Graduation Thesis

A PROJECT FOR A SECONDARY SCHOOL IN AMSTERDAM NORTH

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Content

A PROJECT FOR A SECONDARY SCHOOL IN AMSTERDAM NORTH

1. theoretical premise
   - school as “singular place”
   - school as institution
   - school as interior world
   - boundaries

2. research and design strategy

3. promenade

4. materialization

5. conclusions
Theoretical Premise
A SECONDARY SCHOOL IN AMSTERDAM NORTH

“As time becomes more flexible, places become more singular”.
Theoretical Premise

SCHOOL AS A “SINGULAR PLACE”

“..Schools.. still exist and will exist.. as time becomes more flexible, places become more singular, as people circulate among them in an increasingly mobile pattern”.


It is a persistent social institution, which functions as an urban landmark.

The school is a REFERENCE IN THE CITY.

Schools are particular types of institution, which “take the form of an apparatus closed upon itself, with its specific loci, its own regulations, its hierarchical structures that are carefully defined and a relative autonomy in its functioning..”

The school is a “highly organized microcosm”.

(Foucault M. in Subject and Power, 1984).

It provides children with a first experience of society.

The school is constituted by the events that take place within it.

The school is an INTERIOR WORLD.
Theoretical Premise

SCHOOL AS AN INTERIOR WORLD

School’s activities and spaces can be divided into two domains: the *formal* and the *informal*.

*Formal purpose:*

The transmission of knowledge, from teacher to students and from student to student.

The CLASSROOM is that ‘container’ in which the inter-human knowledge exchange happens.

*Informal purpose:*

The experiment of socialization and cohabitation among peers.

The CIRCULATION SPACES are crucial for this ‘non-monitored’ interaction.
Theoretical Premise

BOUNDARIES

The challenge is to design a school that keeps students within it.

ADVANTAGE: solution of the safety issues (defence, control, monitoring).

RISK: sense of oppression causing the failure of identification of the students with the building.

PROBLEMS: different logistic and infrastructural arrangements required by the different departments of the school.
Problematic integration among students, coming from different social, ethnical and age groups expressed also through violent episodes.

The focus of the design is on the boundaries between formal and informal spaces.
Being permanent or flexible, they give the possibility of expanding the classroom in different ways.

In this way different classroom's typologies emerge.
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   - program
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   - site strategy
   - distribution strategy
   - architectural concept
   - structural concept

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Research and Design Strategy

PROGRAM

The program consists of 8 departments and 4 groups of common facilities.

The departments are:
- vwo/havo and vmbo for young students;
- vwo, havo, vmbo (health/social, economics and technical) and mbo for old students.

Total gross surface: 15000 m².
Amsterdam North and Amsterdam Centre represent two different urban conditions (in terms of time-space and relative socio-cultural composition) facing each other on the Ij river.
The Ij Plein, on the northern bank of the IJ river, was designed as a “green square” in the urban plan by OMA (1986).

It represents a distinctive sign of Amsterdam North.
Research and Design Strategy

SITE ELEMENTS

view

bike path and canal
Research and Design Strategy

SITE STRATEGY

To strengthen the axis of the road of OMA’s plan.

*Minimizing the width* of the building.
*Tuning the height* on the scale of the surrounding buildings.

Stacking the program.
1. No division into departments but rather into classroom’s typology:

- TECHNICAL
- THEORETICAL
- HEAVY TECHNICAL

Theory is the common ground of every department.

2. Division among

- YOUNG STUDENTS
- OLD STUDENTS

Flexibility in the composition of the departments according to quantities over time is allowed.
Research and Design Strategy

ARCHITECTURAL CONCEPT

1 path = 1 school.

The path is the *constant* element that crosses different layered landscapes.

The path is the central means for orientation. It furthers the sense of belonging to the school.

*first case study: design of the library.*
Research and Design Strategy
LONGITUDINAL SECTION

1 path = 1 school
Research and Design Strategy

DISTRIBUTION IN PLAN

8 departments

old/young students

1 path

informal public spaces

common facilities
Research and Design Strategy

STRUCTURAL CONCEPT

The structure is made of concrete walls, which turn of 90 degrees at different floors.

This system allows a non rigid separation between departments, providing different directions along which classrooms can be extended, i.e. including or excluding the circulation space.

The structure enhances the creation of zones of opaqueness or transparency towards the context.
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3. promenade
   - urban plan
   - floorplans and sections, different spatial relations between classroom and inner public space
   - from morning until evening

4. materialization

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Promenade

THE SCHOOL IN THE SITE
Promenade
THE SCHOOL SQUARE
Morning.
Promenade
ENTRANCE
Morning.
Promenade

GROUND FLOOR

Entrance.

Inside porch.

MBO workshops.
Promenade
GROUND FLOOR

Views.
Cross section 1-1'.

inside portico

mbo technical workshop
Promenade

FIRST FLOOR

*Public space towards the outside.*

Open air promenade.
Theory classrooms.
Promenade
FIRST FLOOR

Views.
Cross section 2-2'.
Promenade

SECOND FLOOR

*Public space is totally interior.*

Hanging box.
Theory classrooms.
Promenade
SECOND FLOOR

Views.
Cross section 3-3'.

theory classroom and public space

“hanging box”
Promenade

THIRD FLOOR

*Public space becomes introverted.*

Balconies and terrace. Technical and mixed-use classrooms.
Promenade
THIRD FLOOR

Views.
Cross section 2-2’.

technical classroom

balconies
Promenade

FOURTH FLOOR

Public space becomes linear.

Light from above.
Technical and mixed use classrooms.
Promenade
FOURTH FLOOR
Views.
Cross section 3-3'.
mixed-use classroom
mixed-use classroom and public space
Promenade

EXIT

Evening.
Promenade

IJ PLEIN

Evening.
Promenade
THE SCHOOL SQUARE

Night.
Promenade

IJ PLEIN

Night.
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4. materialization
   - concept, structure and mass
   - experiments
   - inside and outside
   - façades
   - systems integration and detailing

5. conclusions
Materialization MODELS

concept model

structural model

mass model
Materialization

FACADE EXPERIMENTS

homogeneous

![Image of a building with a homogeneous facade](image)

reference:
Gigon and Guyer, housing in Broelberg, Switzerland (2002).

strongly distinct parts

![Image of a building with strongly distinct parts](image)

reference:
Gigon and Guyer, maintenance workshop in Davos, Switzerland (1999).

highlighted surfaces with colours

![Image of a building with highlighted surfaces](image)

reference:
Gigon and Guyer, maintenance two houses in Zurich, Switzerland (1998).
Materialization

STRATEGY

INSIDE AND OUTSIDE

Outside:
the division of the program in three parts prevails.

Inside:
the logic of the structure prevails.
Materialization

INSIDE AND OUTSIDE

reference:
C. Hendrich, A. Bauhofer,
institute building in Freiburg, Germany (2005).
Materialization

FAÇADES

Bricks.
Materialization

SOUTH FAÇADE

Facing the Ij.
Service entrance.
Materialization

SOUTH FAÇADE

Approaching the school from the dyke.
Materialization

EAST FAÇADE

Street and canal.
Materialization

EAST FAÇADE

View from the south. View from the north.
Materialization

NORTH FAÇADE

Main entrance.
Materialization

NORTH FAÇADE

Main entrance on the school square.
Materialization

WEST FAÇADE

Openness towards the Ij Plein.
Materialization
WEST FAÇADE

View from south-west.
Materialization

WEST FAÇADE

Fragment.
Materialization

WEST FAÇADE

View from the west.
Materialization

WEST FAÇADE

Detailing.
Materialization

SYSTEMS INTEGRATION

heating/cooling

natural ventilation

structure

wind stability
Materialization

BASEMENT OPENING

Heavy technical classrooms.
Massive masonry.
The basement is rooted in the ground.
Materialization

THEORY PART OPENING

Theory classrooms.

Aluminium foldable fenestration that constitutes a flexible boundary.

Openness and transparency towards the outside.

Reference:
Gigon and Guyer, maintenance workshop in Davos, Switzerland (1999)
Materialization

TECHNICAL PART OPENING

Mixed-use classrooms.

The masonry is evidently non-load bearing: big openings and aluminium framing.

This masonry is more abstract than the basement one.

Reference:
Klaus & Kaan, students house in Amsterdam, Netherlands (2005).
Materialization

INNER MATERIALS AND BOUNDARIES

Technical part.
Third and fourth floor.

*Structure and furniture-like elements* are legible by the use of *concrete* and *wood*.

*Filt panels* are adopted to improve the acoustic of the public spaces.

*Technical classroom*: extendible via sliding walls. It remains separated from the public space.

*Mixed-use classroom*: openable via pivoting walls towards the circulation space.

plan of a fragment of the third floor (1:50).
Materialization

INSIDE MATERIALS AND BOUNDARIES

Theory part.
First and second floor.

Structure and furniture-like elements are legible by the use of concrete and wood.

Theory classroom: expandable via folding screens across the public space. It can be stretched along the full width of the floor.

plan of a fragment of the second floor (1:50).
Materialization

INSIDE MATERIALS AND BOUNDARIES

Heavy technical part.
Ground floor.

Structure and furniture-like elements are legible by the use of concrete and wood.

Filt panels are adopted to improve the acoustic of the public spaces.

Mbo Technical spaces: enclosed by two structural walls, can be extended along the length of the building.
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Conclusions

INSTITUTION AND MICROCOSMOS

Two tasks.
Conclusions

LANDSCAPES

Three layers.
Conclusions

COMMON PATH

One identity.