AGE
INTEGRATION
IN
ELDERLY
HOUSING
AN ARCHITECTURAL THESIS

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THE PROBLEM
PROBLEM STATEMENT: This thesis deals with the stratification of our society—specifically, the gap between people of different generations in our highly mobile society. The changes that have modified our culture have also changed the nature of our health-care system. An examination of the changes in elderly health-care and the Muncie city fabric has revealed a connection between the way we care for our dependent elderly and the decentralization of our cities. This rapid decentralization has helped create a shift in our thinking about elderly care. A situation that was once handled in the home is now handled by a health-care industry that is not always sensitive to the environmental needs of the users.

In many retirement homes today the resident is forced to live in an environment that produces a decline in individual expression and participation in social activity. The psychological problems of being uprooted from one's traditional family sized home are not always solved by the existing private and public facilities. Some of the elements that make up this problem are:

1. A reduction in entertainment space within the units.
2. A reduction in the number of personal belongings and personal display space.
3. A high number (over 300) of non-related persons using the same facilities.
4. A reduction in privacy.

Since many persons 65 and older may remain functionally independent for a significant length of time, it follows that a "retirement" facility should provide for changes in one's physical ability such as a declining motor range and changes in diet and sensory incapacities. These changes imply the adaptation of physical and psychological barrier free design. It is my intention to explore the affect these types of constraints can have on the development of the "residential cell" and the community as a whole.

Other areas of interest deal with the affect of a new residential development on the downtown area. The role of the residential neighborhood as a defining element for the C.B.D. will be explored. This could have city-wide affects in terms of the focus of future commercial and residential development and the people's perception of the heart of their city.

The problems associated with age integration are nowhere near being solved. Different studies in the field of gerontology support both the ideas of age-segregation and age-integration. The response of an outside constituency network is necessary for the successful testing of this thesis.
RESEARCH MODEL

PROBLEM DEFINITION

THESIS STATEMENT

PROBLEM RESEARCH

POSSIBLE SOLUTIONS

TESTING

SOLUTION

CONSTITUENCY NETWORK
TOWN UNITY:
- Context is a combination of retail and residential.
- Scale of the community is small enough to allow neighbor recognition.

GROWTH:
- Retail area begins to separate from residential area, outside of the central retail area.
- Residential areas still depend on retail area for everyday supplies.
- Population has increased, resulting in a reduction of the "recognition scale".

DECENTRALIZATION:
- Residential areas now developing supply areas of their own.
- Retail area begins to solidify into retail anchors as bigger stores drive smaller stores out of business.
- "9-5" businesses begin to dominate C.B.D.
- Social activity declining.

ISOLATED PARTS:
- Residential areas now independent from C.B.D. and each other.
- Retail anchors migrate to accommodate new residential areas.
- C.B.D. losing definition and is becoming "9-5" environment.

ANALYSIS AND REDEFINITION:
- The site selection for this thesis was based on information from the Muncie Urban Design Studio.
- Selection was based on "redefinition zones" which ring the existing C.B.D.
- By redirecting residential development to the central city area, new retail areas can be established.
- Recognition scale is maintained by subdividing the new residential areas into distinct parts—no part being larger than 150 persons.*

*Figure based on Oscar Newman's "Design Guidelines for Creating Defensible Space".
GOALS:
- To investigate the principles of a residential "substructure" or "residential cell" and its interaction with the Muncie context.
- To demonstrate through design how the principles of an integrated community can be organized into the urban environment of Muncie.
- To depict this environment in its context.
- To create a cohesive communal habitat structure that will give the residents the opportunity to participate in social activities as much or as little as desired.
- To demonstrate how an integrated community can affect urban renewal in Muncie.
- To demonstrate how barrier free design can interact with elderly, family and student housing.

DEFINITION, COMMUNITY:
1) A body of individuals organized into a unit with awareness of some unifying trait.
2) An interacting population of different kinds of individuals constituting a society or association or simply an aggregation of mutually related individuals in a given location.
3) Ernest Barker: Social activity marked by a feeling of unity, but also individual participation completely willing and not forced or coerced and without loss of individuality.

*Webster's Third New International Dictionary of the English Language Unabridged.
THE DESIGN
DESIGN PARAMETERS:
THE CITY.

An enriching and supportive environment— one that is associated with home—is what I'm trying to develop for this thesis.

Direct access to the central services of the downtown area is needed for reasons outlined in the problem statement. By placing the community in close proximity to central services, the residents are given the opportunity to choose their level of participation in public activity. Community participation reinforces the image of the city as well as the participants sense of worth. In Muncie the city development has led to a segregation of residential, retail and office areas from one another. Community wide participation is not as great as it would be if there were a greater integration of these elements. As it is now the issues that affect one area do not affect the others. If the city were more integrated the same issue would affect a greater proportion of the population, resulting in greater participation, pride and less apathy.

THE SITE:
The site I've chosen presents some interesting opportunities. Being situated between the Wheeling and Washington bridges means that it is in the center of circulation between the downtown and the university. On the northwest side is the curving form of the White River. Direct access to the river provides an opportunity for a quiet, restive environment. This is something that is considered ideal for a residential environment. On the east and south sides there is the edge of the downtown area. Here the regimenting form of the city grid is the dominating element. The image is one of an urban/residential area, with all its problems and benefits. Much of the "containment" of the downtown area has been removed. This is discussed in the history portion of the paper. The resulting change in the perception of the C.D.B. has prompted me to consider the affect a residential development of this type would have on future C.D.B. growth.

To me, this site implies a transition zone or urban buffer between the undefined downtown edge, the river and the communities directly adjacent to the site. One responsibility of architectural planning is to respond to the site context, as well as user function. The idea of "image" is generated from the study of these two elements. Because of this site's characteristics, I tried to respect the existing grid and the surrounding building vocabulary— while at the same time addressing the need for public access to the river. It is intended not only for the residents but for the others as well.

Through the use of the cellular type of development it is possible to combine public services not available in the central business district with the residential community. This can also encourage the participation of residents in community programs such as: A continuing education night class program.

: A day care center.
: An animal shelter.
These services will be combined to form the community heart, and serve as a link to the river area. Since the community heart is a response to a need for a congregation area, then it follows that the building "vocabulary" should be drawn from the site's context. The character of the existing residential neighborhood is summarized in the appendix. The theory of this community thus comes together from several different levels:

1) The city and the re-integration of its scattered parts.
2) The site and its contextual demands.
3) The needs of the communities residents.

THE GROUP:

The development of the "residential cellular structure" came about from my investigation of the makeup of a secure and private space. Newman, in his book, "Design Guidelines for Creating Defensible Space", researched the factors of unsuccessful public housing projects (ex. Pruitt-Igoe) and found that elements such as unassigned space and neighborhood population were influential in the perception of individual territory. By looking at the aging process and the problems of nursing and retirement homes it became clear that economic factors had led to a deprivation of privacy and personal dignity. The combining of these two areas with an examination of the city make-up led me to the use of the residential cell idea.

In essence the city itself can be thought of as a cellular structure.

\[
\begin{array}{cccc}
& \text{space grouping} & \text{res. grouping} & \text{block group} \\
\text{forming house} & \text{forming block} & \text{forming area} & \text{area forming} \\
& \text{district}
\end{array}
\]

In many of the newer nursing facilities and residential areas this type of cellular development has been ignored in favor of taller housing blocks. The undesirable results are discussed in Newman's book (and others). By using the cellular approach the needs of the individual will be taken into account from the initial steps of design. It is, (in this case) a response to the city scale and vocabulary.

THE HOME:

This is perhaps the most difficult stage of the design process. To me—the proper design of a home requires an understanding of the individuals tastes and interests, as well as functional aspects. In a large scale development like this it becomes impossible to do this for everyone. The designer must therefore learn to recognize common needs and interests of the group. By its nature this approach will create mistakes. Individuals will never have all the same characteristics. The goal then becomes to provide the greatest degree of needs to the largest number of people. Common traits such as the need for privacy, security and human expression become primary organizing elements. At the same time the needs of some people cannot be ignored, (ex. handicapped).
Newman also points out the need to recognize the scale of human recognition. With this as a starting point a hierarchy of needs in the development of the cell began to emerge. The result is a community that features a compromise of variety and commonness.

Order of Needs:
1) security, (recognition, assignment of space)
2) privacy
3) social network, (extended family)
4) community
5) district
6) city...ect.

The use of this type of design outline is not intended as a proposal for universal residential design—just this project.

**CONTEXT ANALYSIS**

**EXISTING CIRCULATION**

**FOCAL POINTS**

**NATURAL ELEMENTS**

**EXISTING MAN-MADE**

**PRIVATE ZONES**

**PUBLIC ZONES**

**BUILDING SURROUND**

**NEW FOCAL POINTS**
DESIGN PRINCIPLES

The following is a listing of general principles that were followed in the design of this project. These principals are arranged into two categories—physical and social.

PHYSICAL PRINCIPLES
1) Hardware (handles, ramps, easy grip surfaces, reduced stoop and reach heights...)
2) Emergency medical access
3) Extra display and storage areas. (within and without the unit)
4) Intercom communication between the units.

SOCIAL PRINCIPLES
1) Shared spaces with neighbor.
2) Residential image as opposed to institutional image.
3) Observation areas within the unit.
4) The opportunity for privacy.
5) Quiet sitting places—away from the home—that allow the user to observe outside activity.
6) An exterior extension of the home—allowing the outside to come in.
7) Covered parking option.
8) Architectural vocabulary derived from the surrounding context.
9) Buffer zones to separate public to private.
10) Easy identification of vertical and horizontal circulation pathways.
11) Separate symbolic entry as an identity element.
12) Civic connection to the river and public areas of the facility.
13) Separate facade to the city and to the residential cell.
Connection to the city through visual axis
- Heirarchy of circulation within the project
- Residential cellular structure.
Ground Plane Concept

- Ground plane showing level changes and entrances.

Enclosure Concept

- Building surround plane.
SKETCH OF PRINCIPLE

- Lounge spaces away from home that allow the user to observe outside activity.

SKETCH OF SHARED SPACE PRINCIPLE

- Circulation gathering spaces.
SKETCH OF BRIDGE CONNECTION TO PARK.
UNIT PLANS ARE KEYED TO SITE PLAN

3 BEDROOM FAMILY  DOUBLE SIZED SINGLE  

UPPER LEVEL FAMILY  DOUBLE UNIT  LEVEL TWO
FORMAL PEDESTRIAN AXIS - LOOKING FROM CITY TO COMMUNITY CENTER
PROGRAM.

The following is a listing of spaces and characteristics for the development. This framework will be used as a basis for the program.

COMMUNITY NEEDS AND CHARACTERISTICS:
- Front door to site (landmark);
- Continuation of neighborhood building vocabulary.
- Pathways to communal areas.
- On site public transportation stops.

ON SITE:
- Visual access to children's areas.
- Defined play area.
- Landmark for focal point of community area.
- Easy "reading" of communal area.
- Visual separation of cars from units.
- Drop off area
  a. Natural retreats or "quiet zones" within residences and community zones.

NEIGHBORHOOD:
1) Indoor shared spaces: Indoor spaces like doorways and stairwells are useful for the development of interdependence between the residents. Older people in particular tend to watch out for each other. By placing shared spaces adjacent to living zones, the chance contact will create neighboring activities.

Shared spaces also are useful for display areas. The personalization of the entryway will create a sense of identity for the owner. Storage areas should also be placed in or near the entrance for lawn furniture, garden equipment, or communal property such as outdoor grills. The use of screens in shared spaces gives each resident the opportunity to tell other people when they want to be neighborly.

2) Outdoor shared spaces: The use of outdoor sitting areas will give the resident the opportunity to meet a passerby or simply watch the world. The outdoor space can also be used as an extension of the indoor area. Thus creating an extension of private or semi-private space. It is clear that unassigned outdoor space leads to a breakdown of communal security. Placing these outdoor spaces directly adjacent to the building is critical to the beginning of this definition. My intention is to create an easy to identify transition from public to private zones.

3) Clustering: The size of a housing cluster is crucial to the development of recognition between the residents. My sources indicate a population of no more than 150 residents per "cell". Size requirements for the different age groups will create a variety housing of types and geometry. Elderly residents need from 665-690 sq.ft. for those who are independent, and 685-710 sq.ft. for dependent. Adjacency to medical facilities for elderly residents is also a consideration. Family units will need to be from 1200-1500 sq.ft. for the creation of more distinct public and private zones within the units. The creation of a hierarchy of pathways will be useful in the assigning of all outdoor space. Minimum
walking distance from parking areas to the unit is
needed for convenience. The use of a large communal
area within the cell is needed to foster the sense of
unity between the residents and can also be usefull as a
child play area, or a quiet space.

IV) Focus needs and characteristics: Since a series
of cells is to be used in this project, the creation of
a communal focal point will be needed for the
organization of communal activity spaces. A focus is
also usefull as an expression of communal identity. The
first requirement is that it be easy to identify from
off the site. An administrative area should form the
most recognizable space to help orient the newcomer.
The idea that the focus is the hub of the activity of
life is central to the organization of social spaces.
Places for private parties, rental space for large
gatherings and community commercial areas should be
provided. Separate "hangouts" for men and women should
be provided. This is especially true for older men, who
are fewer in number and thus tend to band together more.
A barber shop is an example of this. Daily activity
areas such as laundry and mail areas will contribute to
the circulation of people through the community hub.

Large scale community activities such as the fourth
of july celebrations and city festivals will also be
taken into consideration in the design of this space. A
pedestrian bridge between the site and the public park
across the river will not only create a circulation path
for the development, but can serve as a city-wide
landmark as well. City activities such as the Kiwanis
or Rotary club could add to the activity of the focus.
Other commercial activities such as a day care center, a
continuing education area, a restaurant for residents
and public alike, a health club and a social-services
area will be included in the focus.

THE UNIT: Other factors to be included in the design of
the unit include:
-No circulation through the living area so that space
for furniture is not taken by doorways
-Wall space for display in all rooms. This allows for
easy personalization of living areas.
-Providing corners for storage of extra furniture or
large objects.
-Allow T.V. or entertainment space
-Allow bedrooms to be large enough to facilitate re-
arrangement of furniture.
-Place a small table in kitchen area for
conversation, food preparation, informal eating...
-Provide a view out from the kitchen sink and dining
areas.
-No direct through traffic in the kitchen or dining areas.
-Place baths adjacent to bedrooms.
-Provide a trash and mud access to the kitchen.
-Lower stoop and reach angles in the elderly units.
-Storage space for dangerous articles.
SITE DATA:
- 4.5 acres @ 43600 sq.ft./acre = 196200 sq.ft.
Density Ratio: Development will have three cells at 56-72 units per cell.
  : Site size is 4.5 acres.
  : Each cell is approx. 1.5 acres.
  : 18.6 units per half acre or 37 units/acre.

Type Comparison:
The recommendation from Green's book regarding urban and suburban housing is:
- 100 units - 4 stories
  site size - 4 acres
  density - 25 units/acre
  open space - 74% open
  parking - 15% open
- 200 units - 6 stories
  site size - 4 acres
  density - 50 units/acre
  open space - 55% open
  parking - 30% open

Because of site constraints and multi-function spaces, this development consists of the following:
- 156 units - 3 stories (site context)
  site size - 4.5 acres of buildable area.
  density - 37 units/acre
  open space - 60% open
  parking - resident park located under structure-commercial park located on site perimeter.

UNIT SIZE:
56 units/cell.

Resident room types:
1) Single for elderly - 6 are needed at 700 sq.ft. each.
2) Double for elderly - 6 are needed at 1050 sq.ft. each.
3) Double size intended for single elderly - 5 are needed at 900 sq.ft. each.
4) Single units for grad. students - 5 are needed at 600 sq.ft. each.
5) Double units for grad. students - 6 are needed at 800 sq.ft. each.
6) 4 bedroom units for family - 28 are needed at 1100-1200 sq.ft. each.
7) All H.V.A.C. equipment designed for single unit control.

Square footage totals:
<table>
<thead>
<tr>
<th>TYPE</th>
<th>SQ.FT.</th>
<th># OF UNITS</th>
<th>TOTAL SQ.FT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>700</td>
<td>6</td>
<td>4200</td>
</tr>
<tr>
<td>2.</td>
<td>1050</td>
<td>6</td>
<td>6300</td>
</tr>
<tr>
<td>3.</td>
<td>900</td>
<td>5</td>
<td>4500</td>
</tr>
<tr>
<td>4.</td>
<td>600</td>
<td>5</td>
<td>3000</td>
</tr>
<tr>
<td>5.</td>
<td>800</td>
<td>6</td>
<td>4800</td>
</tr>
<tr>
<td>6.</td>
<td>1100</td>
<td>28</td>
<td>30,800</td>
</tr>
</tbody>
</table>

TOTALS. 56 units/cell 53,600 * 3 = 160,800 sq.ft. of residential housing.

COMMERCIAL AREAS:

FOCUS-
  - Restaurant: Dining space for 80-100 residents.
    Adjacency to rentable banquet area.
    Kitchen preparation and storage areas.
Visual link to natural setting.

- Health club facility:
  Locker and shower space for men and women.
  Physical therapy space.
  Weight training space.

- Administrative area:
  Lobby and lounge area with reception desk.
  Facility administrative offices.
    - Director, assistant, secretary and maintenance offices.
  Social services offices
    - Director, assistant and secretary.
  Community club meeting space
  Mail and laundry facilities.
  Storage areas for community equipment.

- Retail areas:
  All retail spaces to be located on site perimeter.
  Provide delivery space-screened from residences.
POSITION AGAINST INTEGRATION: IRVING ROSOW "SOCIAL INTEGRATION OF THE AGED"

In his book Rosow looked at the social behavior of older people living in apartment houses in Cleveland as a relation of the degree of concentration of age peers in the buildings. He sampled residents within each building so he could get "a relatively homogeneous samples of the elderly from buildings that housed working class and middle class people" These people were separated into three categories of age mix:

- NORMAL: ...................... 1-15% Elderly
- CONCENTRATED: ............ 33-49% Elderly
- DENSE: ........................ 50+ % Elderly

He found that for both socioeconomic levels the presence of more age peers was associated with greater interaction with neighbors. The presence of younger people did not assure interaction with older people. Some interaction did occur however. He found about 4% of neighbor friends of the elderly to be under the age of 65. In "normal" situations the number rose to 19%. He found that the middle class people were freer to choose their relationships and found distance to be less of a problem.

In terms of factors of social makeup for the elderly he categorized integrational bonds and social position in this manner:

1) Social values (beliefs)
2) Formal and informal group memberships.
3) Social roles.

Seven factors that govern an old persons position:

1) Ownership of property.
2) Control over opportunities of the young.
3) Command of knowledge and skills.
4) Strong religiosity and sacred traditions.
5) Strong kinship and extended family.
6) Low productivity economy.
7) Mutual dependence and reciprocal aid among friends.

"Because of modern social and technological change and the absence of strong a social welfare tradition, such as the Scandinavian, these seven factors which protect the status of old people in less developed societies have been relentlessly undermined in the United States. Thus they will progressively be excluded from the mainstream of social activity and the central functions of society."

Rosow on age integration: "Despite youthful self-images and their public dissociation from other old people, viable friendships do not spontaneously develop between age groups, but are confined almost exclusively within them. Ankes reports that the relations between the generations in a Chicago housing project were "frought with the usual prejudices and lack of mutual interest and understanding". Similarly, Terrell found, in a Detroit housing project of residents of all ages, that old people living alone were socially isolated and had almost no significant contact with young and middle class neighbors. In a middle class Florida retirement community which included many young and middle age residents, friendships and informal associations developed strictly within age groups. Indeed after their health fails, older people may even prefer to associate with their age mates rather than those who are
younger. Thus there is an effective social barrier between the generations which contact does not dispell. Despite their public repudiation of other aged, older peoples personal friends and companions are actually their age peers.

Consequently we predict that the number of their local friends will be directly related to the residential concentration of the aged.

POSITION AGAINST: OSCAR NEWMAN, "DESIGN GUIDELINES FOR CREATING DEFENSIBLE SPACE"

In this book Mr. Newman indicates one of the problems with security in large scale housing projects as being unassigned space.

"Critical to any understanding of the factors affecting the occurrence of crime and vandalism in housing developments, therefore, is a knowledge of the comparative suitability of different housing types to the needs of different residents. The housing environments that most fall prey to criminal activity are inevitably those that are designed without adequate consideration of the lifestyles and capabilities of the future residents.

Defensible space design is an endeavor to find ways to subdivide and assign areas, which would otherwise be nebulous and public, for the shared use of particular use of residents. If a common purpose exists among proximate dwellers in the form of a need for communal activity areas adjacent to their dwelling units, then space can be designated for that purpose and removed from the nebulous category classification. For example, a group of families with young children will need space outside their dwelling units where children can run around and play together. These families may share nothing more than this need, but this fact alone allows designers to define a collective area around the families dwellings and designate it for this purpose. If it is a genuine and continuing need, the residents will identify with the space, adopt it as their own, and work to ensure that it remains safe, secure and useable. This collective play space then becomes an extension of the individual dwellings into the outside world. It also provides a buffer between the world and the dwellings and may become the first of a growing hierarchy of collectively assigned areas in previously public space. If one can create further such buffers through the extension of this principle, then a good portion of previously unuseable public space can be assigned or redesignated for particular residents so as to be under their supervision and control.

In contrast, the greater the disparity of lifestyles and needs among neighbors—that is, the less they have in common—the smaller the grouping that can share a spatial collective. In a building with 50 families, one maveric in the group may be all that is needed to destroy the viability of a collective area and cause all other participants to withdraw from its use.

One is led to deduce that in a postindustrial society such as ours, in which most proximate dwellers are strangers to one another, the best way to ensure that neighbors share similar needs is to group dwellings together for residents of similar life-style characteristics. In practice the opposite happens. Most multifamily buildings are intentionally designed to be occupied by a mix of family types; that is they are normally designed with apartments ranging from efficiency units to four
bedroom apartments. This is considered good real estate sense. Also, to the extent to which this policy is ever considered philosophically, is is justified as a desire to create an over all habitation including young people, and elderly, to give each group a sense of people of all other age groups. It is also said that this form of integration, in contrast to segregation by age group, such as the elderly, from feeling that its members are living in isolation, or that society has ostracized them. The planning ideal behind this sort of thinking is to create, in the modern world, and among total strangers, the same cross-section of age groups living together as existed in societies of extended families. The image is of elderly living among young families, playing with and caring for their grandchildren; of respected elders who are a source of wisdom and recipients of reverence. It is an ideal that unfortunately depends for its existence on a more stable, static society, one in which neighbors are related by birth, live in extended families, and follow life-cycles in which the ritual of interaction is largely predetermined.

In the world in which we live neighbors are not normally related to each other, do not share a common past, culture or ethnic root; thus the mixing of different age groups may prove a highly UNDESIRABLE proposition to each age group. The respect for the elderly by children and young adults is in these circumstances minimal. The relationship may actually become openly hostile if their is racial difference between the very young and the very old.

Putting different age groups or different life-styles together may not produce the utopia predicted. It is certainly not the mechanism for encouraging their interaction or the adoption of communal spaces outside the private dwelling. And it will not result in the development of a buffer of collective, semiprivate realms outside the individual dwelling to replace the amorphous public space increasingly making no-mans lands of our cities."

POSITION FOR: M. POWELL LAWTON, "ENVIRONMENT AND AGING"

In his book Lawton describes an age integration project in America. It was found by Lawton and Yaffe that crime rates in totally age-segregated projects were no different from those in partly segregated projects.

Syracuse University and the Syracuse Housing Authority sponsored a project that combined an elderly housing tower with a tower of graduate housing tower around a central cafeteria and activities center. In this project the two groups were brought together by a staff member who organized activities. After three months the staff person was removed and the results observed. The findings indicated a sharp drop in interaction after the staff was removed. However, in the eight years since then a level of interaction has become apparent. "It is important to emphasize that the interaction, while dependent on physical proximity as a necessary condition, did not occur without the active effort of both the individuals and the organizations involved."
In surveys by Lawton and Cohen an element was discovered that contributes to the validity of the age integration argument. When asked about their "preferences for age mix given the hypothetical situation of moving at some time in the future, about one-third of this sample who had never applied for planned housing indicated that they would prefer to live in an environment consisting of age peers if they were to move.

Lawton concludes that a large proportion of those who move into age segregated housing select themselves in advance as considering this type of environment as attractive to them. Yet if the proportion of community residents in the general elderly population who wish to live with age peers is anywhere near the estimate of 37% provided by our sample, it is clear that the housing needs of the majority will not be met by a national program that provides only age segregated housing as an option.

Lawton concludes his discussion on age integration by supporting suggestions for further research:

"However the research cited thus far addresses the integration issue only as it affects the older person, not as it affects the larger society or the young. There has been little or no attempt to determine the benefits of intergenerational contacts with the elderly. Finally, much of the relevant research was performed in the context of public housing, where "age integration" means not only the presence of multiple generations but also, regrettably, the frequent mixing of vulnerable elderly with problem children, youths, and families. For a variety of reasons, then the issue remains unsettled. We need to experiment with multi-generational living situations in different contexts, where the benefits might emerge more clearly than in public housing."
ELEMENTS LEADING TO THE DECLINE OF CENTRAL MUNCIE:

The purpose of this discussion is to provide a reference framework for the urban history of Muncie. The goal of my interviews and research has been to identify those elements most responsible for the decline of the central area. Further references and verification of my discussion are in the appendix. The information most responsible for this framework comes from the annual report of the Muncie Urban Design Studio from 1981.

In the timeline from this report a gap of 35 years is apparent. In that time much of the downtown district was decentralized. This action resulted from the rapid growth experienced during the early part of this century and the introduction of the automobile. Other factors leading to decentralization are the annexation of outside areas and the removal of the streetcar and interurban services in the late 1920's.

With the removal of this form of cheap public transit the push for decentralization increases. The need for automobile access forces the removal of C.B.D. structures. After the second world war there is a great need for cheap worker housing which leads developers to build residential areas farther and farther from the C.B.D. A result of this was that the nature of the C.B.D. changed from a retail/business/residential mix to an office/specialized service area. Large scale stores began to force smaller businesses out, thus forming "retail anchors".

In the late 50's the north and southwest plaza shopping areas were built to supply residents in the new housing districts. These new retail anchors made more competition for the C.B.D. area. By the 1970's the mall had been built near the edge of town. To make the business successful the developer needed his own retail anchor. Up to this point the downtown area was still able to compete with the new areas. But when the developer bought out the lease on one of the downtown's major stores (J.C.Penney) the incentive to remain a retail area was greatly diminished. People held the common notion that the C.B.D. was inconvenient in terms of parking.

As the figure/ground study shows, the C.B.D. actually had more open space than it ever had. The problem was that office structures had bought up the lots for 9-5 parking. At this time, for various reasons the landmarks distinguishing the downtown area were removed. The net result of these actions has been:

1) A loss of a retail economic base for the downtown.
2) The loss of recognizable containment of the downtown area.
3) The shift from a diversity of activity to a more homogeneous environment.
4) The loss of circulation from residential areas to the C.B.D.

These changes have not gone unnoticed. In the 60's a plan for a beltway to surround the C.B.D. was proposed. In the early 70's Victor Gruen proposed a three part plan that included the closing of several streets to vehicular traffic. This was an attempt to make the C.B.D. (or at least part of it) a mall.
Traffic was to be redirected around the central area and parking provided in two garage structures. Unfortunately the plan was implemented on only half the intended scale. The resultant closing of Walnut Street did nothing but further restrict traffic to remaining stores. Recently, in an effort to help the area, Mayor Carey has re-opened the street to limited traffic. Although initial comments from owners are positive, the result has yet to be measured.

IMPORTANCE OF A DOWNTOWN AREA.

To a city of Muncie's size, the idea of a downtown area is important to the city's image and possible development. Without a defined central area, the city is perceived as a group of dispersed elements rather than a unified whole. A defined center is easy to orient one's self to. If the heart is diverse in its activity and use, it becomes a hub for the surrounding areas as well. The cultural center if often associated with the downtown and becomes a focal point.

Without this focal point the city may be perceived as dull or unattractive. A quick comparison with Bloomington Indiana and Muncie supports this point. Like Muncie, it's a college town, only on a larger scale. But unlike Muncie, Bloomington has't become a collection of isolated parts. The city center has several attractions that the students and residents take advantage of. Landmarks have been maintained and retail centers are intact and competitive without being completely isolated. The city is perceived as an exciting place to visit. With the insertion of a residential community into the downtown border of Muncie, I hope to help a focal point re-establish itself.

USER PROFILE

ELDERLY:

For the elderly group, (over 65) the following assumptions can be made based on research:

- The length of stay would be prolonged.
- They would be approximately 70-80% female and widowed with a few couples.
- They would be mostly protestant with a few catholics.

Cultural and ethnic backgrounds are more difficult to address. Since educational levels have increased over the years it is logical to assume that people who reach old age will be more informed, less docile and thus more demanding.

It is important to my concept of environment that the elderly residents be cared for in every stage of the aging process. The education (or orientation) of the younger people to the aging process is an important option of the thesis. Instead of sheltering them from the physical and mental decline of aging, it is important that they see and understand it.

Other results of the aging process that I have found are:

- Mobility of patients in current nursing facilities varies from complete independence to partially impaired or bedridden.
- 70% of the patients will at one time or another use a wheelchair.
- Physical health will vary from physically well to chronically ill.
Receptive capacity will show wide variation. Cognition level will be from normally thinking to completely disoriented. Disoriented will comprise at least 25% of the elderly population.

It is most important that the elderly environment be as flexible in function and adaptation as possible. This is needed to reduce the possibility of moving the elderly resident once they have become part of the community. It has also been shown that the elderly have a greater need for psychological stimulation as they become less independent. James E. Montgomery, in his book "The Housing Patterns of Older Families" summarizes the different elements of housing for the elderly:

- Independence
- Safety and comfort
- Wholesome self concept
- Sense of place
- Relatedness
- Environmental mastery
- Psycholgical stimulation
- Privacy

These elements are described by Montgomery in detail in the appendix of this book and will contribute to the design parameters of this thesis.

FAMILY:

In this group I assume the following: Most of the 50% will be blue-collar related workers or people who are related to the university. The length of stay is related to employment situations and is assumed to be from three to five years. All three groups will be representative of the general population in terms of religion, education and ethnic background. By promoting these commonalities and making the residents aware of them, it is hoped to create an extended family. Active education of this fact would be needed to initiate this awareness. The architectural representation of the extended family is seen in the cellular organization of the residences.

The education and ethnic background of the residents would be related to that of the Muncie area. Thus helping to establish commonalities. Be using the development for continuing education classes, parts of all three groups would interact for a common purpose. Since the family group makes up the main economic base, the financing would be on a rental basis. Flexibility of the user environment need not be as great as for the elderly group.
IF: a residential cellular structure were introduced as a revitalization element to the urban fabric of the downtown area of Muncie,
THEN: a number of advantages related to both environmental quality and vitality of the respective users and residents can be attained.
MOST important: The residents will be provided the opportunity to develop closer ties with the downtown area and benefit from its central services (theater, civic activity, government...).
NEXT: An influx of a substantial residential population would be a help to local businesses and organizations.
THIRD: By integrating groups of old and young an atmosphere of mutual assistance could be developed. There is much to be taken into account upon the creation of this type of environment. Foremost among my concerns is the development of a "common ground" for the residents. Without this element there would be little interaction between the residents and little definition of territory. The provision of on-site housing for the elderly persons family would create a strong base for interaction. Secondary associations (and perhaps the most useful) would come from the creation of on-site employment. By keeping the size of the community cell down to 100 people, residents would begin to develop a recognition of one another. In Oscar Newman's "Design Guidelines for Creating Defensible Space" Mr. Newman studies the reason for the size restriction. "In a building in which more than 100 families share an entry, it is difficult for residents to distinguish neighbor from intruder, or to attempt to enforce an acceptable code of behavior, or even to feel comfortable about questioning the presence or activities of others." As part of his discussion of building types, Newman draws a conclusion: "The most important lesson is that the middle-density range, at which most urban dwelling is built, 25-70 units to the acre, provides a variety of different housing types." By limiting the number of persons per building cell to 100 and the number of units per acre to between 25 and 70 a sense of recognition will develop. This opportunity for friendship would strengthen the idea of community or place and would also become a parameter for design. It would not, however affect the overall size of the community. By making a series of community "cells" the scope of the project could easily be changed.
FOURTH: For the old people the advantages would be obvious and are listed in the definition of a communal habitat. The biggest advantage would be a home that provides not only medical care, but a place for them to feel needed. Inner community programs would provide the opportunity for them to fulfill some role. EX: The running of an animal shelter, The establishment of a day care facility, the development of any special skill or craft and the chance to pass it on.
FIFTH: For the development of urban Muncie this will represent a synthesis of direction. For the last 20 years the emphasis has been to develop away from the downtown area-out to the McGalliard extension. The strip development along this street and elsewhere has led to a rapid decline of the city's downtown area. Presumably the reason for this shift was to relieve congestion. If development could be re-directed downtown by the
establishment of a residential area—and controlled if the idea gains momentum then a "happy medium" could be struck between a congested downtown area and a vacant downtown area. The selection of site will be based on recommendations from the Muncie Urban Design Studio (M.U.D.S.).

DEFINITION: A COMMUNAL HABITAT: This community would be established to bridge the generation gap and create an atmosphere of mutual assistance. The size of each community would be limited to 100 people to ensure the development of recognition between the residents. The old would not have to fit any fixed category as it is my goal to provide an environment that allows as much or as little interaction as that person wants. An administration group would be assigned the task of encouraging mutual assistance. This staff person would coordinate the following social and communal activities.

1) Advisory clinics designed to provide assistance with health and financial decisions. Ex.: blood pressure, tax advice...

2) Continuing education program, organized as a forum for the development of student teachers and community education.

3) Scheduling of banquet and club meeting spaces, exercise periods and day care services.

Advantages for the elderly:

1) A network of recognizable people who are part of a small community or "second family" would contribute to security.

2) The opportunity for friendship outside of one's own generation.

3) Older residents would be given the opportunity to teach others and be taught themselves.

4) Close contact with the city's central services.

5) Close contact with civic activities.

6) Close contact with city government.

7) A community to be identified with, a place to be needed.

Advantages for the young:

1) Day care for their children.

2) Close access to schools for older children.

3) Second family association.

Disadvantages that will need to be addressed and which may stimulate input into the programing and become parameters for design.

1) Noise from city and children.

2) A lack of privacy, space, garden areas, light, views, fresh air.

3) Security, traffic, noise.
CONSTITUENCY INTERVIEW:
BETTY DEVOE- THE WESTMINSTER VILLAGE RETIREMENT COMMUNITY.

The Westminster facility is a total care facility built in 1974 as part of what became part of a statewide chain. Several years ago the chain was split up to allow each unit to administer itself. State regulations strictly stipulate the type and quality of care provided. Because the home is non-profit it has been able to provide more in terms of "extras" (like recreational facilities) The facility has expanded several times and now has a capacity of 227 one bedroom apartments. The average age is between 83 - 85 and is 80% female. One problem the expansion has created is the increased walking distances from the residential area to the dining area.

A profile of the average resident would be one of an upper middle class background. Most are former professionals, all are financially secure and are paying a relatively high amount to live there, (the exact amount was not given). Most residents are or were associated with local clubs and organizations. This association continues through the facility.

Non-denominational church services are provided for residents who do not wish to attend local services. A small chapel area is maintained to accommodate this need. Several businesses have been established in the commercial area of the complex. This shopping area is used by the residents as a meeting place more than as a shopping center. For essentials like food and clothing a shuttle bus is maintained by the facility for runs to the local shopping areas. Meals can be prepared in the individual apartments, or taken in the main dining hall.

A general word to describe this complex could be "convenience". Maybe too much so. Every need is provided for the individual in terms of physical care, but the residents are in many respects isolated from society. Their location in the country outside of Muncie makes it difficult for them to participate. The type of individual expression that one associates with the word "home" is not evident. The design of the building has created this. Ex: The approach to the units is through a long, dim corridor that resembles a tunnel. This results in a problem of identification of individual units. There is no place to "hang out the shingle". These elements seem to defy the term home and cause me to wonder who the convenience was really intended for - the resident or the residents family.
EXAMPLE OF CELLULAR DEVELOPMENT:

- This illustrates the group living possibilities of congregate facilities. A living "cell" that is separate from the whole.
The illustration shows the possibilities of "residential image" as opposed to "institutional image"—note use of "human" scale.
WORKING EXAMPLE OF AGE-INTEGRATION

ABSTRACT

The Gilo sheltered housing project opened its doors two years ago in a mutigenerational housing estate located in a new Jerusalem suburb. This paper presents the findings of two surveys of the project's elderly residents and their non-elderly neighbors, one conducted a year after the project's implementation and a follow-up conducted six months later.

The project poses a critical question: Must special housing for the elderly shelter them from the rest of society, or should it rather be a vehicle for realizing the potential for sharing across generations?

While the major focus of the study was the issue of age integration, the research questions addressed a wide range of topical concerns. Did relocation to the project solve the residents' housing and social problems? Were the elderly residents satisfied with the project's housing and service aspects? Did strong social links emerge between elderly residents despite their heterogenous ethnic and social backgrounds?

Some non-elderly residents had expressed strong reservations about the presence of what they viewed as an 'old folks home' at the opening phases. As the elderly and their younger neighbors have become acquainted, however, more and more positive intergenerational relations have emerged. This found expression not only in casual exchanges of greetings, but also in home visits and mutual assistance on the part of about a third of the elderly and half of the non-elderly.

Contacts between the elderly and children and youth in the

* From - Brockdale institute of gerontology - Jerusalem, Israel
housing estate are of special interest. Though there are complaints of occasional noise and other disturbances, the elderly and children and youth have the highest rates of social involvement through friendly contacts, mutual assistance, and participation in the activities of the project club.

By the end of one and a half years, the majority of the elderly and their younger neighbors expressed favorable overall attitudes toward the project's multigenerational setting.

This study represents one of the first evaluations of a multigenerational sheltered housing project to have yielded clearly positive results. It thus goes against the grain of past research, the thrust of current policies, and prevailing societal attitudes.
The upper main courtyard of the Gilo Sheltered Housing Project. Some elderly project residents assist in maintaining the gardens. *Photo of area A as designated on site plan.*

Elderly live in ground floor apartments; young families live on top three floors. *Photo of area B as designated on site plan.*
Elderly Housing Biological Geocentric Shell Without Core

Example of "Oppressive Uniformity" from designing environments for the aging
RAYMOND HILLIARD HOMES -CHA- BERTRAM GOLDBERG ASSOCIATES

Illustration of non-expressive environment.

Photo: Orlando R. Cabanban
This photo shows the results of high-rise housing: non-human scale, no relation to ground, no personal expression.
Research of Historic Development
FROM MUNCIE URBAN DESIGN STUDY SUMMARY REPORT 1981

Historic Development

Historical analysis is the study of the physical forms and the human patterns that make up the city through time. The study allows us to look into the past, understand the major physical forms and planning policies that altered the destiny of the city and develop the future guidelines on which we build the Muncie of tomorrow.

The dateline shows some of the events that effected Muncie's development and planning.

1825 - Land purchased by Goldsmith, G. Gilbert (present day Muncie)
1827 - Muncie organized as a town (also known as "Muncietown")
1829 - Post Office was developed.
1830 - A frame building was erected as the first Delaware County Courthouse.
1837 - Muncie population: 320 "a leading commercial center"
1838 - Old Delaware County House erected
1852 - Railroad link with the east and west was developed.
1854 - Muncie was incorporated
1865 - Muncie was incorporated as a city. John Brady - first mayor.
1875 - The new free public library was opened.
1880 - Boyce Block "first modern business block" erected
1885 - New Courthouse erected
1886 - First natural gas well was in operation "the start of the gas boom."
1887 - Muncie Board Trade organized "first Muncie promoter"
1888 - Ball brothers came to Muncie and established a glass plant.
1888 - Street railway line was in operation.
1892 - Wyssor Grand Opera House erected.
1899 - Rural free delivery routes were being placed
1901 - McCulloch Park was gifted to the city
1902 - Muncie Public Library erected.
1905 - Wyssor Building erected
1914 - Central High School was erected
1918 - State Normal School was organized
1919 - Muncie Chamber of Commerce developed
1920 - Muncie population 36,524
1929 - Lynds complete "Middletown" study
1944 - Delaware-Muncie Metropolitan Plan Commission formed
1966 - "Muncie Foresight" Founded
1968 - Victor Gruen develops CBD Revitalization Plan
1969 - Existing Courthouse dedicated
1974 - Muncie 'By-Pass' (Rte.67) completed
1975 - Walnut Plaza Opens
1976 - Ball Corporation opens new international headquarters building.
1978 - Emily Kimbrough historic district created
1980 - Urban Design Studio opens
1981 - McCullard extension to I-69 opens.
Figure Ground Study

The Figure/Ground Study illustrates the physical changes Muncie has gone through in the past hundred years. Each map shows the physical forms of the buildings and express the density and formality of the downtown.

1887: Note the court house square, large commercial buildings and the surrounding neighborhoods.

1910: Note the new courthouse and square, in area commercial area and neighborhoods.

1965: Note the loss of housing in the C.B.D. area and the increase of parking areas.

1981: Note the present courthouse and the increase of vacant land used for parking.
The Muncie Town Planning Concepts:

The re-organization of the downtown area of Muncie has been the subject of several studies. Most recently by architect Victor Gruen. These three proposals all deal with the question of downtown definition—where is the heart of the city? They also address the question of public access to the river area.

A quick study of these three plans shows the implementation of a road beltway that brings a boundary to the Walnut St. area. These elements are not addressed in my project on the same scale. Instead I am exploring the idea of a residential "enclosing zone" that would eventually ring the downtown area. This project is presented as a first step in this process.

The site I've chosen would form a connection between the residential areas north and west of the C.B.D. In addition the site would be used as a public access to the river area. This site, then demands a multi-use approach to design. The combination is easy to identify public access with private residential areas.
The three concepts under consideration (identified as A, B, and C) have the following elements in common:

1. The existing structure of Central City in terms of value, productivity, land use and investment has guided all three solutions.

2. The circulation system (both pedestrian and vehicular).

3. The location of off-street parking.

4. The land usage.

Concepts A, B, and C have major differences in regard to:

1. Pedestrian environment.

2. The preservation of existing buildings.

3. The amount of rental area attainable.

CONCEPT A

Retail Anchors - This development approach recognizes Ball Stores and Penneys as major retail anchors at the southern terminus of the shopping complex and provision is made for a new department store
CONCEPT B

The location of retail anchors, off-street parking, truck facilities, streets and general land uses are identical to Concept A.

Pedestrian Mall - The Concept B Walnut Street Mall between Charles and Jackson Streets is identical to Concept A--it is an open, Fresno type mall. However, the mall system at the northerly and southerly ends of the retail district is enclosed, air conditioned and may be constructed on one or two levels. Lincoln Square in Urbana, Illinois is an example of the kind of environment envisioned in Concept B (a one-level solution) and Southdale Shopping Center near Saint Paul, Minnesota, is a good example of a two-level enclosed and air-conditioned mall. Selection of the two extreme ends of the retail complex for this special treatment was not arbitrary. New construction is to take place in these locations in connection with department stores, and this is important in the sense that the air-conditioned mall can best be developed as an integral part of an entirely new building program. Secondly, since department stores merchandise two or more levels, it is easiest to develop two levels of retailing in conjunction with an adjoining department store. Thirdly, if none of the aforementioned conditions were factors, the urban design and environmental qualities of providing a change of pace and character at the ends of the retail district would alone strongly support Concept B.
CONCEPT C

The location of retail anchors, truck facilities, streets and general land uses are identical to Concept A.

Pedestrian Mall - The enclosed, air-conditioned mall described for Concept B is utilized throughout the Concept C pedestrian system. Retailing may be on one level or two levels, or it may be a combination of both.

Demolition - Concept C requires the removal of all obsolete structures, since it is costly and physically difficult to construct the enclosed mall structure (which is a building in itself) in the midst of existing buildings, which through obsolescence, rarely warrant the expenditure of funds necessary to tie the old to the new. Demolition in Concept C, would of course, be phased. In theory, no business would ever be forced to close its doors to the buying public since a new Walnut Street location would be made available to said business prior to the demolition of its block. The demolition concept stated above is purely theoretical--one would have to study construction phasing in depth in order to gain the necessary assurance that this goal can be met.

Off-Street Parking - Concept C's parking program is identical to that
KIBBUTZ RANAT YOHANON: TYPICAL APARTMENT FOR A RESIDENT.
- Kitchen area limited because of central dining area for residents.
- No visitor accommodation in unit.
- Limited storage.
- Single story height allows architectural connection with nature.
- Adequate interior and exterior exhibit space.
- Wood frame construction.
- 950 S.F.
TYPICAL APARTMENT FROM WESTMINSTER VILLAGE RETIREMENT COMMUNITY, MUNCIE, INDIANA.
- Exterior facade gives impression of an institution rather than a home.
- No visitor accommodation.
- No formal dining area.
- Small scale carpentry work can be done on the interior at a restricted level.
- Small apartment is economical to build and maintain.
- Limited storage.
- This facility is generally considered to provide high quality services to the users.
- No private outdoor areas for each unit.
- Adequate exhibit space in each unit.
- 650 S.F.
ROOM DESIGN FROM "DESIGNING ENVIRONMENTS FOR THE AGING"

1) Wide sill for plants.
2) Lounging arm chair.
3) Desk arm chair.
4) Mirror.
5) Night table with controls.
6) Shelf.
7) Bed/day sofa.
8) Chests.
9) Bolsters and personal food storage.
10) Wardrobe storage.
11) Wall cabinet.
12) "Neighborhood" storage.
13) 211 S.F.
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