HISTORIC SOLIDS
accommodating change

Katerina Evangelou / student num: 4320611
HERITAGE & ARCHITECTURE / HERITAGE & HOUSING

MAIN TUTOR: Lidwine Spoormans
RESEARCH TUTOR: Nicholas Clarke
TECHNICAL TUTOR: Wido Quist

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HISTORIC SOLIDS
accommodating change

The case of Klinisch Ziekenhuis in Amsterdam
OVERVIEW

- research
  - research theme
  - the Solids concept

- context
  - the site
  - the history
  - current situation
  - Klinisch ziekenhuis
  - Value assessment

- design
  - the starting points
  - the design idea
  - the design components
  - the design elaboration

- conclusions
OBJECTIVE

HOUSING
OBJECTIVE

HOUSING

THE LOCATION/WORLD HERITAGE
OBJECTIVE

THE HOUSING DEMANDS

HOUSING

THE LOCATION/WORLD HERITAGE
OBJECTIVE

THE HOUSING DEMANDS

THE NEW LIFESTYLE

HOUSING

THE LOCATION/ WORLD HERITAGE
Changes in today's lifestyle and needs lead to design strategies and concepts that focus on flexibility, adaptability, and resilience. The research theme explores the intersection of interior spatial composition, customer-oriented architecture, and sustainability (SOLIDS).
Which strategies of adaptable housing are appropriate for the Binnengasthuis complex?
RESEARCH

> flexible strategies

Canal Houses

17th century

Modern Movement

1920s-1930s

Open Building

1960s

Solids

2010
RESEARCH

> flexible strategies

Canal Houses
17th century

Modern Movement
1920s-1930s

Open Building
concept
1960s

Solids
concept
2010

Canal houses
source: http://potteringon.blogspot.nl

Apartment HG located on the Herengracht, Amsterdam
source: http://www.powerhouse-company.com
> flexible strategies

Le Corbusier, Unite, Marseille (1945-1952)
Conceptual model with removable unit

Truss Schroder house by Thomas Gerrit Rietveld
source: http://www.artwis.com

Canal Houses  
17th century

Modern Movement  
1920s-1930s

Open Building  
concept  
1960s

Solids  
concept  
2010

Truss Schroder house by Thomas Gerrit Rietveld
source: http://www.artwis.com
RESEARCH

> flexible strategies

Canal Houses: 17th century

Modern Movement: 1920s-1930s

Open Building: 1960s

Solids: 2010

Molenvliet project, Papendrecht, near Rotterdam
Source: http://www.habraken.org/html/molenvliet.htm
RESEARCH

> flexible strategies

Canal Houses

- 17th century

Modern Movement

- 1920s-1930s

Open Building

- 1960s

Solids

- 2010

Solids 11, Solids 1&2, Amsterdam
source: http://www.dearchitect.nl
RESEARCH

> the Solids

“A Solid is a sustainable building. In my opinion this is achieved through two qualities: accommodation capacity and preciousness”

Frank Bijdendijk
“A Solid is a sustainable building. In my opinion this is achieved through two qualities: accommodation capacity and preciousness”

Frank Bijendijk
RESEARCH

> the Solids

> characteristics

> Generous floor to floor height

Solid 18, Claus & Kaan, Haveneiland, Amsterdam-East
source: photos taken by Christian Richters
RESEARCH

> the Solids

> characteristics

> Generous floor to floor height
> Elegant foyers

Solid 1&2, Entrance, Inbo Bouwkunde, IJburg, Amsterdam
source: BOUWWERELD # 05 Project
RESEARCH

> the Solids

> characteristics

> Generous floor to floor height
> Elegant foyers
> Few fixed vertical components
  (supporting structure)
RESEARCH

> the Solids

> characteristics

> Generous floor to floor height
> Elegant foyers
> Few fixed vertical components
  (supporting structure)
> Loadbearing facades

Solid 1&2, Structure diagram
RESEARCH

> the Solids

> characteristics

> Generous floor to floor height
> Elegant foyers
> Few fixed vertical components
  (supporting structure)
> Loadbearing facades
> Large spans, few obstacles, large open floor areas

Solid 1&2, Open floor Appartment
source: http://www.archangel.nl/projectenoverzicht/solids-ijburg-amsterdam
RESEARCH

> the Solids

> characteristics

> Generous floor to floor height
> Elegant foyers
> Few fixed vertical components (supporting structure)
> Loadbearing facades
> Large spans, few obstacles, large open floor areas
> Generous vertical access for people, piping, ducts, cables

Solid 1&2, Access and routing

Solid 11, Service shaft
source: BOUWWERELD #05 Project
RESEARCH

> design question

*How can historic buildings perform as ‘Historic Solids’?*
RESEARCH

> lessons learned

WHAT MAKES A BUILDING ADAPTABLE

- Less component interaction
- Simple design solutions
- Unfinished spaces
- Over design capacity
- Providing redundancy

> lessons learned
RESEARCH

> lessons learned

> the EXPERIMENTAL case of Klinisch Ziekenhuis

WHAT MAKES A BUILDING ADAPTABLE

- Unfinished spaces
- Simple design solutions
- Providing redundancy
- Over design capacity
- Less component interaction
CONTEXT

> the site

Canal district/ UNESCO World Heritage site

source: http://www.skyscrapercity.com, photo of Ams guy
CONTEXT

> the history
CONTEXCT

> current situation

A Kraamkliniek (1968-1970)
B Vrouwenveband 1874-1877)
C Administration building (1990)/
   Children’s hospital (1913-1914)
D Klinisch ziekenhuis (1988-1890)
E Oudemanhuispoort (1754)
F Chirurgische Kliniek (1897-1900)
G Zusterhuis (1900-1901)
H Social housing block (1980)
CONTEXT

> urban analysis

SITE ENTRANCES

DENSITY OF PUBLIC CONCENTRATION

BUILDING HEIGHTS

PROGRAM

CONTEXT

SITE ENTRANCES

DENSITY OF PUBLIC CONCENTRATION

BUILDING HEIGHTS

PROGRAM

LOW

HIGH

Leisure activities /services

UvA

Dwellings

Leisure activities /services

UvA

Dwellings

Leisure activities /services

UvA

Dwellings

Leisure activities /services

UvA

Dwellings
CONTEXT

> Klinisch Ziekenhuis/ The new Clinical hospital

Architect: H. Leguyt
Year: 1888-1890
Current function: UvA Restaurant Atrium
Mensa/ Faculty of Social and Behavioural Sciences
Style: Neo-Dutch Renaissance
CONTEXT

> value assessment

- AESTHETICAL
  - ORNAMENTATION
- SOCIAL
- CULTURAL
- MONUMENTAL
  - FACADES
- ARCHITECTURAL
  - IRON BEAM, BAREL VAULTED BRICK FLOOR CONSTRUCTION
  - ROTUNDA
  - PAVILION HOSPITAL
- CANAL DISTRICT/ UNESCO WORLD HERITAGE SITE
- HIGH PERCENTAGE OF GREEN PUBLIC SPACES
- COLLECTIVE MEMORY

CONTEXT

SOCIAL

AESTHETICAL

CULTURAL

MONUMENTAL

ARCHITECTURAL
DESIGN

> starting points
DESIGN

> starting points
DESIGN

> the design idea

![Diagram showing "HISTORIC BUILDING" and "SOLIDS CONCEPT" intersecting to form "HISTORIC SOLID".](image-url)
The design idea

HISTORIC BUILDING \ intersection \ SOLIDS CONCEPT \rightarrow HISTORIC SOLID

OWNER \rightarrow \€ \rightarrow \text{HISTORIC BUILDING}
DESIGN

> the design idea

![Diagram showing the design idea involving historic buildings, solids concepts, and user and owner interactions.](image-url)
DESIGN

> the design idea

![Diagram showing the design idea with concepts of HISTORIC BUILDING, SOLIDS CONCEPT, and HISTORIC SOLID, along with symbols for OWNER, USER, €, and m² linking to HISTORIC BUILDING and INFILL.]
DESIGN

> the design components

- FACADE
- STRUCTURE
- ACCESS
- SERVICES
- STUFF/ SPACE PLAN
- SURROUNDINGS

LIFESPAN
200+ years

HARD FLEXIBILITY

PRESENT

SOFT FLEXIBILITY
Design

> Program

Propotion Diagram for Offices
DESIGN

> program

PROPORTION DIAGRAM FOR HOUSING

PROPORTION DIAGRAM FOR OFFICES
> access and routing
> access and routing

- Vertical Circulation
- Possible Door Openings
- Detached from Existing Structure
- Service Shaft
- The Living Staircase
> access and routing

VERTICAL CIRCULATION

THE LIVING STAIRCASE
> access and routing
DESIGN

> access and routing
DESIGN

> access and routing
> access and routing
DESIGN

services

- SERVICE SHAFT
- INFRASTRUCTURE FOR CEILING AND FLOOR
DESIGN

> services

SERVICE SHAFT

INFRASTRUCUTRE FOR CEILING AND FLOOR

MODULAR SERVICE STRUCTURE

SEPERATION WALL
> services

MODULAR SERVICE STRUCTURE

SERVICE SHAFT

INFRASTRUCURE FOR CEILING AND FLOOR

SEPERATION WALL

GROUND FLOOR
DESIGN

> services

GROUND FLOOR

1ST AND 2ND FLOOR

SERVICE SHAFT

INFRASTRUCTURE FOR CEILING AND FLOOR

MODULAR SERVICE STRUCTURE

SEPARATION WALL
DESIGN

> services

GROUND FLOOR

1ST AND 2ND FLOOR

MODULAR SERVICE STRUCTURE

SERVICE SHAFT

INFRASTRUCTURE FOR CEILING AND FLOOR

SEPERATION WALL
DESIGN

SERVICES

- Modular Service Structure
- Separation Wall
- Infrastructure for Ceiling and Floor
- Service Shaft

MODULAR SERVICE STRUCTURE FOR ATTIC
DESIGN

> services

- SERVICE SHAFT
- INFRASTRUCTURE FOR CEILING AND FLOOR
- MODULAR SERVICE STRUCTURE
- SEPARATION WALL

- MODULAR SERVICE STRUCTURE FOR ATTIC
DESIGN

> services

SERVICE SHAFT

INFRASTRUCTURE FOR CEILING AND FLOOR

MODULAR SERVICE STRUCTURE

SEPERATION WALL
DESIGN

> services/technical details
REINFORCEMENT OF THE IRON BEAMS TO ACCOMMODATE ANY FUNCTION
REINFORCEMENT OF THE IRON BEAMS TO ACCOMMODATE ANY FUNCTION
DESIGN

> services/technical details
DESIGN

> facade

[Image of architectural design with annotations for RESTORATION and INTERVENTIONS]
> facade

DESIGN

RESTORATION

INTERVENTIONS
> facade

DESIGN

RESTORATION

INTERVENTIONS

€€€€€

€€
DESIGN

> facade

RESTORATION

INTERVENTIONS
> facade

DESIGN

INTERVENTIONS

RESTORATION
DESIGN

> facade
> space plan

> scenario
> space plan
DESIGN

> space plan
> space plan

> ex. 1

64 m²
DESIGN

> space plan

> ex. 1

64 m²
DESIGN

> space plan

> ex. 1
DESIGN

> space plan

> ex. 2

64 m²
DESIGN

> space plan

> ex. 2

64 m²
DESIGN

> space plan

> ex. 2
DESIGN

> space plan

> ex. 2
DESIGN

> space plan

> ex. 3

31.5 m²
DESIGN

> space plan

> ex. 3

31.5 m²
DESIGN

> space plan

> ex. 3
DESIGN

> space plan

> ex. 4

31.5 m²
DESIGN

> space plan

> ex. 4

31.5 m²
DESIGN

> space plan

> ex. 4
> space plan

> ex. 5

31.5 m²
DESIGN

> space plan

> ex. 5

31.5 m²
> space plan

> ex. 5
> surroundings
> surroundings

DESIGN

PRIVATE

COLLECTIVE

PERMANENT PARK

surroundings
> surroundings
> surroundings
DESIGN

> surroundings
CONCLUSIONS

Can historic buildings perform as ‘Historic Solids’?
CONCLUSIONS

>> to cover all spatial wishes of different tenants lifestyle
>> for the tenant to get involved into the designing procedure
>> To attract a younger, age, education and employability population, capable of undertake the design and maintenance of their own homes and offices.
>> designing for the unkown to meet the needs of the future

>> Achieving easily the changeability of the service structure. (good cooperation of the user and the owner)
>> Specific features of each historic building result in restricted or predetermined designs (frame)
>> Functional limitation. Housing and small offices are the most appropriate functions
>> each historic building has to be treated differently

W

>> obtain buildings conservation/maintenance
>> enhance urban regeneration for tenants and students
>> fulfil the need for urban habitation within the city borders
>> maintain city’s density
>> avoid end up with repetitive new Solids
>> building developers achieve to shift from mass housing to mass customization
>> achieve diversity

O

>> house is encounter as economical speculation object due to constant change of living environment/no strong relation with their houses/ no necessity to invest

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THANK YOU