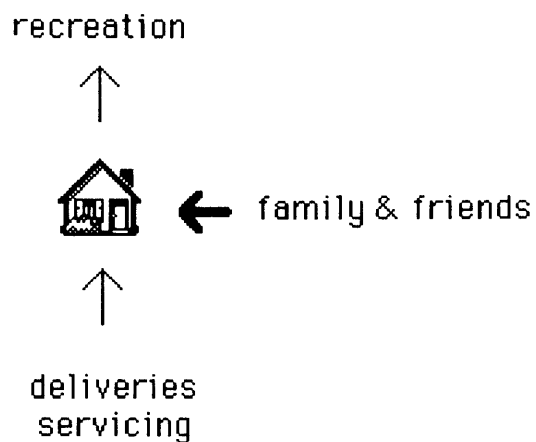
As mentioned above, the seductive nature of technology can lead to a very narrow path. What must be acknowledged about technology is that it offers change and different options:

Hidden inside our advance to a new production system is a potential for social change so breathtaking in scope that few among us have been willing to face its meaning. For we are about to revolutionize our homes as well.

Apart from encouraging smaller work units, apart from permitting a decentralization and de-urbanization of production, apart from altering the actual character of work, the new production system could shift literally millions of jobs out of the factories and offices into which the Second Wave swept them and right back where they came from originally: the home.... Yet this is precisely what the new mode of production makes possible: a return to cottage industry on a new, higher, electronic basis, and with it a new emphasis on the home as the center of society.<sup>9</sup>

How would such a decentralization affect the "house" if the "home" replaced the city as the center of society as Alvin Toffler Suggests?





The left side of the above diagram depicts the home as it is currently accessed. The right shows what other factors need to be addressed if in fact the home becomes the work place. How will architecture reflect these changes? How can the work-home be distinguished from the existing home: is it just a question of scale and materials? What are the architectural signals that give the

observer clues that inside this house there also lies a business: is it a question of approach, signage, orientation, facade elements, and location? How much and what type of space would each variable require: would there be a need for separate entrances, different facades on each side of the house so we can tell which is the “home” side versus the work side? What are the impli-

cations of the shift of energy requirements—i.e. with more and more equipment placed in the home, there will be a need to cool the house. And last but not least, what are the special requirements of the inhabitants? (These questions require considerable thought and will be dealt with in later chapters.)

Work at Home, Home at Work

Two home offices in Medford, MA. The large signage in front of both the houses reflects the dilemma home offices have in identifying themselves as 'businesses' in a residential neighborhood.





An obvious advantage of working at home is the elimination of commuting and thus saving precious time during the day for either more work or leisure depending on the personality. More time can be spent with the family since they are close at hand such as lunch with the family or just short visits throughout the day. Because the parent(s) work at home, children will have a chance to see caretakers from another point of view and provide yet another facet besides just the 'Mommy' or 'Daddy' role models. The schedule of a 9 to 5 workday no longer has to apply since at any point during the day one can take a stroll outside to take a break from work—i.e., the person is more in control of his/her time. If some important business matters need to be taken care of immediately, the office is in proximity. Some home workers find that although there is less of a structured schedule, their

work week may also include the weekends. The Home-Office can even impact at the scale of the neighborhood in such a way as to bring in more of a sense of community through community oriented spaces.

Currently, the dense concentrations of energy in high rise offices require highly centralized energy generation. The move towards working at home would spread out the concentration of energy to smaller scale buildings and allow more use of solar, wind and other natural resources.<sup>10</sup> Also there would be less reliance on fuel due to the elimination of commuting to work.

In summary, it is important to acknowledge technological trends by balancing these trends with social ones. Together they give us the opportunity to change and

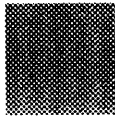
project varied life styles for the future. Rather than produce architecture fit only for science-fiction novels, we must first readapt existing buildings accordingly for the needs and uses of the home workers.

NOTES:

- <sup>1</sup> Marcia Kelly, Electronic Services Unlimited, Sept. 10, '84 as quoted in William Atkinson, Working At Home. Is It For You (Homewood, IL: Dow Jones-Irwin, 1985) 14.
- <sup>2</sup> Dolores Hayden, Redesigning the American Dream (New York: W.W. Norton & Co., 1984) 110.
- <sup>3</sup> Ibid., 98.
- <sup>4</sup> New Households. New Housing, ed. Sherry Ahrentzen and Karen A. Frank (New York: Van Nostrand Reinhold, 1989) xi.
- <sup>5</sup> Ibid., xi.
- <sup>6</sup> Hayden, 185, 207.
- <sup>7</sup> Kathryn C. McCamant and Charles R. Durrett, "Cohousing in Denmark", New Households. New Housing, 123.
- <sup>8</sup> Ibid., 123.
- <sup>9</sup> Alvin Toffler, The Third Wave (New York: William Morrow and Co., 1980), 210; The Second Wave refers to the industrialization era that swept the western world via mass production methods.
- <sup>10</sup> Ibid., 220-221.

PHOTOGRAPH CREDITS:

All photographs in this section were taken by Jennifer Lin



The segregated functions of living unit and work place are not only socially dysfunctional, but a waste of land.

-Richard Katov<sup>1</sup>

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## Using Architecture to Solve Psychological Needs

According to Franklin Becker, there are three categories of individuals who are likely to benefit from telecommuting: technicians, such as computer programmers; professional and white-collar persons, such as adjusters and bank officers; and secretaries or clerk-typists involved in word and customer-account processing.<sup>2</sup> Another group interviewed by Beach includes a group of home-workers consisting of machine knitters, a mechanic, chef, day care provider, veterinarian, art dealer, hair dresser, flytyer, seamstress, translator, secretary, and cabinet maker.<sup>3</sup> In an article by Theodore Pettus who interviews home-workers in Manhattan, the list includes an entrepreneur, fashion buyer, political media consultant, architect, investment advisor, and commodities trader. It is obvious from this short list that home-workers encompass a wide variety

of professions. All of them have one thing in common: their choice to work at home is a step towards building a bridge between public and private life. They may use different equipment or require different spaces, but all these people have to somehow balance their roles as worker, spouse, and/or parent. Without a doubt, there are positive as well as negative effects that can arise in the home-workers' lives. Below is a sampling of statements from people who work at home:

'This working at home thing is definitely a very special kind of freedom.'

'If it's a real nice hot summer day, you know, there is no reason not to go to Reid State Park or Ogunquit for the day or what ever any time we want. That's the great part about the job.'

'I'll never go to work in an office again.... Much too confining.'

'Immediately after I began, a sense of loneliness would creep over me from time to time.'

'You start talking to yourself, out loud.'

'A dripping faucet can drive you crazy.'

'You're suddenly the doorman in your office building. United Parcel Service, the Con Ed meter reader and the plumber are old pals.'

'I don't make my family fit my work—I make my work fit my family.' (A home working mother)

'I feel good about my family. If I went to work, I wouldn't and if I didn't do anything at all I wouldn't.' (A home knitter)

'It's my philosophy. Men have been taken out of parenting—I don't know if it happened with the Industrial Revolution or it's just that women are smarter. But anyway, that's a place that Charles [her husband] is involved—with them [the children]. I think it teaches them responsibility, some place where he has to put up with the mess too and deal with it, and they have to learn that he is human.' (Wife of a home worker)

'So Lori (at six months of age) would go along and ride in the truck. If I was going in the barn I would take her in with me and I set her in the hay so she'd be out of the way, particularly if we were going to have to catch a calf or something like that.' (A home-working father)

'Well, they're (home-working parents) not

in such a rush when you get home from school. Other working parents don't have time for you. Like Mom ( a home worker) gets us a snack and sometimes she sits down and watches television with us. Parents that go out to work and come home don't have really much time for their kids.' (Nine year old child)<sup>4</sup>

From the above statements, we can summarize that the positives include a sense of freedom such as time flexibility and being your own boss, closer ties to the family and children, relaxation of strict gender roles, and over all, a cohesive integration of private and public life. In the next section we will discuss the negative effects of home work including: lack of privacy, isolation, interruptions from outside factors, and tensions erupting from family members due to spending more time together. Given both positive and negative effects, we can go on to infer that architecture can play a major role in alleviating

such negatives and enhance the positive aspects.

Although the study of home workers is relatively a new field of study, a few researchers have arrived at a similar conclusion. In two studies on human environment relations investigated by Becker (1974, 1978) he concluded that the design for living significantly influenced levels of satisfaction and perceived well-being, and altered existing behavioral patterns, particularly in using different facilities and social interaction. People perceive the home as a place to unwind, a refuge from the rest of the world. Privacy was important in allowing family members to manage stress. Unfortunately, Becker found that residents of public housing were unable to alleviate stress because of the inflexibility on the part of landlords to allow manipulation of space to fit residents' needs. For example, a couple living in an apartment building ready to start a family or



have extended relatives live with them would have to look for a larger apartment or invest in a house. This is a major identifiable problem in rental units today. The inability of rental units to expand or shrink relative to resident needs results in short term stays and transitory populations that prevent many from forming ties, much less a sense of community.

Using such information, we can infer that for people who wish to work at home in an apartment setting, similar obstacles stand in the way. In fact, Chow and Berheide (1988) concluded that families and individuals attempting to combine family and work have to rely too often on ad hoc individual rather than institutionalized collective decisions.<sup>5</sup> Currently, there are few efforts on a planning scale to accommodate home-workers. This neglect is due either to the home

worker viewed as a minority population not worth consideration or just a gross oversight in not realizing the potential of such a population. Although statistics suggest that 5-10% of workers are home-based other figures cite 8-12 million who either work full or part time at home.<sup>6</sup> A significant impact can occur at the community level if even a few neighbors combine their efforts to develop community-oriented spaces for community activities. Such an integration into neighborhoods would dramatically alter how neighborhoods are planned in the future relative to home workers as well as to the rest of the population. Instead, individuals who decide to work at home must rely on their own resources such as friends or clients to counter-balance their isolation and otherwise lack of community interaction.

In terms of gender, Boneparth and Stoper (1983) suggest that work at home could help break down the sexual division of labor. By locating "men's work" in the women's traditional sphere, the home, the psychological distinction between women's and men's work could be lessened.<sup>7</sup> As described above, men and women have the opportunity that rarely existed before: to share child-rearing and family life *balanced* by work rather than having those two aspects compete against each other due to their physical distance. The stereotypes of 'bread-winner' and 'house-wife/mother' will eventually fade out of our vocabulary.

Finally, research on how home workers utilize space is worth examining. In a study done by Bowlus (1980), a few computer programmers were asked about their work relative to family life. One interesting finding was that the location of work, which involves electronic equipment, is often dictated by the location of the telephone whereby portable terminals and modems could be hooked up.

One computer-programmer worked in a room next to the master bedroom where traffic to and from the master bedroom occurred via the work area. The subsequent event of a new baby altered living conditions dramatically. The baby was initially placed in the work area until the noise generated by the terminal forced the parents to move the baby to the guest room. This arrangement was unsatisfactory to

the mother who preferred the baby next to the master bedroom. This forced the work area to be moved to the unfinished basement. In order to accommodate such a move, the basement would require additional work and an additional phone line. Another worker worked at his desk in the master bedroom. The large amounts of printouts on top of the lack of storage space caused conflict between the spouses where his wife complained about the 'mess'. The husband also worked late at night which interfered with his wife's sleep. Not surprisingly, this particular worker would have preferred a more separate work space.<sup>8</sup> The inference here is that appropriate architectural design solution can reduce tension yet still allow for interaction with other members of the family. Both scenarios suggest that current homes fail at accommodating the home worker either spatially or

electrically. Architecturally speaking, the spatial requirements can be identified as a need for appropriate access—acoustic, visual, physical, a need for work space that is separate yet connected back to the house. For instance, a separate area for work could have either visual and/or auditory access to 'living' areas of the house. And finally, the design of a home office needs to be flexible enough to allow for change(s).

In my own investigation, where I interviewed a group of nine home working architects, my findings reiterated many of the same points mentioned above. Their responses fall into four main categories—professionalism, flexibility, psychological issues, and children. Interestingly enough, a substantial number of interviewees, male and female alike, regarded the fact of having children as a major influence in locating the office in the home.<sup>9</sup>

First of all, a professional appearance was rated high on the list of qualities that a home office should maintain. Due to client contact as well as employee contact, many architects I visited described a need to maintain a ‘professional appearance’ distinct from the home. For instance, one woman owned a three story townhouse and located her office space on the third floor

where a large window with a view of Boston characterized the studio space (Fig. 1.1). Since access to this third floor was through a central stair case, she mentioned

having to keep hall ways clean and doors closed on the first and second floors during client visits. As a single parent raising two sons this was no easy task. She also re-



Fig. 1.1 Former third floor studio of architect Joan Wood.

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marked that as one of the few women practicing at the time, professional appearance was an especially important factor.

Another architect mentioned that in the office space, two story offices worked well because the bottom floor could be maintained as an area for receiving clients and having meetings while the upper floor was the working area where the 'mess' was. However, it is important to note that the atmosphere of many of the home offices was relaxed enough that employees often used the other quarters of the house such as the kitchen and dining areas during lunch hours.

The second category, flexibility, was possible because many of the architects had originally bought their duplexes or townhouses etc., with the intent to rent out the extra

living space. Due to different circumstances, that extra space ended up as the home-office. For instance, one architect I visited remodeled his four story townhouse



Fig 1.2 Two story home office of architect Gerald Ives.

so that the top two floors were to be living space and the bottom two floors were to be rented out. There were separate entrances to each of the apartments and each had its own facilities. The floor between the two areas was also acoustically insulated for rental purposes. He ended up locating his home office on the upper two floors where the light was better and the floor plan more open (Fig. 1.2). The living quarters were made up of the bottom two floors where a more conventional plan was used. The acoustic floor served the home office well by allowing acoustic privacy for both areas.



Fig 1.3 A relaxed atmosphere characterizes Troy West's Home Office. The porch is one place to take business calls.

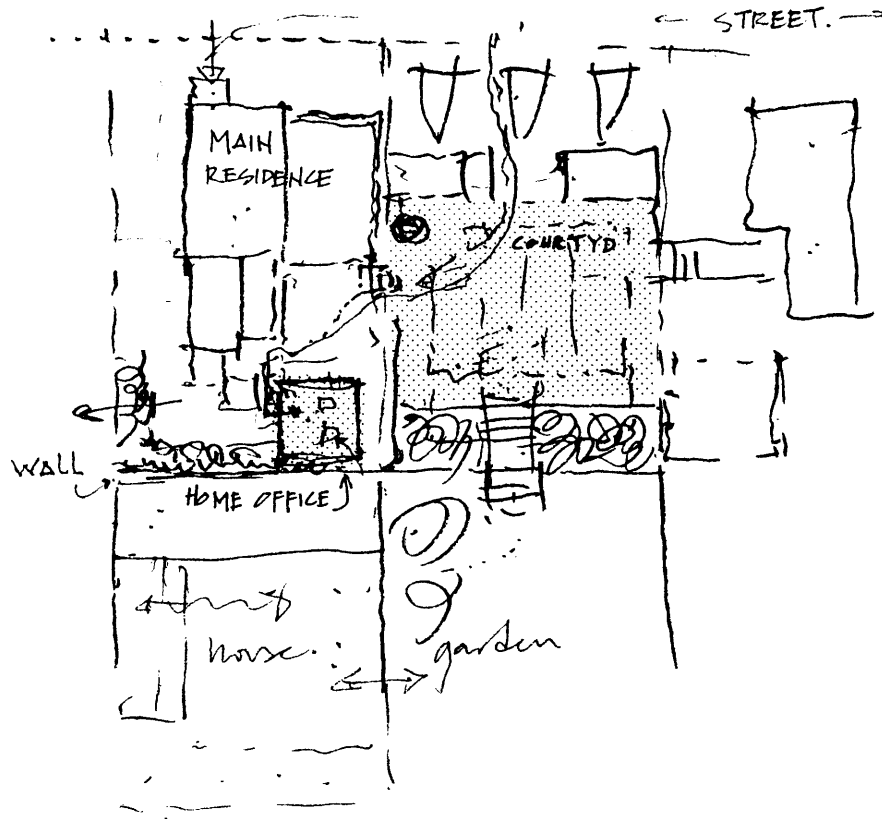


Fig. 1.4 Diagram of a home office that overlooks a shared courtyard.

Another architect had his office space in a separate space behind his main residence (Fig. 1.4). The space was remodeled to include skylights and a water closet. For several years, he maintained his practice using that space. The firm eventually grew to such a size that he had to move his home office into a conventional office space elsewhere. The space was then used as a teenager's bedroom for a number of years. Currently, this space is used by his spouse for her work as a therapist.

In the third area of psychological issues, a few architects mentioned isolation, a need for social support, and a need to shift mentally from home environment to office environment. All of the architects at one time or another worked in a conventional urban office setting. They were accustomed to a city environment. Once they shifted to a residential one, it took some adjustment. Many characterized their neighborhood as being quiet and with very little activity and/or services. The isolation usually was not too big a problem since most of the offices I visited had employees. However, some spoke of the need to shift psychologically from the home to office. Two architects I interviewed said the fact that they actually had to physically go outside of their home in order to reach their office was a major asset in getting the mind ready for work. This is not surprising considering

the fact that many who commute to work already have this built into their routine of getting into the car or riding on the subway to arrive at their work destination. We can infer that such a mental shift may also be necessary for the employees and/or clients who, instead of arriving at an office, end up in a residential neighborhood.

Finally, with respect to children, many people responded positively to having children around especially once the age of the children had progressed beyond the infant years. One architect in particular set up a room designated as the children's play area right in his office space so he could keep an eye on them. The children's space was controlled by a door which could be closed. This controlled environment kept disruptions to a minimum and gave peace of mind to the parent. This designation of children's space is one of the clearest architectural examples of how home work can build a bridge between private and public life. In another architect's office, the baby sitter would often bring the children downstairs into the office for visits. Since the control, in this instance was the baby sitter, interruptions were kept to a minimum. Another control can be facilitated by visual

access. Four neighboring houses pooled their resources and used parts of their yards to create a courtyard (Fig 1.4). One of the houses belonged to an architect who worked at home and another home worker in a different profession. This courtyard served as the children's play area for all the households during the day. Visually, the home office spaces as well as the houses overlooked this courtyard and parents could look up every once in a while to see their children playing. At night the courtyard served as a parking area. This is not only a solution to solve more than one problem, it is also an example of a collective decision that benefitted the participants and reinforced a sense of community by providing community-oriented space.

In conclusion, it can be said that although there are both positive and negative side effects to working at home, the positive aspects presented here are more than enough to warrant a closer look into how architecture can play a role in designing and planning for a community which will include more and more home workers. Creative design can help solve privacy and public issues as well as mediate certain psychological and/or professional needs of inhabitants. (At this point in time it is important to draw a distinction between home offices that receive clients or hire employees and home offices that do not. Those that do will be the focus in later chapters due to their public nature.) Designs must also be flexible enough so that other potential uses can be accommodated in the future. Providing spaces for children and other family members should be considered in the quality

of design. Finally, community-oriented spaces decreases the sense of isolation especially for people who are at home most of the day.



NOTES:

<sup>1</sup> Richard Katov, "The GoHome", Arts and Architecture, 3, (1984), 48.

<sup>2</sup> Franklin Becker, Workspace Creating Environments in Organizations (New York: Praeger Publishers, 1981) 178.

<sup>3</sup> Betty Beach, Integrating Work and Family Life The Home-Working Family (Albany: State University of New York Press, 1989) 1.

<sup>4</sup> The above quotes by individuals are indebted to interviews done by Betty Beach, 4, 25, 15, 94, 112; Theodore Pettus, "Home is Where the Office is", New York Magazine, Apr 12, 1982, 28-34.

<sup>5</sup> As quoted by Beach, 31.

<sup>6</sup> Ibid., 2.

<sup>7</sup> As quoted by Beach, 22.

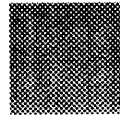
<sup>8</sup> Becker,.

<sup>9</sup> The sample interviewed consisted of architects from the New England area and New York City. The interviews were conducted in person at the school of M.I.T. and home offices of the architects during the period of Spring and Summer, 1991.

PHOTOGRAPH and DIAGRAM CREDITS:

Figures 1.1 to 1.3, Jennifer Lin

Figure 1.4, Jack Myer



A good house is a created thing made of many parts economically and meaningfully assembled. It speaks not just of the materials from which it is made, but of the intangible rhythms, spirits, and dreams of people's lives. Its site is only a tiny piece of the real world, yet this place is made to seem like an entire world. In its parts it accommodates important human activities, yet in sum it expresses an attitude toward life.<sup>1</sup>

-Charles Moore

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## 2

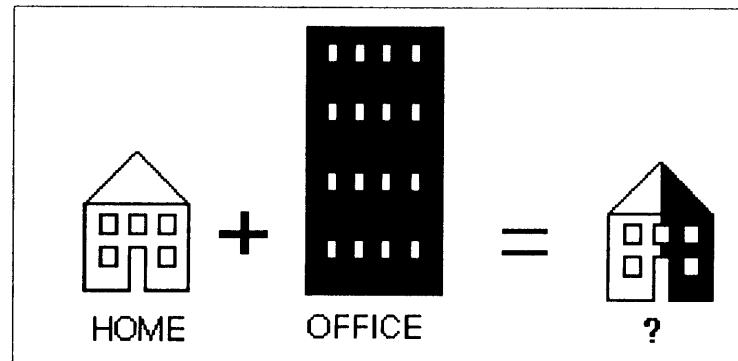
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# The Japanese Tea House as a Metaphor

The main question is not how to design an office nor is it how to design a house.

Both types are forever imbedded in our minds as cultural and symbolic pieces that have been created many times over. As shown in Fig. 2.1, the real inquiry is to get at how these two types can exist together in harmony, and consequently how each part relates to the other. In order to understand this juxtaposition more fully, I introduce the Japanese Tea House and Garden as metaphors for the home-office.

Fig. 2.1



The office is an environment specifically designed for work just as the tea house is a built environment for a specific task. At the same time, the relationship of the tea house to the house itself is articulated through the Tea Garden or *roji*. Each is a separate piece but together, the tea house, the *roji*, and the main house combine in harmony relative to one another. It is this harmonious balance that should be addressed in the design of a home-office (Fig. 2.2).

The tea ceremony originates from the Zen monks successively drinking tea out of a bowl before the image of Bodhi Dhama, the founder of the sect. All the great tea-masters were students of Zen and the architecture and ceremony reflects such teachings.<sup>2</sup> In the late 16th century, the Momoyama Era, the creation of the garden served as

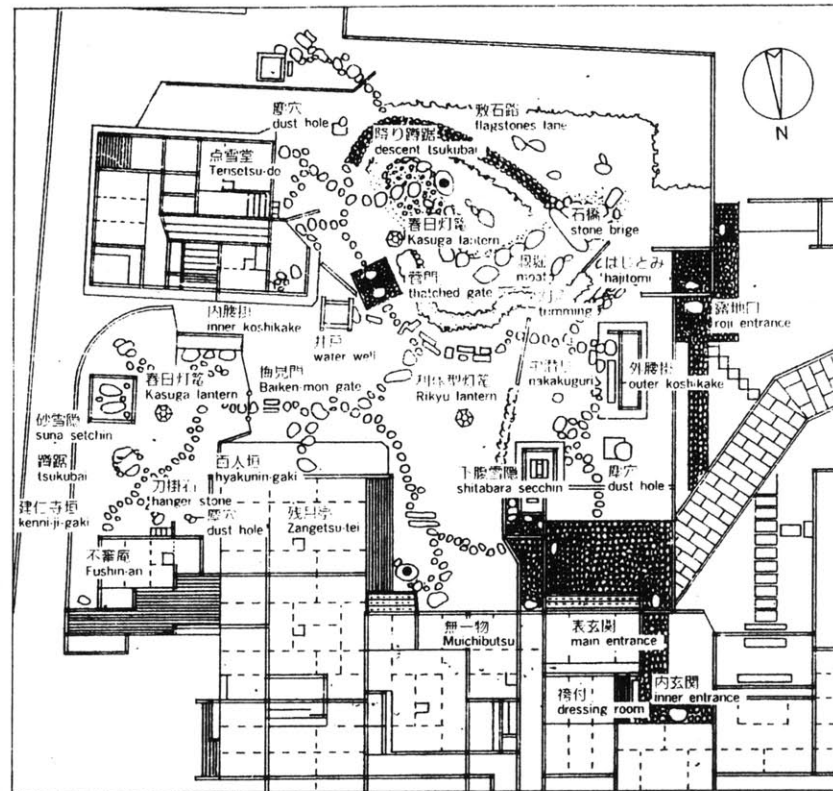


Fig 2.2 Plan showing various elements of a Tea House and Garden.

Fig. 2.3 Garden lantern and wash basin

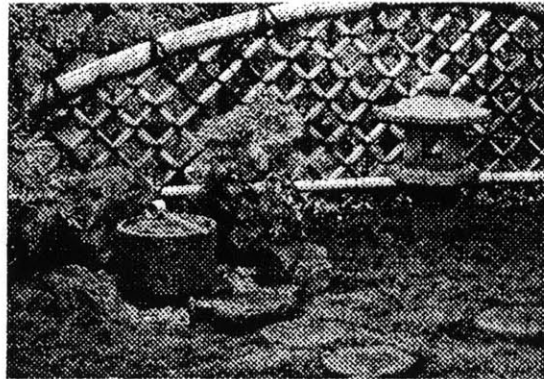
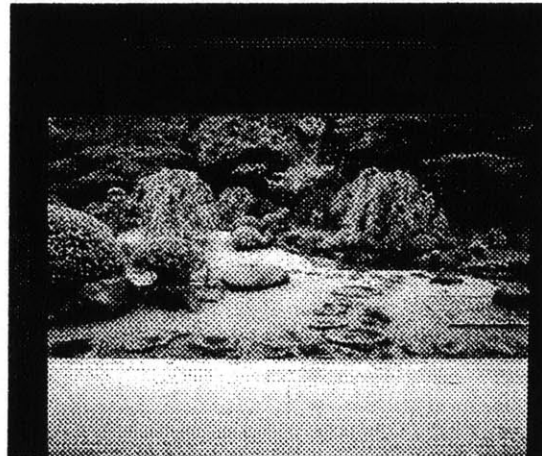


Fig. 2.4 View showing stepping stones articulating the Tea Garden.



a backdrop for the tea ceremony. During the 17th and 18th century, the tea garden was developed into a distinct style. Features now commonly associated with regular Japanese gardens—*tsukubai* (stone basin) and *toro* (garden lanterns Fig. 2.3), *tobiishi* (stepping stones Fig. 2.4), and *shikiishi* or *nobedan* (flagstones Fig. 2.5)—originated from the tea gardens.<sup>3</sup>

The *roji* signified the first stage of meditation—the passage of self illumination:

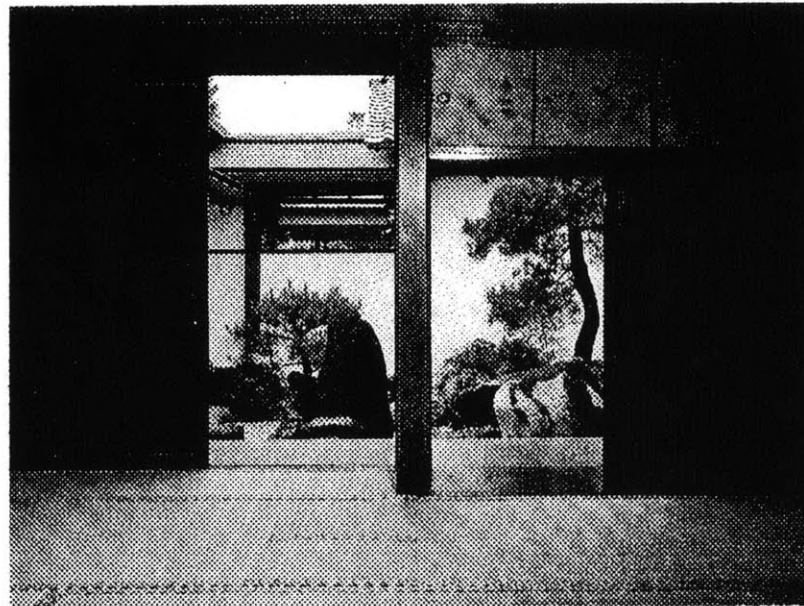


Fig. 2.5 Flagstones leading to the Inner Gate.

The roji was intended to break connection with the outside world, and to produce a fresh sensation conducive to the full enjoyment of [aesthetics] in the tea-room itself. One who has trodden this garden path cannot fail to remember how his spirit, as he walked in the twilight of evergreens over the regular irregularities of the stepping stones, beneath which lay dried pine needles, and passed beside the moss-covered granite lanterns, became uplifted above ordinary thoughts. One may be in the midst of a city, and yet feel as if he were in the forest far away from the dust and din of civilization. Great was the ingenuity displayed by the tea-masters in producing these effects of serenity and purity. The nature of the sensations to be aroused in passing through the roji differed with different tea-masters.<sup>4</sup>

The garden signifies a transition for the guest so that s/he can distinguish between the formal act of entering the tea house and the informal act of entering a home. This psychological preparation uses both natural and manmade elements. Architecturally speaking, the elements that make up the roji are there for a purpose. The tea garden is part of the tea ceremony yet, can be seen and enjoyed from the home (Fig. 2.6). Without the roji, there is no *in between*, no balance, only black against white.

Fig. 2.6 View of Garden framed by the column and sliding panels.



The transition begins by entering through the *roji guchi*, the entrance to the tea garden (Fig. 2.7). The first encounter is the *soto koshikake*, the outer waiting bench, where guests attending the tea ceremony gather (Fig. 2.8). A *shitabara setchin*, restroom usually is off to the side (Fig. 2.2). The guests then follow the stepping stones to the middle gate where the host is waiting to welcome them. The middle gate has a simple and quiet appearance with bamboo fences, hedges or plantings on either side (Fig. 2.9). The area between the outer bench and the middle gate is commonly referred to as the outer garden. The area beyond the middle gate is considered the inner garden (Fig. 2.10). Just inside the middle gate sits a water basin where the guests wash their hands and rinse their mouths (Fig. 2.11). This act, adapted from

Shintoism or Buddhism, signifies a cleansing of the body. The low position of the water basin forces the guests to bend over, thus, giving the water basin the name of *tsukubai* which literally means to lean over.<sup>5</sup>



Fig. 2.7 Entrance to Tea Garden.





Fig. 2.8 Shot of waiting bench.

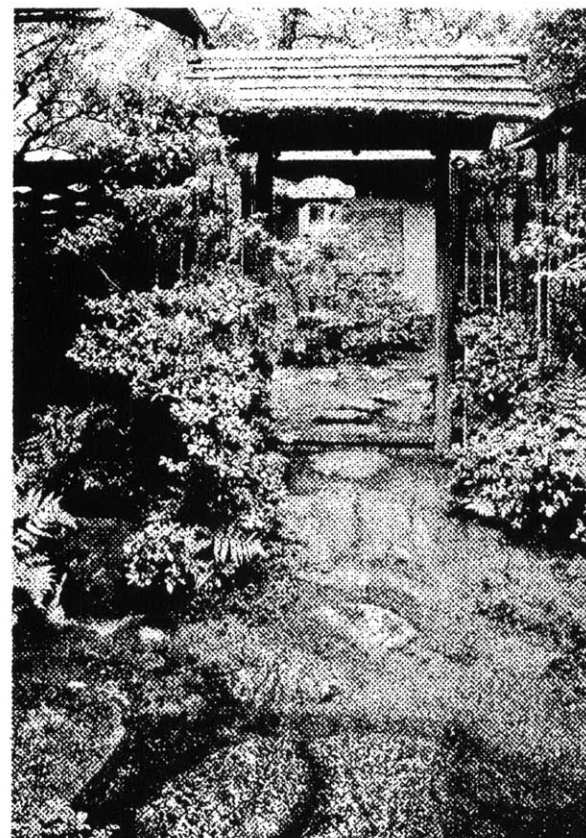


Fig. 2.9 Middle gate.

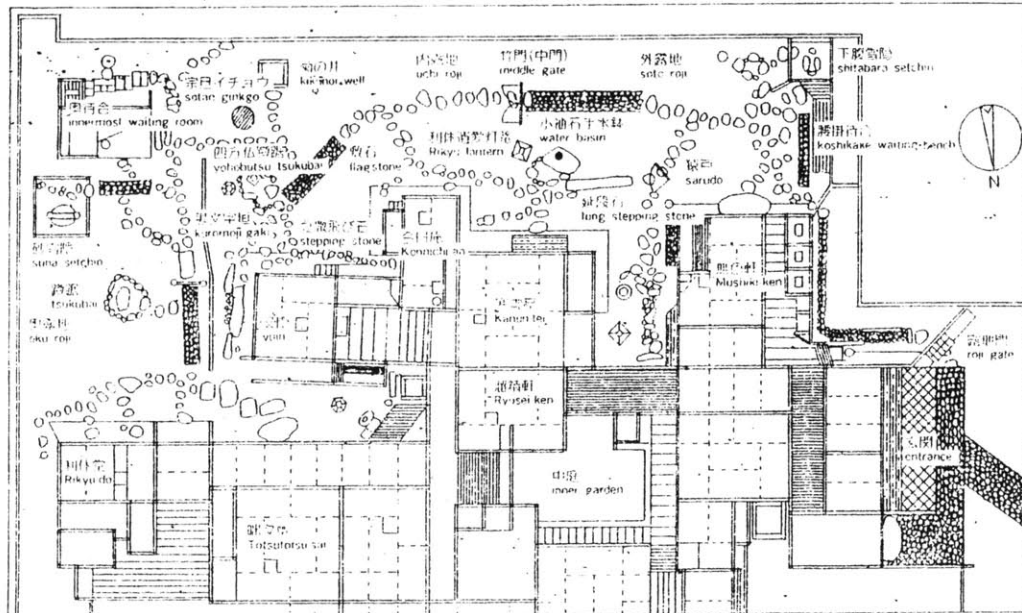


Fig. 2.10 Layout of Tea Garden showing location of Inner Garden.

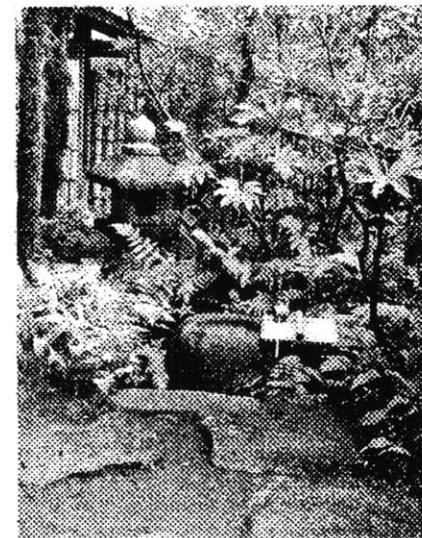


Fig. 2.11 Water Basin

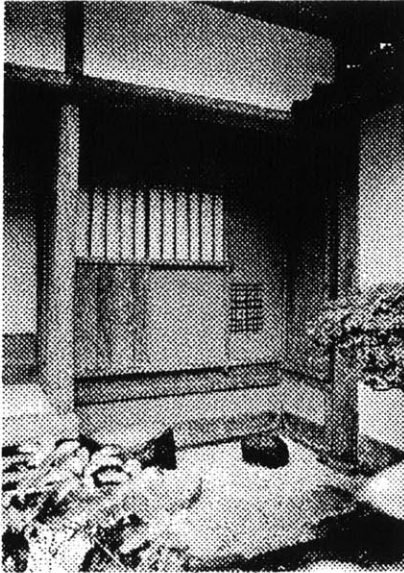


Fig. 2.12 Entrance to Tea House.



Fig. 2.13 Inner waiting bench.

Finally, the guests follow the remaining stepping stones up to the tea house (Fig. 2.12). Silently, each guest in turn enters through a door not more than three feet high. Crawling through this door serves as an act of humility, *nigiriguchi*.<sup>6</sup> Inside, the guests are served a small meal usually consisting of a sweet cake. An intermission follows where the guests retreat outside to the *uchi koshikake*, the inner waiting bench (Fig. 2.13). A *suna setchin*, a sand restroom, is nearby (Figs. 2.2, 2.10). This sand restroom is never used and is only for looking upon. After reentering, the last act of the tea ceremony begins.<sup>7</sup> This series of events serves to prepare and initiate a change of atmosphere so that the task at hand can take place. What is important is that the architecture is as much a part of the tea ceremony as the rituals performed.

For the person who leaves the house to get in a car to commute to work, the same psychological preparation already takes place as it did with the tea ceremony; unfortunately, for many, the 45 minute commute on the highway is not a pleasant experience. It is necessary then, to provide a pleasant psychological transition for home workers and their clients through architectonics just as the *roji* did. As was mentioned above, without the *roji*, there is no inbetween, no balance, no harmony—qualities desirable for a home office (2.14).

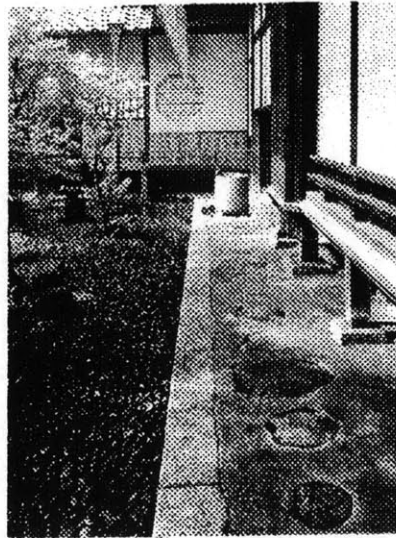


Fig. 2.14

At the end of the day while commuters struggle through rush hour traffic to get home, the home worker also leaves the place of work just as the tea ceremony has to end:

After host and guests have expressed their feelings of regret (*yojo zanshin*) and after the final farewells have been said, the guests depart through the *roji*. They do not call out in loud voices, but turn silently for one last look. The host, moved, watches them until they are gone from sight. It would not do for him to rush about closing the *nakakuguri*, the *sarudo*, and the other doors, for this would make the day's entertainment meaningless.<sup>8</sup>

NOTES:

<sup>1</sup> Charles Moore, Gerald Allen, Lyndon Donlyn, The Place of Houses, (New York: Holt, Rinehart & Winston, 1974) 49.

<sup>2</sup> Okakura-Kakuzo, The Book of Tea, (New York: Duffield and Company, 1906) 80,81.

<sup>3</sup> Haruzo Ohashi, The Tea Garden, (Tokyo: Graphic-sha Publishing Co., 1989) 106. As explained by landscape gardener Tadakazu Saito in the Reference Section.

<sup>4</sup> Okakura-Kakuzo, 83.

<sup>5</sup> Haruzo Ohashi, 106-109.

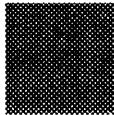
<sup>6</sup> Okakura-Kakuzo, 84, 85. For more indepth information on *niriguchi* see Paul Varley and Kumakura Isao, Tea in Japan, (Honolulu: Univ. of Hawaii Press, 1989) 50-54.

<sup>7</sup> Haruzo Ohashi, 106-109.

<sup>8</sup> Ii Naosuke, Chanoyu Ichie Shu, in Sen Soshitsu, ed., Chado Koten Zenshu, vol 10, 414-415 as quoted by Paul Varley, 187.

PHOTOGRAPH CREDITS:

Figures 2.2 through 2.14, Haruzo Ohashi.



Aesthetically, the neighborhood as a whole would be improved if empty front lawns were replaced with diverse, small, private gardens, and new porches, but an even greater aesthetic impact can be achieved if residents start to create new common land by joining parts of their yards.

-Dolores Hayden<sup>1</sup>

### 3

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## Strength in Community-Oriented Spaces

The following five works, all of which accommodate home-work spaces in one way or another, are examples that have in common the idea of shared space whether it be a single room such as a kitchen that is shared by four individuals or a large space such as a street that is shared by many households. The act of sharing space among individuals can elicit positive feelings of cohesiveness in a community, and especially for home workers. In other words, community-oriented space can maintain the health and well-being for the isolated home worker. That is not to say that privacy is not valued, but that there should be a spectrum, which includes private and community-oriented space. Also, community-oriented space can encompass a variety of scales from a neighborhood block down to the size of a

single household. With this in mind, let us begin with the first example where a shared interior street characterizes the entire project.

### JYSTRUP SAVVAERKET

Designed by Vankunsten Architects, Jystrup Savvaerket is a co-housing project in Denmark (Fig. 3.1) Defined by two predominant seasons, summer and winter, the architects responded with a variety of solutions that address the private to public spectrum. Private decks and ground-level patios give each household the privacy necessary and the outdoor space surrounding the Common House (Figs. 3.2. 3.1) serves as a public/community gathering space in good weather. During the winters, the glass-covered pedestrian street, formed by the units on either side, not only provides shelter, but provides gathering space for friends and neighbors as shown in Fig. 3.3. The street is broken up by displacements of the units to form niches for a variety of activities. People sit, talk, and drink coffee and kids

Work at Home, Home at Work

can play in a sand box nearby. the street, in effect, becomes an extension of one's living space much like the porch of a house. In addition to the Common House (4,350 sf) where meals are prepared and eaten and the the 21 units of one to three bedrooms (680-1,050 sf), there are four supplementary rooms (Fig. 3.1, #5) that can be used as guest room, office spaces or teenagers' bedrooms.<sup>2</sup>

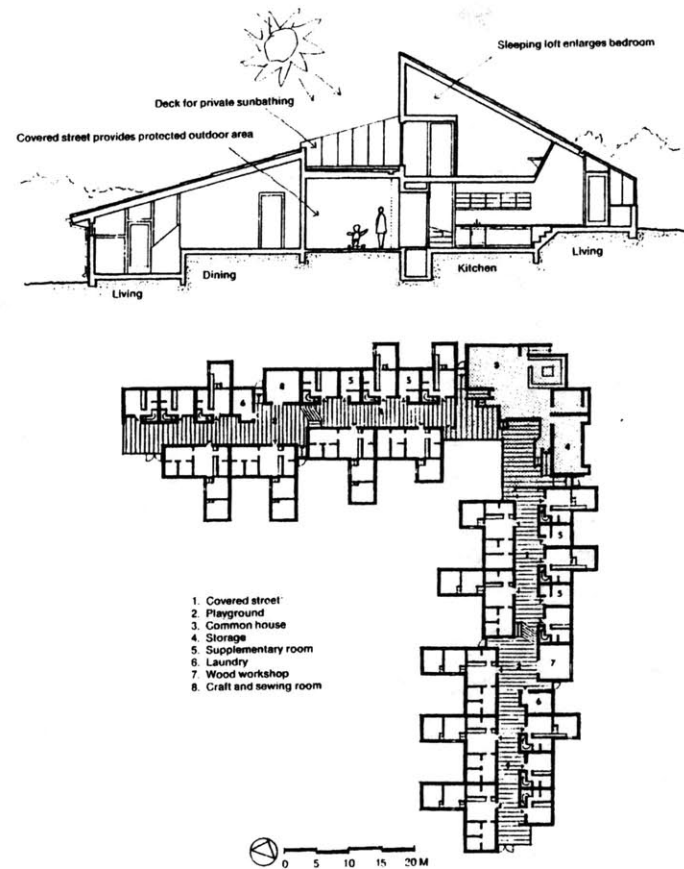


Fig. 3.1 Savvaerket: first floor plan and section through covered street.



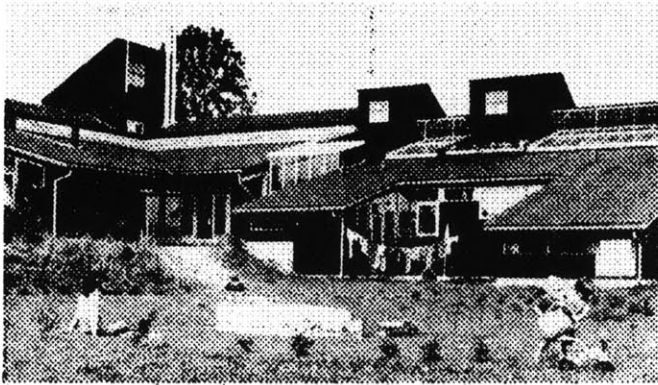


Fig. 3.2 Exterior view cohousing complex.

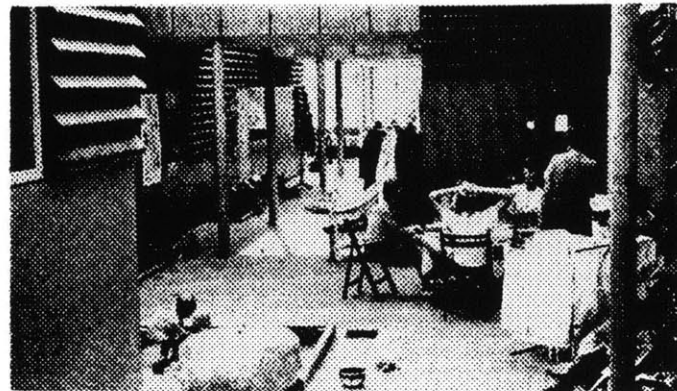


Fig. 3.3 View of interior street.

## TRUDESUND

Similar in concept of community-oriented space is Trudeslund (Fig. 3.4) also designed by Vankunsten Architects. Built in 1981, Trudeslund is a 33-unit development in the town of Birkerød, north of Copenhagen. As shown in Fig. 3.4, the plan is similar to Jystrup with the Common House anchoring the corner. The common House hosts a variety of programs such as playrooms, music rooms, teenager's room, library, TV room, workshop, common store, laundry facilities, darkroom, and storage space. Here the idea of work at home is made possible by personal computer terminals in each household, all of which are connected to the central computer in the Common House.<sup>3</sup>

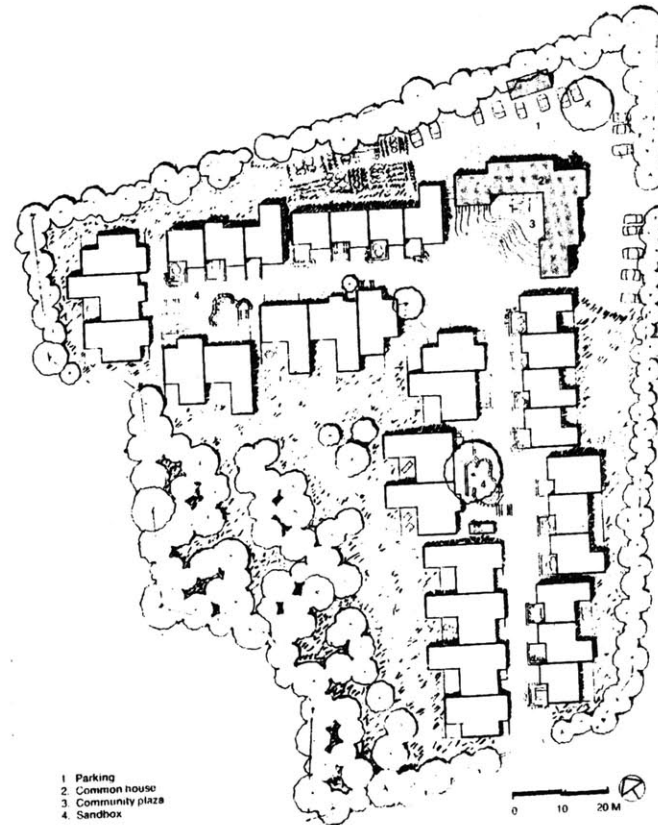


Fig. 3.4 Trudeslund: site plan.

In the plan and section (Figs. 3.5, 3.6), unit number one is of particular interest because of how the office is incorporated into this home.<sup>4</sup> A separate formal entrance leads us into what can be identified as the living room or waiting area, next to the office. To the other side of the waiting area is the bathroom and kitchen, which is in close proximity and accessible from the office which may be used by a client or co-worker. The plan also provides a separate, more informal entrance directly to the kitchen, or what we commonly refer to as the 'back door'. In effect, the living room, which may also be used as a waiting room during office hours, serves dual roles and acts as a buffer or 'in between'. Finally, the section shows the volume relationship of the office relative to the house. The level changes articulate the different spaces, yet are under the umbrella effect of the roof form

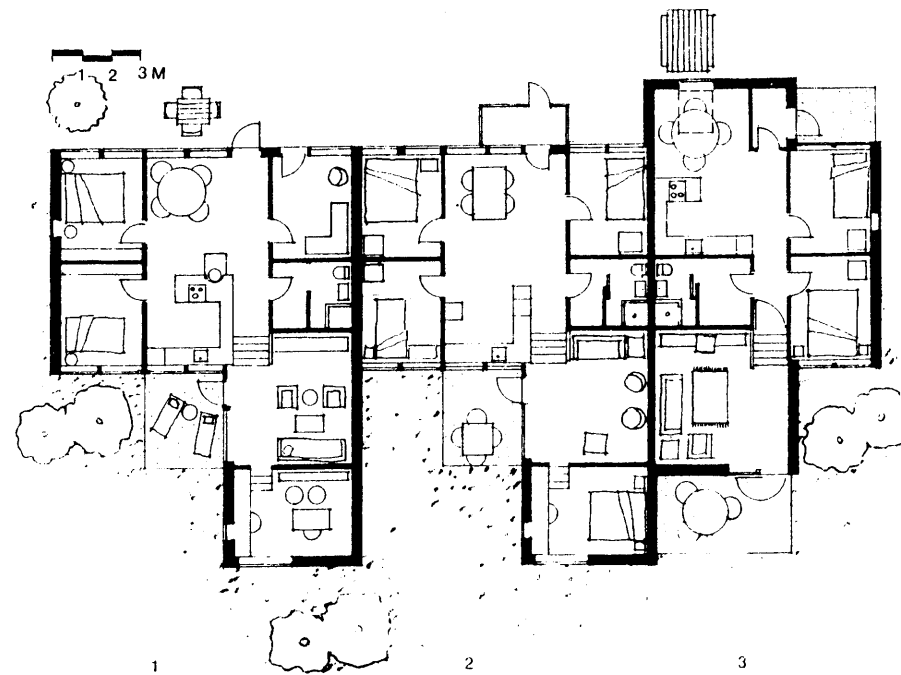


Fig. 3.5 Trudslund: private house floor plans. (1) A 1,184-square-foot unit with formal entrance to vestibule or office space and informal entrance directly to kitchen/dining area; (2) a 1,184-square-foot unit with greenhouse entrance; (3) a 969-square-foot unit with entrance through vestibule.

so that there is unity. It can be said, then, that the office is situated such that it is separate, yet connected to the house. Also worthy of note is the fact that the office space does not necessarily have to remain only for 'office' use as shown in unit two (Fig. 3.5). This allowance for change is integral to not just the concept of home-office design, but to any design visualization process.

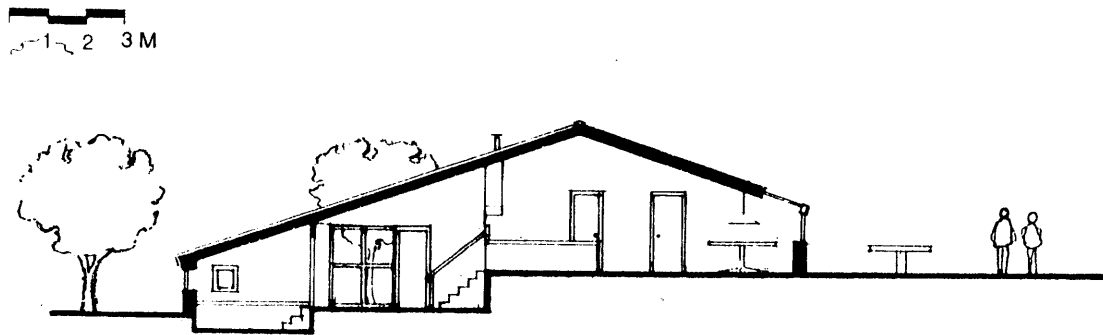


Fig. 3.6 Section through private house.

In a neighborhood population where a substantial number work at home, the community-oriented space plays an even more critical role to the health and well-being of the home worker. As mentioned in Chapter 1, one of the biggest factors is isolation. Thus, the community-oriented space becomes a major asset for the home worker as a way to combat this negative effect. In Trudslund, the Common house serves this purpose, and at Jystrup, the glass-covered street provides an informal way to socialize.

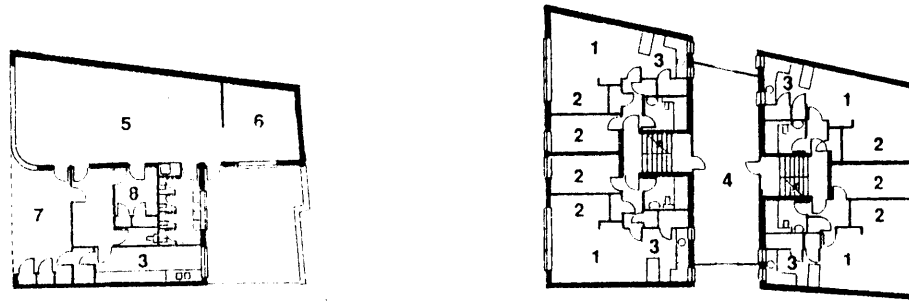
Obviously, access to these spaces must be readily available. Another consideration is, what functions can exist in such spaces so as to promote their use. Specific activities such as the ones already mentioned above for Trudslund and Jystrup help generate continued and variable use over long periods of time

and establish a strong sense of community. In the next example, we will pursue the idea of how function can promote the use of collective areas.

## NINA WEST HOME

In London, England, 1974, Bone designed a project for Nina West, an entrepreneur whose housing projects accommodate single parents and their children (Figs. 3.7, 3.8). As shown in the axonometric, two buildings occupy a single site. Situated towards the street edge is the apartment building and a day care center sits at the other end of the site. In between the two buildings is an area landscaped for children to play. The apartment building houses single parents many of whom without the services of the day care would otherwise be unable to work. The day care, on the other hand, provides not only a place for children, but also offers employment to some of the residents on the same site. Inside the apartment building, the corridor in the middle has the dual function of access as well as a play area for the

Fig. 3.7 Nina West Homes, plan of child-care center and plan of housing units and corridor used as play room.



1. Living room
2. Bedroom
3. Kitchen
4. Playroom
5. Nursery
6. Quiet room
7. Veranda
8. Office

young. From the kitchen window of the apartments, visual access into the collective space allows parents to keep an eye on their children.<sup>5</sup> Again, the community oriented space when defined or characterized to enhance use, can be a favorable element for the home worker as well as the rest of the community.

So far, all the examples presented have been European; in the last two projects, we take a look at American attempts at home-offices and community-oriented space.

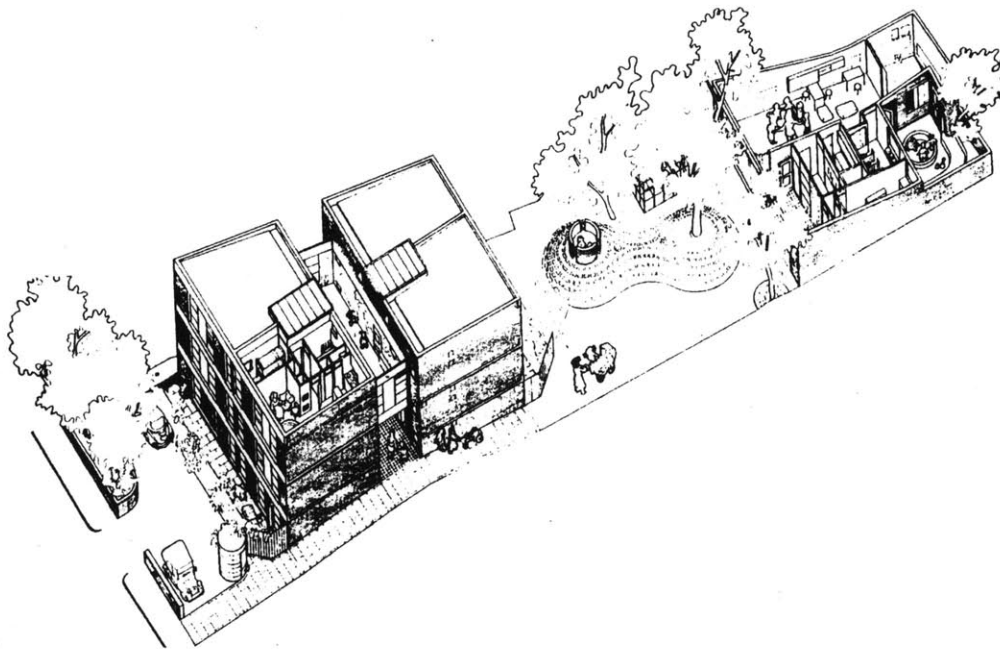
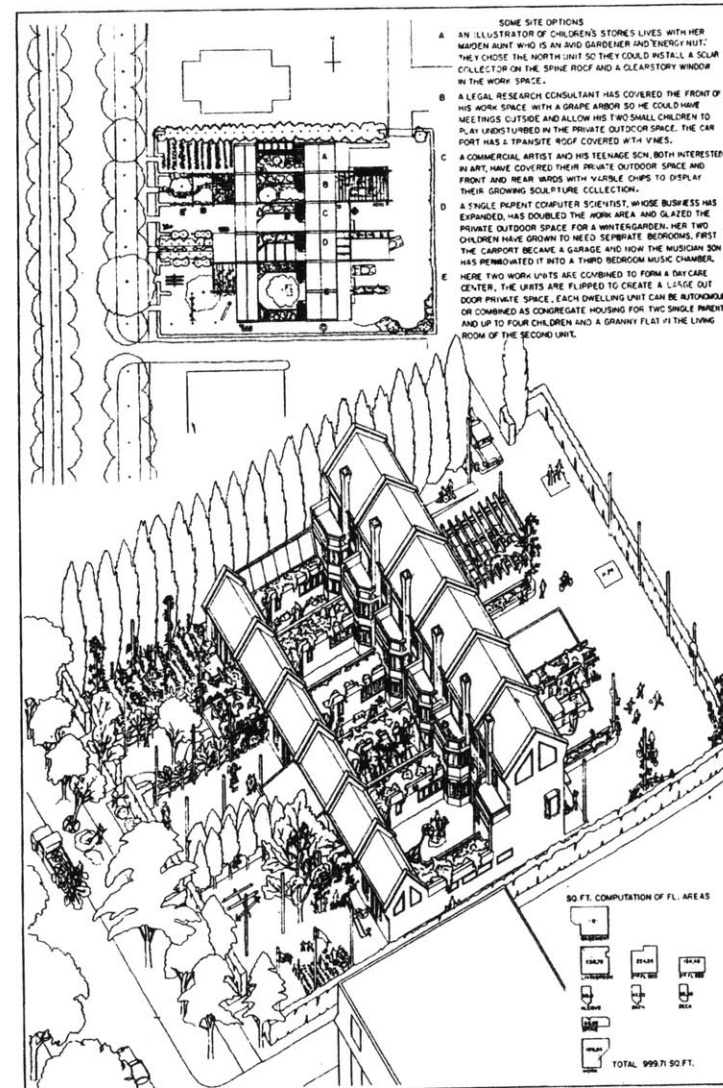


Fig. 3.8 Nina West Homes, axonometric drawing. The child-care center is at the back of the site on the ground level; the corridor between apartments also serves as a children's play area. Kitchen windows offer easy observation of the corridor, and intercoms link units for easier baby-sitting.

## NEW AMERICAN HOUSE DESIGN COMPETITION

In 1984, Troy West and Jacqueline Leavitt won the New American House design competition. The program required six urban infill housing units of less than 1,000 sf each on a third of an acre parcel of land in Minneapolis. The program was to accommodate non-traditional families (as described in the Introduction) and to also provide space for home-workers. There were two conditions concerning the work space: first, there could be no communal waiting rooms or reception areas serving more than one unit, and second, the home-office could not be detached from the main house. As shown in Figs. 3.9 and 3.10, the work spaces (approximately 200 sf) face the main street while access to the house is via the alley. There are separate entrances to the house and office; a small

Fig. 3.9 New American House: site plan and axonometric.





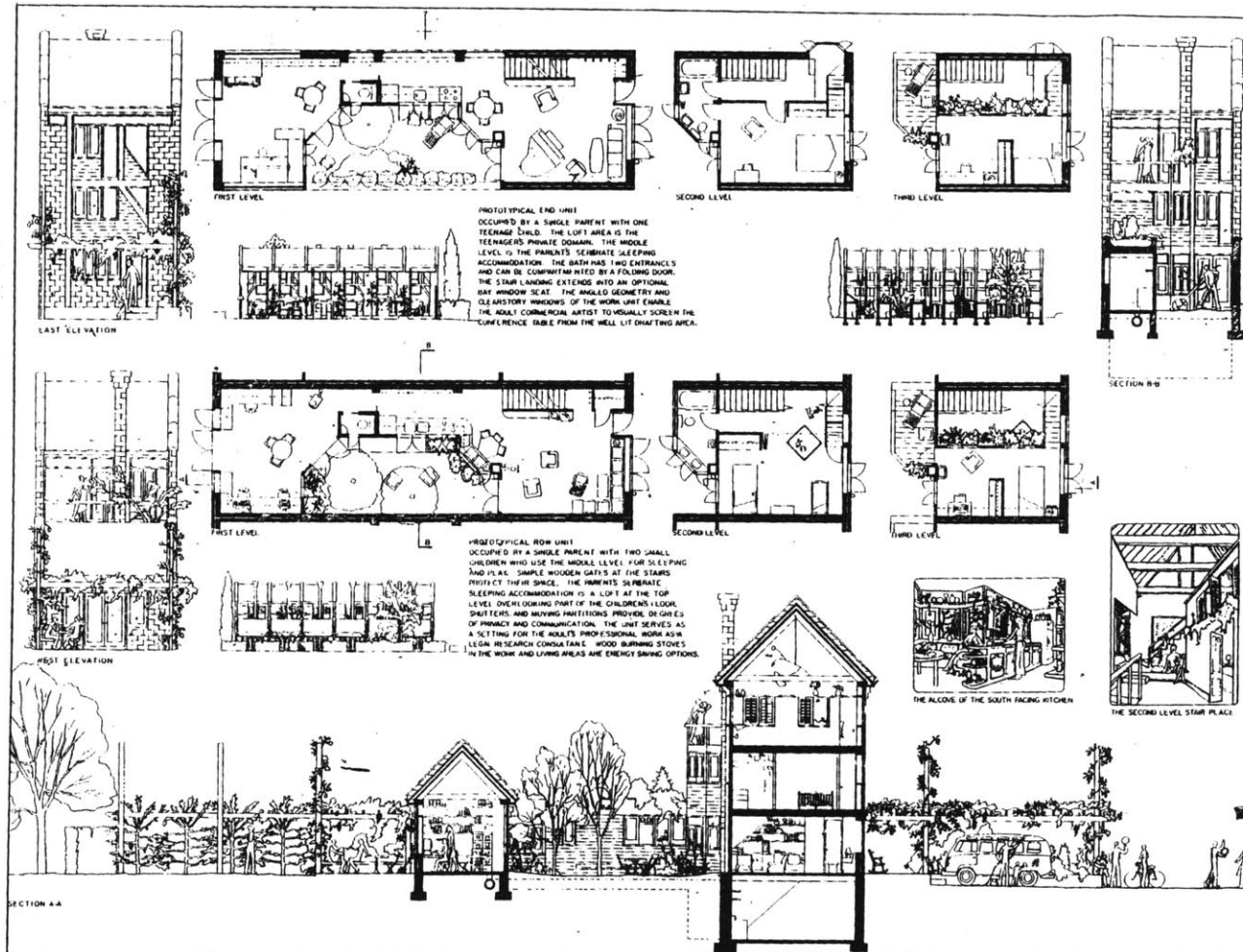


Fig. 3.10 New American House: section and floor plans.

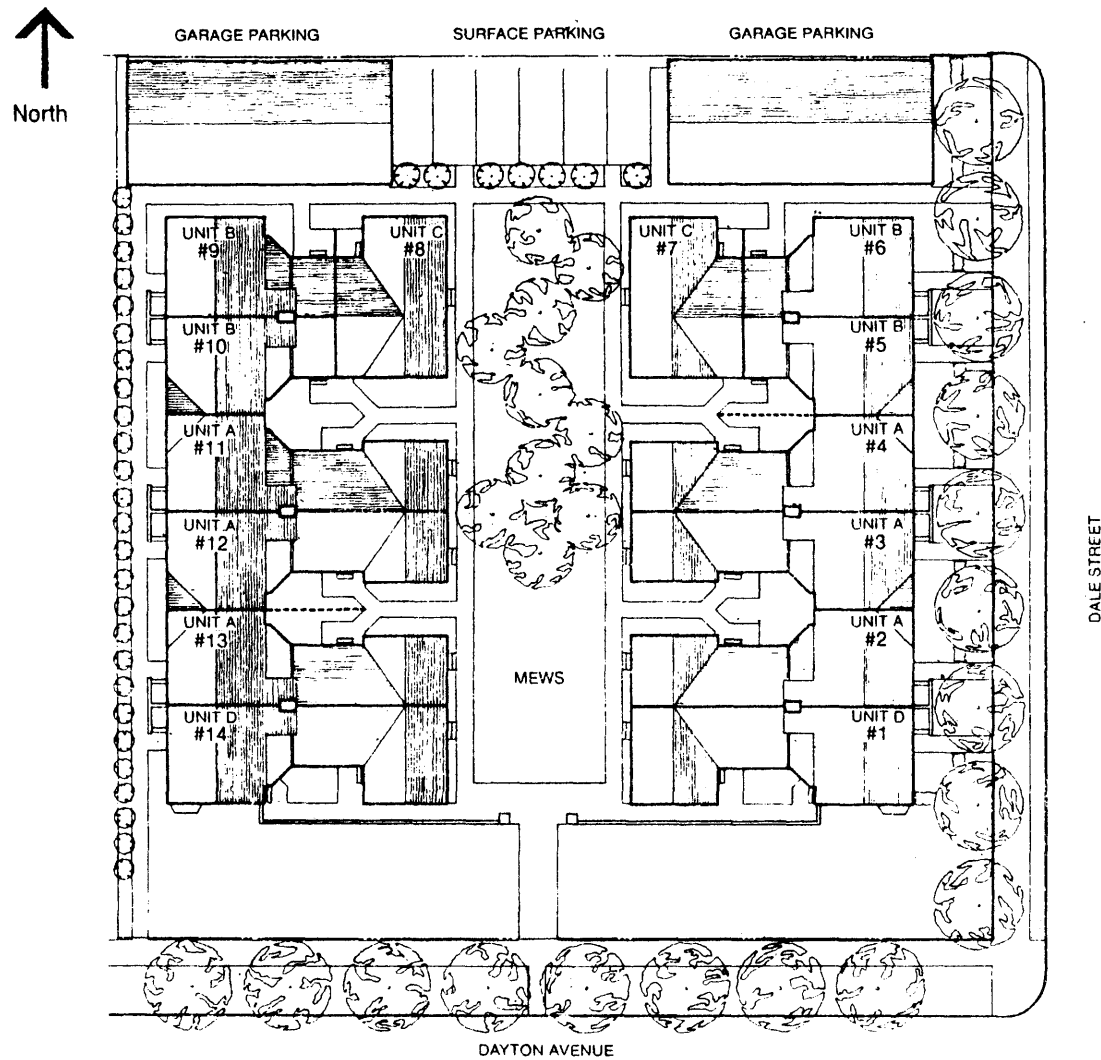


Fig. 3.11 Dayton Court: site plan.

half-bath and kitchen form the 'spine' between the office and house. The plan is centered around a small courtyard where access into the courtyard is both physical and visual. When glassed off, the courtyard becomes a winter garden or can be expanded and shared between two units (Fig. 3.9 scenario E). As described by the designers, they envisioned a day care center where the doubled office space and courtyard would accommodate such a use. In scenarios B+ C, both home workers doubled their work space—one by covering the front of his office with a grape arbor so that meetings can be conducted outdoors and one by adding on more square footage to the already existing work space. Scenario C tells of an artist and son who converted their outdoor space into a display gallery. Thus, this flexibility and accommodation of a variety of spaces enriches the

individual and block as a whole. The community-oriented space, as in the day care, is another instance of function promoting use. On a larger site that was a later scheme by the same architects (Fig. 3.11), the six units became twelve and the two row houses orient themselves around a shared meadow.<sup>6</sup>

As in Trudslund, the New American House has a certain programmatic and formal logic. The kitchen and courtyard serve dual roles in that they separate as well as connect the office to the home physically and visually. The office is subordinate to the house by its volume, but has its own existence, yet the similar formal and material composition ties the work space back to the main house.

## GOHOME

In this last example, we see even smaller shared spaces such as a kitchen and office. The Go Home designed by Ted Smith in 1983, is a development located in Del Mar, California just outside of San Diego (Fig. 3.12). Built as a four unit cooperative house that combines work with living space in each unit (at 500 sf), the main distinguishing feature is the shared kitchen (Figs. 3.13, 3.14). By having only one kitchen, Smith was officially able to meet the zoning requirements of a single-family house. However, the GoHome can be converted into a single family house or two or more units can be opened up to allow a couple to live together. All the work spaces are on the first floor with sleeping lofts above. Each unit has two separate entrances—one into the upper living quarters and one directly into the office

1. Lower level of private unit
2. Upper level of private unit
3. Shared kitchen
4. Landing
5. Loft bed
6. Built-in bed

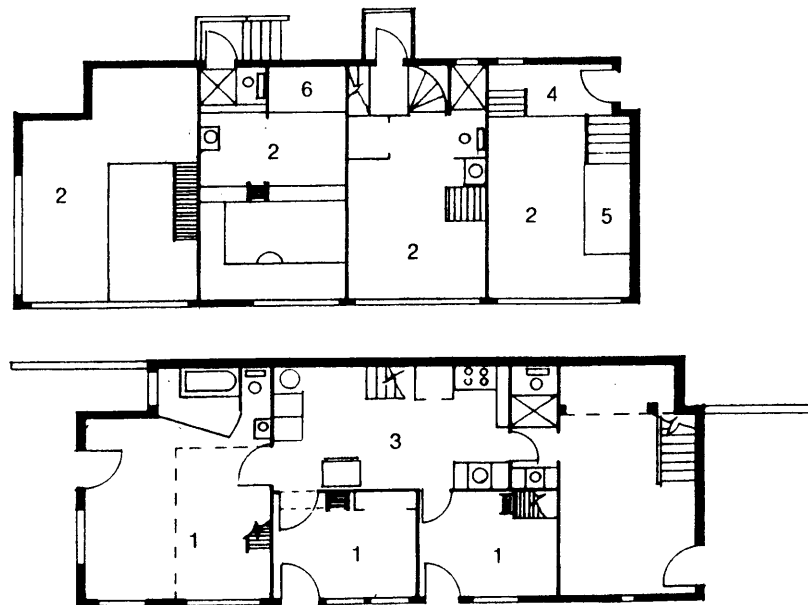


Fig. 3.12 First GoHome: plans of first and second floors.



Fig. 3.13 View of shared kitchen.

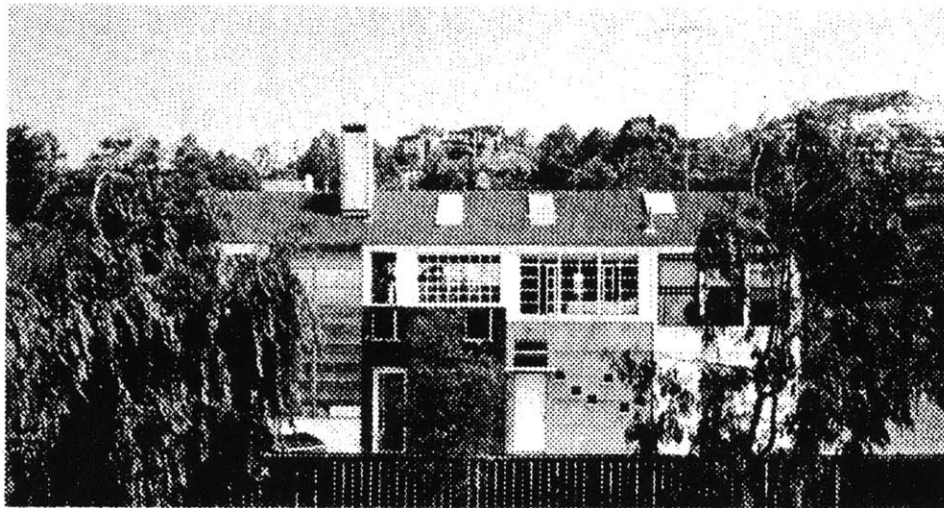


Fig. 3.14 Front view of GoHome.

space. As Smith sums up, “Most of the GoHome is work space.” It is the sparingly small square footage per unit that also allows for the affordability at about \$40,000 per unit.<sup>7</sup>

In this first Go Home, the kitchen is primarily utilitarian where people prepare their meals but eat in the privacy of their own unit. However, in subsequent GoHomes, there is much more sharing of spaces. For example, a six-unit GoHome has a larger kitchen with a common dining area; three of the residents, a furniture maker and two architects, share one of the six units as an office/workshop. In this instance, the community-oriented space is not just the kitchen/dining area, but the work space as well. In such a setup where functions are specific and relatively permanent, there must be a common understanding of flexible and inflexible territories;

*Work at Home, Home at Work*

architecture, such as screens, partitions, level changes, etc., can only do so much. Ultimately, individuals sharing space must discuss and negotiate among themselves what the boundaries are.

In summary, community-oriented space can exist at a variety of scales. Larger sizes allow a number of activities as well as a variety of functions to provide necessary social contact for different individuals. As the scale gets smaller, so did the flexibility in terms of quantity and variety of activities allowed in a shared space. However, through careful consideration architecturally and socially, community-oriented spaces can be a positive reinforcement for social interaction among home workers.

NOTES:

<sup>1</sup> Hayden, 186.

<sup>2</sup> McCamant and Durett, 106-108.

<sup>3</sup> Ibid., 104,105.

<sup>4</sup> Ibid., 111-114.

<sup>5</sup> Hayden, 163-170.

<sup>6</sup> Jacqueline Leavitt, "Two Prototypical Designs for Single Parents," New Households. New Housing, 163-170; Personal interview with Troy West, AIA, 3 June 1991.

<sup>7</sup> New Households. New Housing, 10,11. Katov, 48-51.

<sup>8</sup> Ibid., 10,11.

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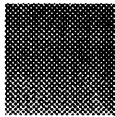
Figs. 3.1-3.6, Kathryn C. McCamant, Charles R. Durett

Figs 3.7, 3.8, Dolores Hayden

Figs. 3.9-3.11, Troy West and Jacqueline Leavitt

Fig. 3.12, Karen A. Frank

Fig. 3.14, Richard Katov



For private space to become a home, it must be joined to a range of semi-private, semi-public, and public spaces, and linked to appropriate social and economic institutions assuring the continuity of human activity in these spaces.

In redefining the American suburban block spatially, there are two alternatives: a zone of greater activity at the street or at the center of the block.<sup>1</sup>

-Dolores Hayden

## 4

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# Building a Bridge Between Private and Public Life



My interest in Home-Offices stems from the increasing number of people who have chosen for one reason or another to work at home. I began with the hypothesis that the current trend toward working at home due to the advances of technology (computers, fax machines) and changing family structures (both parents working, single parenting) would change the architectural expression of a home. Such a change would also affect the neighborhood the home resides in. The design component of this thesis tested the above hypothesis by finding out what those changes and effects might be.

I undertook three scales of investigation: Single-Detached Unit, Duplex Unit, and Multi-Unit Attached. Although there are many other types of housing on the market, I feel that these were three

basic examples that represent the broad spectrum of existing housing types. The variation would also allow me to identify the differences and particular issues that went along with each structure when it underwent the conversion to a home-office. I decided that existing buildings in an existing residential neighborhood would be used as the vehicle for the design investigation.

Adapting existing buildings to accommodate new uses is of prime importance. Cambridgeport, MA (Fig. 4.1) provides the necessary criteria for a variety of building types and is a residential neighborhood where change is easier to accommodate than in a place like the Back Bay where a certain historical style predominates.<sup>2</sup>

The three building types were clustered in order to study what would happen when a substantial

number of home-offices coexisted on the same block. Currently, home-offices are scattered throughout neighborhoods and are confined to their own property lines. My hypothesis was that the increase in the density of home-offices could help form a community-oriented space that would improve the quality of community life in the neighborhood.

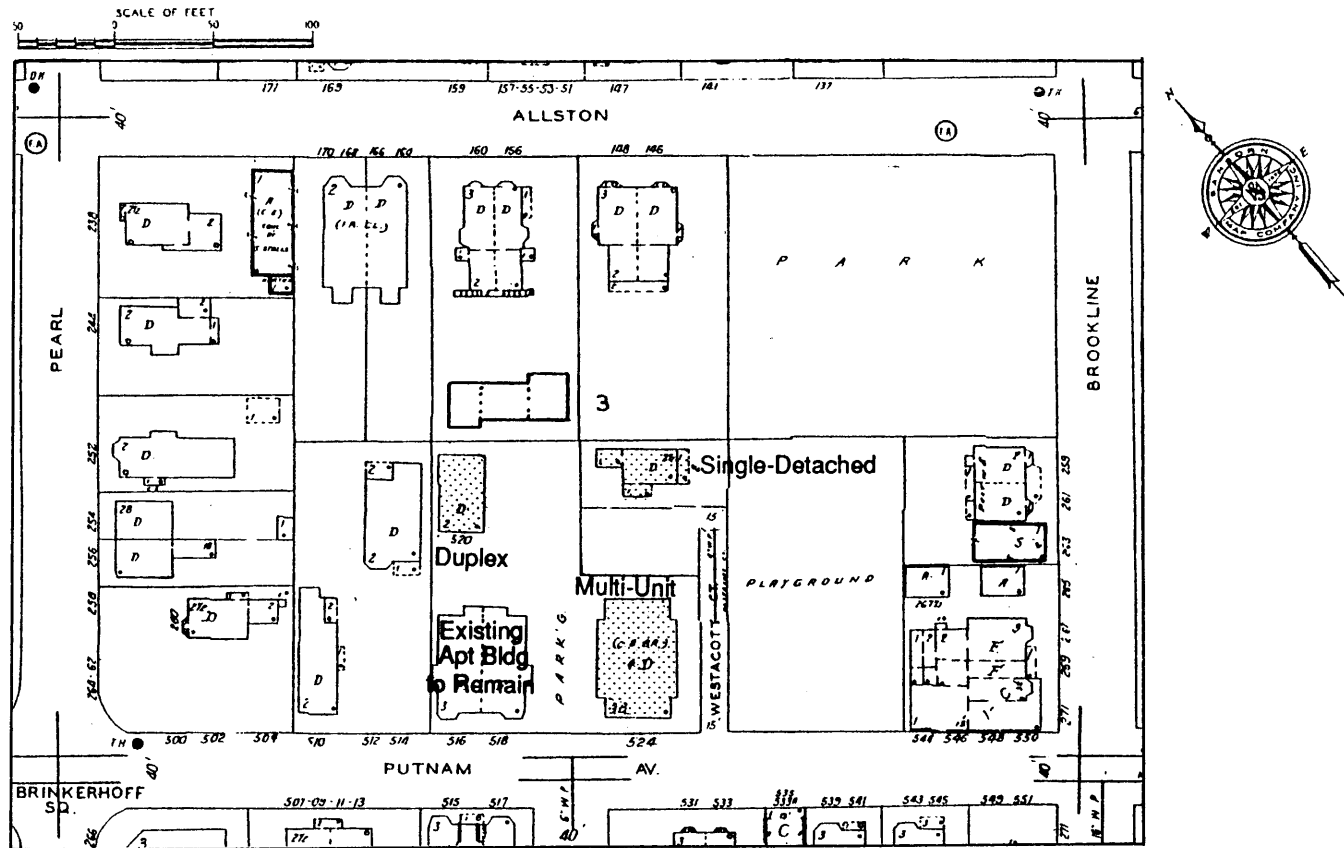


Fig. 4.1 CambridgePort, MA: site plan indicating the three buildings to undergo conversion into Home Offices.

### SINGLE-DETACHED UNIT

Given a house in a residential neighborhood, how does one go about transforming the home into a “home office”? What is the “home office” image? How does this image work with pre-existing images of the home?

The initial site observations provided some clues as well as problems (Fig. 4.2). Since the house sits in the middle of the site (Fig. 4.1), intervention was necessary to make the house more visible from the street and therefore more public. I made some assumptions as to which side of the building was seen as more *public*. The South-West facade faces the back of a three story apartment building and adjacent to both structures is a public road, West-Acott Court. This access, along with the larger scale building, made this side more public than the other side, where a

large yard with gravel parking is shared with another building. The extension towards West-Acott Court would allow the building more prominence as seen from

Putnam St. and would also reinforce the direction of the pitched roof.



Fig. 4.2 Existing Single-Detached Unit as seen from Putnam Street

Obviously, some type of separation between the home and office is required, but to what extent? From my visits to architectural offices, I was particularly intrigued by the two that required moving outside to get to the office area. Most setups of this type usually exist as a garage converted into an office. The idea that the home office should be separate yet connected has already been established. Thus, a *garage* solution was inadequate. I wanted an office that was more firmly tied back to the house. Yet, because the office is such a different entity, architectural articulation should show such distinctions.

First, the displacement of the office relative to the house as shown in Figs. 4.3, 4.4, and 4.5 denotes an organization so that the office is readily accessible. Second, the curve (Figs. 4.3-4.6) serves in plan and as a volume to formally signal where the *house ends* and the *office begins*. There is no visual access into the curved edge for it is seen more as a solid piece, a barrier that protects the private part of the house. The curve also facilitates movement into the shared patio area, off of which are the entries into both parts (Fig. 4.7). By locating both entrances off of the this main area, there is less confusion as to the entrance, especially since the house can be accessed from either side of the block.

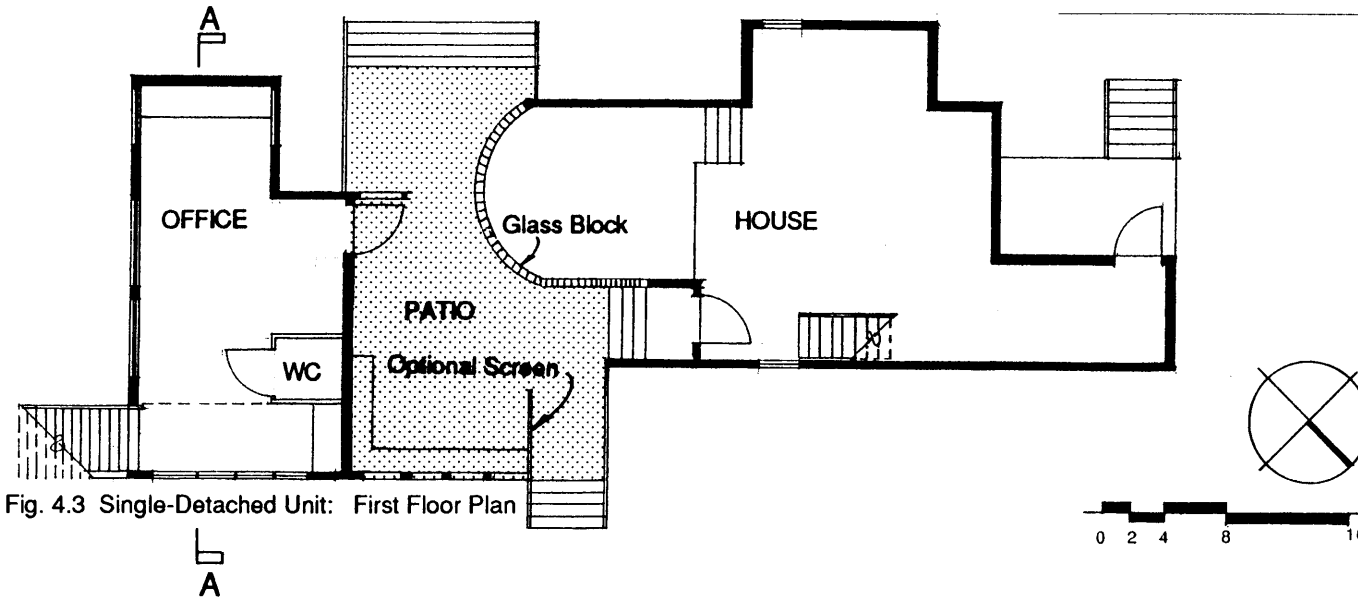


Fig. 4.3 Single-Detached Unit: First Floor Plan

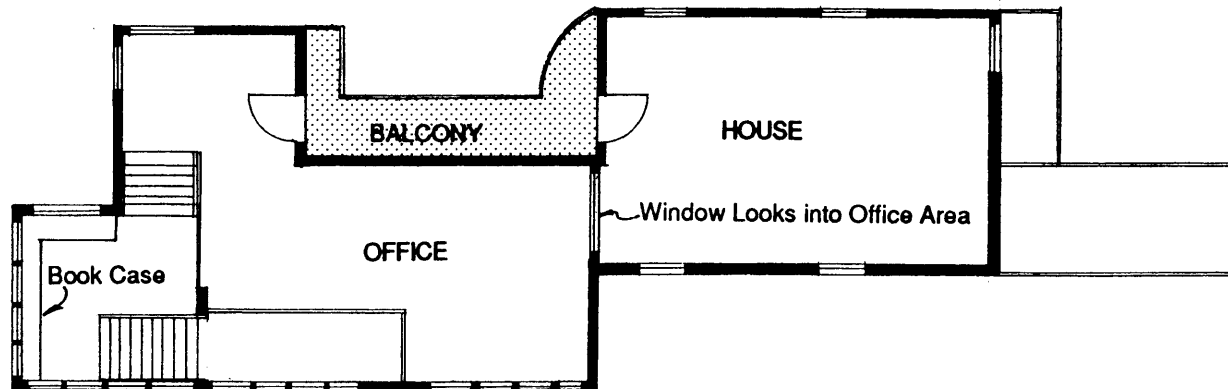
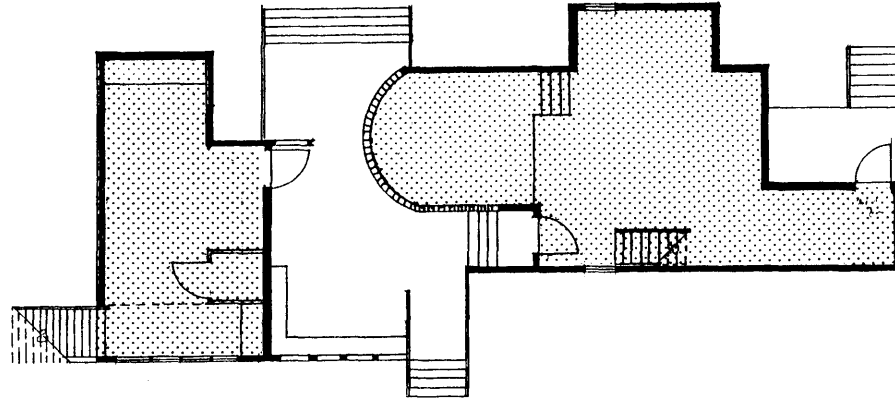


Fig. 4.4 Single-Detached Unit: Second Floor Plan

Fig. 4.5 The displacement of the office relative to the house



The patio area serves as a buffer between the two distinct entities and acts as a 'swing' space that can be used by the home or the office. For example, the patio can be closed off during periods where there will be minimal outside traffic and turned into a play area for children where parents can monitor

them. The patio can also lend itself to a waiting area for a doctor's office. With the optional screen, the patients can feel comfortable waiting in such an area (Fig. 4.3). During the winter, the patio can be closed off to provide a usable interior space.

From the exterior, the balcony is a very visible piece of the home-office, for here is the direct passage from the house to the office (Fig. 4.4). For the dweller, the passage allows for a subtle change of surroundings. In other words, the fact that the transition occurs on the second floor, provides a feeling of continuity between the home and office as opposed to the more symbolic experience of exiting through the front door of the house and entering through the front door of the office.<sup>3</sup> Such an arrival on the second floor allows for a monitorial type of observation since the second floor overlooks the first floor. Notice also, the opening that allows the house side to maintain visual contact with the office. This level allows for more private work while the first can be maintained as a more public reception area (Fig. 4.8). This *descent into the office* is

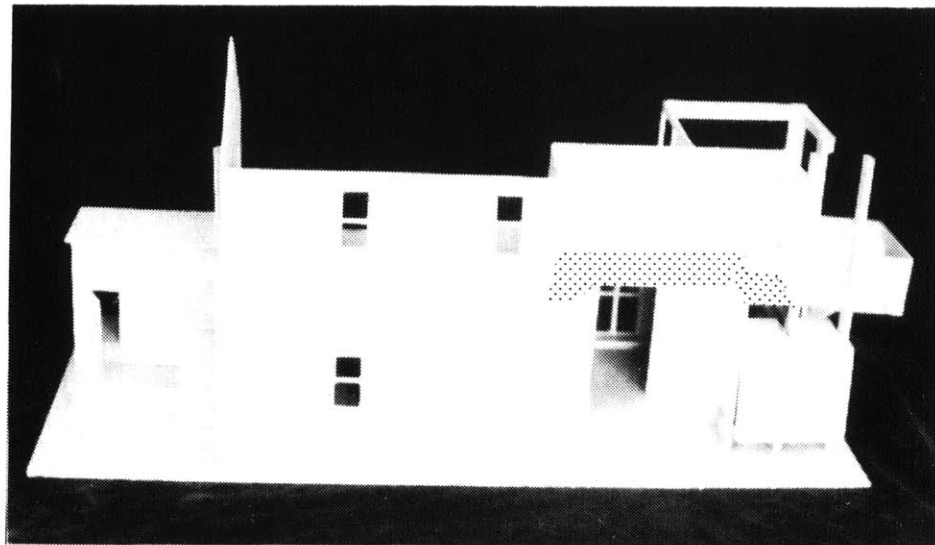


Fig. 4.6 Study Model: Frontal shot showing upper balcony and curve leading to patio

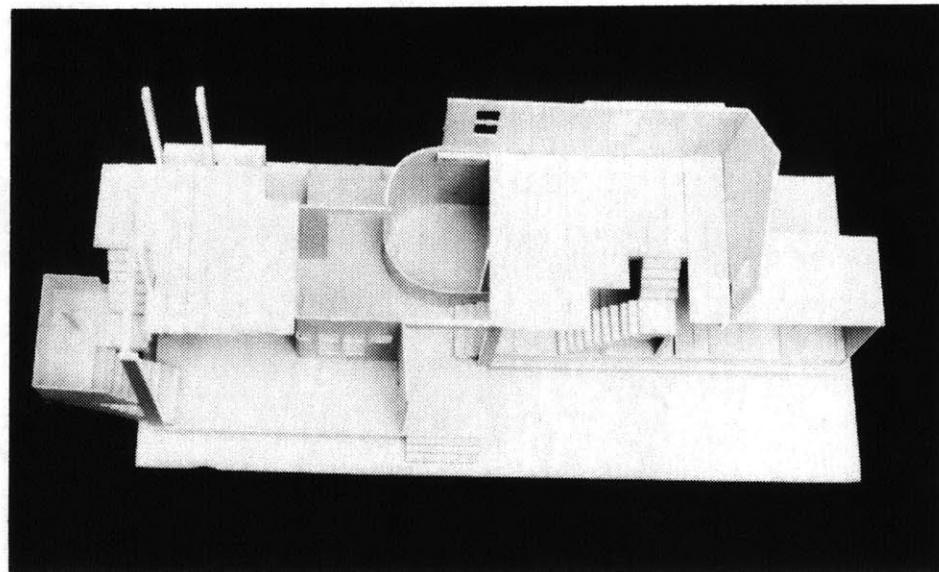


Fig. 4.7 Study Model: Overhead shot with planks removed to show patio space below



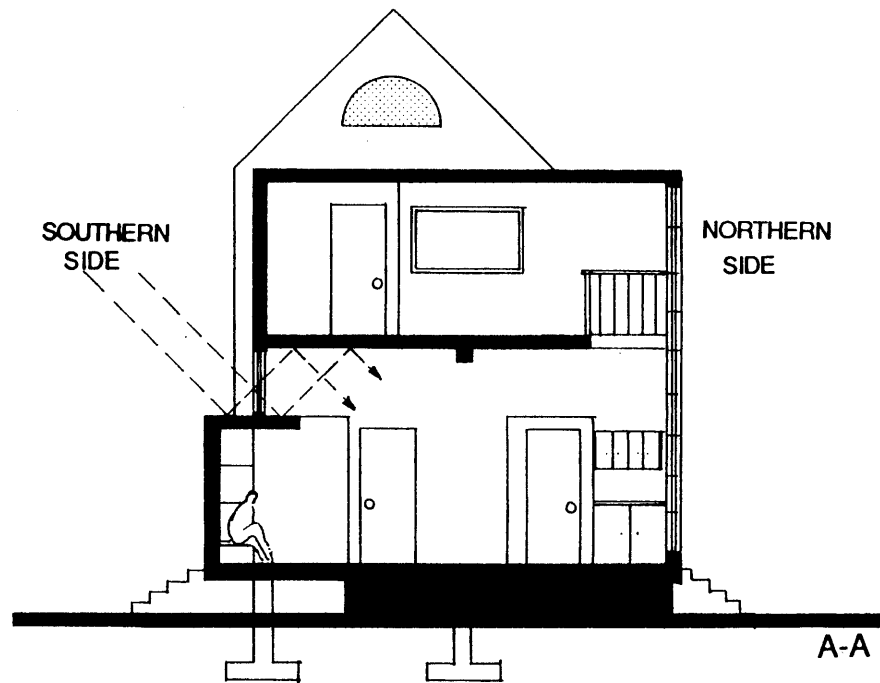
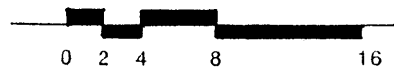


Fig. 4.8 Single-Detached Unit: Section across office



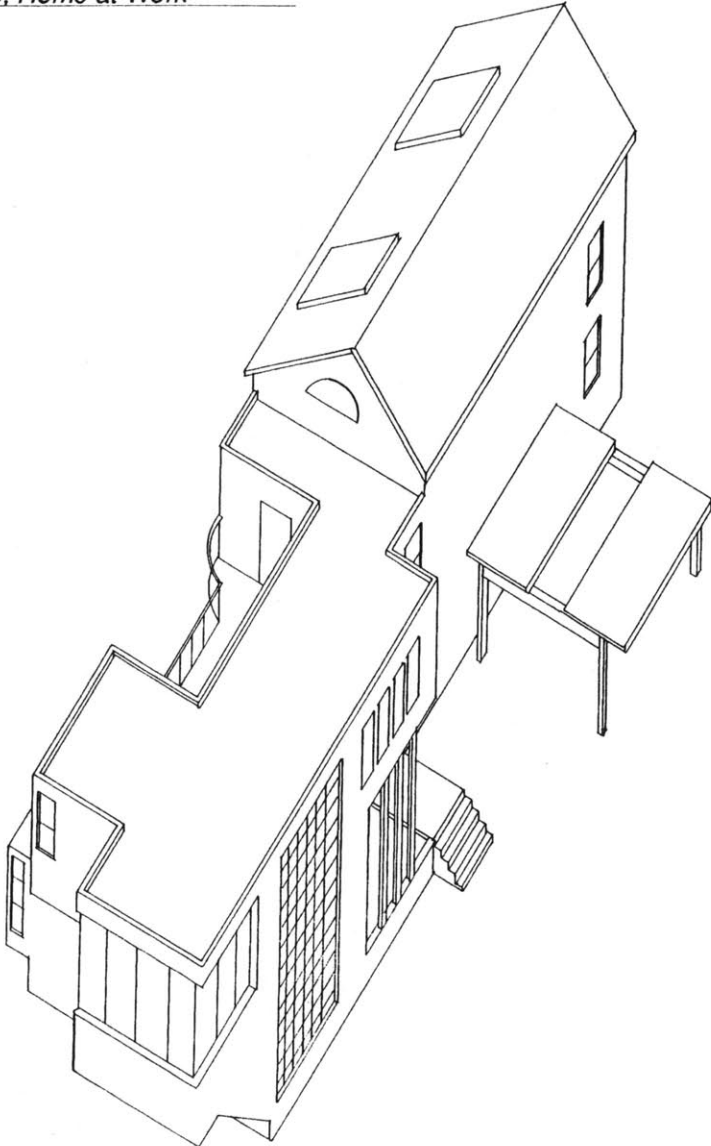


Fig. 4.9 Axon

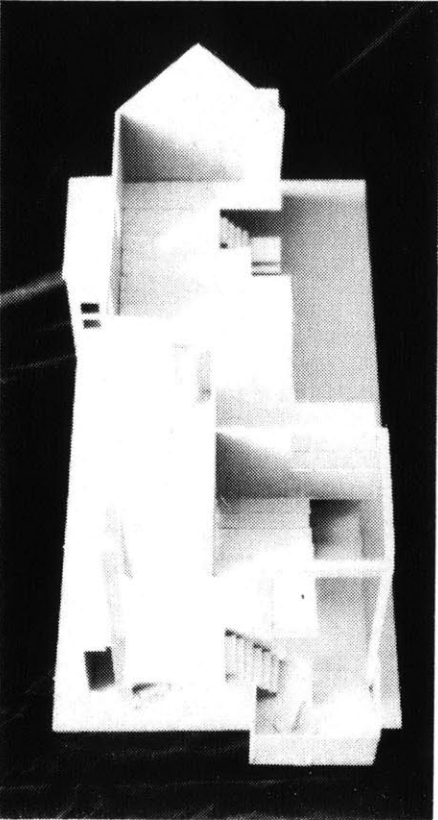


Fig. 4.10 Study Model: Descending into the office

inherently different from the traditional experience of entering spaces from the ground up (Figs. 4.9, 4.10). Furthermore, the stair case protrudes out towards the park, conveying the feeling of being outside. Halfway down, a large landing provides enough space for a bookshelf. Finally, as one continues the journey downward, the space opens up to a dramatic two story height that envelops the person (Figs. 4.9, 4.10).

As in any design, natural light is always crucial. In home offices, glare is a problem unless there are bilateral sources of daylight, which solve the problem of glare. As shown in Fig. 4.8, both North and South light penetrate the office. To soften the Southern light, a light shelf bounces the light as shown.

Finally, to accommodate change, the office can easily be converted into a small studio apartment or even office space for someone else. The window between the home and office on the second floor can be walled off to secure privacy and a small shower can be added to the water closet. This in effect turns the Single-detached unit into a duplex.

In general terms, the home office as seen from the inside and outside is clearly an expression of a new architectural order that can be described as a hybrid of our traditional understanding of the home and office. Formally speaking, the pitched roof, often an icon for home, becomes a flat roof. The larger window openings accentuate the office while the smaller punched windows remain 'house like'. The expression of the staircase, as more than just a way to get from one level to the other, identifies another difference. The built-in flexibility can also be considered part of the new order. The fact that this building can change over time is usually not found in pre-existing single-detached units—i.e., major construction is necessary to facilitate changes. However, with built-in flexibility, the home office can become a rental unit for dwelling or office space for someone else.

Organizationally speaking, the displacement shown in plan helps to distinguish between the two entities. The balcony and patio serve to connect as well as separate the home and office. Although the square footage is small compared to the house, the two-story office demands attention because it is a public piece. In other words, the office is as much a part of the identity of the *house* as the rest of the dwelling space. Furthermore, the site is distinguished by which side is more accessible and therefore more public. There is an understanding that the home office wants to be part of the more public realm. One of the most important turning points during the design investigation was when I identified the home-office as an entity that wants to be in the public sector. Traditionally, that is what the office has been. To try and 'domesticate' it by converting a spare bedroom,

basement or a garage into an office, strips the office of its best quality, its public character. Instead, I found that I could take advantage of this characteristic by pushing the home-office into a public realm, which turned a site that was strictly private into one that incorporated a public to private spectrum.<sup>4</sup>

## DUPLEX

Unlike the Single-detached unit, the Duplex was a more complex problem since there were two households already in existence. In an earlier scheme, the design was reminiscent of Trudslund where a living room was the buffer between the home and office (Fig. 4.11-4.13). Although this might have worked for a family that had the self discipline to keep the living room clean during 'office hours', the flexibility was limited. The possibility of renting the office to someone outside the family would require major design changes to ensure privacy. I realized that another problem was a fundamental organization of this type of duplex, which is side by side. One side is often a mirror image of the other with ground floor entrances (Fig. 4.14). In order to understand why such an organization is problematic, an analysis of a pre-existing ex-

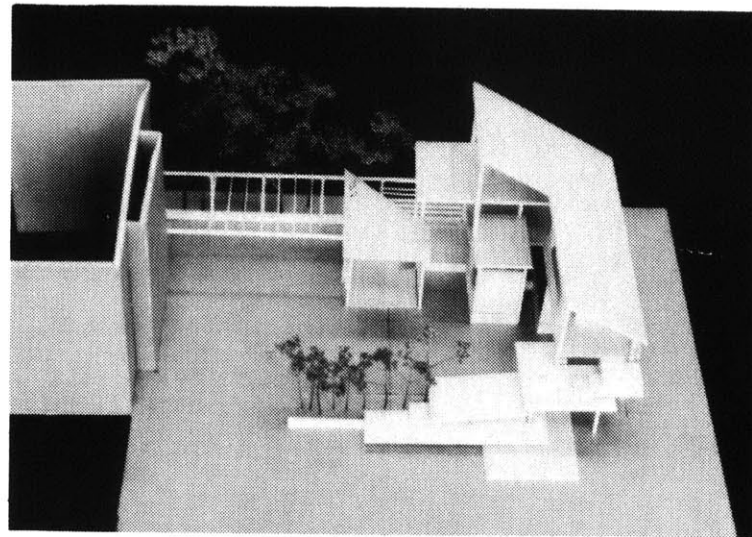


Fig. 4.11 Earlier scheme of the Duplex

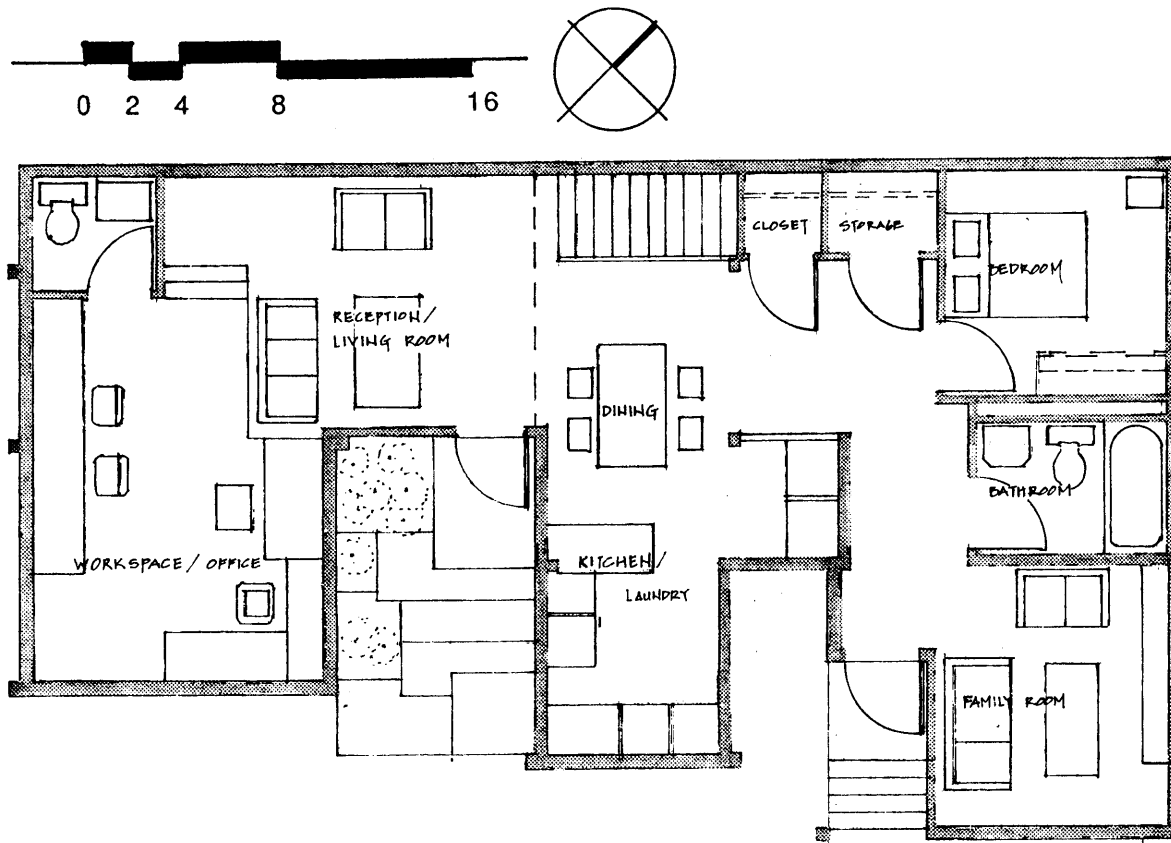


Fig. 4. 12 Early Scheme of Duplex: First Floor Plan

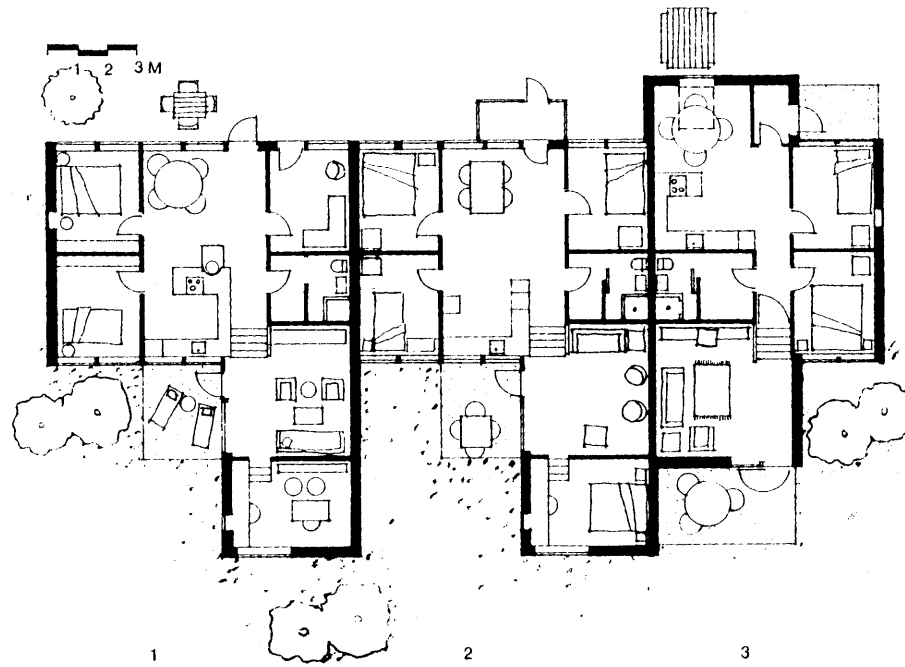


Fig. 4.13 Trudslund Plan



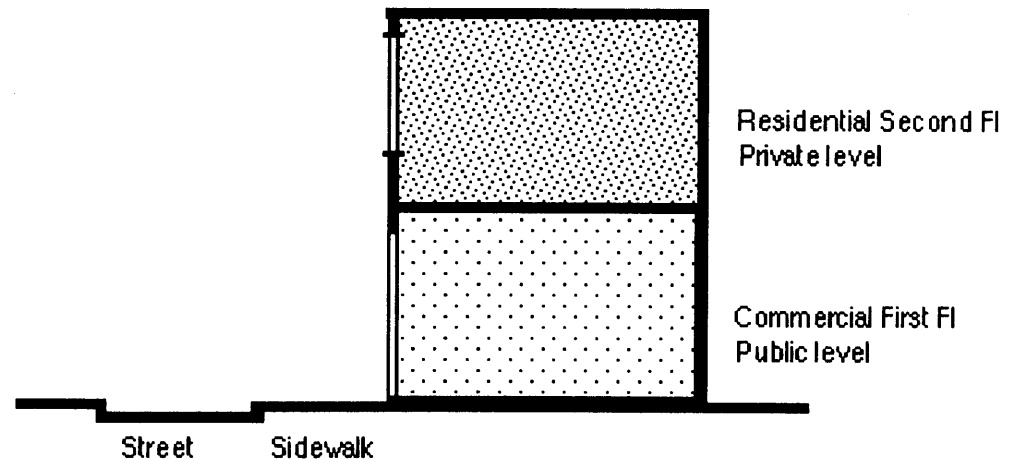
Fig. 4.14 Existing Duplex



ample of the home office from the cottage industry is necessary.

The underlying rationale for a storefront with living quarters above is a *public vs private* distinction realized in *section* (Fig. 4.15). Such rationale can extend to multi-story residences. Whether it is a duplex organized top to bottom, or an apartment building, each has an inherent hierarchy of organization where the first floor tends to be public and the upper floors private. With this type of setup, it is much easier to declare the first floor as the office space for access purposes, which has been accomplished with many duplexes and town houses.

Fig. 4.15 Sectional diagram of a basic storefront with living quarters above



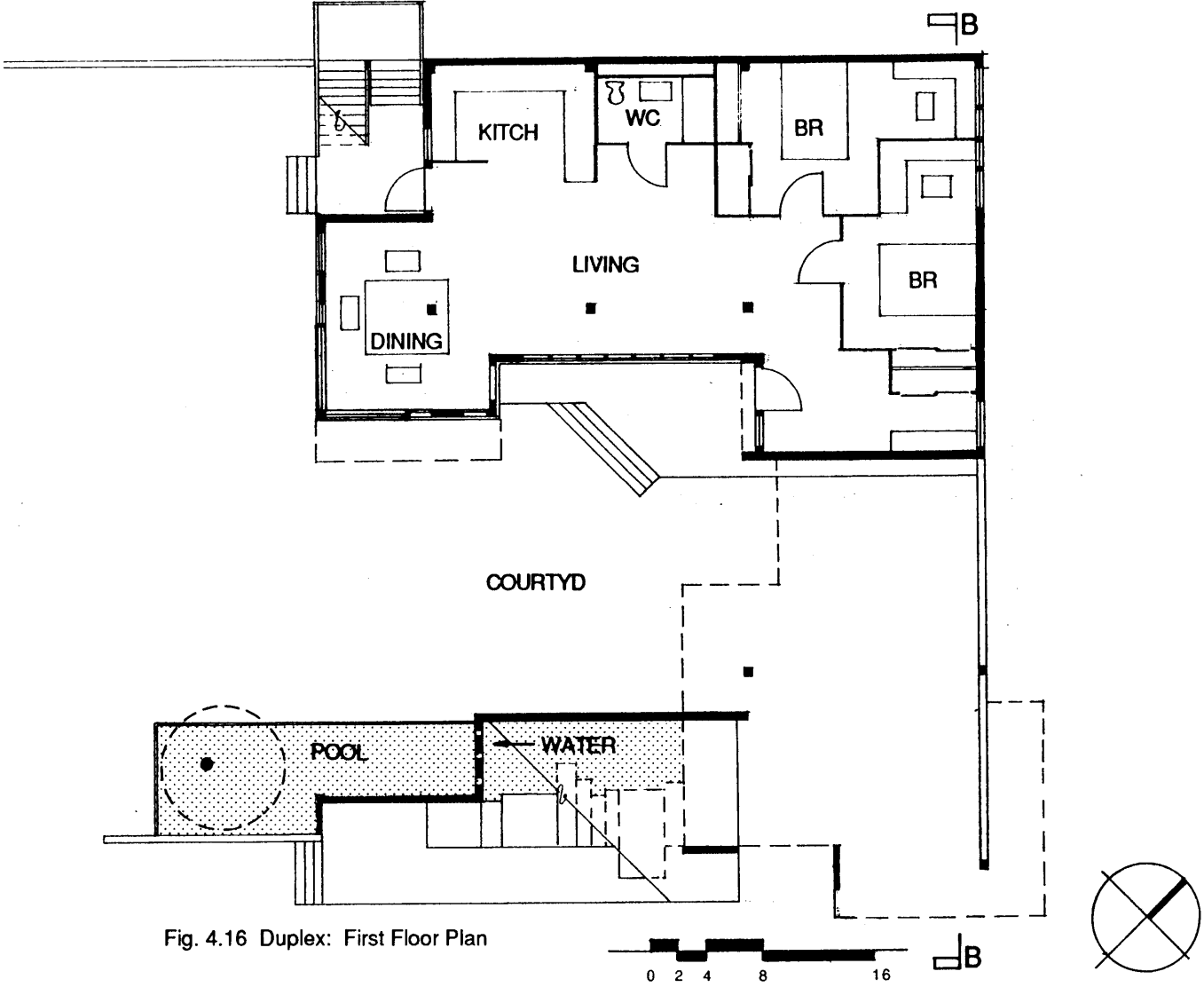
Work at Home, Home at Work

However, in a residence that is situated on the ground floor only, such as a side by side duplex or a single detached house, the conversion is harder. The differentiation between the home and office relies on square footage or materials to accomplish necessary visual distinction. The root of the problem lies in the fact that ground access to both the home and office are equally available and therefore considered *public* unless proper architectural screening devices are used.

Thus, I reorganized the Duplex into a top to bottom organization. However, in the design development process, I was able to push the design to a new definition of what floors can be considered public.

As with the Single-detached unit, the first move was to thrust the office into the public realm. Since the Duplex was hidden behind an existing apartment building (Fig. 4.1), a habitable piece of landscaping was placed out in front so it could attract attention from Putnam Street (Fig. 4.16, 4.17, 4.18). This landscaping piece served several purposes: 1. Access to the gallery; 2. An edge that defines the territory of the Duplex in the form of a courtyard; 3. A screening device to protect the privacy of the Duplex; 4. A public edge that faces onto a larger common space. Furthermore, water flows down the slope into a small pool on the other side of the screen. The water is experienced both in public and private with the screen as the dividing line. In essence, the water is a pleasing element that symbolizes how easily one can move from a public world into a private one without compro-

missing the character of either world (Figs. 4.16, 4.19).



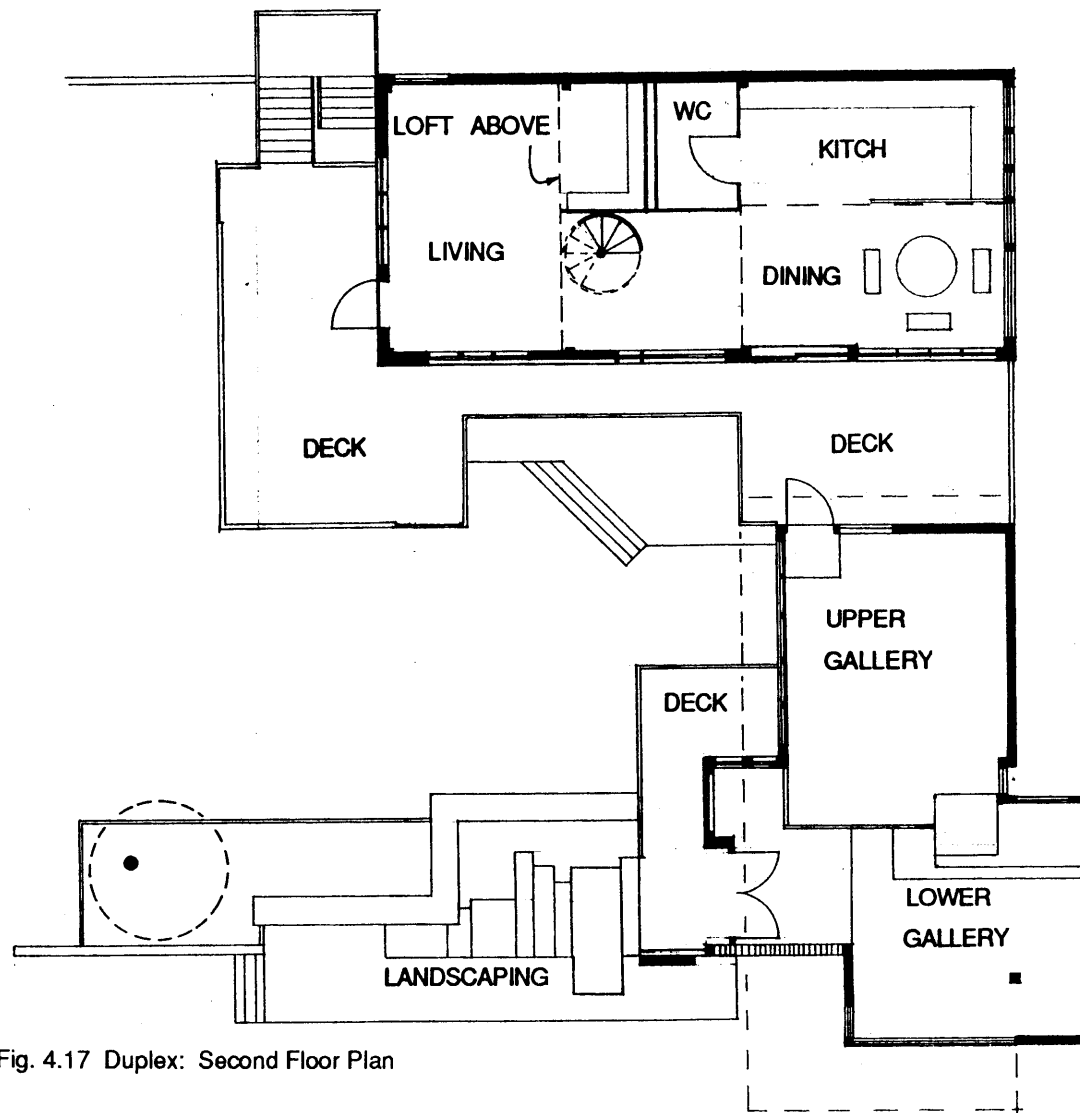


Fig. 4.17 Duplex: Second Floor Plan

By placing the gallery on the second floor, I realized that I could make the second floor public with the proper architectural articulation (Fig. 4.19). Notice that the gallery

itself is a multi-level definition with the highest part still below the second floor line of the Duplex (Fig. 4.20). The gallery itself can be considered *in between* the

second and first floor. This positioning allows easy access from the home and is a gesture to the ground floor via the landscaping. In other words, the landscaping and office are one continuous journey upward.

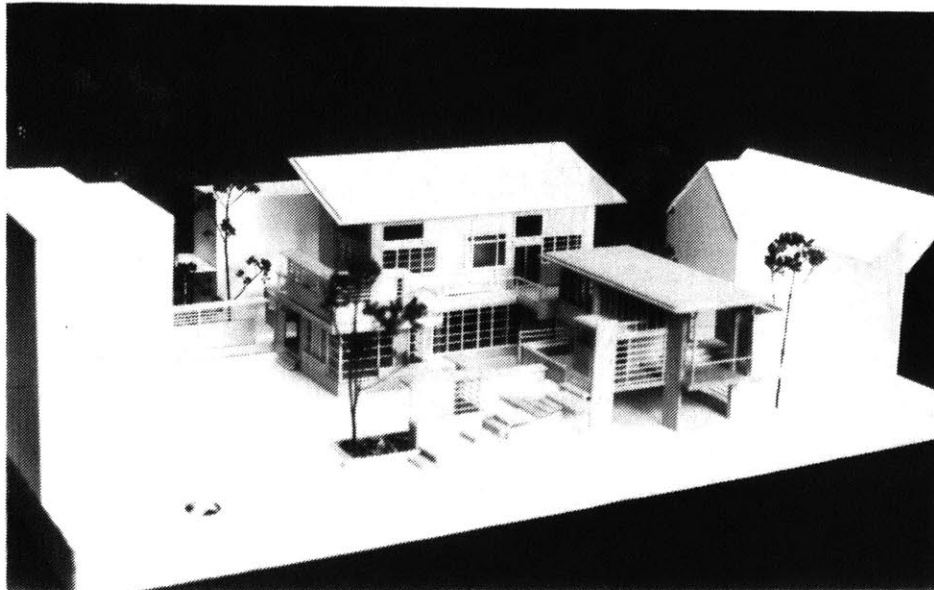


Fig. 4.18 Model of Duplex: Frontal shot showing neighboring buildings

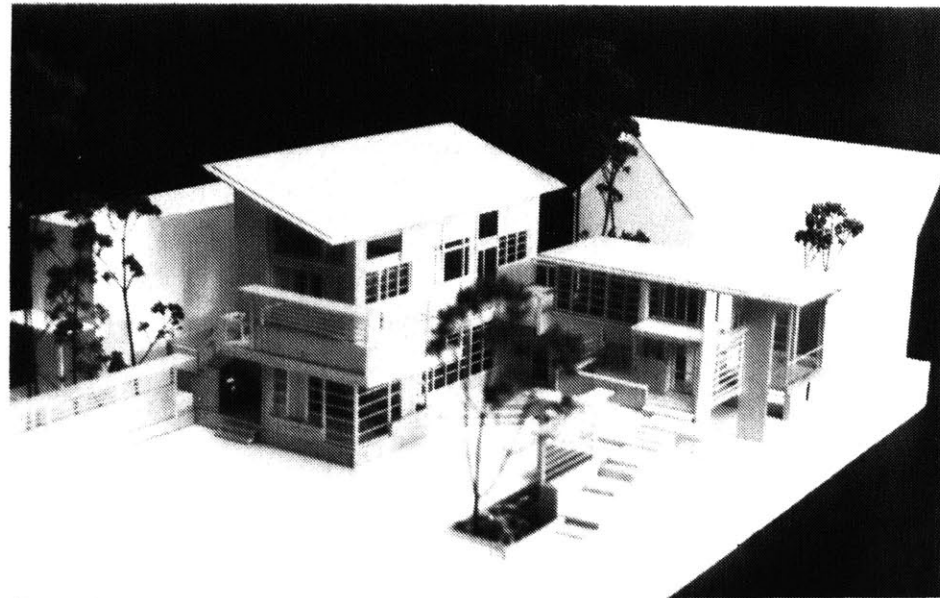
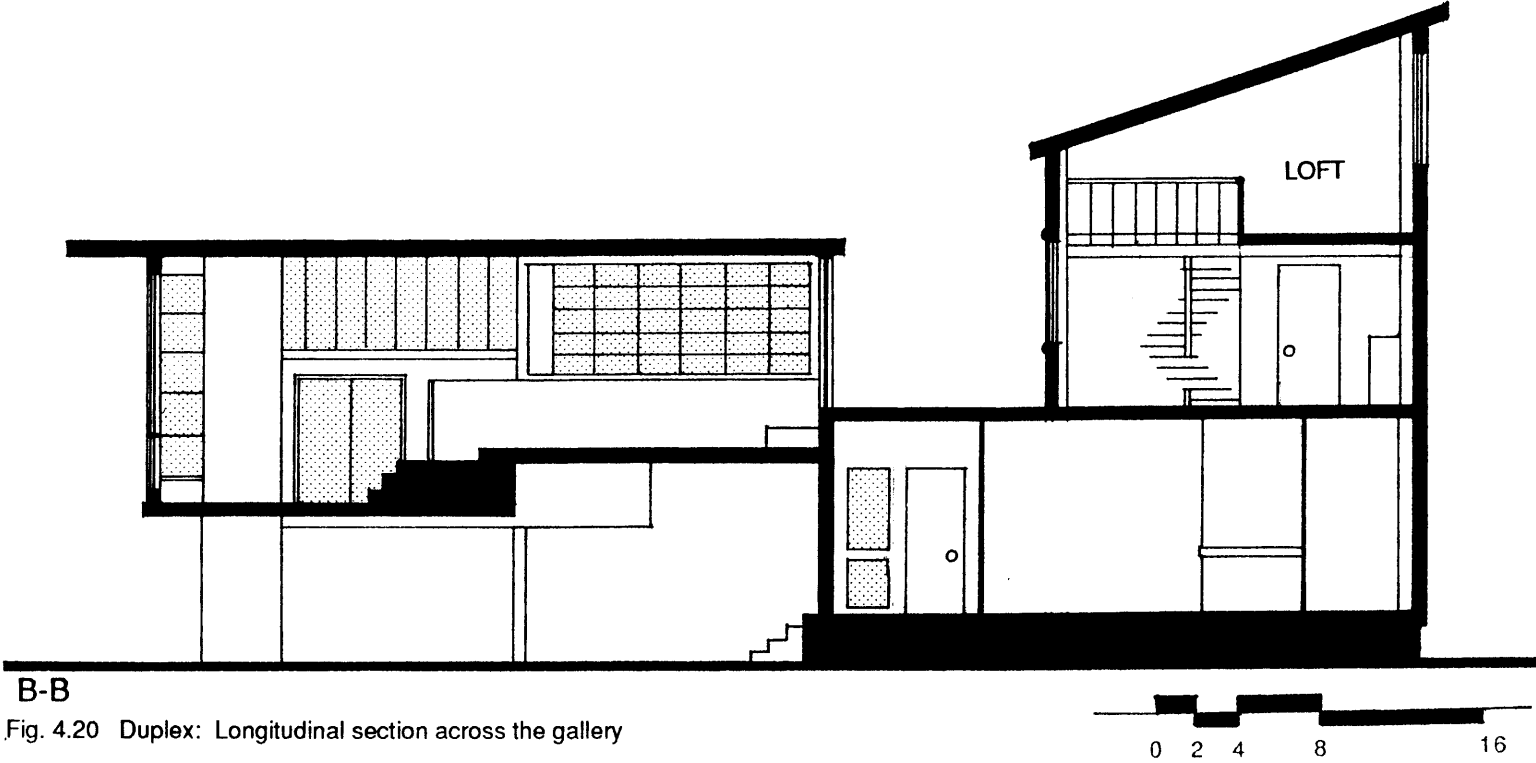


Fig. 4.19 Model of Duplex: The landscape and office are one continuous journey upwards



B-B  
Fig. 4.20 Duplex: Longitudinal section across the gallery



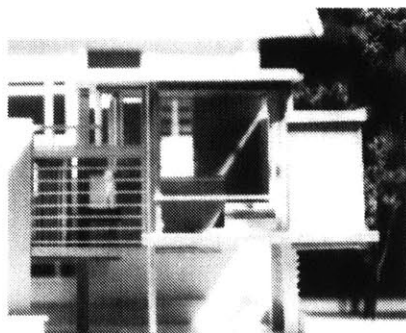


Fig. 4.21 Duplex: Bilateral Light

Again, special attention is paid to bilateral daylighting (Fig. 4.21). The Southern facade has deep overhangs and a light shelf over the entrance. Because the Northern facade faces the back yards of three row houses, lighting came from up high and through sky lights as shown by Figs. 4.21 and 4.22.

The gallery itself provides a variety

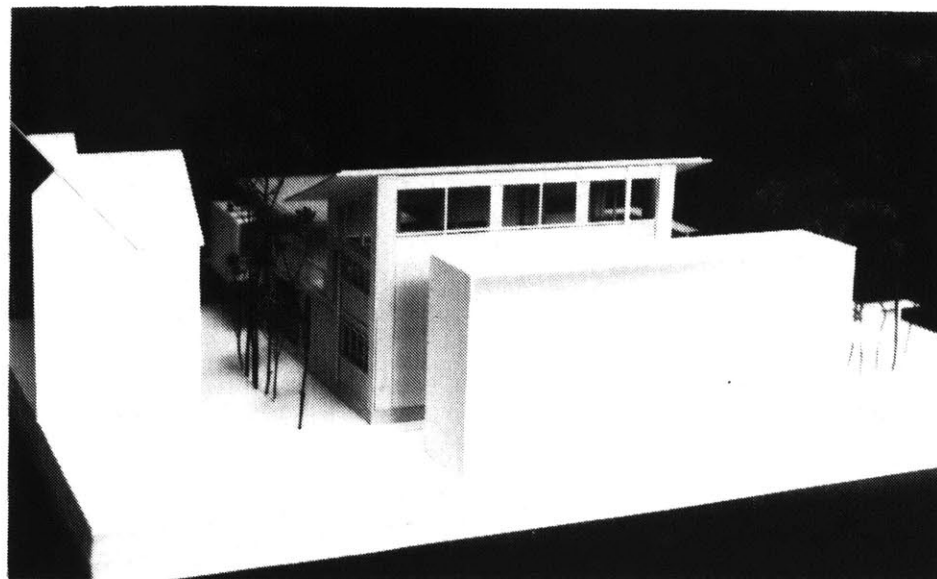


Fig. 4.22 An adjacent building forces windows up high

of spaces from little corners that look out through small windows to large picture windows that overlook the larger common space (Fig. 4.21). As with the Single-detached unit, the upper gallery space can be used for work while the lower level can be used as exhibit space. A small exit at the very back of the gallery facilitates access from the home.

In reorganizing the Duplex into a vertical setup for two families, one on each floor, the second floor has direct access to the gallery via the deck. Fig. 4.16 shows the main entry off of the courtyard to the first floor unit. The first floor can access the gallery through the more public landscape piece. An exterior stair case joins the first floor with the second; the stair case itself



Fig. 4.23 Model of Duplex: The staircase frames the first floor exit

frames the first floor exit (Fig. 4.23) and pushes outward in the form of a small landing which formally stops the movement of the back wall (Fig. 4.24). Because of an adjacent two story building nearby, windows are limited on the first floor and are up high on the second floor. To increase square footage for the second floor, a loft for sleeping is positioned as shown in Figs. 4.17 and 4.20. As for the front facade, I used screens that could be opaque or translucent. On the first floor, because the plan is moving in and out, a rhythmic articulation, with a vertical emphasis conveys a sense of order and calm. On the other hand, the second floor is rectangular in plan and allows for a more playful facade while incorporating elements from the first floor to provide continuity (Fig. 4.18, 4.25). Notice that the rhythmic order can also be found in the gallery before it takes off into its own definition (Fig. 4.26).

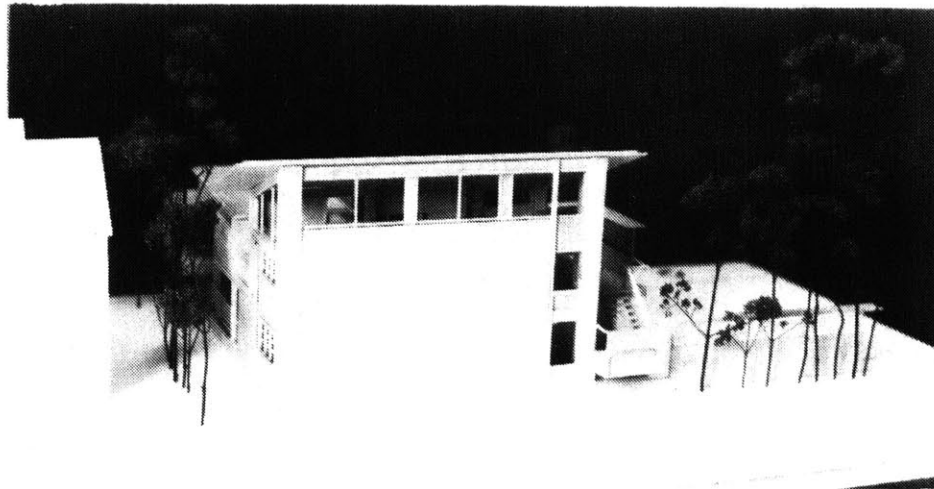
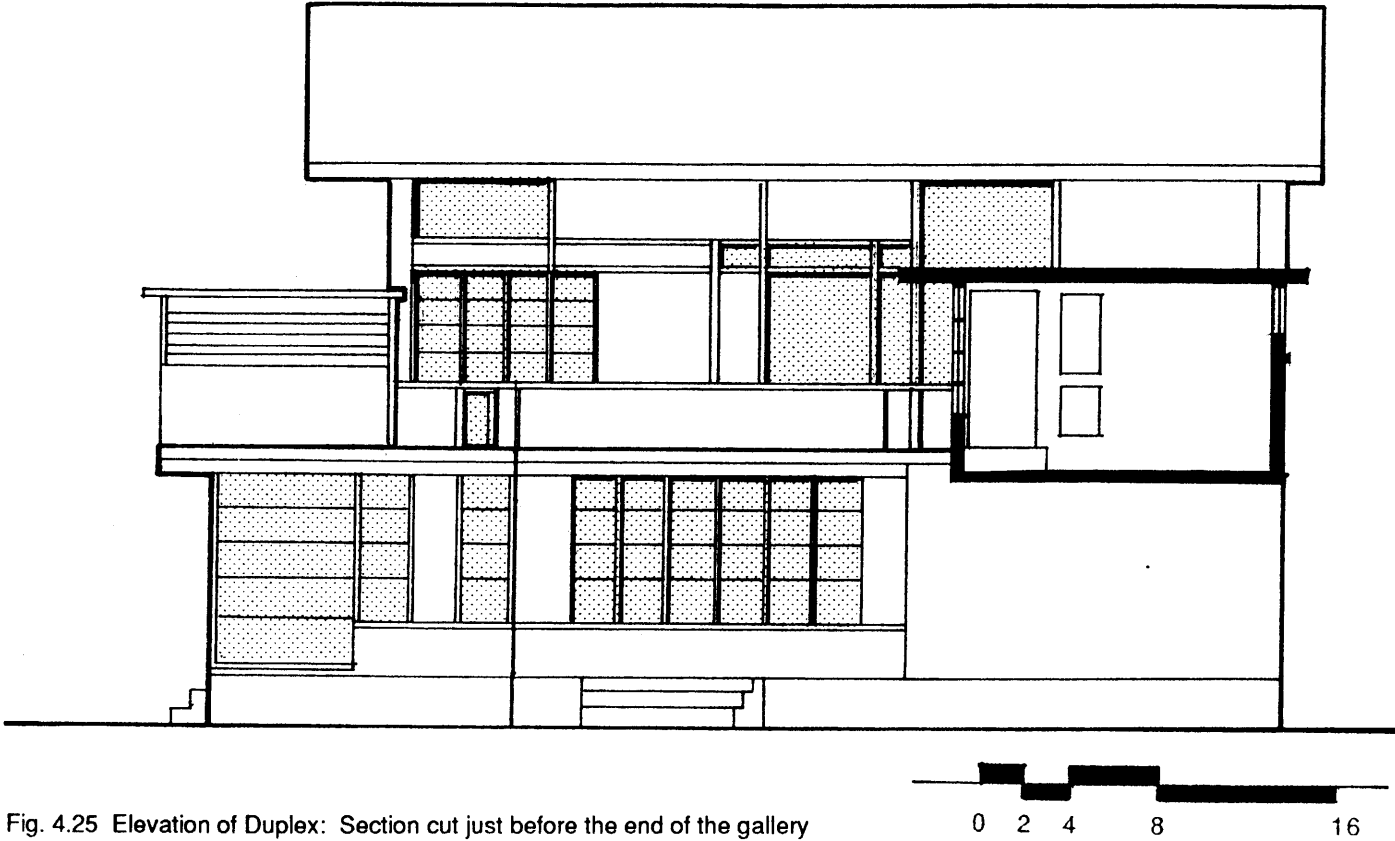


Fig. 4.24 Staircase protrudes out past the line of the wall



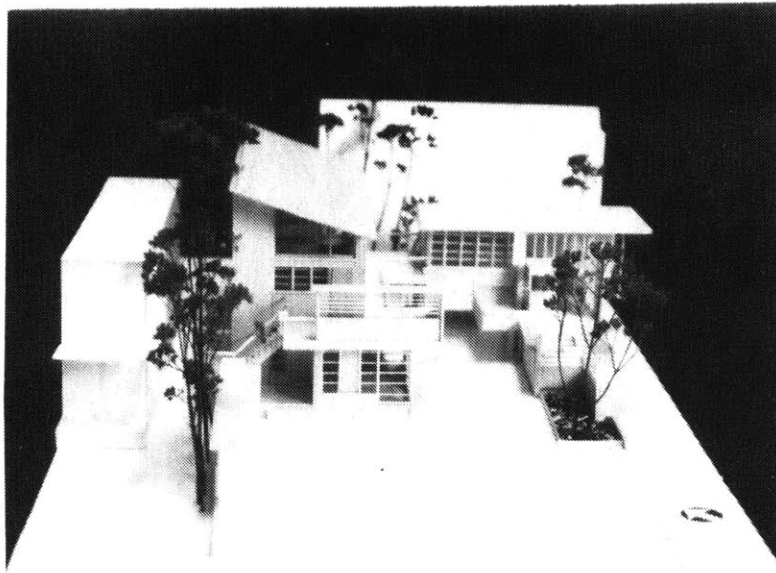


Fig. 4.26 Model of Duplex: Side shot

With this design, different scenarios, other than described above, can occur. The gallery can be rented out as a separate unit or one of the floors of the Duplex can

house extended members of the family or teenagers. The area between the existing apartment building and the Duplex is a large enough space where children can play while being monitored.

As with the Single-detached unit, there is a general understanding about where the public realm exists and how the office sits in that realm. Consequently, by drawing attention to the office, the house, a private entity, suffers from the exposure. Privacy becomes much more cherished and it is necessary to preserve the privacy of the living quarters either through screening devices, landscaping, or sectional differentiation. In this instance, the mediating device is both physical and spatial. The landscaping is a physical definition of public vs private while the courtyard is a spatial buffer between the home and office. The deck space in between the office and home on the second floor also serves to separate yet connect the two forms, allowing each their own existence while in harmony with one another.

## MULTI-UNIT

Early in the design process, two schemes of different extremes were attempted with varying success. In one extreme, I designed an atrium scheme where workers shared a common work area with private apartments at four corners (Fig. 4.27). This scheme was problematic in two respects. First, the so-called public piece can no longer be considered public. Rather, it has become more private than the apartment units due to its central location. Secondly, the symmetry of the existing building was a major obstacle; any intervention was forced to submit to the symmetry (Fig. 4.28). One feature that did work was the level change as one moved from the apartment to the office space. Although the idea of having a shared common space is a good one, the use of it as work space by different individuals tends to force one to set up boundaries in

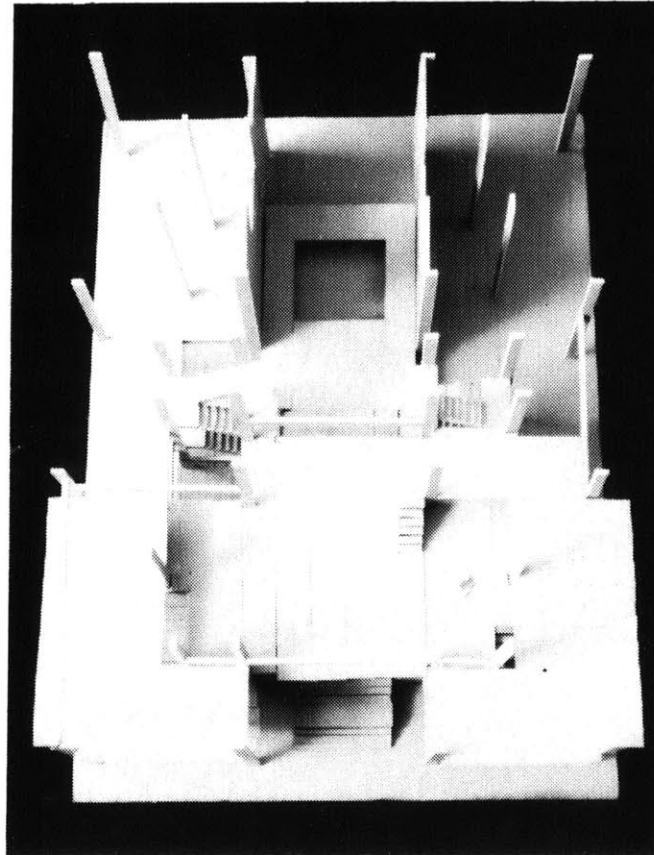


Fig. 4.27 Study model from an early scheme of the Multi-Unit



Fig. 4.28 Existing Brick Apartment Building as seen from Putnam Street

order to define individual territory.<sup>5</sup> I also realized that many existing apartment buildings are inherently organized so that the only public territory resides in two places: narrow corridors off of which are entries and stair cases between floors. Unfortunately, the only public activity that can occur in either of these two areas is circulation. I decided that redesigning the entire building was necessary.

In a second scheme, the main ideas dealt with giving each unit exterior access, identifying the first floor as public with possible office use on the second floor, and reserving the third floor for private dwelling. The existing 550 sq ft per unit was inadequate for comfort reasons. The number of units was then reduced from 14 to 6 to allow for a minimum of 700 sq ft per unit. Also, because of the increase in activity from the addition of home offices to the Single-detached and Duplex units, the site could not adequately sustain the density of 14 units (Fig. 4.29-4.32).<sup>6</sup> However, in this extreme, although there were public levels, each unit became disassociated from the other because of the lack of interior access between apartments. There was a lack of common focus that existed in the first scheme. Also, light was insufficient and unilateral for the first floor units especially along the

wall next to the parking spaces (Fig. 4.29). From the point of view of the site, the landscaping that projected out tended to divide the site in half and create two focal points when there should be one center for the cluster of buildings (Fig. 4.33).



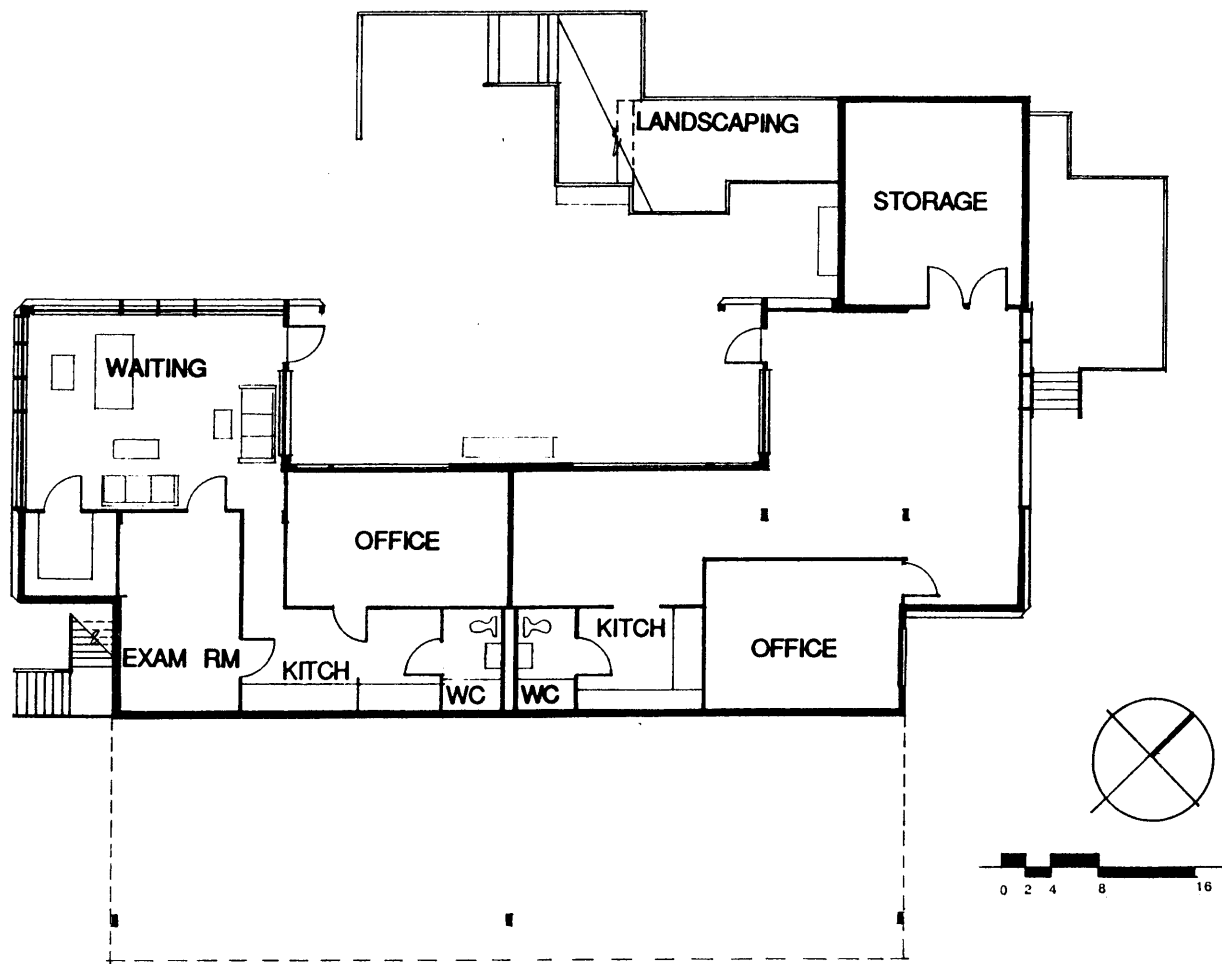


Fig. 4.29 An early scheme of the Multi-Unit: First Floor Plan

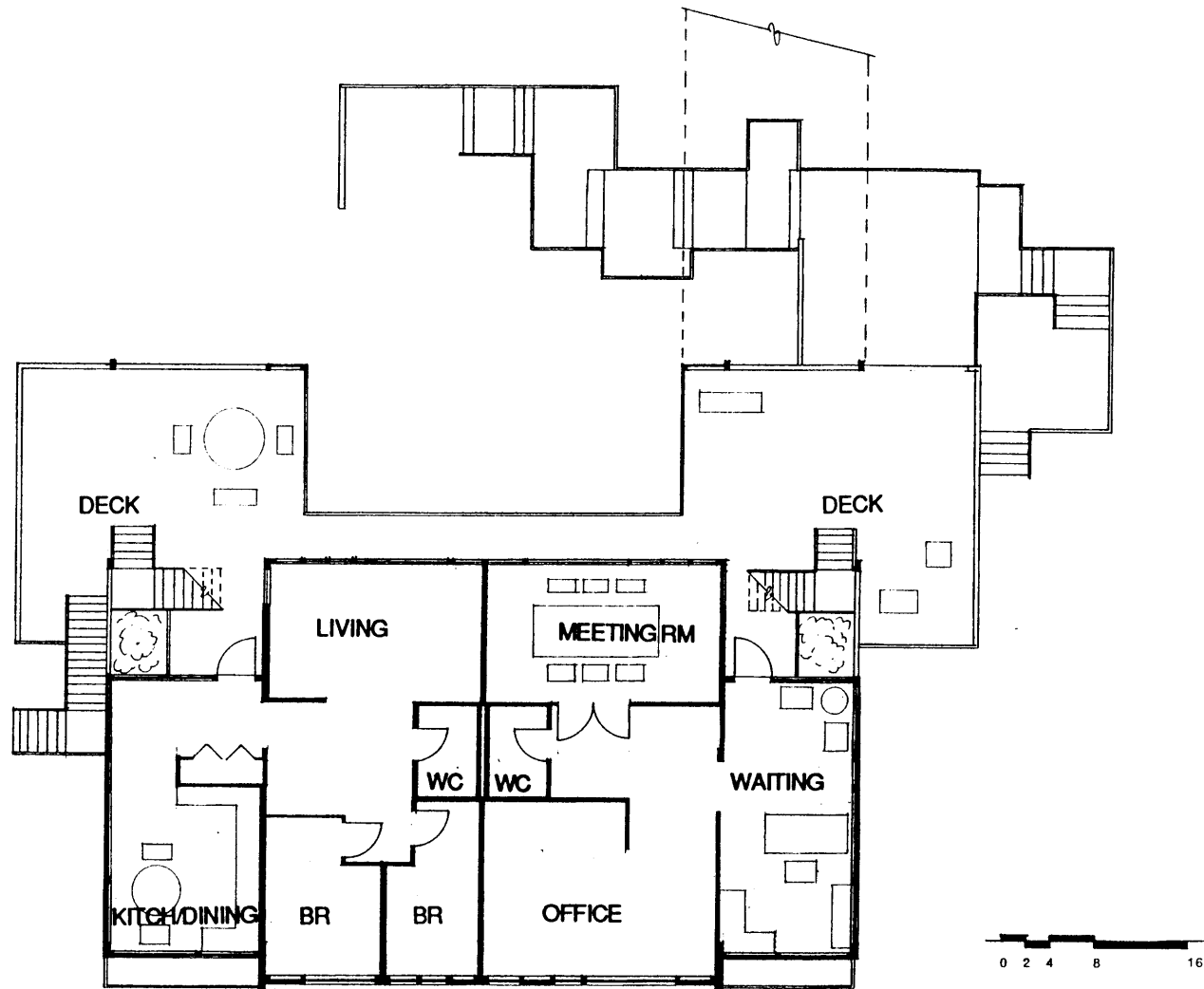


Fig. 4.30 An early scheme of the Multi-Unit: Second Floor Plan

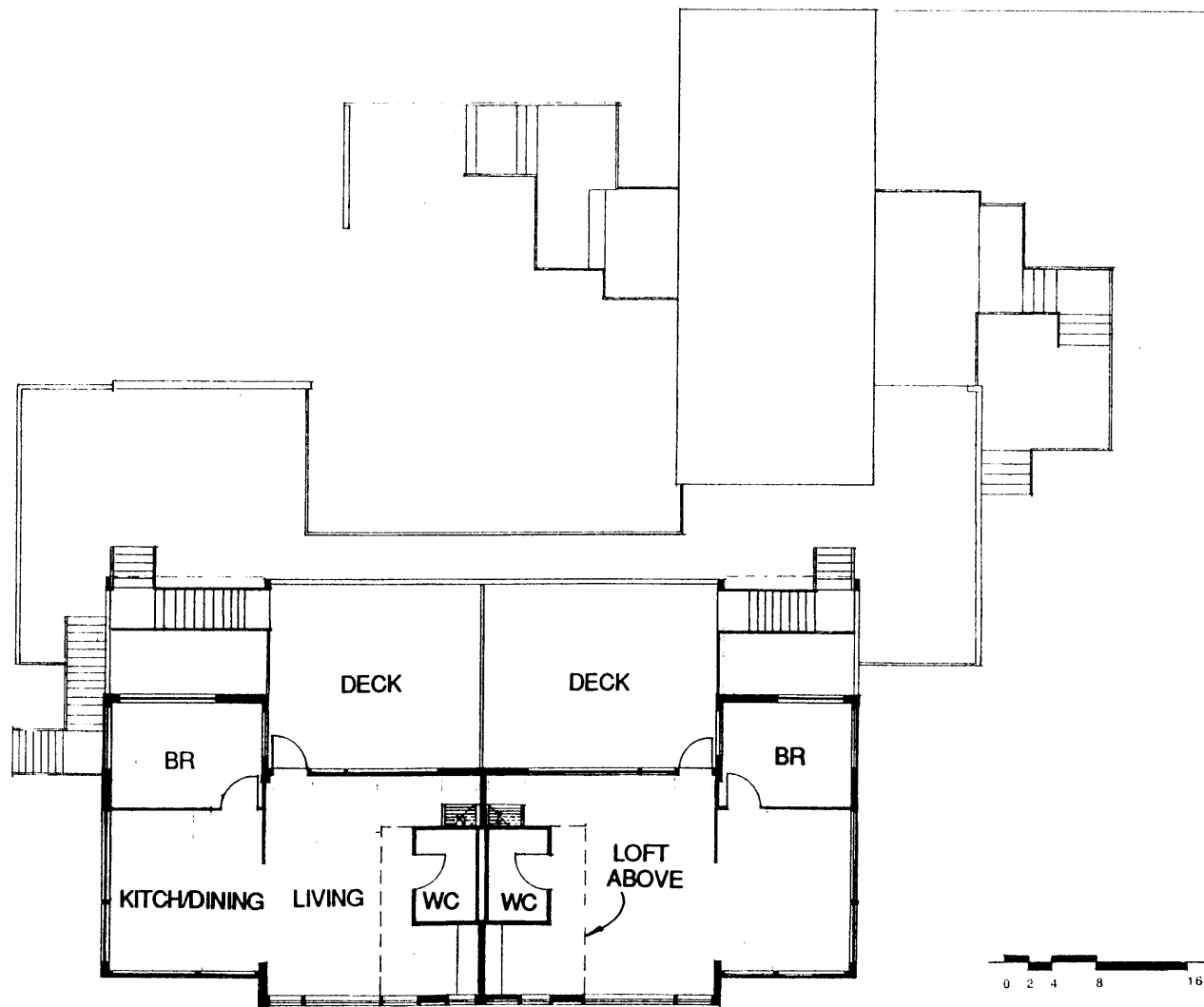


Fig. 4.31 An Early scheme of the Multi-Unit: Third Floor Plan



Fig. 4.32 Model of Multi-Unit: Six units disassociated from one another



Fig. 4.33 Model of Site: Two centers are generated due to the protrusion of the landscape

The ideal building lay somewhere in between these two extremes. Using the same grid as the second scheme, the design was reworked to solve the above problems: 1. A singular focus in the center of the site reappears (Fig. 4.34); 2. An interior atrium now provides a common focus as well as shared common space for all residents (Figs. 4.35, 4.36, 4.37); 3. An interior stair tower connects all three levels (Fig. 4.38); 4. Lighting penetrates deep into the first floor via monitor windows and the atrium (Fig. 4.39); 5. Exterior access to the first and second floor is maintained (Figs. 4.35, 4.38, 4.40).

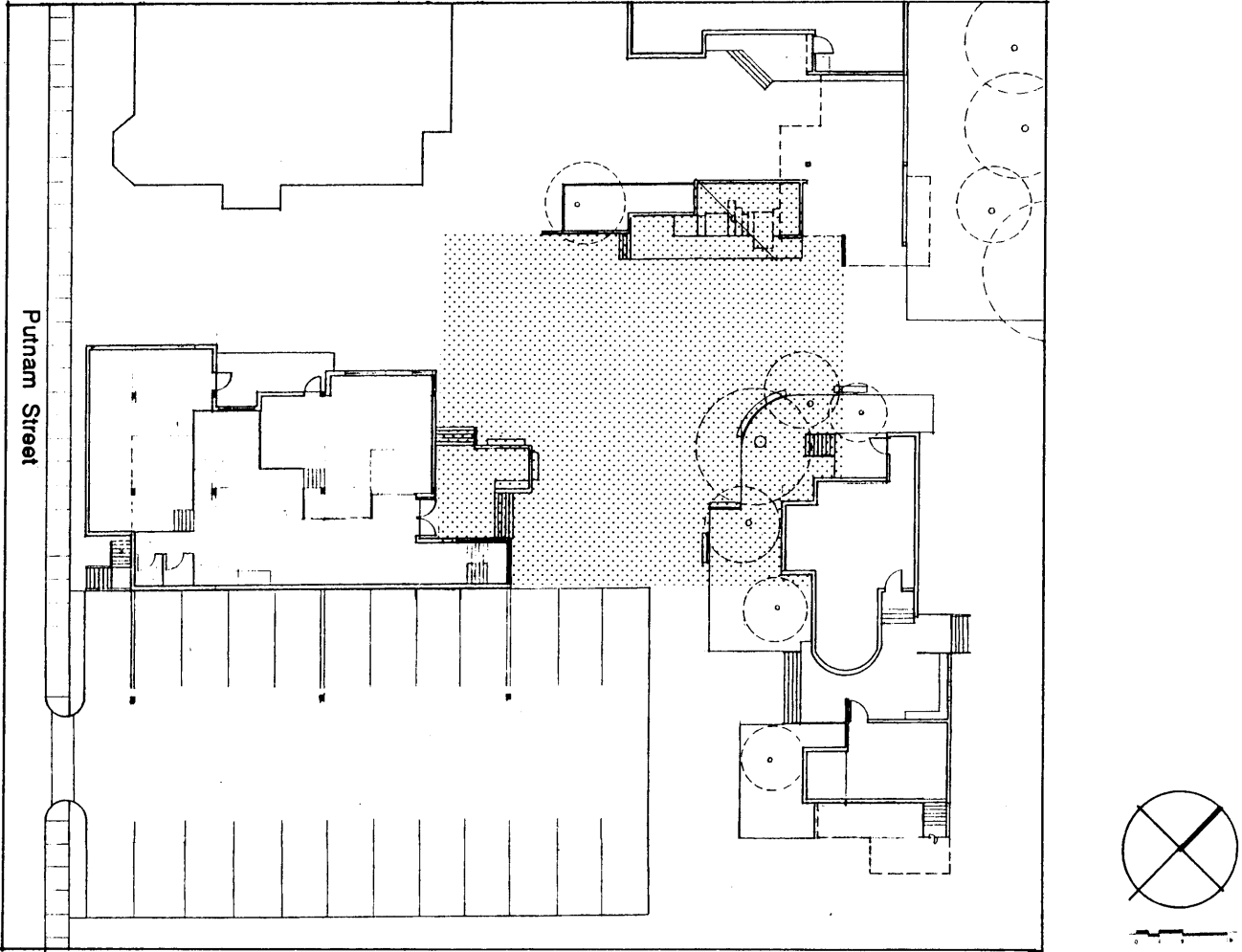


Fig. 4.34 Site Plan with regained center

Work at Home, Home at Work

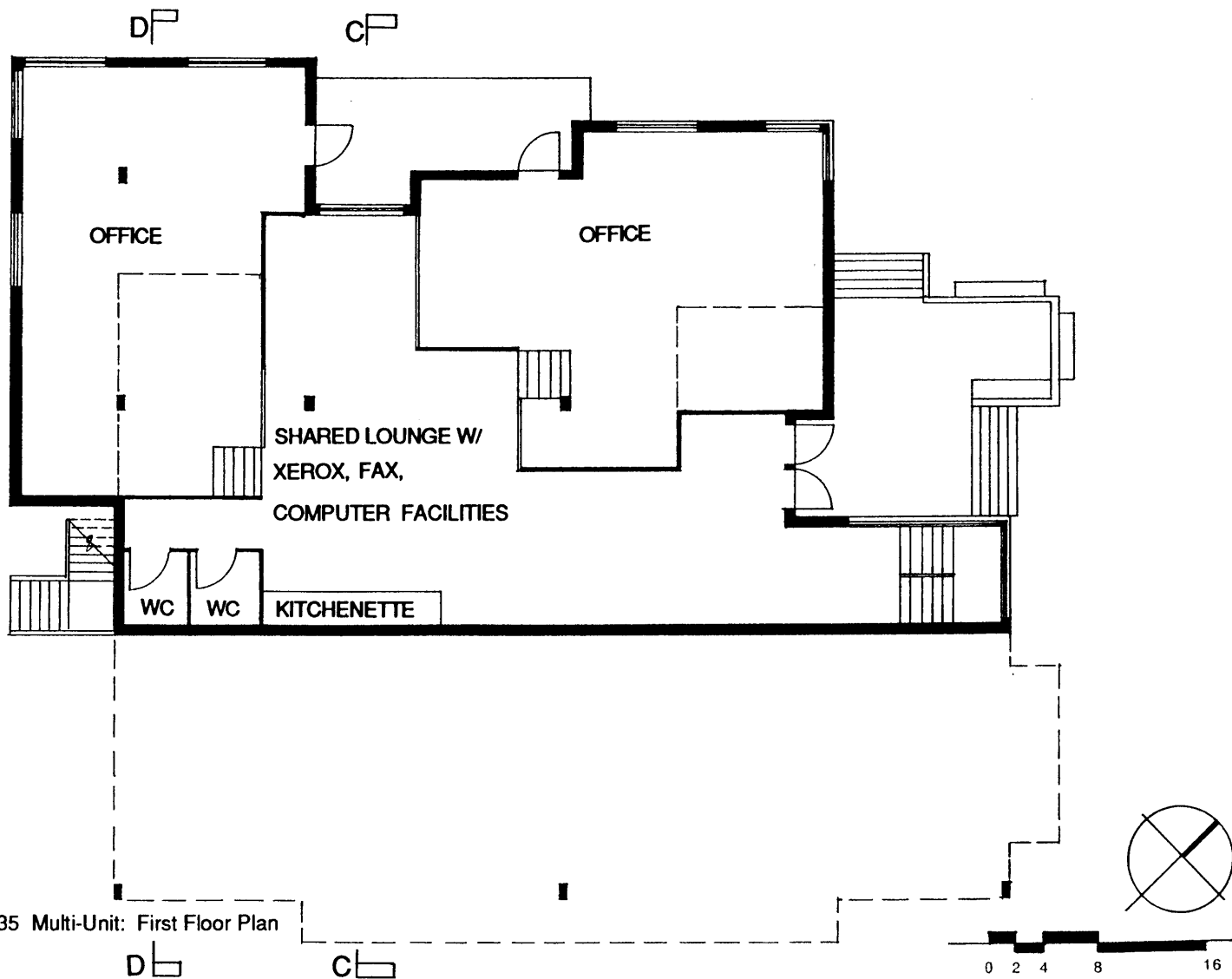


Fig. 4.35 Multi-Unit: First Floor Plan



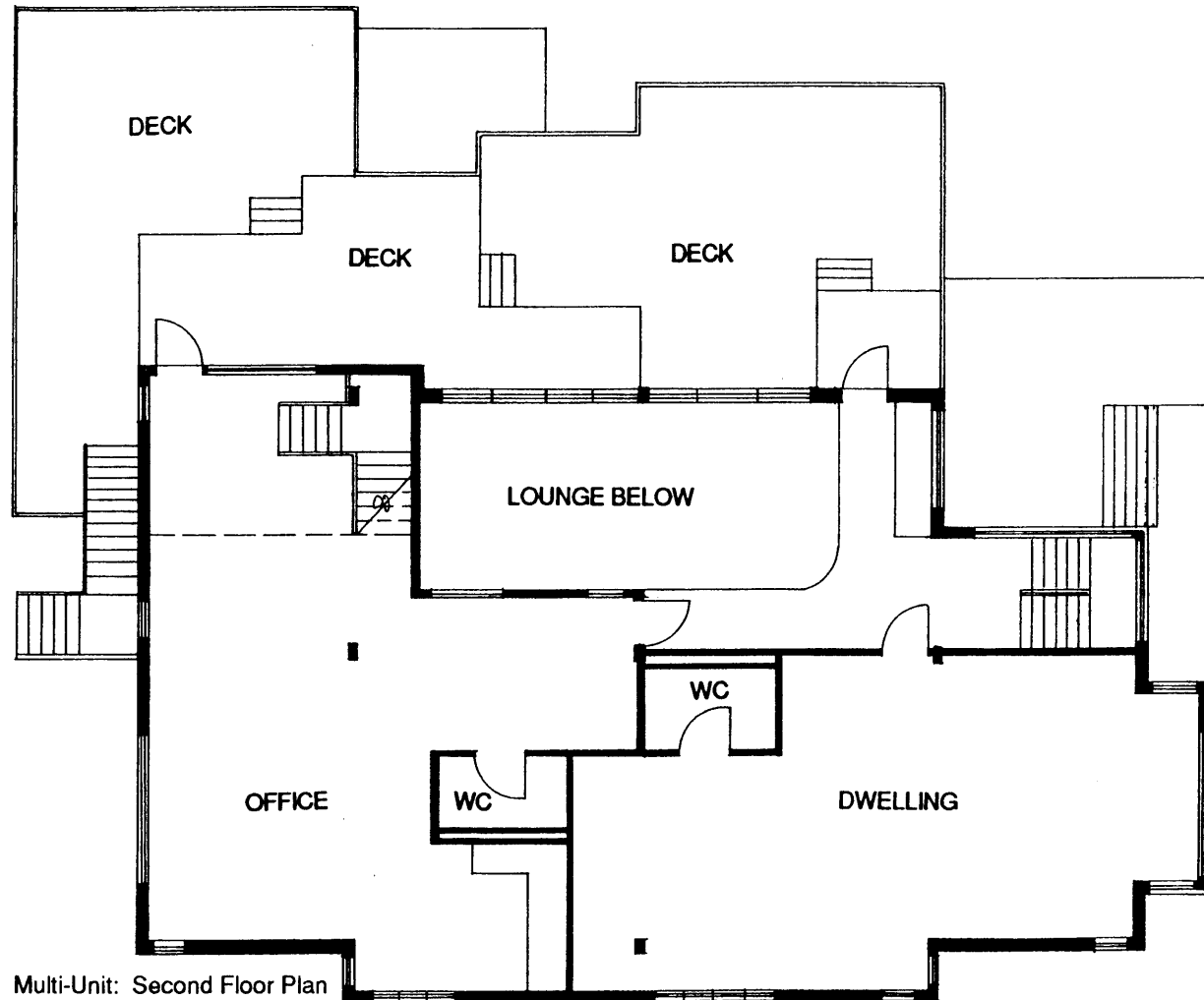


Fig. 4.36 Multi-Unit: Second Floor Plan

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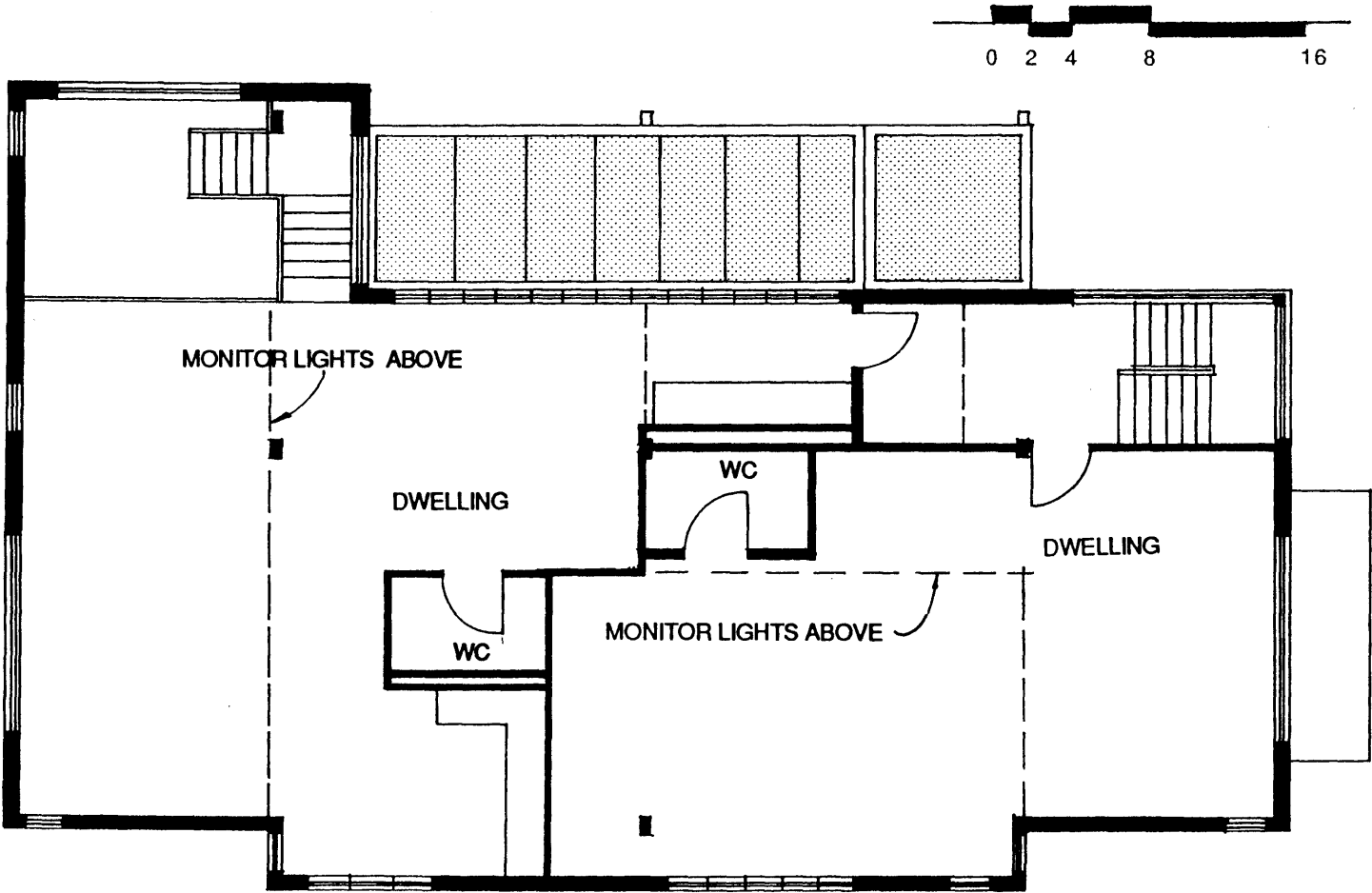


Fig. 4.37 Multi-Unit: Third Floor Plan

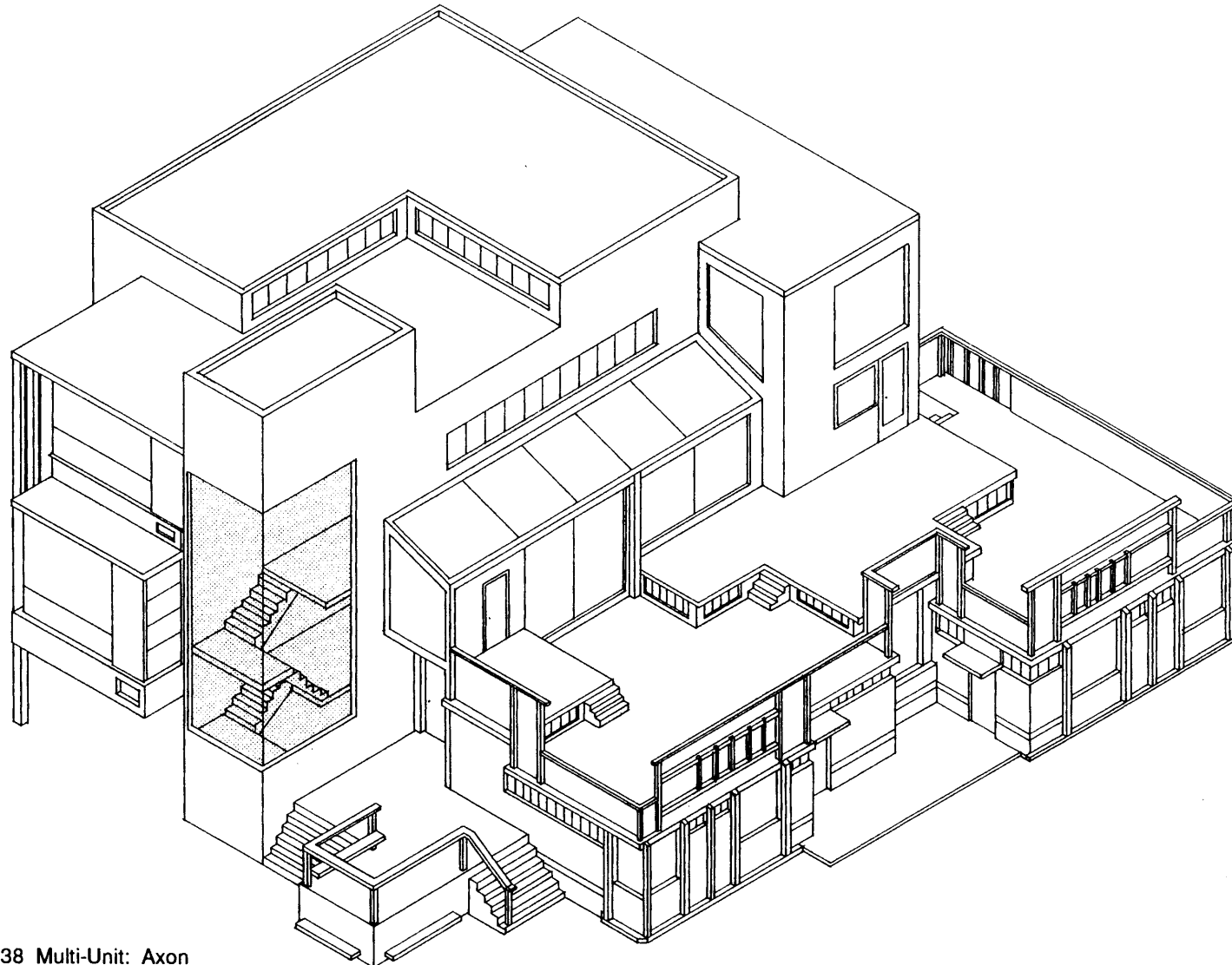


Fig. 4.38 Multi-Unit: Axon

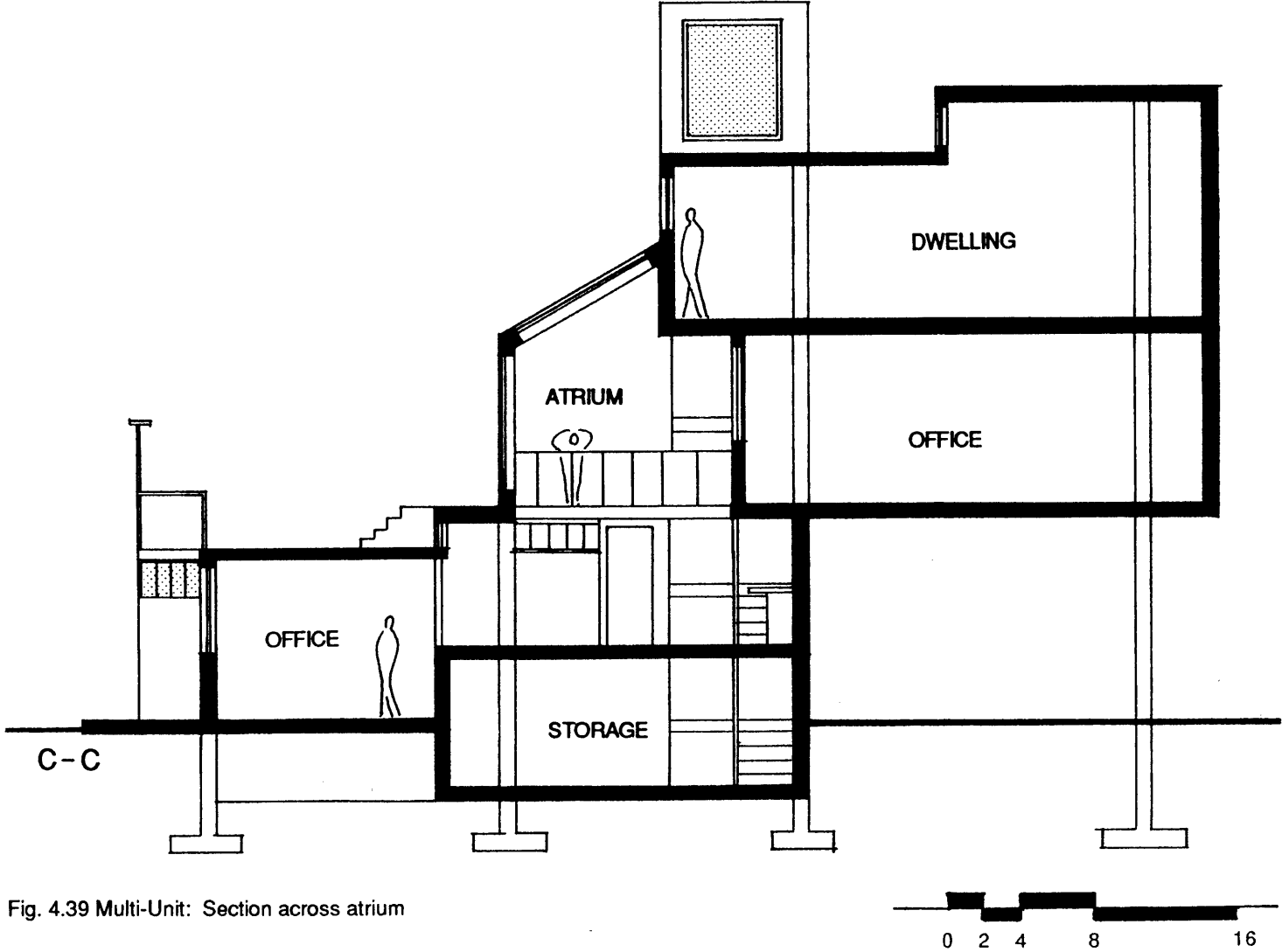


Fig. 4.39 Multi-Unit: Section across atrium

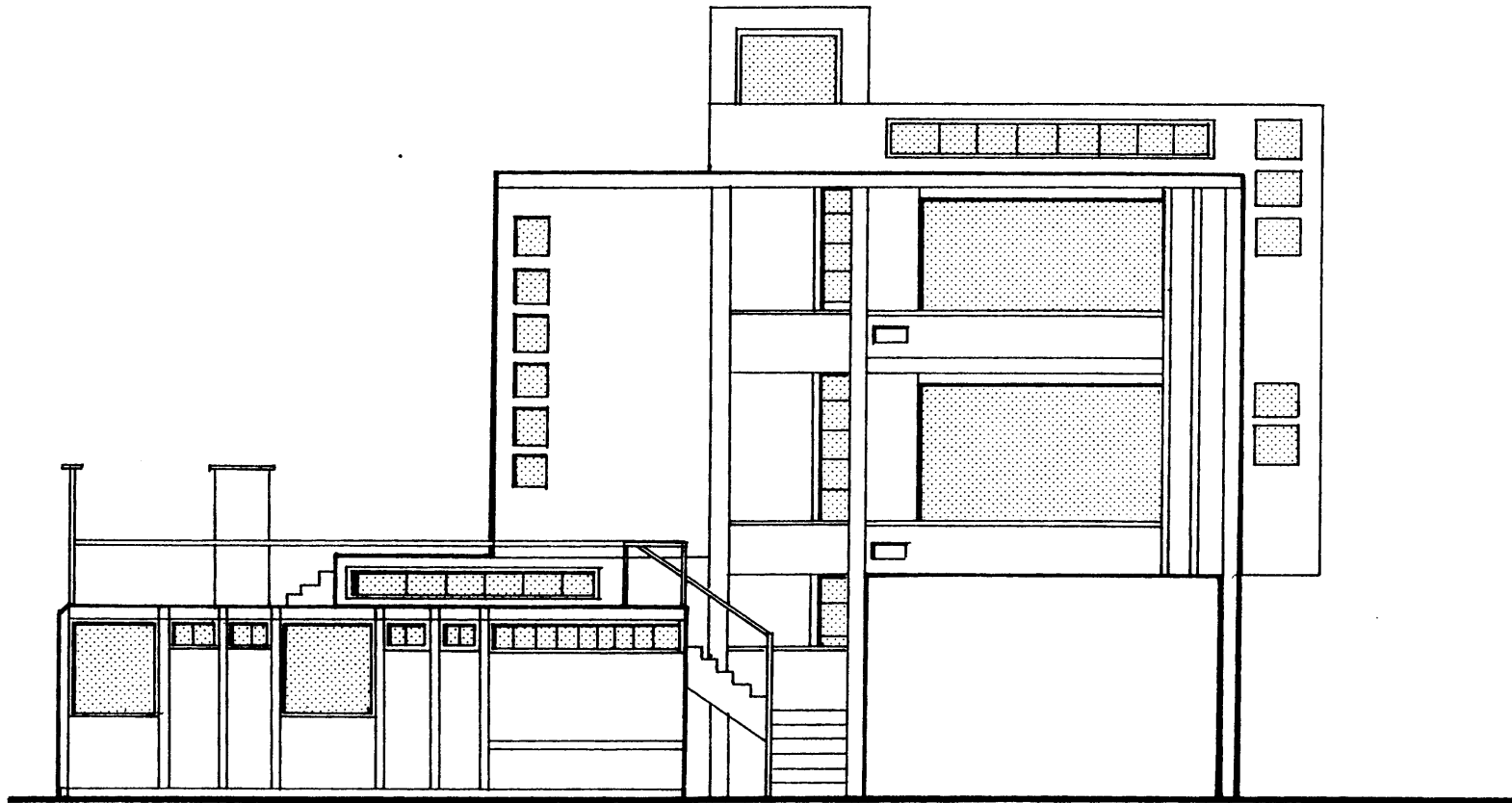
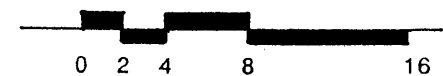


Fig. 4.40 Multi-Unit: Elevation as seen from Putnam Street



As shown in Fig. 4.39, the sectional quality that appeared in the first Multi-unit scheme reestablishes itself as a shared lounge with certain facilities that can stimulate shared activities. Computers, xerox and fax machines are common tools that many offices share with one another already. The location of the water closets and kitchenette in the common space also frees up the offices with more space for work. In addition, workers can have their lunch in the atrium with others. The atrium might also be a place where children can play indoors. Finally, the non-structural partitions can be taken down to open up the entire first floor and atrium area for larger uses such as an exhibit space (Fig. 4.41). Another built-in flexibility can be found in Figs. 4.42, 4.43. The third floor and second floor unit can be combined into one unit where the third floor dwelling unit overlooks the second floor

office space. The exterior reinforces this reading of the combined units (Fig. 4.44). To privatize this space into two separate dwelling units, partitions can be put up as shown in Fig. 4.43 and the double height space becomes a vestibule for the two units.

Formally speaking, the building directly reflects what happens on the inside (Fig. 4.38). The stair tower anchors the building to the ground and shows that it is a vertical connector. The monitor lights that push up on the second floor deck and the roof are expressions that allow the entry of light, adding to the overall formalistic composition. The glass atrium is central to all the other parts as well as in plan. Together, the various interlocking solids can be read as one building facilitating multiple use. The orientation of the main entry adjacent to the stair tower is an open hand toward the larger common space.

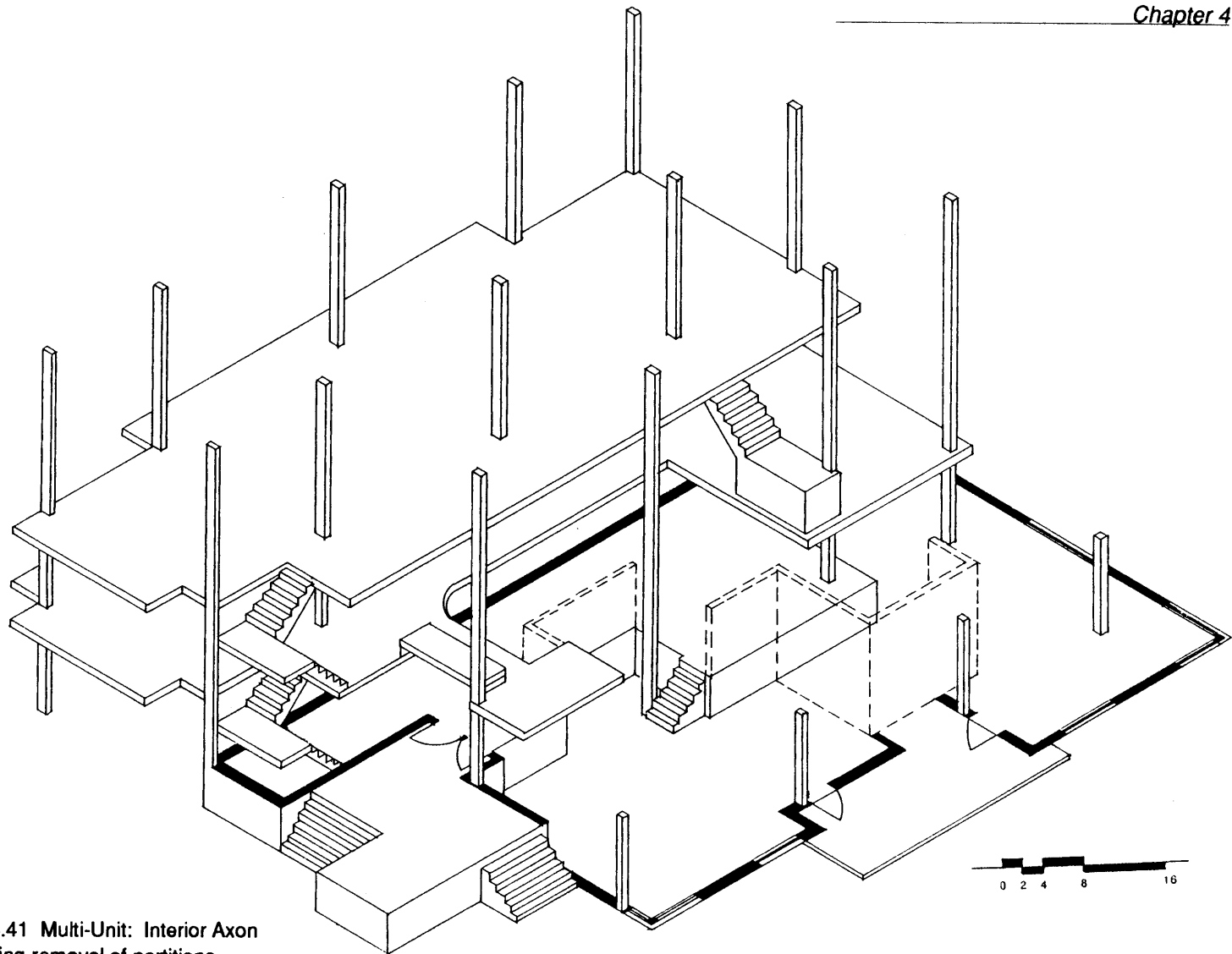
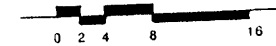


Fig. 4.41 Multi-Unit: Interior Axon showing removal of partitions



*Work at Home, Home at Work*

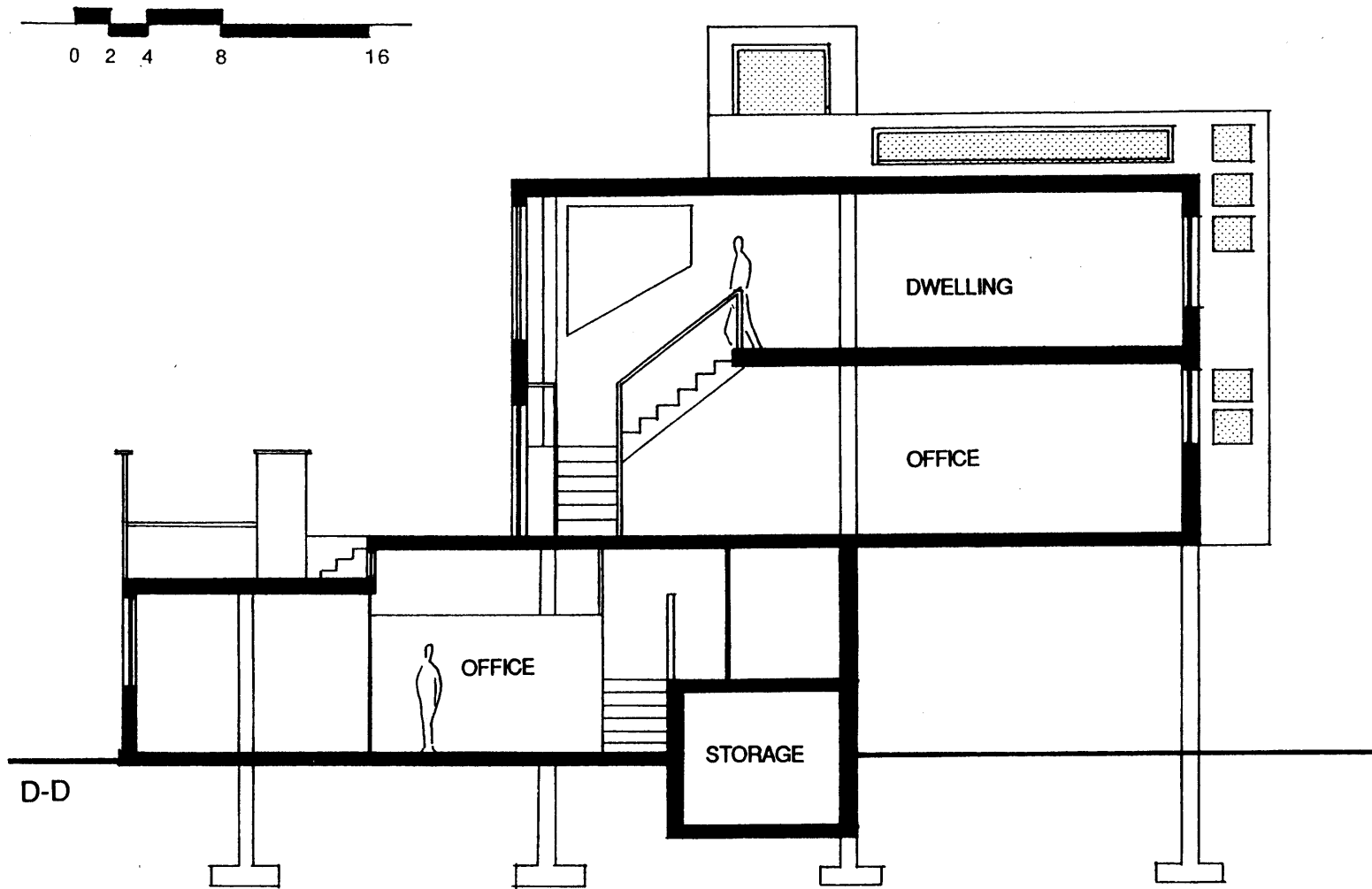


Fig. 4.42 Multi-Unit: Section showing a second floor office unit with third floor living quarters overlooking part of the office



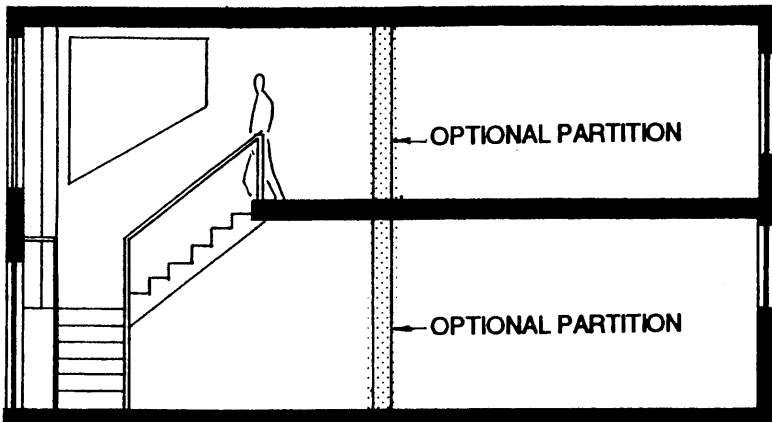


Fig. 4.43 Built-in Flexibility: The second and third floor units can combine to form one unit or partitions can be put up to form two separate dwelling units.

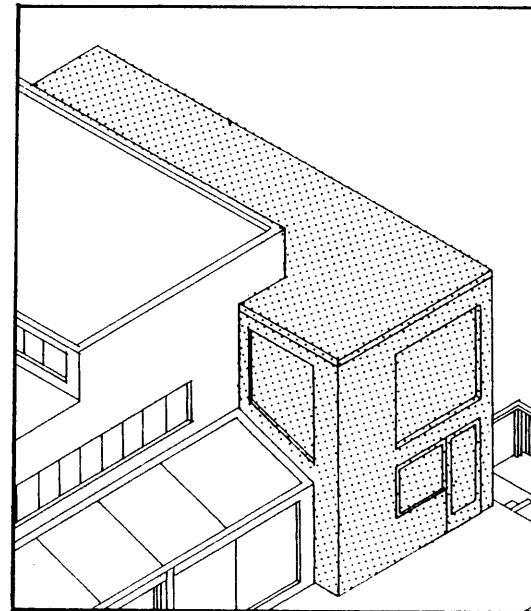


Fig. 4.44 Multi-Unit: Isolated view of combined unit

As with the other two designs, the built-in flexibility of the combination of uses is a crucial part of the Multi-unit especially since most people eventually move on. It is the hope that such a new type can allow growth and change over time with minimal change to the building (Fig. 4.43). The larger atrium space provides the in between, that balance of different worlds within one building as well as a place to gather. Without this, the Multi-unit is like any other apartment, masquerading as a collective order when in fact each apartment tends to be disassociated from the other. Finally, the orientation of the building towards the center of the site speaks of a larger picture that has to do with the acknowledgement of the *community*, rather than a *singular* building.

#### STRENGTH IN COMMUNITY ORIENTED SPACE

As with any increase in activity over a certain area, the need to provide parking can become a menacing problem. With the development of the design, the parking that once inhabited the middle of the block was replaced by pedestrian traffic. I relocated the parking on both sides of West-Acott Court in order to centralize and control automobile traffic. This then leaves the pedestrian space free for other uses. (Early on, the idea of an underground parking space was rejected since it was not a very economical solution.) The parking space can be seen as an extension of the larger collective space since there is no level change (Fig. 4.45). For example, the parking can be cleared for kids to ride their bikes and skate board.

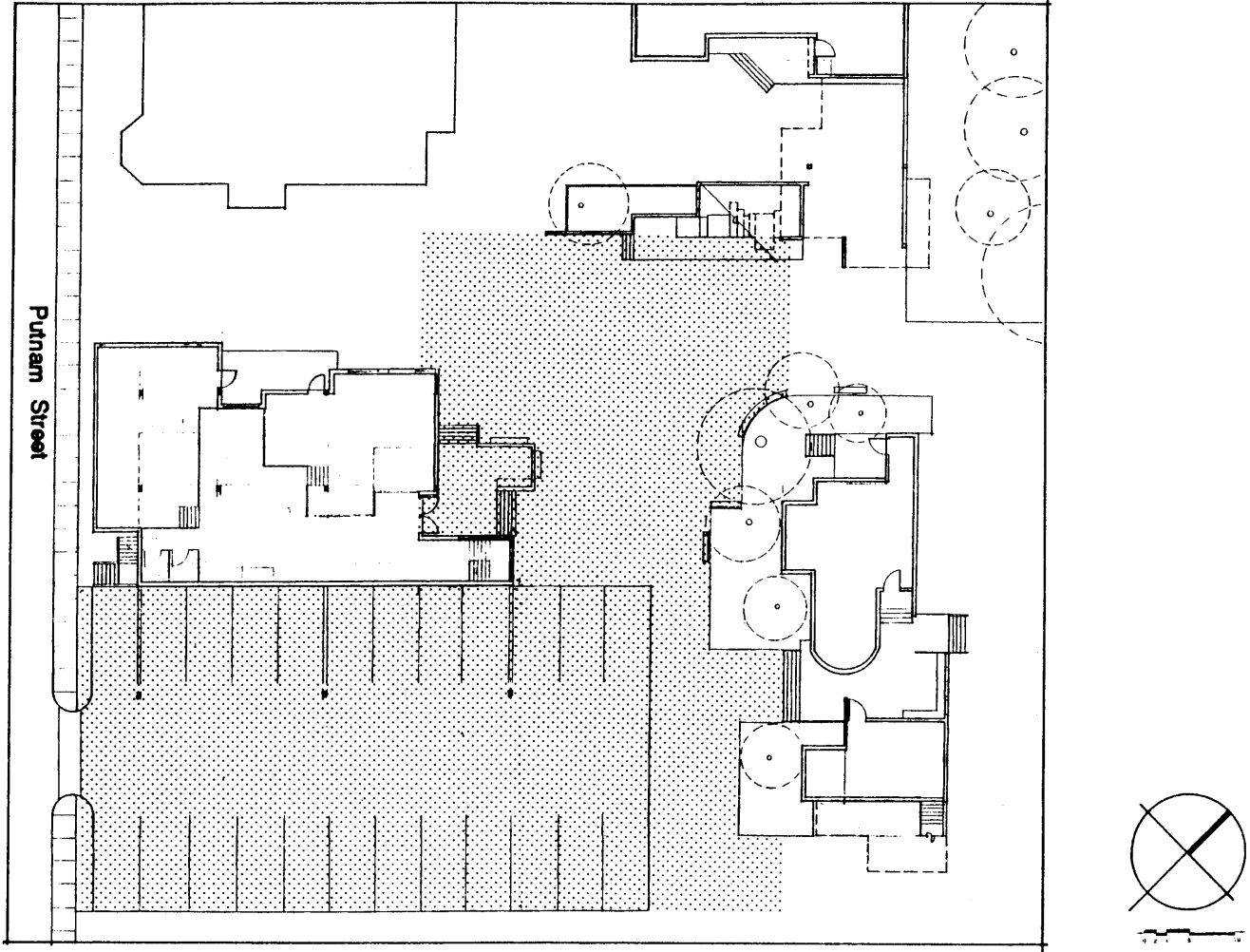


Fig. 4.45 Site Plan: When cleared, parking can extend the common space to allow for other activities like neighborhood garage sales or bike riding and skate boarding

In the city, the activity of the public edge is oriented parallel to the street because space is usually a limited resource. Subsequently, the entry experience is one of coming off of the street into a building. In a residential neighborhood, there is only strictly private use—i.e., the available yard space inside a neighborhood block is usually fenced off and thus strictly private.

As I mentioned above, when the office is thrust out as a public piece, the spectrum of the strictly private opens up to include public qualities. Rather than orienting a building towards the street as in the city, the orientation around the center of the block generates more possibilities of public use and expands the *public edge* into the *middle* of the block. What has happened is the development of the home office as a hybrid between the city and the suburb. In other words, public

activity normally associated with the city has been brought into a context normally associated with privacy (Fig. 4.34). This community oriented space ties the surrounding buildings together into a cohesive community. For instance, this area can be used as a place for block parties or a neighborhood garage sale. What is unusual is the fact that there are no unsightly fences demarcating invisible property lines. Yet, each building has its own sense of territory in addition to the shared public space. On a practical level, the above ideas can be a guide in planning for future neighborhoods or renovating existing ones.

NOTES:

<sup>1</sup> Hayden, 125, 186-7.

<sup>2</sup> The selected building types found on the site are most likely built after WWII, the era described by Hayden as the period when Levitt Towns exploded onto the scene.

<sup>3</sup> Although this route may be preferred by some I emphasize the second floor route since it is a non-traditional way of access and organization; in any case both transitions are provided and can be used depending of the user's preference.

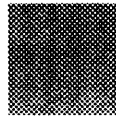
<sup>4</sup> As mentioned at the end of Chapter 1, I have said that the public character comes from offices that deal with clients and employees and that this Thesis focuses on such types.

<sup>5</sup> This phenomenon is a fact of human nature. For instance, in a large classroom, a student will more often than not sit in the same seat class after class.

<sup>6</sup> In a discussion with Sandra Howell and Jack Myer.

PHOTOGRAPHY CREDITS:

All photos in this chapter were taken by the author.



## **CONCLUSION**

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**Looking Ahead**

In the future, as technology and social structures progress and change, there will be a need to design and plan for Home Office communities. What has been presented here is an approach that emphasizes community development by identifying the home office as an entity that wants to be in the public sector. Traditionally, that is what the office has represented. To try and domesticate it by converting a spare bedroom, basement or a garage into an office, strips the office of its best quality, its public nature. Instead, by pushing the home-office into a public realm, a site that was strictly private becomes one that incorporates a public and private spectrum. This expansion of the public edge into the middle of the block is a very powerful statement. It is a blend of the best qualities of the city combined with the ideals of home and house. In other words, public

activity normally associated with the city has been brought into a context normally associated with privacy.

This new architectural order of the home office requires careful consideration of how the inhabitants might live and utilize the different spaces. The balance of the home vs the office has been shown to be possible at all three levels. Not only is the harmony necessary in plan but in section with buffer zones and half levels to mediate between the two worlds. The traditional demarcation of the first floor as public has been redefined to include the second floor. Furthermore, the real test of a building is durability in the sense of being able to accommodate different uses in the future—i.e., built-in flexibility.

Currently, zoning has been playing

an inadequate game of ‘catch up’. Although some ordinances allow for ‘home offices’, they only go so far. Typically, home offices are considered accessory uses and are limited to 25% of the gross floor area of the building. Furthermore, total area of uses accessory to the principal use may not occupy more than 15% of the area of the lot. Home offices may have up to three persons at any one time on the premises. Finally, home offices are limited to recognized professions like dentistry, architecture, engineering, etc. The location of art/craft studios require a special permit and must be in a principal use nonresidential building.<sup>1</sup> It is obvious from these sets of conditions that the neighborhood block I designed goes beyond many of the above stated rules. However, this only points to the inadequacy of current zoning regulations and challenges the current standards.

Invisible property lines inevitably reinforce themselves as unsightly fences. What is the underlying rationale for the 15% or 25% limitation? It seems to be a nice round number arbitrarily generated. I have shown that the home office is an organization based on the section as well as in plan. Already, this suggests that zoning should include vertical zones in addition to horizontal zones. I have shown that a studio can be successfully incorporated into a residential building. In the multi-unit, the flexibility of the building as a multi-use facility can generate as well as accommodate a variety of activity for the good of the neighborhood. Here, zoning needs to be flexible so that different functions that are compatible can reside in the same building or on the same block. In short, current zoning restrictions in regard to home offices are still under the influence of an era where the

separation of houses continues to be a legacy of strictly privatized land. In order to move forward, planners should be redefining the way rather than playing catch up so that the home can become the center of society, not an outcast of it.



NOTES:

<sup>1</sup> Cambridge Zoning Ordinance, Articles 4.21, 4.22, 4.28, 1991.

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