CRACKs

Border Condition studio 2009 fall _ Oswiecim, Poland

You-Min Won
showing how long the city has been and condition of city

giving diverse and dynamic shape

accumulated different materials

accumulated time

accumulated situation of city

accumulated time

exposed scene through crack

existence of the past and present
accumulated time
accumulated different materials
accumulated situation of city
accumulated time
exposed scene through crack
coexistence of the past and present
gap between different times
(the time of camp and nowadays)

gap between different times

accumulated time and way of life

trace of the past

trace of extended building

trace of life in city

trace of other building
FORCEs
: physical force, invisible force, time, weather, materials, history, using by people

TRANSFORM : cut, rotate, shift, delete

CRACKs
: crack, path, trace, gap, joint

bring events and memories from the past to now

UNEXPECTED DIVERSITY
: during transformation and through the cracks, diverse quality can be emerged slowly and continuously
When the crack is happened, the each point in the certain area has the vector force having direction.

The line used to indicate the direction of force in a field. And the limited area means the space in that range has the direction of flow of force and different tension.

- No direction
- No tension
- Homogeneous space

<table>
<thead>
<tr>
<th>Distortion of space (creating tension)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No direction</td>
</tr>
<tr>
<td>No tension</td>
</tr>
<tr>
<td>Homogeneous space</td>
</tr>
</tbody>
</table>

Trace: shape of crack

Gap of blank

- Various tension and different quality
- Create undefined blank
- Trace of memory of the past

Three Elements of Cracks to Analysis

- Still empty
- Happening use
- New quality
- Exposure
Homogeneous space: There is no direction, tension and force of space.

Flow of vector force is going around the crack. The force will be denser at the edge of shape than other.

There are three irregular powerful attract points. The force around the crack will be concentrated at the attract points.

There are many regular attract points. Each points has different attraction according to length of each crack. So this different attraction influences the length of influencing area.

The trace has the tendency to keep the force inside of trace. So, it is keeping the force inside after absorbing the force at the edges.

THREE ELEMENTS OF CRACKS TO ANALYSIS
4 types of way to draw force line
Type of properties of crack

- non scale
- non dimension
- new perception of the city by crack

create distortion of spatial quality (flow of force) in the city

create irregular energy points

create spatial (invisible) urban crack by changed flow of force

conflict, cut

de-construct the city by several pieces

create many new crack lines

breaking border

repenting, mixing, facing, overlapping different qualities

different program, time, memory, material, history

Spatial quality of Mapping

qualities of mapping:

Creating new crack
Breaking border
Decomposing existing condition
Making flow
Making unpredictedness
Creating different qualities
Mixing different qualities
Connecting
Deforming different qualities
Creating breaks
Redirecting
Creating hybrid quality

1. positive and negative space

2. Heterogeneous city

...
City Cracks

Cracks formed by zoning plans/systems - modern way

- Homogeneous: closed to the future
- Symbolized: solid border/layer
- Repetition of same qualities
- Fixed and planned function
- Less interchange
- No energy

De-construction (breaking existing thing)

- Cutting creating line
- Changing spatial quality (tension)
- Generating flow of force with direction
- Getting new (different) value

- Empty new quality: exposure of hidden pattern, materials, memory and history
- Used as path
- Rotate
- Slide
- Delite/exfoliate
Urban gap

Crack photos
1 Urban gap in city

Urban crack

Force lines

The border of urban crack

The properties of the border of urban crack
2 Crack photos

Crack photos on the real spot in the city

Force lines

Shape of crack lines

Exposed hidden images through crack
Collage (making crack map on the city)
- non-scale
- non-dimension
- new perception of the city by crack

de-construct the city by several pieces
  - creating many new crack lines
  - breaking borders
  - rotating, mixing, facing, overlapping different qualities
    - different program, time, memory, material, history

create distortion of spatial quality (flow of force) in the city
create irregular energy points

create spatial (invisible) urban crack by changed flow of force
conflict, cut

Heterogeneous city
  - on-going change
  - transforming itself by people
  - high energy and high entropy (more chaotic)
  - co-existing different values

create irregular energy points

Urban re-interpretation on city (oswicim)
non scale
non dimension
new perception of the city by crack
URBAN RE-INTERPRETATION THROUGH CRACK

_crack map collaged by cracks_
URBAN RE-INTERPRETATION THROUGH CRACK

- collage of cracks in two different scale
- 1st deformation of collage by generated new crack

Changed tension by crack-map

Intensity of tension

Generation of new crack
URBAN RE-INTERPRETATION THROUGH CRACK

collage of cracks in two different scale

1st deformation of collage by generated new crack
Intensity of tension

Changed tension by 2ND Deformation

Vector flow of the force

Generation of new crack

URBAN RE-INTERPRETATION THROUGH CRACK
- collage of cracks in two different scale
- 1st deformation of collage by generated new crack
- 2nd deformation of collage by generated new crack
URBAN RE-INTERPRETATION THROUGH CRACK

collage of cracks in two different scale

1st deformation of collage by generated new crack

2nd deformation of collage by generated new crack

process 1

process 2

process 3

process 4

process 5

process 6
URBAN RE-INTERPRETATION THROUGH CRACK

- collage of cracks in new different scale
- 1st deformation of collage by generated new crack
- 2nd deformation of collage by generated new crack
- urban re-interpretation: deformed and distorted
Properties of cracks

Deconstruction way of cracks

- classify them into types by properties
  - non-scale
  - non-dimension
  - seeing as object
- take one property
  - composition of them according to property
  - create irregular energy points
    - conflict, cut
    - create new crack by irregular energy points
  - divided by several pieces
    - deformation by rotating, opening, folding, superimposing, pushing
    - create new crack lines
    - overlap, mixing, facing, overlapping different qualities
    - this is ongoing process of deformation
DE-CONSTRUCTION WAY OF CRACK
composition of type 2 by using the property
DE-CONSTRUCTION WAY OF CRACK
composition of type 2 by using the property
1st created crack by deconstruction way of crack
DE-CONSTRUCTION WAY OF CRACK
composition of type 2 by using the property
1st created crack by deconstruction way of crack
1st deformation of collage of CK type 2
DE-CONSTRUCTION WAY OF CRACK
composition of type 2 by using the property
1st created crack by deconstruction way of crack
1st deformation of collage of CK type2
2nd created crack by deconstruction way of crack
DE-CONSTRUCTION WAY OF CRACK
- composition of type 2 by using the property
- 1st created crack by deconstruction way of crack
- 1st deformation of collage of CK type 2
- 2nd created crack by deconstruction way of crack
- process of 2nd deformation
DE-CONSTRUCTION WAY OF CRACK
composition of type 2 by using the property
1st created crack by deconstruction way of crack
1st deformation of collage of CK type2
2nd created crack by deconstruction way of crack
process of 2nd deformation
deformation of composition of CK2
Urban gap in City

Photography

Type of properties of crack

de-construction way of crack

Urban re-interpretation on city osweicim

Quality of Mapping

Quality of Mapping:

Creating new crack
Breaking border
Deconstructing existing condition
Making flow
Making unexpectedness
Co-existing different qualities
Mixing different qualities
Connecting
Conflicting different qualities
Creating hybrid quality
Distorting tension
Distorting space
Creating hybrid quality

Heterogeneous
Urban re-interpretation on city osweicim

**Quality of Mapping**

**Principle of de-construction**

way of mapping:
- Compositing
- Conflicting
- Collage
- Cutting
- Opening
- Superimposing
- Rotating
- Dividing
- Folding
- Various tension
- Non-scale
- Non-dimension
- Deforming
- Exfoliating
- Pushing

qualities of mapping:
- Creating new crack
- Breaking border
- Deconstructing existing condition
- Making flow
- Making unexpectedness
- Co-existing different qualities (memory, material, shape, activity etc)
- Mixing different qualities
- Connecting
- Conflicting different qualities
- Creating break(blank)
- Distorting tension
- Distorting space
- Creating hybrid quality

**design:**

SHAPE
SPACE
SITE
PROGRAM
STRUCTURE
MATERIAL
Urban gap in city

Collage

Photography

Urban re-interpretation on city osweicim

dec-black way of crack

type of properties of crack

Quality of Mapping

Site
the place used as sports facility
trace of memory, activity and history
centerpoint between two areas in city
not used place now
beside the river and on the river bank
SITE
  breaking physical and invisible
  social boarder in city
  intersecting point
Urban gap in city

Crack photos

Photography

Collage

Urban re-interpretation on city Oswiecim

Type of properties of crack

De-construction way of crack

Quality of Mapping

Shape

Shape place created crack lines and mixed qualities into one spot in the re-interpreted city

Superimposing lines

Extract lines

Decide boundary of building

Basic shape of building

Folding paper: 3D volume
SHAPE: put second deformation into site of re-interpretation city
SHAPE
  _ put second deformation into site
  of re-interpreted city
  _ superimposing crack lines
SHAPE
- put second deformation into site of re-interpreted city
- superimposing crack lines
- extract lines
SHAPE
- put second deformation into site of re-interpreted city
- superimposing crack lines
- extract lines
- decide boundary of building
SHAPE
  put second deformation into site of re-interpreted city
  superimposing crack lines
  extract lines
  decide boundary of building
SHAPE

- put second deformation into site of re-interpreted city
- superimposing crack lines
- extract lines
- decide boundary of building
- folding paper: 3D volume
3D volume of design
3D volume of design

break border (riverbank)
3D volume of design

put into ground

break border (riverbank)
3D volume of design
put into ground
break border (riverbank)
SHAPE

- put second deformation into site of re-interpreted city
- superimposing crack lines
- extract lines
- decide boundary of building
- folding paper: 3D volume
- divide the volume by pieces along the crack lines
SHAPE
- put second deformation into site
- superimposing crack lines
- divide the volume by pieces along the crack lines
- to control volume, to create space

- extract lines
- decide boundary of building
- folding paper : 3D volume

of re-interpreted city
Urban re-interpretation on city osweicim

1 step: create crack by
- trace of place - memory of place
- created crack lines
- vertical circulation core from two main-axis of shape
- main horizontal circulation from shape itself

2 step: deformation by
- conflict/superimposition
- rotate X-Y, X-Z, imprint
- slide
- delete/exfoliate

3. positive and negative space
Step 1
- clear
- regular
- functional
- reasonable
- memory
- trace
- inconvenient

by confliction, co-existing and overlapping

ambiguous, unexpected, dynamic, various, intertwined space

SPATIAL QUALITIES

qualities of mapping

Step 2
- ambiguous
- irregular
- complexity
- unexpected
- deformed
- convenient

SPACE

spatial quality
Trace of place : memory of place

Created crack lines

Vertical circulation core at the meeting points of two main axis of shape: grid was generated by offsetting main axis of shape toward city with regular distance

Main horizontal circulation originated from shape itself

SPACE
  _ spatial quality
  _ 1 step : create crack by 4 elements
SPACE

- spatial quality
- 1 step: create crack by 4 elements
**SPACE**

- spatial quality
- 1 step: create crack by 4 elements
- 2 step: transformation by principle of creating crack
SPACE

1 step: create crack by 4 elements
2 step: transformation by principle of creating crack
SPACE
- spatial quality
- 1 step: create crack by 4 elements
- 2 step: transformation by principle of creating crack
SPACE

- spatial quality
- 1 step: create crack by 4 elements
- 2 step: transformation by principle of creating crack
SPACE
- spatial quality
- 1 step: create crack by 4 elements
- 2 step: transformation by principle of creating crack
- 3 step: extroversion to the surround
  : positive and negative

copy - move
copy - scaling - move
copy - mirror
extension
Urban gap in city

Photography

Collage

Type of properties of crack

De-construction way of crack

Urban re-interpretation on city Oswiecim

Program
- Play-Space
- Sports facilities (swimming, rafting, etc.)
- Hotel

Gap: blank space
- undefined, unspecified, unfixed space: empty (blank)
- newly created space
- exposure of hidden pattern, materials, memory and history

Solid space: defined, programmatic, fixed space
- fixed program

Blank space for lighting, ventilation and view
- open space for exterior activity (continuously changed activity)
- path (corridor) to the direction of vertical and horizontal
### City “Oswiecim”

#### Housing area

- **Programs**
  - Tourist
  - Residents

#### Programs

- **Residents**
- **City block**
- **The past**
- **The present**

#### The present

**PLAY-Space** + **Sports facilities (using river: swimming, rafting etc)** + **Hotel**

**PROGRAM**

For body:
- Climbing (Rock, Wire etc)
- Dancing
- Fitness
- Swimming pool for baby
- X-sports (Skateboards, bike etc)
- Playground (interior and exterior) for children
- Digital game room
- Billiard room

For eye:
- Mini theater (DVD room)
- Mini concert hall
- Mini exhibition
- Mini library

For event:
- Lecture room to learn something for residents
- Mini auditorium

**Ware house**
- Traning room
- Rest room for staff

**Room (Resort type)**
- Service room

**Shower + Locker room**
- Emergency sick bay

**Lobby + Information desk**
- Restaurant
- Cafe
- Sauna
_scattered programs
PROGRAM
_scattered programs
_main pathway connecting program
PROGRAM
_scattered programs
_main pathway connecting program
_example of 4 different users
Urban gap in city

Collage

Urban re-interpretation on city Oswiecim

decomposition way of crack

Type of properties of crack

deconstruction way of crack

Architecture
(site)Plan & Section
crack line + trace of memory of place

trace of using of people
Architecture

_site plan

_materials for paving

materials of crack: scene of history, past, events and memory

cement + brick

wood panel

grass
Architecture _site plan _materials for paving _site plan after some time _viewline 1
Architecture

_site plan
_materials for paving
_site plan after some time
_viewline 1
Architecture

_site plan
_materials for paving
_site plan after some time
_viewline 1
Architecture
_site plan
_materials for paving
_site plan after some time
_viewline 1
Architecture

- Site plan
- Materials for paving
- Site plan after some time
- Viewline 1
- Plan r2 level
- Viewline 2
- Night view
Architecture
  _site plan
  _materials for paving
  _site plan after some time
  _viewline 1
  _plan +2 level
  _viewline 2
  _night view
  _plan -3 level
  _plan -6 level
  _viewline 3
Architecture

- Site plan
- Materials for paving
- Site plan after some time
- Viewline 1
- Plan +2 level
- Viewline 2
- Night view
- Plan -3 level
- Plan -6 level
- Viewline 3
Architecture

_site plan
_materials for paving
_site plan after some time
_viewline 1
_plan +2 level
_viewline 2
_night view
_plan -3 level
_plan -6 level
_viewline 3
Architecture

_site plan
_materials for paving
_site plan after some time
_viewline 1
_plan +2 level
_viewline 2
_night view
_plan -3 level
_plan -6 level
_viewline 3
Architecture

_site plan
_materials for paving
_site plan after some time
_viewline 1
_plan +2 level
_viewline 2
_night view
_plan -3 level
_plan -6 level
_viewline 3
_long section A-A'
_long section B-B'
Architecture

- Site plan
- Materials for paving
- Site plan after some time
- Viewline 1
- Plan +2 level
- Viewline 2
- Night view
- Plan -3 level
- Plan -6 level
- Viewline 3
- Long section A-A'
- Long section B-B'
- Long section C-C'
ARCHITECTURE_PATHWAY

_pathway: access point

: connection to low level
ARCHITECTURE_PATHWAY
_ pathway : access point
: connection to low level
: circulation in low level
from water sports
  -> office
  -> hotel main entrance
  -> room
  -> restaurant
  -> courtyard (performance)

from old city center
  -> sauna
  -> fitness and dancing room
  -> shower room
  -> mini theater

from new city area
  -> library
  -> auditorium
  -> courtyard
  -> billiard
  -> digital game room

from old city area
  -> meeting court
  -> toy shop
  -> courtyard
  -> exhibition hall
  -> swimming pool with children
ARCHITECTURE PATHWAY

pathway: access point
connection to low level
circulation of low level
text: examples of using
sequence of space
ARCHITECTURE_PATHWAY

- pathway : access point
  - connection to low level
  - circulation of low level
  - examples of using

- sequence of space
  - examples of various spatial quality
CITY

CRACKS

Urban gap in city

Collage

Urban re-interpretation on city Oswiecim

de-construction way of crack

Type of properties of crack

Quality of Mapping

SITE

SHAPE

SPACE

SITE

EQUIPMENT AND PATHWAY

MATERIALS: concrete + red brick + grass + wood (some from crack of city)

ARCHITECTURE

Architecture

Mattrials

of interior
ARCHITECTURE_MATERIALS OF INTERIOR

part plan 1

part plan 2

part plan 3

: after some time
CITY

Crack photos

Photography

Urban gap in city

Collage

Type of properties of crack

Urban re-interpretation on city Oswiecim

dec-Construction way of crack

Quality of Mapping

Architecture

Lighting & Ventilation

SHAPE

SPACE

MATERIALS

EQUIPMENT AND PATHWAY

PROGRAM
blue box - vertical core for ventilation
red line - duct pipe connecting each room to vertical core
Gap + skylight

vertical core

lighting box
: for pulling in low level

ARCHITECTURE
VENTILATION & LIGHTING

ventilation system of whole building

ceiling plan of part of building

lighting
: three elements for lighting
Urban gap in city

Urban re-interpretation on city osweicim

Type of properties of crack

de-construction way of crack

Architecture

Structure

load bearing wall system

EQUIPMENT AND PATHWAY

PROGRAM

SHAPE

SPACE

MATERIALS

EQUIPMENT AND PATHWAY

PROGRAM

SHAPE

SPACE

MATERIALS
- one big solid volume
- long span and high height
- column + girder

- several small volumes
- shorter span and lower height
- several bearing wall + slab

- intertwined several small volumes
- shortest span and lowest height
- many bearing wall + slab

ARCHITECTURE_STRUCTURE
_principle
roof

second load bearing wall _ beam

first slab_prec. conc.

load bearing wall_reinf. conc.

foundation_base floor_reinf. conc.

ARCHITECTURE_STRUCTURE
_principle
_system of whole building
1. first bearing wall

2. first floor

3. second bearing wall _ beam

4. roof
pit excavation
base construction
cast installation

cast installation
+ pouring concrete

precast conc. panel

precast conc. slab with insulation

ARCHITECTURE_STRUCTURE
_principle
_system of whole building
_process of construction
ARCHITECTURE_STRUCTURE
_principle
_system of whole building
_process of construction
_part section 1 _ 1:25 scale
_part section 2 _ 1:25 scale
ARCHITECTURE_STRUCTURE
_principle
_system of whole building
_process of construction
_part section 1 _ 1:25 scale
_part section 2 _ 1:25 scale
_part section 3 _ 1:25 scale
_detail
ARCHITECTURE_STRUCTURE
  _principle
  _system of whole building
  _process of construction
  _part section 1 _ 1:25 scale
  _part section 2 _ 1:25 scale
  _part section 3 _ 1:25 scale
  _part section 4 _ 1:25 scale
  : detail
Specially Thanks