TRANSLATION: European Housing Ideas into American Designed Forms
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Michelle A. Mathia

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CULTURE and design go hand in hand. Designers in Europe have a way of designing that is influenced by their cultures values. In the same way American designers have their own type of designing according to cultural influences. What are these cultural influences and how do they effect housing design? Europe has strong communal ideas in its housing design which stem from its lack of land to build on. American housing design focuses on the individual and the expression of the individual. This idea of focusing on the individual comes from many sources. The Constitution and its individual freedoms and the "American Dream" and its focus on individual single-family-detached homes.

Is it possible to take design ideas from one culture and translate them into another cultures language?

The site chosen to prove the above question is East Garfield Park, Chicago, Illinois. The project is a twenty-six unit prototype housing complex. This complex combines European thought and American cultural ideas to produce a new form of subsidized housing for the United States.
To Mom and Dad.
Thanks for taking me to see the world.
And to Jen for always being a great friend.

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TRANSLATION: European Housing Ideas into American Designed Forms
IS design specific to culture? Does the meaning of home differ from culture to culture? I have found the answer in both of the above questions to be yes. Europe and America have different cultures and each culture their own specific meanings and symbols attached to home. Europe’s housing focuses on communal living and America’s housing focuses on the individual. Even though these difference exist the United States can learn from parts of European housing and translate the ideas behind the parts into American meanings and symbols.

EUROPE
Europe is structured as communal culture. Land is scarce and must be shared by many people. European housing reflects this communal attitude. In most of Europe’s public housing complexes the units are packed close together and are usually arranged around common green spaces.

The designers of Europe’s public housing complexes have introduced elements in their designs to break down the scale of these massive complexes and green spaces. They have made spaces feel more personalized. The complexes have multiple entries to access the units within. Having multiple entries connects

Fig. 01. LEFT: Housing for elderly in Berlin, Germany. This is an interior courtyard for the residents to use. Their are ramps to each level for less mobile residents. The space exists between two structures that contain the housing units. This space allow the residents a controlled green space. The only people who are allowed in are the residents themselves (photo from Archiba).
fewer units to each entry space which in turn allows each resident a better understanding of who is living around them and who does not belong in the space (fig. 01). This awareness of neighbors creates defensible space. The residents understand this entry as belonging to them and can identify if a stranger is in the space. The green spaces surrounding most of the complexes are broken down into smaller more personal spaces by methods of landscaping (fig. 02, a & b). The break down of space creates smaller areas that are more human in scale. The segment of space also provides for multiple activities to occur at the same time. Many of the complexes also have units with individual balconies providing private outdoor space. These balconies also serve as transition from private to semiprivate to public spaces (fig. 03). The juxtaposition of housing and green space and the transitions between them allow for private and public spaces to be successful with in these complexes.

Choice of materials, type of construction, window placement, and interior space organization also aid the design of European housing complexes. These parts help make the housing complexes become a pleasant place for the residents to live.

The use of material, especially different

"De Klerk imbued his architecture, especially his public housing, with meanings and symbols in order to arrest 'the decline of the city's identity.'" (p. 14, De Wit)

"It is the working man who has the spiritual need for beauty in his dwelling, more than any other, to counterbalance the toil of his labor." (p. 3, Holzbauer)

From the Seebhm Report (Britain):
"In our society the maintenance of the family life and the care and upbringing of children are dependent upon the possession of an adequate home. Family and housing are inextricably linked. Loss or failure to acquire a secure and decent home places a family in jeopardy!" (p. 16, Pawley)

Fig. 02, a. FAR RIGHT: Green space division in housing in The Netherlands (p. 91, Pawley). b. RIGHT: Green space above a car garage in Berlin, Germany (photograph Archiba).
materials together, helps to define spaces and break down the scale in the housing units. Michel De Klerk of the Amsterdam School used brick in many of his public housing complexes but not in an ordinary way. In one of De Klerk's complexes he turned the brick courses on their ends so they stood vertically. These courses ran to the top of door height on the ground level. Above the door height the brick was returned to horizontal courses. This change in pattern defines the first level and subtly gives the structure a human scale along the street. De Klerk also used brick to form curves in his housing. In another of his complexes this curved brick is used as entry markers and also as an accent in bay windows. The curves help pull people in and out of spaces and provides more definition to the exterior of the structure than a bland straight wall would.

Strategic window placement is a technique used in many of Europe's housing complexes. Fixed windows are placed where view or light is important and operable windows are placed where ventilation can be utilized efficiently. In Germany this is especially important since artificial cooling is not allowed. This technique of window placement is used in many of the housing units at Weissenhofsiedlung a complex designed by several prominent...

"... (Contemporary American families) When speaking of home, use the term to connote different meanings, ranging from the physical dwelling place, a sense of relationship with other people, of social network, and a base of activity on the one hand to conceptions of a place of refuge or continuity, a personalized place, and a symbol of self-identity on the other." (p. 220, Chambers)
architects of the Modern movement.

The Wessenhofsiedlung complex consists of a variety of different housing types. The architects were aloud to experiment with alternative ways of reducing square footage, as well as, different techniques in construction. Some of the elements introduced on the interior to reduce square footage are moveable walls, freestanding partitions, and built in storage cabinets. Prefabrication of parts was a low-cost construction technique used along with permanent form work in floors and walls.

Green spaces, multiple entry, material choice, construction techniques, and transitional spaces are parts of Europe’s public housing complexes that contain ideas which can be translated according to American culture into its housing design.

AMERICA
To take the complete organizational makeup of Europe’s housing complexes and build them exactly the same in the United States would not work. The whole system of public housing is different for each culture. American housing focuses on individuality. This stems back in history to pioneer days when large amounts of land was claimed by a single individual. Individualism is also depicted in the “American

FROM A REPORT PRODUCED BY HOUSING AND URBAN DEVELOPMENT (HUD) ON THE CONDITIONS OF THE CHICAGO HOUSING AUTHORITY (CHA):
“Deteriorating buildings, damaged heating and water systems, broken elevators, and roach and rodent infestation are common place at many projects. This situation has resulted from poorly maintained and aging housing stock. Abusive tenants have also contributed to this situation.” (p. 3, Public Housing: Chicago Public Housing Authority Taking Steps to Address Long Standing Problems)

EXCERPTS FROM HARDBALL: A SEASON IN THE PROJECTS:
“In Cabrini, gunfire is discussed like weather. ‘Better go shopping early because they’re going to shoot tonight. They sure were shooting last night, weren’t they? They was shootin’ early this morning, but then it let up and I got to go to my Grandma’s.’” (p.23, Coyle)

Dream." Every family living happily in a single-family-detached home set in the middle of a large yard. Europe’s public housing does not fit into America’s vision of home very well.

In Europe public housing is accepted as a part of life. It is where many people start off before they can afford a place of their own. In the United States public housing is provided for persons who need assistance with their living expenses, similar to Europe, but there are stigmas attached to persons who live in U.S. public housing. Most people in the United States have not spent a part of their lives in public housing, unlike Europe, and those that do live in public housing rarely leave very soon. The United State’s culture is focused on the individual and the individual’s rights and responsibilities. The individual has the right to their own prosperity, and the responsibility to improve themselves is to be done on their own. Persons living in public housing in the United States are viewed as lazy and unwilling to change their positions in society. Housing is provided for these people by the state because they would otherwise be homeless. Very little else is done in addition to providing shelter to help these people improve their conditions. Money that is allocated for programs and improvements by the
federal government for the housing rarely reaches the residents in the housing. Rather it ends up in some housing administrator's pocket. This is the case in the city of Chicago. The system in Chicago was so corrupt there that Housing and Urban Development (HUD) had to step in and take over the dysfunctional Chicago Housing Authority (CHA). With conditions like these it is easy to see why the residents are unable to move out. They are not getting the support or the direction they need from the state to be able to live on their own.

The corruption is only part of the problem in U.S. public housing. The buildings themselves pose another level of problems. The United States originally tried to bring European housing ideas into U.S. public housing, only they distorted those ideas and ended up producing buildings that were more harmful to the residents rather than helpful. U.S. architects flipped the European housing complex model in on itself. Instead of housing surrounding a green space the green space surrounds the housing. This groups all of the units together into one big mass set in the middle of a sea of empty space (fig. 04). The structures were built taller than the complexes in Europe breaking the contact that each resident should have to the ground. The designers tried to create communities in these

"Strategically, the nineteen-story high-rises at 1117-1119 North Cleveland was Cabrini's keystone. From the Castle's top floors a sniper with a good rifle and scope could hit anything from the Whites to the rowhouses." (p. 43, Coyle)

HIGH RISE HOUSING:
"The high-rise apartment building is rejected by most American as a 'home' because it gives one no private territory on the ground, it violates the archaic image of what house is and I would suggest, is perceived unconsciously as a threat to one's self image as a separate and unique personality." (p. 332, Taylor)

"The house form in which people are being asked to live (high rises) is not a symbol-of-self, but a symbol of a stereotyped anonymous, filing-cabinet of selves." (p. 32, Taylor)

Fig. 04. LEFT: A piece of public art fenced off from vandals.  (p. 124, Prawley)
large mega blocks of housing, but the size became to overwhelming for residents to handle. Residents were no longer able to distinguish who belonged and who did not. There are less entries accessing the interior in U.S housing. The housing in the U.S. was stripped of the character and change that exists in European examples. In U.S. housing there is no individuality left at all. Too many units are a lined along straight corridors so that they becoming indistinguishable from one another. Materials and construction methods were chosen for their cost. This would have been okay if the architects questioned the materials potential (fig. 05). If the designers of U.S. public housing had a better understanding of their users needs and paid more attention to detail these complexes may not have turned out so disastrous. Disastrous to the point that they had to be torn down as in the case of Pruitt Igo.

Fig. 05, FAR RIGHT: Long sterile corridor (p.73, Marcus); TOP RIGHT: picture taken of ceiling in OHA housing (p. 20, Public Housing); BOTTOM RIGHT: Wall in OHA housing (p. 99, Public Housing).
LOCATION

THE site chosen for the project portion of this thesis is known as East Garfield Park. It is located within the western neighborhoods of downtown Chicago, Illinois. The specific project site is north of Monroe Street between St. Louis Avenue and Homan Boulevard, one block east of Providence St. Mel School, and one block east and south of Garfield Park (fig. 00). It is an area that out of 24,000 residents 99% are African American. The average yearly income of the is $13,000, 25% of the population is unemployed, and two thirds of the population are families with a single parent (Jeff Kingsbury, interview, 27 November 1996).

HISTORY

THE area did not start out with such dim statistics nor will it continue on this path. East Garfield Park was first inhabited by the Irish immigrant working class. It was known for its grand boulevards and lush garden conservatories (fig. 01). There use to be a Catholic church on every corner with a parochial school attached (Providence--St. Mel is a remnant of this past). During the 1960’s the make up of the neighborhood began to change. A large part of the population became African American. The area took a turn for the

Fig. 01, ABOVE & LEFT: Post cards from Garfield Park's past. (Antique Post Cards)
worse when the riots occurred after Dr. Martin Luther King was assassination. One hundred and sixty buildings were destroyed during these riots. The population went from more than 66,000 residents occupying 20,350 housing units to 24,000 residents living in 8,500 housing units during this decade.

FINDING THE SITE
ARLENE Serrano and I chose to search for a common site location. We felt that our goals for our projects and the requirements for our sites were similar. We chose Chicago, Illinois for our general location. Over Thanksgiving Break we met with Jeff Kingsbury, as per Scott Treux, of the Shaw Company in Chicago to discuss possible site locations. Mr. Kingsbury gave us several possibilities. The one that most impressed us was East Garfield Park and the story of Paul Adams the president of Providence--St. Mel School.

THIS site was chosen seeing the potential that Paul Adams, President of Providence St. Mel, has to change the existing situation. In the recent past he has set up a committee to raise funds and sponsor a new elementary school in the area, as well as, new housing. After several years of fighting to keep the school open and then fighting to keep the drugs and gangs out he has been able to devote time to

not sure? By creating community? Will this just push the gangs into another area?

29 November 1996
Is Garfield park the kind of community I am looking for?

In a way yes and in a way no. It may be more for Arlene's community center. Is the community right for my transitional housing? Is there a community, or is it just the school?

Did I want so much fear to begin with? Do I want to take on the task of changing that fear? Where can it be then?

The idea was to have a community that already functions. A place where people can walk on the streets day or night without the fear of being shot in cross fire from gangs. This leads to the question, "Why are the gangs there?"

SITE VISIT 3:
Location: East Garfield Park

05 January 1997

IDEA:
Prototype housing:
What if there were two designs?
a. Chicago--big city problems
b. Muncie--mid-sized town problems
Who are the users of each, African-Americans, Mexican immigrants, Caucasian, a mixture of cultures?
What are the problems of each, gangs, drugs, jobs, education?
establish a plan of how to change the existing conditions of the neighborhood around Providence--St. Mel. The first phase of housing in his plan has already been completed. This exists south of my project site on Monroe St. (fig. 02, previous page).

USERS
TO understand the potential users of this project more I began reading literature on existing conditions in Chicago public housing, as well as, some African-American literature. Being an outsider, someone who has never lived in this type of city environment proved to be very difficult to design for. I did not understand the cultural relationships in this society. I did not understand the reasons for the gangs or for the high rate of single parent families. I had heard about all of the problems in this area of Chicago but had never gone beyond the surface and asked why are these things happening, or what can I do as a white female to help solve some of the problems through design? I have learned a lot about the African-American culture since I started this project, but still have only scratched the surface of a complex set of relationships. I decide after our second site visit that the only way to know what the culture is really like I would have to live there and experience it first hand. Since this was not feasible for

SITE VISIT 4:
Location: East Garfield Park
(specifically Providence--St. Mel School)
10 March 1997

Today was our third visit to Garfield Park. We met with Patrick Ford in Providence--St. Mel (he works in the computer lab there). Arlene contacted him about five weeks ago through e-mail. It was just Arlene and I today (Ashi had to work). I drove us there. We arrived at the school at 10:30am and stayed until 3:15pm.

We explored the whole school. We saw every part of it except for the basement. We went on the roof of the tower (fig. 00), through the convent, into President Adams old apartment. We talked to teachers and met kids, lots of kids. It puts a face on the potential users of my housing.

Well, son, I'll tell you:
Life for me ain't been no crystal stair.
It's had tacks in it,
And splinters,
And boards torn up,
And places with no carpet on the floor--
Bare
But all the time
I'm been a-climbin' on,
And reachin' landin's,
And turnin' corners,
And sometimes goin' in the dark
Where there ain't been no light.
So boy, don't you turn back.
Don't you set down on the steps

'Cause you finds it's kinder hard.
Don't you gall now--
For I'm still goin', honey,
I'm still climbin',
And life for me ain't been no crystal stair.

(p. 27, Black Mothers to Sons, Langston Hughes, 1972)
this project I had to rely on books and our visit to the school. From readings I developed four user scenarios for the housing units (some being more complete than others).

**Scenarios**

**Apartment 206 A:** (AFRICAN-AMERICAN WOMAN WITH TWO SONS AND A DAUGHTER) The mother is young in her mid-twenties. The sons are in high school and junior high. The daughter is in elementary. Moved to the housing from the south side projects.

MAYA was sixteen when she had her first child. She was rarely attending school when she discovered that she was pregnant. Mostly she was spending her time hanging out with a group known as the Disciples. The father of the child was the unofficial leader of the group. The group was a kind of "minor league" gang. It was formed of high school students who wanted to be in a gang but were too young to be accepted into one yet. They mimicked everything that the "real" gangs did, only they were more of a threat since they were naive and ignorant of what the "real" gang's business.

Her boyfriend promised he would take care of her and the child when it was born. He said he would get a job and an apartment for the three of them. What he did not tell her was that he had been recruited by the major gang in the area to sell drugs for them. Soon after the baby was born he was arrested for attempted murder when a rival gang tried to move in on his drug territory.

Maya was evicted from her apartment soon after for not paying her rent. She was desperate. She had a new born, no education, no hope of a legitimate income.

![Fig. 04a, LEFT: Photos of project site. Looking north from Monroe Street (personal site pictures).](image-url)
job, and no one to turn to. Her mother had
abandoned her and her sisters long before Maya was
able to get pregnant. There was her grandmother,
who had raised Maya and her three sisters when
their mother had left, but she was already busy
with her sisters. There was no room for Maya and
her baby. Besides she could not go back to her
grandmother now. She saw the way her grandmother
had looked at her when she told her she was
pregnant and moving in with her boyfriend. There
was disapproval and pain in her grandmother’s eyes.
Her grandmother had tried so hard to raise Maya and
her sisters in the best way. She encouraged them
to study and go to school, but she could not keep
them safe from the activities of the neighborhood.

Maya tried staying in shelters but the other
visitors were not anxious to have a screaming baby
wake them up in the middle of the night...

Apartment 210 C: (YOUNG AFRICAN-AMERICAN M A L E ) is a
teacher at Providence—St. Mel. He has come back after college
to teach at his alma mater. He is paying off his loans from
his education and need a place where he can get on his feet.)

ERIC felt weird back in this building again. Even
after six years away he still felt like a student
not the teacher that he now was.

He had first come to Providence—St. Mel when he
was eleven and was entering the sixth grade there.
He did not like it at all. His parents had moved
to West Garfield Park form the Cabrini area hoping
to escape some of the problems that existed on the
northwest side. They were in search of a better
place to raise Eric and his younger sister Shelly.
The school that Eric was now forced to attend had
more rules than the one he had previously attended.

Fig. 04b, LEFT: Photos of
project site. Looking
north from Monroe Street
(personal site pictures).
You could be "kicked-out" for a lesser offence at Providence. The suspensions were different at Providence as well. You were not merely sent home at this school. If you were suspended you had to serve your sentence in school on Saturday. Eric found this out the hard way when he and two of his new friends were caught skipping class and smoking in the rest room. They had to come in for three Saturdays in a row and do what Principle Adams told them to. Principle Adams, who now the school’s President, was a very stern man. Someone not to be messed with.

But that was a long time ago and a different Eric. Today Eric was starting his first day on the other side. He was now the teacher and still just as terrified...

"Paul’s vision calls for a simultaneous development of the six blocks around the school (Providence-St. Mei)..." (p.15, Hendryx).

"Only 40% of the property in a six block area immediately around the school is inhabited. The remaining 60% is made up of vacant lots and abandoned buildings."
(p.15, Hendryx).

"...for a viable housing process exist, local and personal control is essential." (p. xx1, Turner)

"Clustered housing...any arrangement whereby dwellings are clustered on a site." (p.12, Cooper)

SITE ORGANIZATION

AFTER Arlene and I decided on East Garfield Park for our site I chose a location for the housing (fig. 04a, 04b, 05, & 06). The area that project sits on is North of Monroe St. and extends north to the east/west alley between Monroe St. and Madison St. It is in the middle

Fig. 05. TOP: Map of East Garfield Park (map from the Shaw Company)
of the block between St. Louis St. and Homan Ave. (fig. 00). The site consists of two rows of housing units running west to east. One is along Monroe St. and the other is along the alley behind Monroe. Both rows respect the existing setbacks of the surrounding area. The two rows of units create a green space between them. This space is broken up into smaller spaces of public and private zones (fig. 06). The row of units on Monroe St. set are separated by an existing town home (fig. 04a). The existing town home, in this project, is to contain the resource center for the residents to use. Arlene’s project sits to the west of the housing.
COMPLEX
The complex consists of three parts: a resource center, a green space, and housing. The purpose of the complex is to create dwelling environments of transition for people in need. The housing units will be temporary dwelling for families between life stages. A family will come to this complex to learn and change and move on to a home that they will own and maintain themselves (fig. 01). The families responsibility for living in the complex is to learn how to move out on their own and maintain their own home. Elderly citizens also participate in this life stage transition as the families do. Their is a different life transition then that of the family. The elderly residents will move into the housing when they need community support in some of their activities but are still able to give back to the community in other ways.

This complex exists in a community that is changing. The site is East Garfield Park. Under the direction of President Adams, from Providence-St. Mel School, the area is being transformed into a safer place to live. There are plans for a new school and new housing. This is an excellent place for the residents in the complex to go when they are prepared to

"Today our sense of social rank and of 'making it' in the economic system has become so closely identified with the dwellings in which we reside, the 'American Dream' traditionally connoting social mobility, has become synonymous with home ownership and the single-family dwelling." (p. 214, Chambers)
move from their transitional home into the community.

**RESOURCE CENTER**

THE resource center provides “tools” to the residents that they would otherwise be unable to afford. There is a reading area consisting of periodicals and “how-to” books. There is access to computers, programs, and the internet. A variety of carpentry tools, gardening tools, and cleaning tools are available to the residents in a lending center. This resource center also provides a space for the residents to meet and discuss ideas and activities for the complex. An office and apartment for a social worker/care taker is also contained within the center.

The resource center is organized within the only existing building on the site (fig. 03). This building is different from the housing on the rest of the site. This distinguishes the center so others in the community can easily identify it to use it. The building stands in the middle of the site and gives more interest to the row of housing on either side of it (fig. 04).

**GREEN SPACE**

THERE are two portions to the green space. These portions consist of individual space and...
common space. Individual space is provided for each unit in the form of private balconies and an individual garden plot. These individual spaces allow the families in each unit the ability to control and be responsible for a piece of land as their own. The group spaces provide public space for residents to interact with one another. There is an area with playground equipment for children to play. This play area is between the two rows of housing safe from cars and easily watched over from the units. There are other public areas with benches and paths for residents to use.

Each unit has access to the green space from their balcony. The balconies become transition spaces from private to semiprivate to public. They can be used as a place for a family to have a quiet meal or as a place of interaction with other families.

**HOUSING**

The housing has a total of twenty-two units. There are seven three bedroom units, six two bedroom units, five one bedroom units, and four flexible two to four bedroom units. The variety in unit types are provided to fit the variety of family types that will be occupying the housing.

The housing types express potential for
individuality on the exterior and the units allow for flexibility on the interior. There are three building types made up of slightly different unit plans. The first type is a duplex consisting of two two level units side by side. The second type contains two two level units on top of two one level units. The third type is a two level unit above a parking space. (Fig. 06, also see the end of this section for plans and elevations).

DESIGN

THE housing is broken up into separate smaller buildings consisting of no more than three levels. This was done for two reasons one, to allow the complex to fit into the fabric of the existing neighborhood and two, to create more personal/individual spaces for the residents. By breaking up the units the residents can identify them more as a home. They become smaller and more personal. The entry to each building belongs to less units allowing neighbor to be able to identify neighbor.

The different building types range from two and a half levels to three levels tall. Keeping the housing low creates a connection to the street and green space for each unit. This connection to the street is something that American public housing disingnated. The connection to the street allows the residents to

"The French philosopher Gaston Bachelard has suggested that just as the house and the non-house are basic divisions of Geographic space, so the self and the non-self represent the basic divisions of psychic space. The house both encloses space (the house interior) and excludes space (everything outside it). The house thus has two very important and different components: its interior and its facade. The house, therefore, reflects how man sees himself, with both an intimate interior, or self as viewed from within and revealed only to those intimates who are invited inside, and a public exterior or the self that we choose to display to others." (p. 31, Talor)
be aware of their surroundings and what is happening on the street.

Keeping the structures low also provides easier access to the units for the residents. The one bedroom units can be entered at ground level making them comply with the American Disabilities Act (ADA). All of the fixtures on the interior of the one bedroom units also comply with ADA. These units were designed for elderly to occupy (see images).

All of the units with more than one bedroom are two levels tall. The two levels give a vertical division of space from the more public areas of the lower level to more private areas of the upper level. Since there are two levels if a person needs silence for an activity he or she can separate themselves from the area of noise. The unit is also split horizontally as well as vertically. A core containing circulation and water runs the length of one side of the house. The other side contains the major living spaces such as living, dinning, and sleeping.

The living and dining spaces are open and run the length of the unit on the first level. This openness provides views to the street and into the green space. The upstairs bath room is organized so that it can be separated for
more than one persons use. A door divides the sink area from the shower and water closet.

Four of the units have the capacity for four separate sleeping spaces. This allows for one permanent bedroom and one flexi-bedroom (Fig. 07, also see images). The flexi-bedroom contains casework that can supply sleeping space for up to three people. If less than three spaces are needed the bed can be lifted up, like a Murffey bed, and the whole casework can be slid up against the wall.

ENVIRONMENT
THE economics of heating and cooling a home are important in low-rent housing. If the resident is unable to afford average rent fees than they are not going to be able to afford high heating and cooling bills.

The units are cooled through natural ventilation in the summer. The interior is open which allows air to circulate better. Above the first floor stair landing, in the center of the house is a vent to the top of the roof called a stack (Fig. 08). This stack allows air to be pulled in from the windows on the sides of the building and sucked up through the stack. The negative pressure of the wind passing over the stack causes this to occure. For this action to work all that is needed is

"The research demonstrated that it is not only possible, but practical, to improve substantially the environmental qualities of a home without significantly increased construction costs."
(p. 90, Progressive Architecture, July 1934)
wind, form any direction, passing over the stack.

The placement of windows is very important in natural ventilation. The windows in the units are organized so that two operable windows are place at the floor and ceiling with a fix window, for view, in the center. This placement allows an inlet and an outlet for air to circulate, further maximizing ventilation.

On the exterior shading devices can be opened to shade the interior and cool the incoming air (Fig. 09, also see images). These shades can be pulled up during the winter for maximum southern exposure.

During the winter the housing is heated through radiant heat. With radiant heat all that is needed is a water heater that can be used for both heat and for plumbing. The hot water is pumped through pipes that are cast into the precast concrete floor slabs. Radiant heat is also received from the absorption of heat from the sun on the south wall.

MATERIALS AND CONSTRUCTION
THE housing is made out of precast concrete panels. These panels contain ridged insulation in between two layers of concrete and can have an R-value of up to 22 with the addition of

![Fig. 09, LEFT & RIGHT: Sketches of Shading Device (personal sketches).](image-url)
batt insulation (Fig. 10, also see images). By building up the R-value in the walls the cost for heating the units during the winter goes down.

There are two types of finishes on the wall panels one is cast with brick on the exterior and the other is plan concrete with lines cast into it which correspond to level changes of the surrounding structures in the neighborhood. The brick wall panels are placed on the exterior as a way of depicting the interior circulation and water core.

The floors are also precast concrete panels with pipes for radiant heat, as mentioned above. The roof structure, on the interior, is made of exposed steel trusses. This allows light further into the second level of the units, especially the flexi-bedroom. The exterior of the roof is covered with aluminum seam roofing.

ALL OF THE PARTS TOGETHER
All of the components described in the previous sections help to create a new kind of public housing complex in the United States. One that incorporates European ideas on housing, but reinterprets those ideas into American culture and design.

Fig. 10, ABOVE & LEFT: Wall Sections and Construction techniques (personal sketches).
UNIT A1 & B
Building
Type I
ELEVATION
UNIT A2

Building
Type II

THIRD LEVEL

Green Space

01. bedroom A
02. bedroom B
03. bath
04. laundry/storage

Street
UNIT D
Building
Type III
ELEVATION
UNIT D
Building
Type III
SECOND LEVEL

01. living
02. dining
03. kitchen
04. utility
05. entry
06. patio

Green Space

Alley
UNIT
Wall Sections
CONSTRUCTION

1. Concrete
2. Rigid Insulation
3. Batt Insulation
4. Gypsum Board
5. Taping Strips
6. Brick-Facing

Outlet
Ventilation path
Stairway device
UNIT B
Building
Type IV
FLEXIBLE BEDROOM

plan

elevation

axonometric
UNIT A1

Building

Type I

AXONOMETRIC
UNIT A

Floor plans & Elevation

UNIT A: Floor Plans

BUILDING TYPE I: Elevation Studies
UNIT A
Floor plans & Elevation

UNIT B & D: Floor Plans

BUILDING TYPE II: Elevation
UNIT A
Floor plans & Elevation

UNIT D: Floor Plans

BUILDING TYPE III: Elevation
ENTRY
Study
One

[Diagram of a building entry with labels such as "Path to Door" and "Main Entrance"]