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Bridging the Gap: a Symbiotic Approach

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Bridging the Gap

A Symbiotic Approach
Bridging the Gap: a Symbiotic Approach

Independent project submitted to Roger Williams University, School of Architecture, Art and Historic Preservation in fulfillment of the requirements of the BArch Degree in Architecture:

__________________________
Nicholas Czarniecki
Class of 2009

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Hasan Uddin Khan
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Stephen White
Dean
School of Architecture, Art and Historic Preservation
Ageing of our society will intensify as a problem in the future. This is because at its core more people are becoming older and there are ever fewer young people as a percentage of our population. Many elderly people will be alone, without any younger family members to care for them. South Beach shares similar populations of young and old, and as a city it appeals to the interests of both the young and old. The architecture and program for this project is meant to promote a symbiosis between the young and old. The symbiosis occurs in the places of interaction which are centrally located on the housing levels. In these spaces young adults and the elderly interact thru the use of a communal dining and lounge area. Intergenerational interaction also occurs on a more public level on the ground floor in the interior courtyard and pool as well as the restaurant/lounge. The necessity to promote a place and space for such a relationship to exist is integral in educating and establishing a society that understands mankind is part of a continual cycle. If the problem of generational identity without recognition to the past continues many societies and cultures face the possibility of extinction.
manifesto
Architecture is a means to connect epochs of the past with current times. At a time when generations are defined by the latest technology and icons in pop culture, the world is missing the concept of societal lineage. Architecture is a means by way a society's lineage can be defined. This lineage is not defined as an aesthetic emulation of the past nor a return to former building techniques, rather; a return to a continuous knowledge of building technology and techniques mainly as a concept of sustainability rather than tectonics.

Today we understand sustainability as a way of building that has low impact on the environment and low energy usage, but this can be further defined. When this idea is applied to society it reflects the need to create a culture in which past ethos and mores are passed from generation to generation. This needs to happen regardless of the technological or pop cultural identity the specific generation has.

This architecture is a means of bridging the gap between generations. Today there is a schism in understanding between young adults and senior citizens. Through architecture this gap can be mended. I believe that architecture can promote filial piety. Through this respect for elders a better understanding of generations can be established. With this new understanding a continuous knowledge of society past and future can be established. In other words, an Architecture where the past is reflected and respected while accommodating the growth of the new.

This is not an Architecture based on respect for elders to promote a hierarchical society. This is an Architecture that is meant to promote a symbiosis between the young and old.

The necessity to promote a place and space for such a relationship to exist is integral in educating and establishing a society that understands mankind is part of a continual cycle. If the problem of generational identity without recognition to the past continues many societies and cultures face the possibility of extinction.
The idea of life as a cycle is something that many younger generations neglect but is an integral part of understanding one’s journey through life. There are different stages of human life that have been defined throughout the ages, and I feel that one needs to understand where they have been, where they are, and where they are going to go. I align with the idea that one’s life can be broken down into 7 stages. These stages are defined in modern terms as: infancy, childhood, lover, soldier, justice, old age, death. This idea of life as a seven-stage process is something that is more eloquently defined by Shakespeare’s “As You Like It”:

“All the world’s a stage,
And all the men and women merely players;
They have their exits and their entrances;
And one man in his time plays many parts,
His acts being seven ages. At first the infant,
Mewling and puking in the nurse’s arms;
And then the whining school-boy, with his satchel
And shining morning face, creeping like snail
Unwillingly to school. And then the lover,
Sighing like furnace, with a woeful ballad
Made to his mistress’ eyebrow. Then a soldier,
Full of strange oaths, and bearded like the pard,
Jealous in honour, sudden and quick in quarrel,
Seeking the bubble reputation
Even in the cannon’s mouth. And then the justice,
In fair round belly with good capon lin’d,
With eyes severe and beard of formal cut,
Full of wise saws and modern instances;
And so he plays his part. The sixth age shifts
Into the lean and slipper’d pantaloon, zzzzzz
With spectacles on nose and pouch on side;
His youthful hose, well sav’d, a world too wide
For his shrunk shank; and his big manly voice,
Turning again toward childish treble, pipes
And whistles in his sound. Last scene of all,
That ends this strange eventful history,
Is second childishness and mere oblivion;
Sans teeth, sans eyes, sans taste, sans everything.”

Jaques (Act II, Scene VII, lines 139-166)
Through the definitions of the stages of life from the past and the definitions we use today I have identified 2 stages in life which can benefit from closer interaction which each other. These two stages are the prime of life and senior as defined by modern terms, or as seen in this monologue the stages described as soldier and old age. The reasons I have chosen these two stages is because the characteristics that define these stages are complimentary to one another. According to Shakespeare these stages are defined as:

Soldier: It is in this age, comparable to modern day young adult, that he thinks less of himself and begins to think more of others. He is very easily aroused and is hot headed. He is always working towards making a reputation for himself and gaining recognition, however short-lived it may be, even at the cost of his own life.

Old age: He begins to lose his charm both physical and mental. He begins to become the brunt of others’ jokes. He loses his firmness and assertiveness, and shrinks in stature and personality.

When using modern terms; prime of life and senior the need for a symbiotic relationship is supported by scientific evidence. According to a recent study done by Osaka City University there are five things that support the feasibility of a symbiotic relationship between young adults and senior citizens:

1) Compared to young adults, senior citizens have a higher “self-respect” and “confidence” and they estimate themselves positively

2) Young adults and seniors have the same levels of “self-assertion”

3) Young adults have higher “social support” than senior citizens

4) Senior citizens who lived by themselves and assert themselves are able to gain “social support”

5) Young adults have higher “dependence” while senior citizens want to be dependency but they feel they cannot do to lack of “social support”

By recognizing the characteristics and needs of these two stages in life it is evident to me that interactions between these groups will not only improve the quality of life for the young adults and the senior citizens but promote a sustainable culture (Masayuki).
architectural themes
Some architectural themes to be explored in this project have to deal with sustainability, passive environment systems, the play between new and old, and public and private. These themes are important because of the obvious need for solutions for energy usage when it comes to building sustainably. Sustainability goes beyond the need for energy and environmental conservation. I feel that the idea of sustainability is something that can and has to be applied. The main theme this deals with is the creation of a culture that is sustainable through the interaction of young and old people in a built environment.

My theoretical position deals with the idea of sustainability not only as something need to conserve energy and the environment but also to preserve culture. I am looking to establish an environment by creating space for the elderly, who have recently found themselves on their own, whether it is due to the death of a spouse or the need to assisted living, and combining with young adults who also are recently on their own because they are away at college or recently entered the job market. I feel that a relationship can be established that is beneficial to both the elderly and the young. There are certain things the elderly can’t do or need that can be provided by young adults, and there are certain things that young adults need that can be provided by the elderly. I hope to redefine the ideas of assisted living.

This is a concern to me because on a personal level I am dealing with caring for my grandmother. On a broader level I feel that this building type offers an opportunity to help society by redefining the roles of the youth as caretakers of the past and the elderly as cultivators of the future.

The intent of this building is not to create a new typology. The definition of spaces are to be created not by pure architectural programmatic needs but the social needs of the two target groups. The spaces are created to promote a symbiotic relationship in which the issues of “self-respect”, “confidence”, “self assertion”, “social support”, and “dependence” are addressed. This issues will be addressed by arranging private (some for young adults; some for seniors) and public spaces (shared by young adults and seniors) in a manner that allows for interaction and the exchange of knowledge between generations.
<table>
<thead>
<tr>
<th>Rooms</th>
<th>Dimensions</th>
<th>Square Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance</td>
<td>6ft x 5ft</td>
<td>30 sqf</td>
</tr>
<tr>
<td>Kitchenette</td>
<td>10ft x 8ft</td>
<td>80 sqf</td>
</tr>
<tr>
<td>Living Room</td>
<td>10ft x 10ft</td>
<td>100 sqf</td>
</tr>
<tr>
<td>Bathroom</td>
<td>7.5ft x 10ft</td>
<td>75 sqf</td>
</tr>
<tr>
<td>Storage</td>
<td>4ft x 4ft</td>
<td>16 sqf</td>
</tr>
<tr>
<td>Bedroom</td>
<td>12ft x 13ft</td>
<td>156 sqf</td>
</tr>
<tr>
<td>Dining Room</td>
<td>10ft x 10ft</td>
<td>100 sqf</td>
</tr>
<tr>
<td>Balcony</td>
<td>7.5ft x 10ft</td>
<td>75 sqf</td>
</tr>
</tbody>
</table>

**Total Area for 12 Minilofts:**

632 sqf x 12 = 7584 sqf

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<tr>
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<tbody>
<tr>
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<td>36 sqf</td>
</tr>
<tr>
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<td>10ft x 8ft</td>
<td>80 sqf</td>
</tr>
<tr>
<td>Living Room</td>
<td>10ft x 10ft</td>
<td>100 sqf</td>
</tr>
<tr>
<td>Bathroom</td>
<td>7.5ft x 10ft</td>
<td>75 sqf</td>
</tr>
<tr>
<td>Storage</td>
<td>5ft x 5ft</td>
<td>25 sqf</td>
</tr>
<tr>
<td>Bedroom (x2)</td>
<td>12ft x 13ft</td>
<td>312 sqf</td>
</tr>
<tr>
<td>Dining Room</td>
<td>10ft x 10ft</td>
<td>100 sqf</td>
</tr>
<tr>
<td>Balcony</td>
<td>7.5ft x 10ft</td>
<td>75 sqf</td>
</tr>
</tbody>
</table>

**Total Area for 10 Double Apartments:**

797 sqf x 10 = 7970 sqf

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<table>
<thead>
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</tr>
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<td>100 sqf</td>
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</tr>
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<td>Dining Room</td>
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<td>100 sqf</td>
</tr>
<tr>
<td>Balcony</td>
<td>7.5ft x 10ft</td>
<td>75 sqf</td>
</tr>
</tbody>
</table>

**Total Area for 16 Assisted Living Apartments:**

638 sqf x 20 = 10208 sqf

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**Total Area:** 25,762 sqf
shared__

8 small shared space
- kitchenette 10ftx8ft 80 sqf
- dining 7.5ftx10ft 75 sqf
- lounge area 10ftx10ft 100 sqf
- periodicals 7.5ftx7.5ft 56.25 sqf
- balcony 10ftx10ft 100 sqf

411.25 sqf x 8 = 3290 sqf

05 large shared space
- community/ banquet room 30ftx30ft 900 sqf

900 sqf x 5 = 4500 sqf

7,790 sqf_total

lobby__

02 lobby
- entrance lobby 25ftx30ft 750 sqf

750 sqf x 2 = 1500 sqf

1,500 sqf_total

recreation area__

01 day/night recreation
- swimming pool 75ftx40ft 3000sqf
- swimming deck/dancefloor 80ftx80ft 6400sqf

9400sqf x 01 = 9400sqf

9,400sqf_total
### exhibit areas

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>05 public exhibit areas</td>
<td>50ft x 25ft</td>
<td>1250sqf</td>
</tr>
<tr>
<td>local artist/history</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1250sqf x 5 = **6250sqf**

### info cafe

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 cafe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dining</td>
<td>30ft x 25ft</td>
<td>750sqf</td>
</tr>
<tr>
<td>service area</td>
<td>20ft x 15ft</td>
<td>300sqf</td>
</tr>
<tr>
<td>prep kitchen</td>
<td>15ft x 15ft</td>
<td>225sqf</td>
</tr>
<tr>
<td>office</td>
<td>10ft x 10ft</td>
<td>100sqf</td>
</tr>
</tbody>
</table>

1375sqf x 1 = **1375sqf**

### aged care

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 medical facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>reception</td>
<td>15ft x 20ft</td>
<td>300sqf</td>
</tr>
<tr>
<td>prep room</td>
<td>10ft x 10ft</td>
<td>100sqf</td>
</tr>
<tr>
<td>xray room</td>
<td>10ft x 10ft</td>
<td>100sqf</td>
</tr>
<tr>
<td>offices [5]</td>
<td>10ft x 10ft</td>
<td>100sqf</td>
</tr>
<tr>
<td>lab</td>
<td>25ft x 25ft</td>
<td>625sqf</td>
</tr>
</tbody>
</table>

1725sqf x 1 = **1725sqf**

**Total Net** 53,802 sqf

**Total Gross** 53,802 x 1.3 = 69,942.6 sqf
apartments__
mini-lofts__ an economical housing unit for a single tenant
double apartment__ housing unit for two tenants
senior apartment__ housing unit for a single senior

shared__
small shared__ a space for 6-10 residents to interact whether reading, relaxing or enjoying dinner together
large shared__ a space for 10-20 residents to assemble for a holiday dinner or a community meeting

lobby__ entry space open to public connects outside to public spaces on ground floor of building

recreation area__ this is a multifunctional space that serves the residents of the building during the day time and the public at night. This space contains a swimming pool and cabanas that can be used by the residents during the day. At night this space can be adapted to function as a nightclub which is open to the public as well as the residents.

exhibit areas__ The exhibit areas are places for interaction and exchange of generational knowledge. Some are to house local artist works while others will display items that are characteristic of their respective generations. [10-15 people]
The shared spaces between the youth and elderly housing units are sized to hold 6-10 people. This creates the relationship of 1 shared room for 4 minlofts and 2 elderly housing units.

The relationship changes with the double apartments to 1 shared room for 2 double apartments and 2 elderly housing units.
Miami Beach is located in Miami-Dade County, Florida. The site in particular is located on the corner of 6th Street and Washington Avenue, in the heart of the city section known as South Beach. South Beach contains the 23 most southern blocks of Miami Beach and separates the Atlantic Ocean from Biscayne Bay. This area was first developed in 1910 and has gone through numerous man-made and natural changes. It has a long history of a diverse, ever-shifting population since its conception.

Miami Beach

- area
  - city 18.7 sq.mi.
  - land 7.0 sq.mi.
  - water 11.7 sq.mi.

- elevation 3 ft.

- population
  - city 87,925
  - density 12,502.1 sq.mi.
  - metro 5,422,200 sq.mi.

South Beach, SoBe, is a well-known by many generations. Young adults recognize South Beach after it was immortalized in the television series “Miami Vice”. While the elderly might remember it as the home of “The Jackie Gleason Show”. Regardless of SoBe’s iconography in the media, this city offers an environment and culture that can suit the lifestyles of both generations.

Demographics

- white 45.84%
- hispanic 40.9%
- african american 4.03%
- native american 2.3%
- asian 1.37%
- pacific islander 0.04%
- other race 4.05%
- two or more race 3.53%

- 59,723 housing units
- 8,491.2 sq.mi. average density of housing units

- 46,194 households
  - with children under 18 14%
  - married couples living together 27.4%
  - single female 8.5%
  - non-families 60.3%
  - household of individuals 48.7%
  - living alone over 65 14.8%

- average household size 1.87
- average family size 2.26

- under 18 13.4%
- 18 to 24 7.8%
- 25 to 44 38.2%
- 45 to 64 21.3%
- over 65 19.2%

[http://en.wikipedia.org/wiki/Miami_beach#Demographics]
Zoning
RM-2 [multi-family, medium intensity]

Purpose
multi-family, medium intensity district

Main permitted uses
- town homes
- apartments
- apartment-hotels
- hotels
- single family residences [detached]

Conditional Uses
- adult congregate living facility
- day care
- nursing home
- religious institutions
- private and public institutions
- schools
- commercial or non-commercial

Prohibited Uses
- Accessory outdoor entertainment establishment
- Accessory open-air entertainment establishment

Area Requirements
- Minimum lot area: 7,000 sqf
- Minimum lot width: 50 sqf
- Maximum building height: 60 ft
- Maximum # of stories: 5

Setback Requirements
At Grade with parking lot on same lot
- front: 20 ft
- side: 5 ft or 5% lot width
- side facing a street: 5 ft or 5% lot width
- rear: 5 ft

Subterranean
- front: 20 ft
- side: 5 ft or 5% lot width
- side facing a street: 5 ft or 5% lot width
- rear: 0 ft

Pedestal
- front: 20 ft
- side: 7.5 ft or 8% lot width
- side facing a street: 7.5 ft or 8% lot width
- rear: 10% lot depth

Tower
- front: 20 ft + 1 ft increase over 50 ft
- side: 7.5 ft or 8% lot width + .1 over 50 ft
- side facing a street: 7.5 ft or 8% lot width
- rear: 15% lot depth

This map shows the allowable building area on the site after all the setbacks are considered. The site area is approximately 15,500 sqf.
Site map dimensioned with size of lot according to property lines as well as size of buildable area after setbacks.

- commercial
- residential housing
- hotel
- buildable area
Green Spaces

Roadways
Bicycle Circulation

City of Miami Beach Bicycle Master Plan

- Existing Bike Lane
- Future Bike Lane
- Future Bike Route
- Existing Bike Path
- Future Bike Path

Parking

- Quarter Mile Radius
- Public Parking
- Private Commercial Parking
- Other

- On-street parking reduction
- Parking requirements for new uses

Transit Circulation

- Bus route efficiency
- Transfer sites
- Local circulator routes
- Future upgrades (Bus Rapid Transit?)
These sites sit a on barrier between residential and commercial zoning. The graph above shows the potential of building development in these types of the areas. The site for this project is located on 6th Street and Washington which displays similar characteristic of the areas displayed in this graph.
sun path diagram demonstrates the range of the sun angles on the site throughout the year.
View from Northwest corner of the site

View from Northeast corner of the site
View from Southwest corner of the site

View from Southeast corner of the site
Multi-generational Housing in Vienna
1998–2001

Architects__
Franziska Ullmann & Peter Ebner

“We are taking our parents with us”

Project Details

usage__
shops, cafe, offices, medical practices, apartments

units__
30 assisted living apartments
12 minilofts
6 maisonettes
26 2-room apartments
13 3-room apartments

access__
access walkways

internal room heights__
3.65m ground floor
3.15m first floor
2.76m second-fifth floors

construction type__
reinforced concrete

total floor area__
2,040 m2
residential area__
4,905 m2

total site area__
6,000 m2

This example of multigenerational housing is significant because it has the programmatic components and layout that promotes a relationship between the young and old. Components like retail and medical practices coupled with living units can create a functional community within a small area. The large area in the middle can be used for recreation in a safe observable space (Ebner).
office first floor/shop ground floor

medical practice/Red Cross care station

cafe

assisted living apartment

family maisonette

temporary apartment
City House in Munich  
2004–2005

Architects_  
Fink + Jocher, Munich

Project Details

usage_  residential and retail building
units_  15 barrier-free apartments with loggias
        2 wheel-chair friendly apartments
        6 maisonettes with roof terraces
        7 shops on ground floor
development_  2 and 3 unit layout
internal room heights_  2.48m upper floor
                      2.84m ground floor
construction type_  reinforced concrete
total floor area_  3,530 m2
residential area_  2,066 m2
total site area_  1,102 m2

As a residential and retail address, this new building contributes greatly to the enhancement of the area by providing spaces commensurate with modern standards of living and working in a city (Ebner).
Apartment Building in Vienna
2003–2006

Architects
PPAG Architects

Project Details

usage_ single story apartments
 units_ 32 apartments
 2 to 4-room apartments
 temporary shared accommodation for teenagers
 4 1-room apartments
 5 unit layouts
 internal room heights_ 2.5m
 type_ reinforced concrete
 total floor area_ 4,567 m²
 residential area_ 2,655 m²
 total site area_ 942 m²

This building provides social housing with integrated shared accommodation for teenagers. The construction of this building completed the north-western corner of the peripheral development and creates an intimate internal courtyard. It has similar ideas in housing as well as similar site qualities as my proposal (Ebner).
internal courtyard

access to shared accommodation

communal room

room

access to apartments

passage

apartments

ventilation well

loggia
Senior Residence In Zurich
2004–2006

Architects
Miller & Maranta, Basle

Project Details

usage__ single story apartments
units__
8 1-room apartments
56 2-room apartments
4 3-room apartments
18 single rooms
internal room heights__
2.55m upper floor
3.5m ground floor
construction type__
reinforced concrete
total floor area__
9,289 m2
total site area__
2,811 m2

This senior residence welcomes visitors and resident alike with an atmosphere comparable to a hotel. The café is instrumental in drawing public life into the complex while internal spaces and informal communication and interaction zones ensure that the daily lives of the residents remain varied and interesting (Ebner).
design process/sketches
concept 1 allows for public access from Washington and private access from alley.

concept 2 allows for public access from Washington to restaurant/lounge area.
concept 3: Continues urban fabric frontage on Washington allows for alley entry.

concept 4: A one story concept with entry from the north of the site.
concept 5 creates a corner presence on 6th and Washington and continues urban fabric on Washington

concept 5 creates a corner presence on 6th and Washington while making the housing unit a sculptural piece on Washington
1/16" = 1'0" study model
1/8" = 1'0" study model
PROJECT drawings
south elevation 1/16" = 1'0"
west elevation 1/16" = 1'0"
section a 1/16” = 1’0”
section b 1/16" = 1'0"
section c 1/16" = 1'0"
roof terrace construction
- 1.5" washed concrete pavers
- 3/4" sand
- 2" process
- 1/2" drainage mat
- vapour barrier
- 6" insulation
- 2" topping slab
- 10" concrete slab

roof garden construction
- 10" loam/topsoil
- 1/2" drainage mat
- roof protection layer
- 1/2" membrane
- vapour barrier
- 6" insulation
- 2" topping slab
- 10" concrete slab

composite thermal insulation system
- 1/4" silicate over coat
- 2" mineral fiber thermal insulation
- 1" aluminum clips
- CMU block wall

floor construction
- 5" ceramic tile floor
- 2" topping slab
- 10" concrete slab

detail section 1/40" = 1'0"
mechanical axonometric
structural axonometric
axonometric a
axonometric b
axonometric c
The inside courtyard is the place for outdoor interactions between the young and elderly whether during the day or the night. It is a place for exercise and relaxation.
The entry lobby is located on the Northeast corner of the site. It is a four story height space that provides northern light as well as access to all housing levels.
The cafe is a single story edifice that has an occupiable roof terrace. The cafe’s height allows for sun exposure in the inner courtyard.
The roof top cafe is a space where patrons can enjoy the sun. It provides a controlled public presence on the southern part of the site.
Balconies provide views over the inner courtyard as well as out across South Beach.

