Overlapping lives in Co-habitation

[P5 presentation]

_ : Dong Min Lee
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- Issue in the site

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- Introduction
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  - research question
  - research method
- Conclusion / Personal conclusion
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- Urban configuration
- Program
- Fragment

- Features by Keywords
  01. Co-housing
  02. Communal life
  03. Flexibility
  04. Expose

- Construction
SITE LOCATION
_Amsterdam_
01 DISCONNECTION
02 INTROVERTED BLOCKS
03 LACK of INTERACTION at IN-BETWEEN
04 INCREASE of SENIOR / NUCLEAR FAMILY
Prevent people from access to waterfront by blocking fence
Green walkway was cut off because of petrol station
PROBLEM 02

_Private open space
_Introverted blocks
_Introverted block in the mixed area
PROBLEM 03

- Lack of interaction at in-between

- Few public open space
- Lack of interaction to each other
18 - 34 years

35 - 49 years

50 - 64 years

65 years

*Images from: http://maps.amsterdam.nl/trend_demografie/?LANG=ko
Single-person
Two-person
With 1 or 2 children

_Increase of nuclear family_
‘Diversity’ and ‘Increasing of elderly’ are prominent characteristics in this chosen site. However, diversity from mixed functions disturbs building blocks to be integrated to each other and turns into introverted blocks. Moreover, lack of interaction caused by not enough intermediate space threatens coexistence between increasing numbers of senior, single and family households here.
Q. When do spatial elements enhance contact between dwellers at collective housing in the city of Amsterdam?

Sub question 01
What spatial elements are related to contact making activities?

*Theory
Jan Gehl
- Cities for people
- Life between buildings using public space
- How To Study Public Life
Komossa, S.
- Atlas of the Dutch urban block

Sub question 02
What composition of spatial elements make different types of contact according to different activities?

*Case study
01 Weesperstraat student housing (1959)
02 Lootsbuurt (2007)
03 Haarlemmer Houttuinen (1982)
04 Pentagon (1983)
05 GWL Terrein (1998)
06 De Stadstuinen (2008)
### Composition

<table>
<thead>
<tr>
<th>Stay - Stay</th>
<th>Stay - Passby</th>
<th>Passby - Passby</th>
<th>Stay - Passby</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Diagram" /></td>
<td><img src="image2" alt="Diagram" /></td>
<td><img src="image3" alt="Diagram" /></td>
<td><img src="image4" alt="Diagram" /></td>
</tr>
</tbody>
</table>

### Contact

<table>
<thead>
<tr>
<th>Close contact</th>
<th>Chance contact</th>
<th>Passive contact</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image5" alt="Diagram" /></td>
<td><img src="image6" alt="Diagram" /></td>
<td><img src="image7" alt="Diagram" /></td>
</tr>
</tbody>
</table>

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**Conclusion table**

|---------|------------|------------|------------|------------|--------------|----------------|--------|---------|-----------|------------|-------------|------------|-------------|
When do spatial elements enhance contact between dwellers at collective housing in the city of Amsterdam?

<table>
<thead>
<tr>
<th>Element</th>
<th>Composition</th>
<th>Contact</th>
</tr>
</thead>
</table>
| - Horizontally, when the composition of elements make clear definition of the space, from public, semi-public to semi-private, it will give opportunities for proper activities to happen in each defined area. This make it possible for various activities to happen in the same level, which enhance contact between dwellers.  
- Vertically, when elements correspond to each other 3-dimensionally, there will also be more interaction of activities. That is to say, when the elements are overlapped on different levels, or in different directions. Usually there are more “passive contacts” in the vertical composition, but the contact happen in a wider range of space than the horizontal composition.  
- With regard to activity, if spatial elements for different type of activities are composed together, then contact can be enhanced too. When different time-spending activities are composed in one place, it creates a more lively environment. |
Q. When do spatial elements enhance contact between dwellers at collective housing in the city of Amsterdam?

Material

- Material, concerning with contact, functions to define the border. As mentioned before in the analysis, change of material or pavement gives influence on people to perceive different territory. And it supports different activities, in the end, it can enhance contact between dwellers.

Atmosphere

- The atmosphere of collective space influences contact. Sunlight, green, noise, material which make up the space directly influence people’s activity, or if they prefer to stay and have contact. (South or west orientation, green for shadow, noise blocking, material for ambience etc.)
01 Design ‘communal life’ as part of the living areas in residential complex to enhance interaction between residents.

02 Design a residential neighborhood that provides a gradual and soft transition to find balance between public, collective, and private for interaction with surroundings.

03 Design dwelling complex with supporting programs for different resident groups (senior, family, and single) to promote chance to interact each other.
EXTENDED GREEN
WATERFRONT ACCESS
WATERFRONT CAFETERIA

- Waterside open view
- Cafeteria
PUBLIC SQUARE

- Close to ‘Tram station’
- Bicycle parking lot /
  Square with shops
- Main entrances: waterside / street side
- Sub entrance
PUBLIC ROUTES ON COLLECTIVE AREA
COLLECTIVE AREA FOR DWELLER

URBAN CONFIGURATION

Collective area for dweller

Contacts between different activities

Passing by

Staying
CAR PARKING
CIRCULATION FROM PARKING
- Central cafeteria
- Outdoor terrace
- Waterside open view
- Education facilities
- With outside public facility (cafeteria)
- Health care facility
  Specialist clinic
- Neighborhood facility

HEALTH CARE FACILITY
- Co-housing
- Senior + Starter housing
WHOLE CONFIGURATION
CONTACT TO COLLECTIVE SPACE
ADJUSTED VOLUME
PUSH DOWN TO AVOID BEING SHADED
“CO-HOUSING”
Main target group for dwelling

Seniors  1 or 2 household
“Seniors”

- From 60s after retirement
- Senior in the future
  : Growing interests for the qualities of their lives
  : More autonomous (active senior*)
  : Will of participation in social activity*

* It is called as economic terms to name senior who has sufficient economic capacity and will of participation as much as younger people.

**The activity about interaction which has certain pattern or type (Palmore, 1981)
- Co-housing
  : Practical / Social / Economical advantage

- Type by size
  : Small  6~12 households
  : Medium 13~34 households
  : Large  35~ households

Communal space in Co-housing

- Communal space
  : 10~20% of whole living area
    (usually, 10~20m² per unit)

- Number of household to share communal space
  : Minimum 5~6 people
    = 3 units (when 1 or 2 household per unit)

*Choi Jung Sin (2000), Community of Cohousing in Denmark, Cohousing in the world, Gyo-mun sa, p.35

Prerequisite of communal space

- Prerequisite of communal space
  : Lead dweller to pass through common space
to reach private house*
  : Locate similar distance from each unit

Seniors
Communal space in senior housing

- Communal space in senior housing
  - Increasing of spare time in aging society
  - Time to stay at home is also increased
  - Communal space in dwelling block can provide space for their ‘Spare time’

  e.g. swimming pool, classroom for hobby, sauna, audiovisual room etc.
Communal space in senior housing

- Communal space of senior housing
  - Deepen individualism
  - Lack of ‘sense of community’
  - Take care of each other

Seniors
Design guideline for co-housing

- Medium size complex
  (13~34 households)

- 3~4 units share communal space
  e.g. central living room
  communal kitchen etc.

- Lead dwellers pass through communal
  space before to reach their private units

- Put large-scale communal space for whole
  community in the building
Element | Composition | Contact

- With regard to activity, if spatial elements for different type of activities are composed together, then contact can be enhanced too. When different time-spending activities are composed in one place, it creates a more lively environment.
“COMMUNAL LIFE”
Functional unit
: Senior(down)+Communal+Starter(up)
> communal life unit
Starter + Starter

Senior + Senior

Contact = Take care of each other

COMMUNAL LIFE
_Configuration of Functional unit
Communal space for **Starter**:
- tea room, working space,
guest reception room etc.

Communal space for **Senior**:
- common kitchen,
common living room,
sun bath etc.
Visual check to communal space

- choose their routes
- join communal activity
- enter their housings

- Prerequisite of communal space
  - Lead dweller to pass through common space to reach private house*
  - Locate similar distance from each unit

*McCamant & Durret (1994), Cohousing, Ten Speed Press
- Hello~
  Can I help you?

- Can you do this for me?
- Hello ~
You look nice today!
Let's get some coffee there ~

- Thank you!
- Let's get some coffee there ~
- Hello~
  Can I help you?

- Hello ~
  You look nice today!

- Thank you !
  Let's get some coffee there ~
Extended use of material

: Similar atmosphere at similar functional space
Same atmosphere at communal space

- Communal space
- Indoor collective space
- Distinction to private housing

COMMUNAL LIFE
_Collective - Communal_
**Summer scheme**

Cooling/energy storage

- a solar collector panel
- b shower (bathroom)
- c continuous flow heater (kitchen)
- d heat pump
- e deep geothermal probe
- f underfloor heating
- g heat exchanger
- h shallow geothermal probe
*Winter scheme: Heating*

- **a** solar collector panel
- **b** shower (bathroom)
- **c** continuous flow heater (kitchen)
- **d** heat pump
- **e** deep geothermal probe
- **f** underfloor heating
- **g** heat exchanger
- **h** shallow geothermal probe
Heat recovery: Ventilation / heat reuse

a  fresh air drawn from outside
b  contaminated air to atmosphere
c  heat recovery unit
d  moisture-laden air
e  fresh warm air
Heat recovery:
- Ventilation / heat reuse
  a. fresh air drawn from outside
  b. contaminated air to atmosphere
  c. heat recovery unit
  d. moisture-laden air (bathroom, kitchen etc.)
  e. fresh warm air

- Installation Distance:
  Humid air can travel anywhere up to 10 metres from the point of extraction to the sensor on the unit

Vireo HR155WM

Physical specification
All measurements in millimetres

- Weight: 20kg
- Materials: ABS outer casing
In the private unit
COMMUNAL LIFE
Private
Bedroom + Bathroom
Communal roof garden for ‘family’
Communal space between families

*Seo young Nam gung (2000), The planning of Common House in Cohousing Community
“FLEXIBILITY”
In situ Concrete

Timber
: Glued laminated timber
Secondary load bearing structure: Glued laminated timber

Transferred at the basement: Glued laminated timber
FLEXIBILITY
Various compositions
FLEXIBILITY
_Load bearing wall

Load bearing wall
<table>
<thead>
<tr>
<th>Family House</th>
<th>Single share House</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living room</td>
<td>Bedroom 01</td>
</tr>
<tr>
<td>Master Bedroom</td>
<td>Bedroom 02</td>
</tr>
<tr>
<td>Child Bedroom</td>
<td>Working area</td>
</tr>
<tr>
<td>Optional room (reception room / working area etc.)</td>
<td></td>
</tr>
</tbody>
</table>
Hybrid of housing and retail shop

FLEXIBILITY

| Family House + Retail shop
| Bedroom 02
| Bedroom 01
| Living room
| Kitchen & Dining room
| Retail shop
“EXPOSE”
Diverse material:
- Various material on facade
- Brick in common
Diversity = Identity
- Reveal its own identity
  : Pattern of facade / color of material etc.
- Follow minimum guide for coherence
  : Material with brick texture
**Diverse material**
- Natural stone slate
- Gray brick
- Wood plank
Gray brick: Family housing
Wood panel: Cafeteria (communal program)
Natural stone slate: Senior / Starter housing
**Facade**
- 200x100x10mm x 10 brick
- 2mm metal flashings
- 12mm moisture resistant wind breaker
- (Sculpture product from W&T) 2x100mm wood fibre thermal insulation
- 2mm vapour check
- 2x18mm gyp. Fibreboard

**Facade**
- 25mm wood panel
- 25x55/25x55mm wood batten
- 12mm moisture resistant wind breaker
- (Sculpture product from W&T) 2x100mm wood fibre thermal insulation
- 2mm vapour check
- 2x18mm gyp. Fibreboard
Difference on pattern

**EXPOSE**

Different pattern
: Vertical pattern at GF
  Square pattern(opening) at the above
Vertical pattern on facade
: Repetition of vertical pattern from surrounding buildings
Timber structure

Exposing structural elements to the inside

> Part of interior
Make the best use of timber structure as interior to give warm and cozy atmosphere.
CLT load bearing wall

- Expose structural element to the inside
  > Part of interior
Family housing

Make the best use of timber structure as interior to give warm and cozy atmosphere
CONSTRUCTION
Prefabrication

CONSTRUCTION

Wood framing

Timber framework

For insulation and facade

Opening on the facade considering structural skeleton of fragment

Prefabricate construction

5 types opening size

-different arrangement composes each elevation

*Timber Frame work
100mm thermal insulation
PAVAFLEX product

- Cover exposed skin
- Rinse hands in cold water before washing
- Ventilate the working area if possible
- Wear goggles when working with products overhead
12.5mm Moisture resistant windbreaker
25x50mm / 35x56mm Wood batten
Anchor
Site condition

CONSTRUCTION

600x300x8mm Natural stone slate
Overlapping lives in Co-habitation

DANKJEWEL!