

# Schools Scaled

PRECEDENT RESEARCH

# Paspels School

## CONTEXT

Switzerland, 2001

## ARCHITECT

Valerio Olgati

## SCHEME

A bearing-wall block of regular classrooms, each with its own specific view, that create irregular corridors that take on the scale of a space.

## SPATIAL ORGANIZATION

Solids Making Voids

## SYSTEM OF CONSTRUCTION

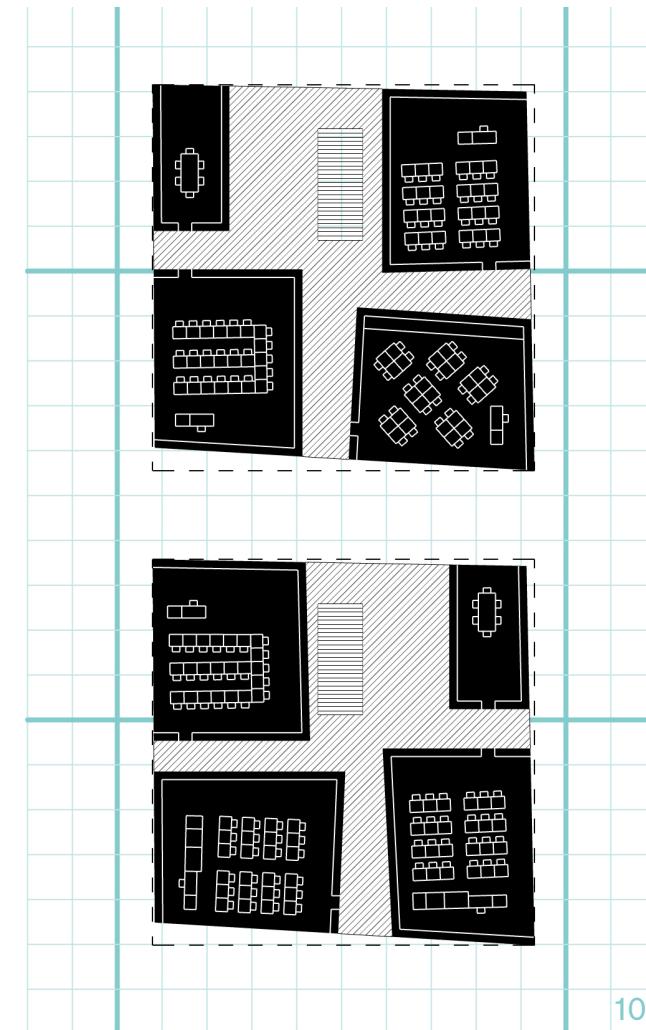
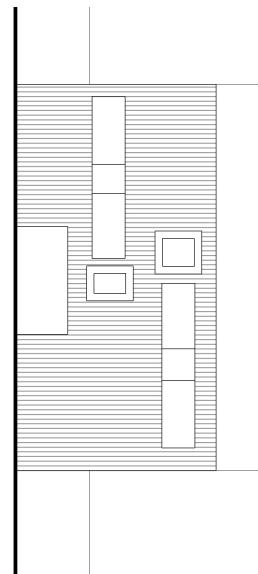
Cast in place concrete

## FORM-GIVING ELEMENTS

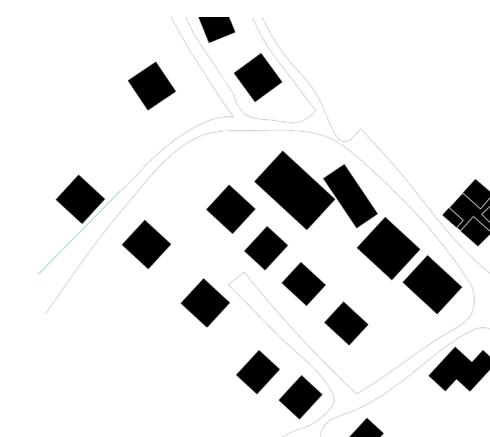
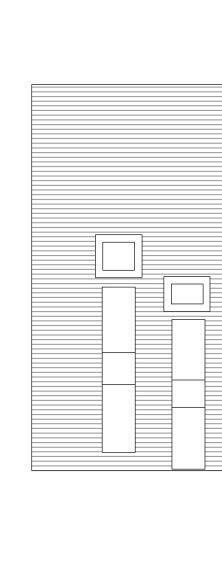
Corridor

Classroom

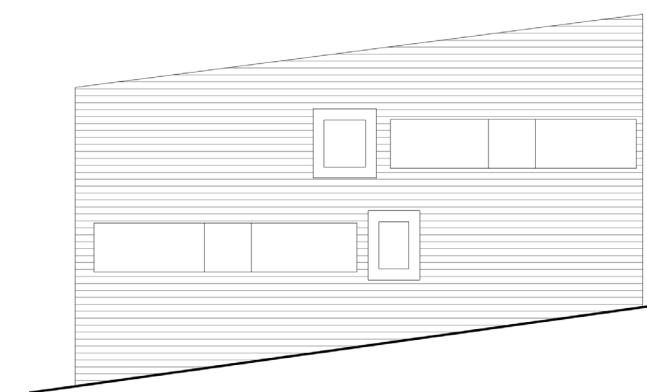
Elevation (Window)



PROGRAM SCALE



URBAN SCALE



DETAIL SCALE

## PROGRAM/FUNCTIONAL QUESTIONS

How to give the hallway autonomy and make the corridor experiential?

## DISCIPLINARY QUESTIONS

How to use small scale distortions to create surreal difference in quality and view?

## EXPERIENTIAL QUESTIONS

How to create the sense that something is slightly off?

## TECTONIC QUESTIONS

How to distinguish corridor from classroom windows in elevation?

# Villa Alem

## CONTEXT

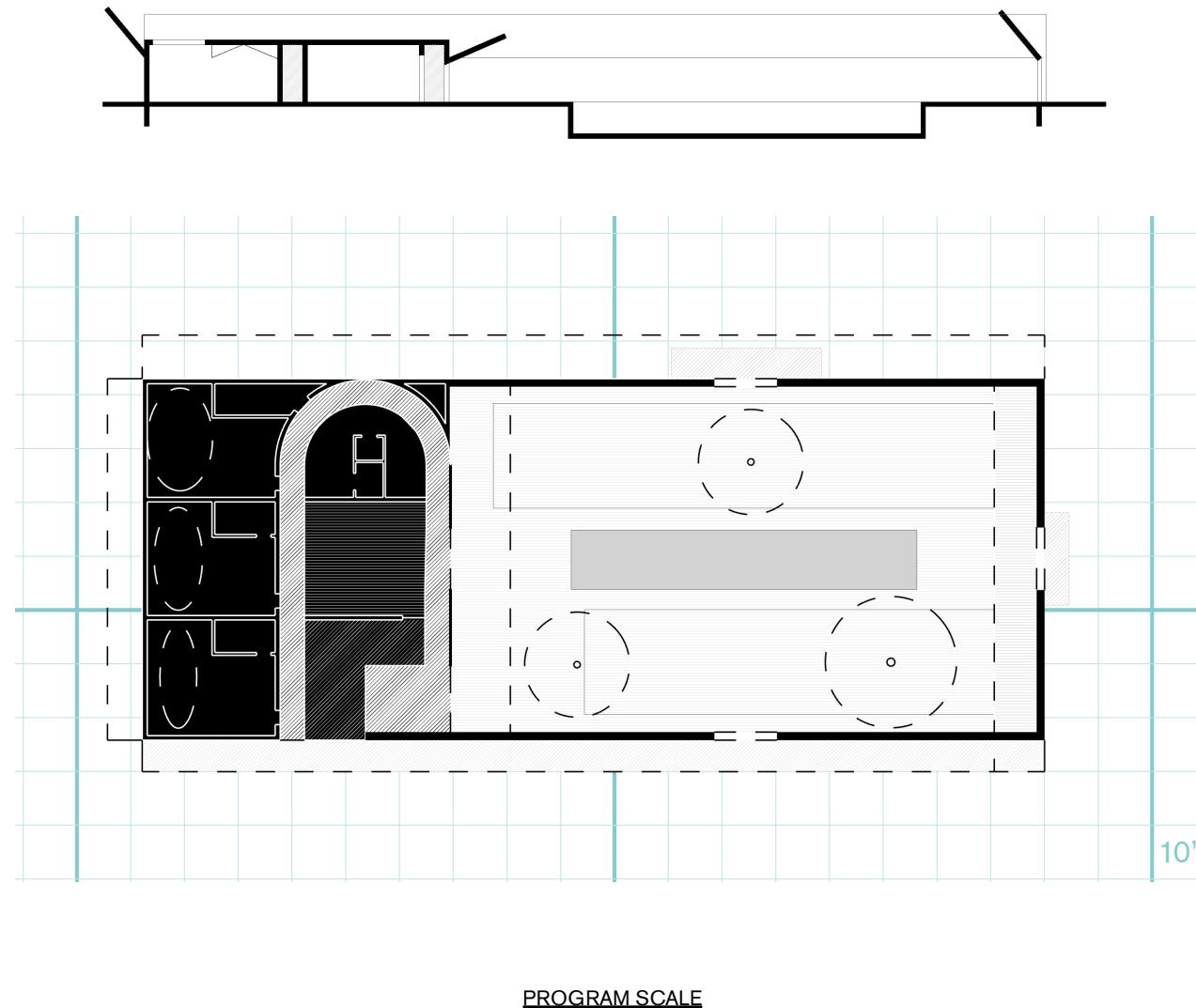
Portugal, 2014

## ARCHITECT

Valerio Olgati

## SCHEME

A walled garden containing the surrounding landscape with a mass located at one end. A hallway swings from the garden and into bedrooms that open towards austere courts with skylights.

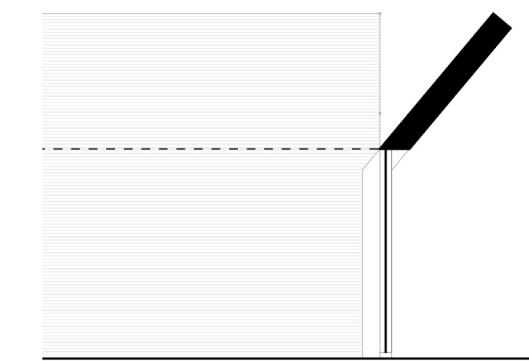
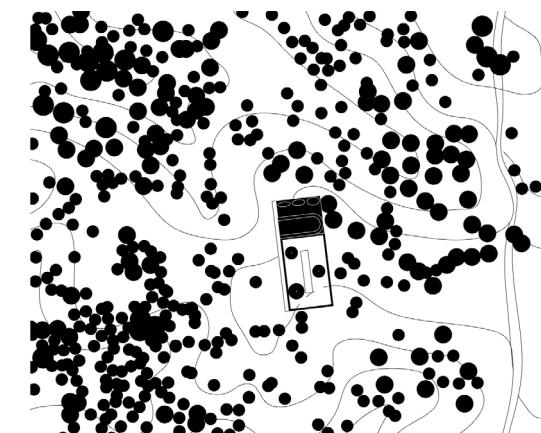


## SPATIAL ORGANIZATION

Bent Spine

## SYSTEM OF CONSTRUCTION

Cast in place concrete



## FORM-GIVING ELEMENTS

Corridor

Courtyard

Wall (Picture Openings)

Skylight

## EXPERIENTIAL QUESTIONS

How to make separate worlds spin off of a corridor? How to amplify the contrast between enclosed and open?

## TECTONIC QUESTIONS

How to fold a concrete wall? How to signify an empty box?

## SITE QUESTIONS

How to hold and intensify the landscape of a site?

# Primary School in Gando

## CONTEXT

Burkina Faso, 2001

## ARCHITECT

Francis Kere

## SCHEME

A linear bar of bearing walls containing classrooms and interstitial courts spanned by a single trussed roof.

## SPATIAL ORGANIZATION

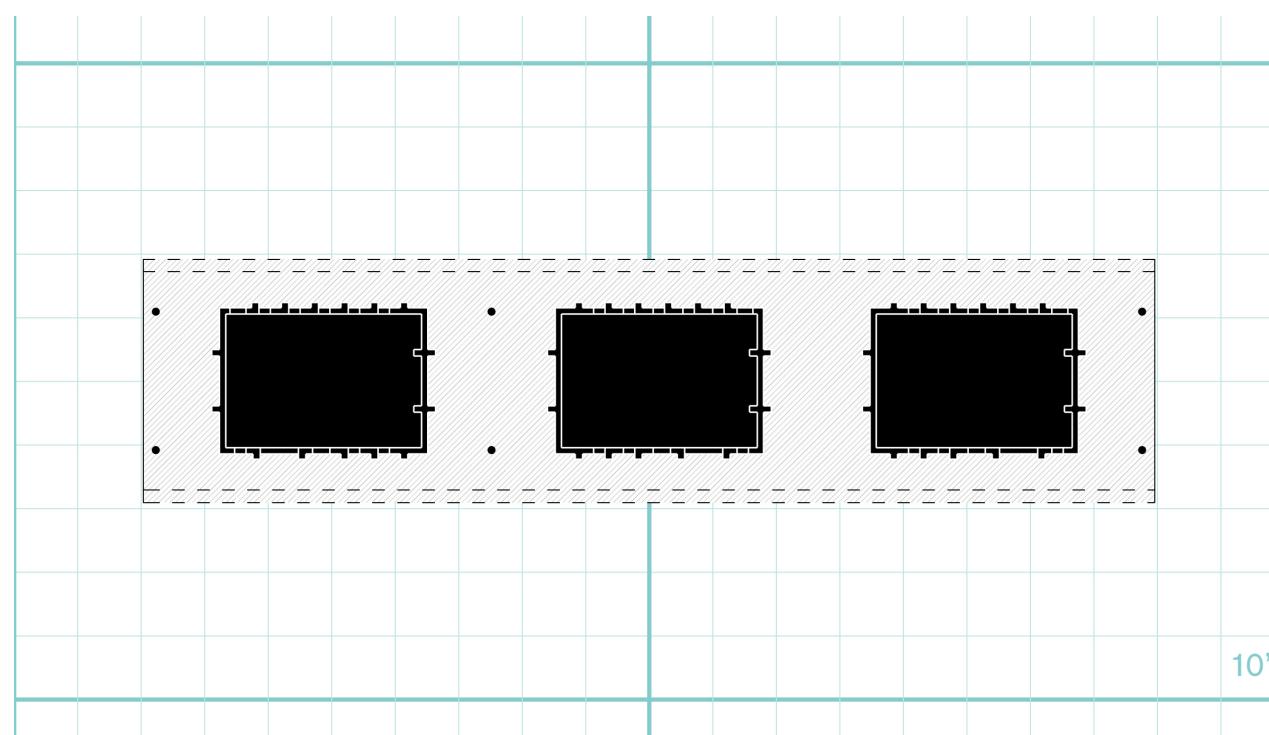
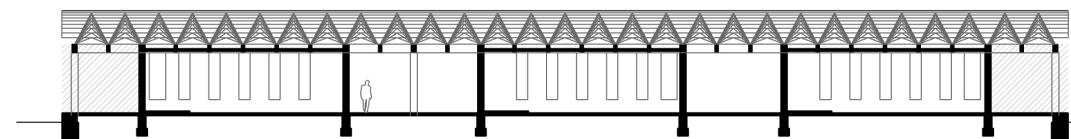
Solids Making Voids

## SYSTEM OF CONSTRUCTION

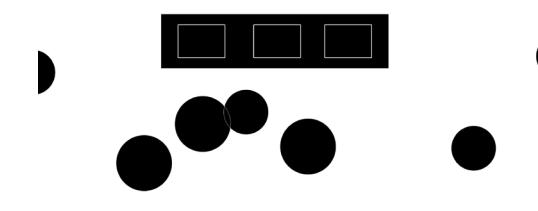
Compressed Earth Block  
Roof (Rebar Truss, Mtl Deck)

## FORM-GIVING ELEMENTS

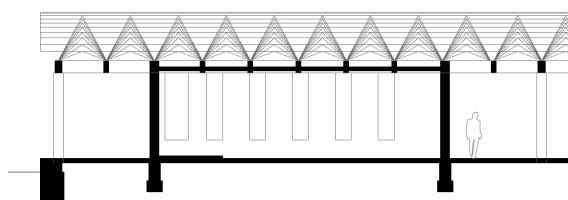
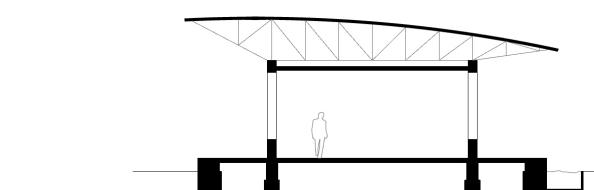
Classrooms  
Roof  
Breezeway  
Concrete Pad  
Buttressed Wall



PROGRAM SCALE



URBAN SCALE



DETAIL SCALE

## DISCIPLINARY QUESTIONS

How to build a school from local material, labor, and knowledge?

## EXPERIENTIAL QUESTIONS

How to make residents believe in the strength and dignity of local construction methods?

## PROGRAM/FUNCTIONAL QUESTIONS

How to naturally cool the building?

## TECTONIC QUESTIONS

How to make every material play a formative role in the identity of the project?

# Lycee Schourge

## CONTEXT

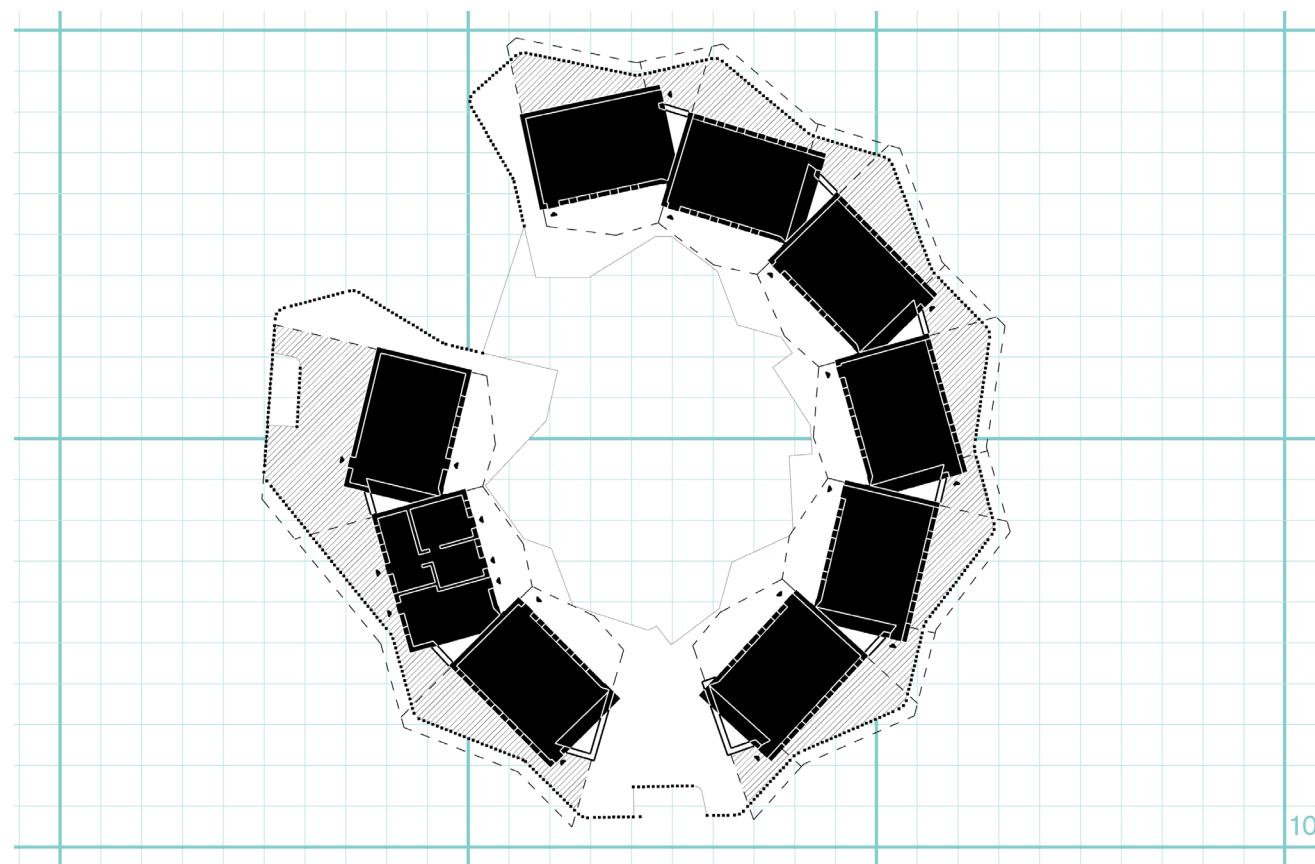
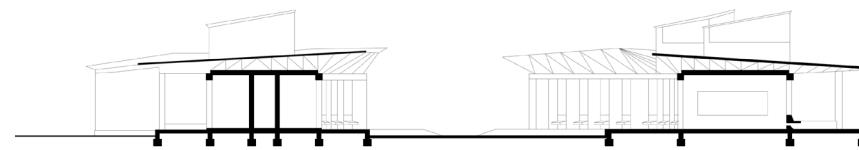
Burkina Faso, 2016

## ARCHITECT

Francis Kere

## SCHEME

A radial courtyard made by classrooms such that the space in between the classrooms and the breezeway on the outside serves to naturally ventilate the building.



## SPATIAL ORGANIZATION

Onion

## SYSTEM OF CONSTRUCTION

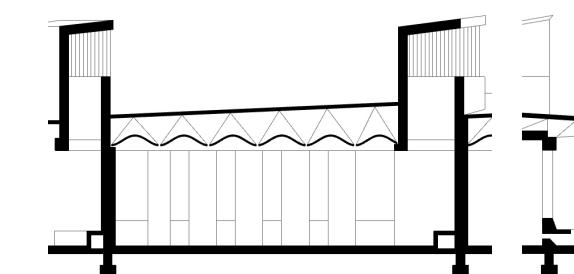
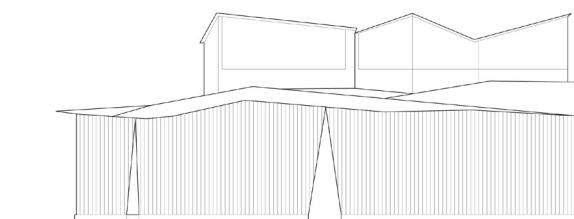
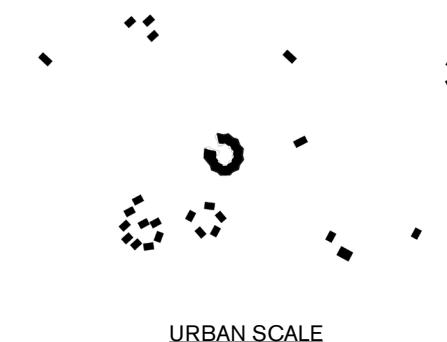
Compressed Earth Block / Reeds  
Metal Deck Roof (Rebar Trusses)

## FORM-GIVING ELEMENTS

Classrooms  
Ventilation Towers  
Breezeway  
Roof & Supporting Truss  
Dropped Ceiling

## DISCIPLINARY QUESTIONS

How to create a low-tech architecture that has enough identity to inspire pride and reverse a value system that sees foreign technologies as superior?



## PROGRAM/FUNCTIONAL QUESTIONS

How to provide shaded spaces for large and small groups?

## TECTONIC QUESTIONS

How to make an entrance out of reeds? How to use the ceiling for natural ventilation?

# Fagnano Olona

## CONTEXT

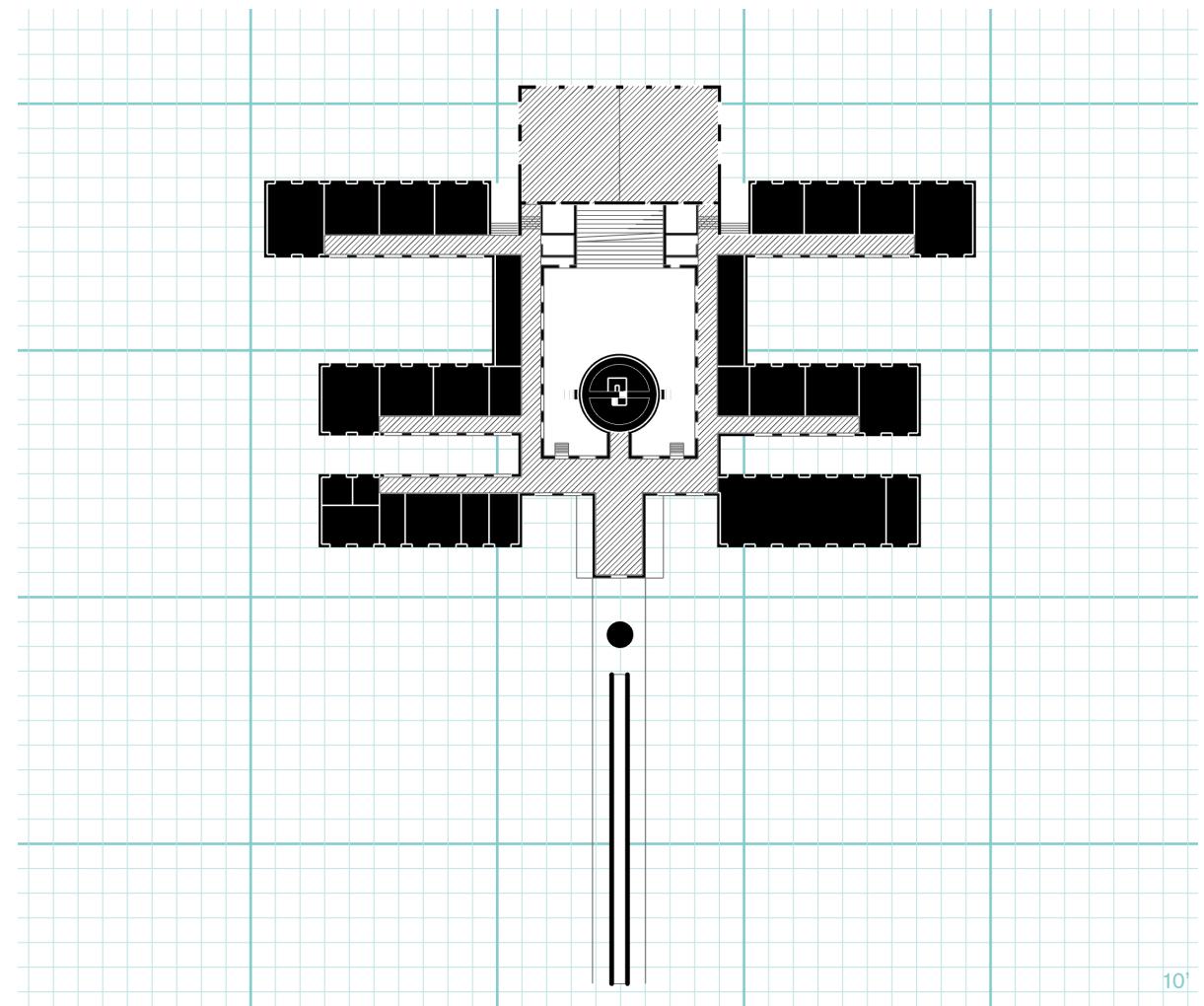
Olona, Italy, 1972

## ARCHITECT

Aldo Rossi

## SCHEME

A series of classroom wings that transform in height along a central spine containing a courtyard, two token symbols, and a stepped outdoor amphitheater.

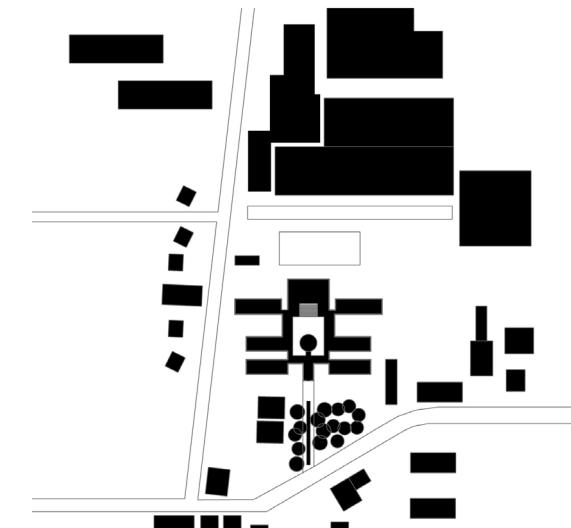


## SPATIAL ORGANIZATION

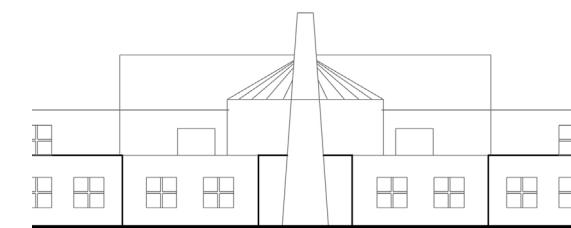
Spine

## SYSTEM OF CONSTRUCTION

Concrete Timber



URBAN SCALE



DETAIL SCALE

## FORM-GIVING ELEMENTS

Ampitheater Steps  
Breezeway/Passage  
Chimney  
Courtyard

## DISCIPLINARY QUESTIONS

How to organize a sequence of experiences into a totality? How to organize a building using elements of the city (a street, a bridge, a wall)?

## EXPERIENTIAL QUESTIONS

How to create the strange and eerie through rationally ordered parts?

## SITE QUESTIONS

How to merge the scale of the houses in the town and the scale of the factory buildings at the back?

## PROGRAM/FUNCTIONAL QUESTIONS

How to create connections across the classrooms? How to give the corridor light?

# Broni

## CONTEXT

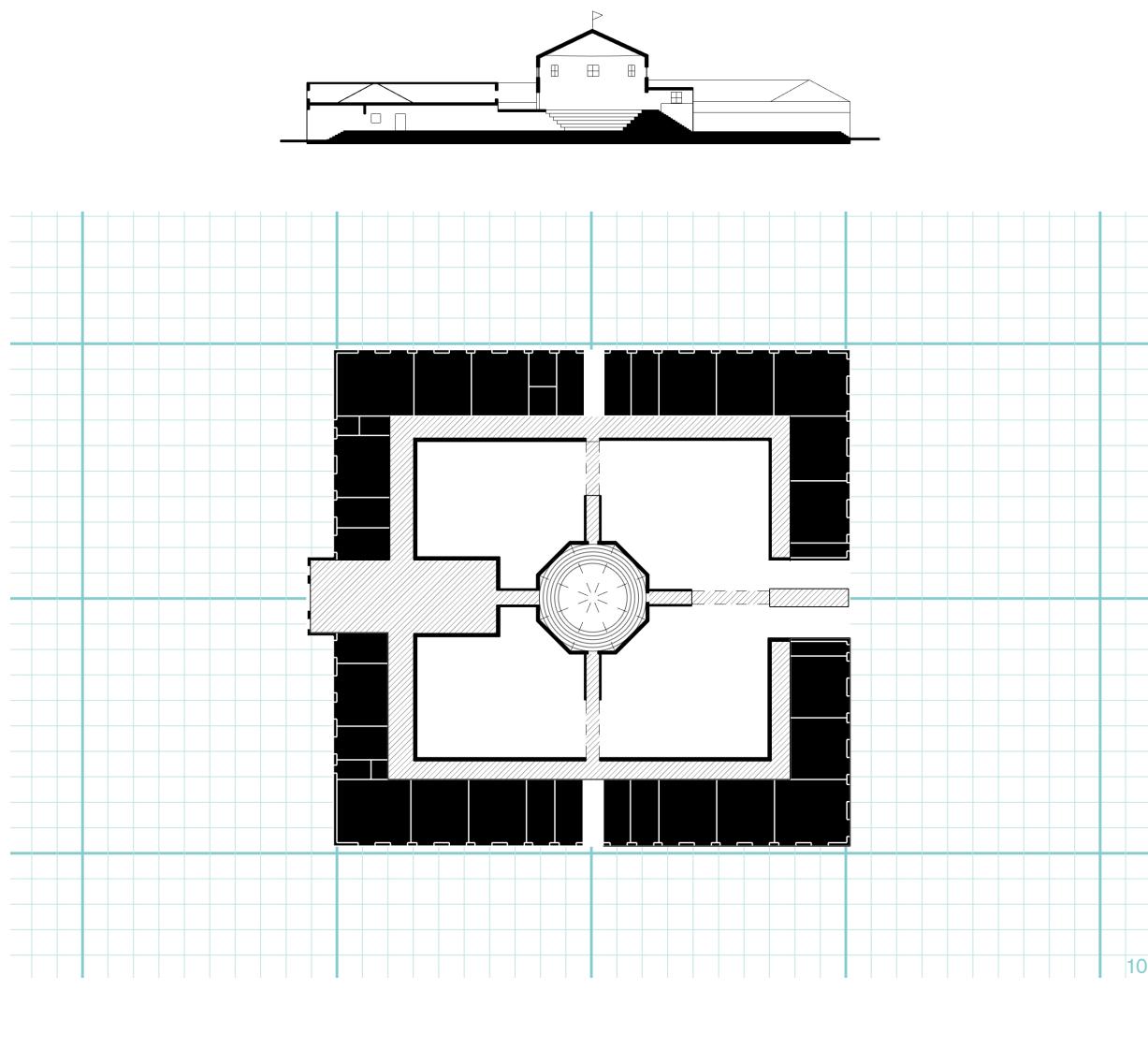
Italy, 1979

## ARCHITECT

Aldo Rossi

## SCHEME

An entry passage and a courtyard made by classrooms that is divided and unified by a token space at the center

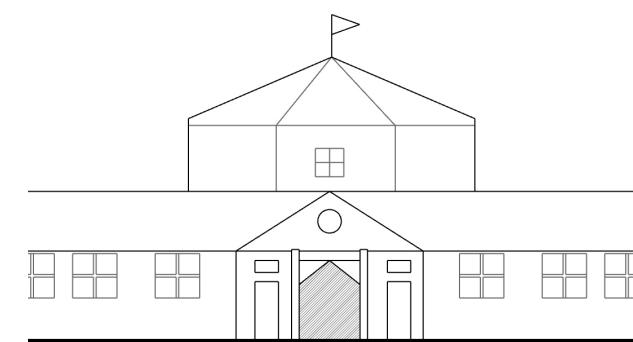


## SPATIAL ORGANIZATION

Onion/Swiss Cheese

## SYSTEM OF CONSTRUCTION

Concrete & Timber



## FORM-GIVING ELEMENTS

Courtyard

Library (Symbolic Space)

Breezeway (Passage)

Window

## DISCIPLINARY QUESTIONS

How to organize a sequence of discrete urban experiences into a single form at the scale of a building?

## SITE QUESTIONS

How to make the building feel separate from the city and also important to it?

## PROGRAM/FUNCTIONAL QUESTIONS

How to further condense the quality of the courtyard plan at Fagnano?

## TECTONIC QUESTIONS

How to express collectivity with the window?

# Volta School

## CONTEXT

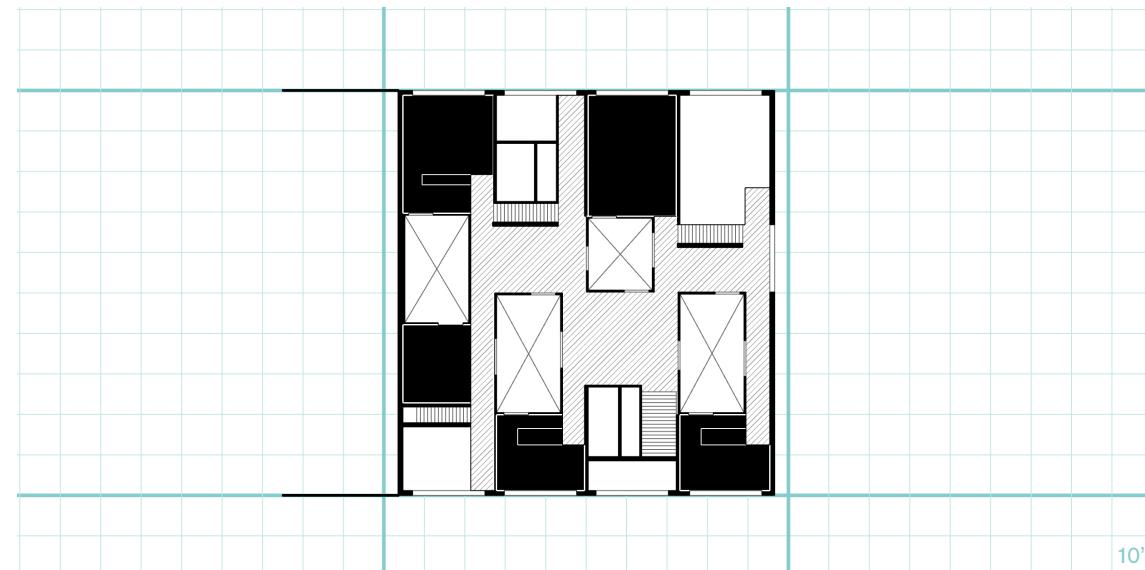
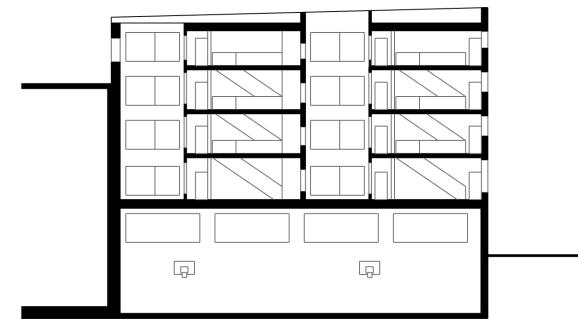
Basel, Switzerland, 1997

## ARCHITECT

Miller & Maranta

## SCHEME

A system of wall-slab plates spanning a big gym and containing classrooms/full height internal courtyard pairs connected by a network of hallways that takes on the scale of a space (thus getting light into the thick plan and creating views across).



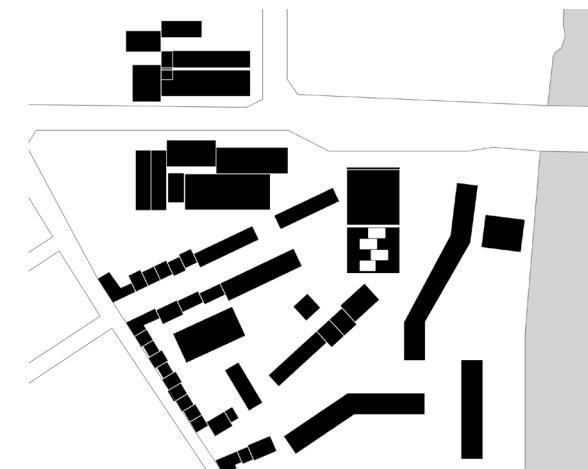
PROGRAM SCALE

## SPATIAL ORGANIZATION

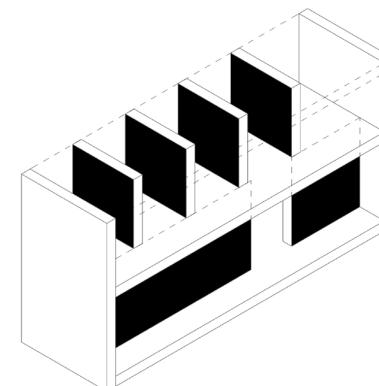
Onion/Swiss Cheese

## SYSTEM OF CONSTRUCTION

Rigid Slab + Shear Wall Diaphragm



URBAN SCALE



DETAIL SCALE

## FORM-GIVING ELEMENTS

Corridor

Atria

Classrooms

## EXPERIENTIAL QUESTIONS

How to use the “undesirable” aspects of a brief as the engine for a project?

## SITE QUESTIONS

How to take the urban/residential schizophrenia of the site and intensify it in the experience?

## PROGRAM/FUNCTIONAL QUESTIONS

How to create lobbies for classrooms and varied connections between classrooms and city?

## TECTONIC QUESTIONS

How to use the shear wall to make a span? (To transfer bending and plate forces) A. Deplazes, *Constructing Architecture*, p. 376-377

# Maison Latapie

## CONTEXT

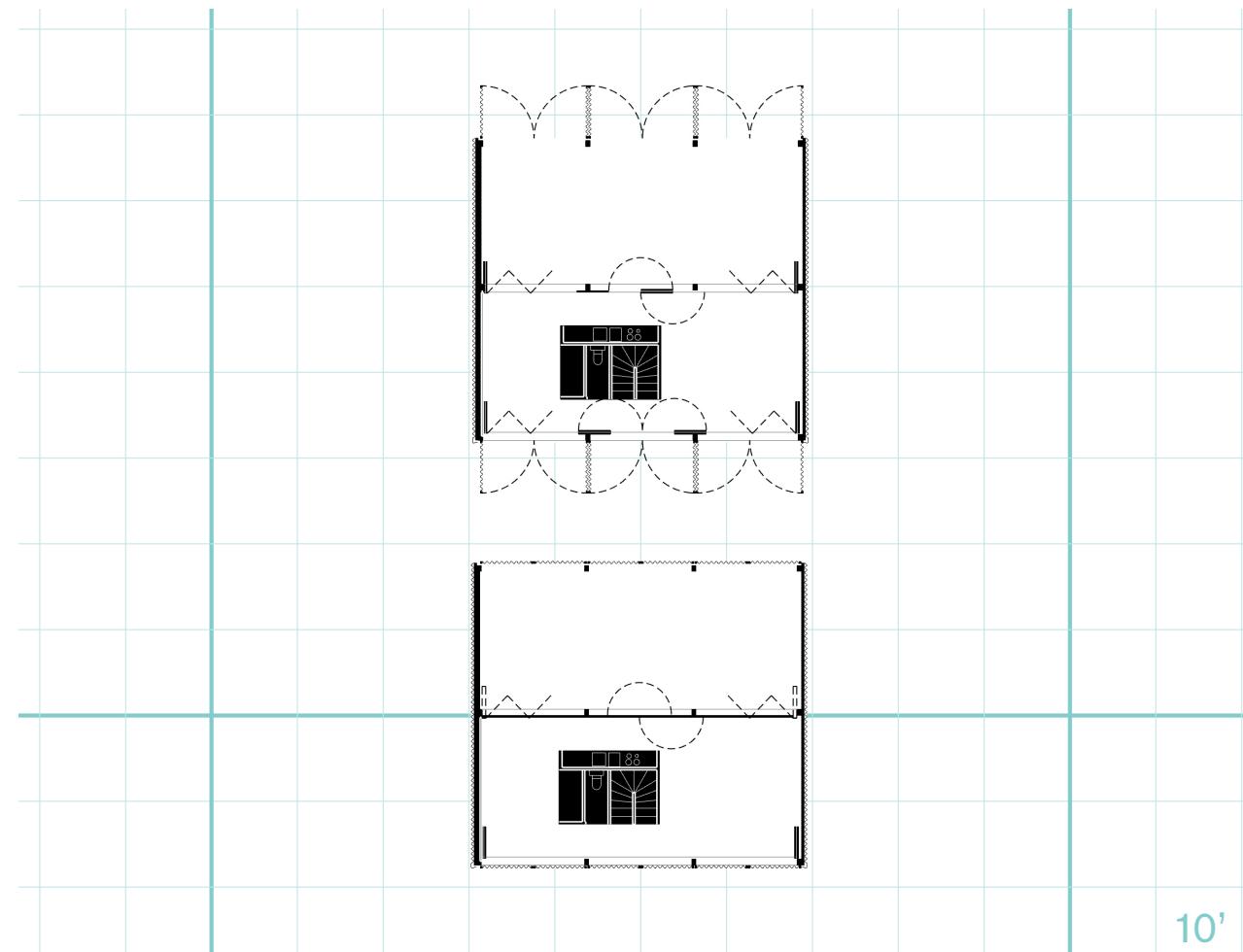
France, 1993

## ARCHITECT

Lacaton and Vassal

## SCHEME

A two level Russian Doll box: a condensed utility core heating the surrounding light-steel construction so that it can be occupied differently at different times of year.



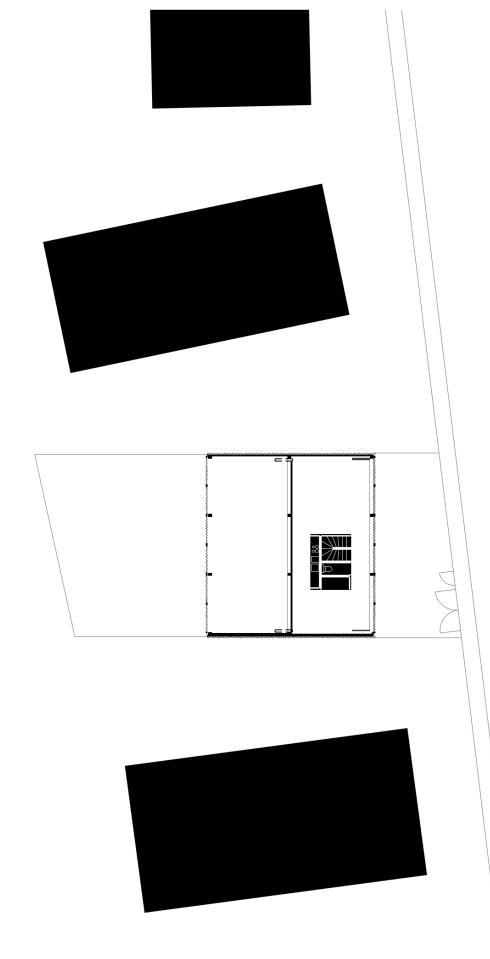
PROGRAM SCALE

## SPATIAL ORGANIZATION

Onion

## SYSTEM OF CONSTRUCTION

Steel Frame / Polycarb Cladding



URBAN SCALE

## FORM-GIVING ELEMENTS

Systems “Core”  
Operable Doors  
Void Space

## DISCIPLINARY QUESTIONS

How to condition only some parts of a building? How to make space that can flex with changing climactic conditions?

## TECTONIC QUESTIONS

How to adapt greenhouse construction to a house?

## SITE QUESTIONS

How to create a street side and a garden side?

## PROGRAM/FUNCTIONAL QUESTIONS

How to create bright spaces that can be used in winter?

## EXPERIENTIAL QUESTIONS

How to create a building with an open and a closed state in its nature?

# Schule im Birch

## CONTEXT

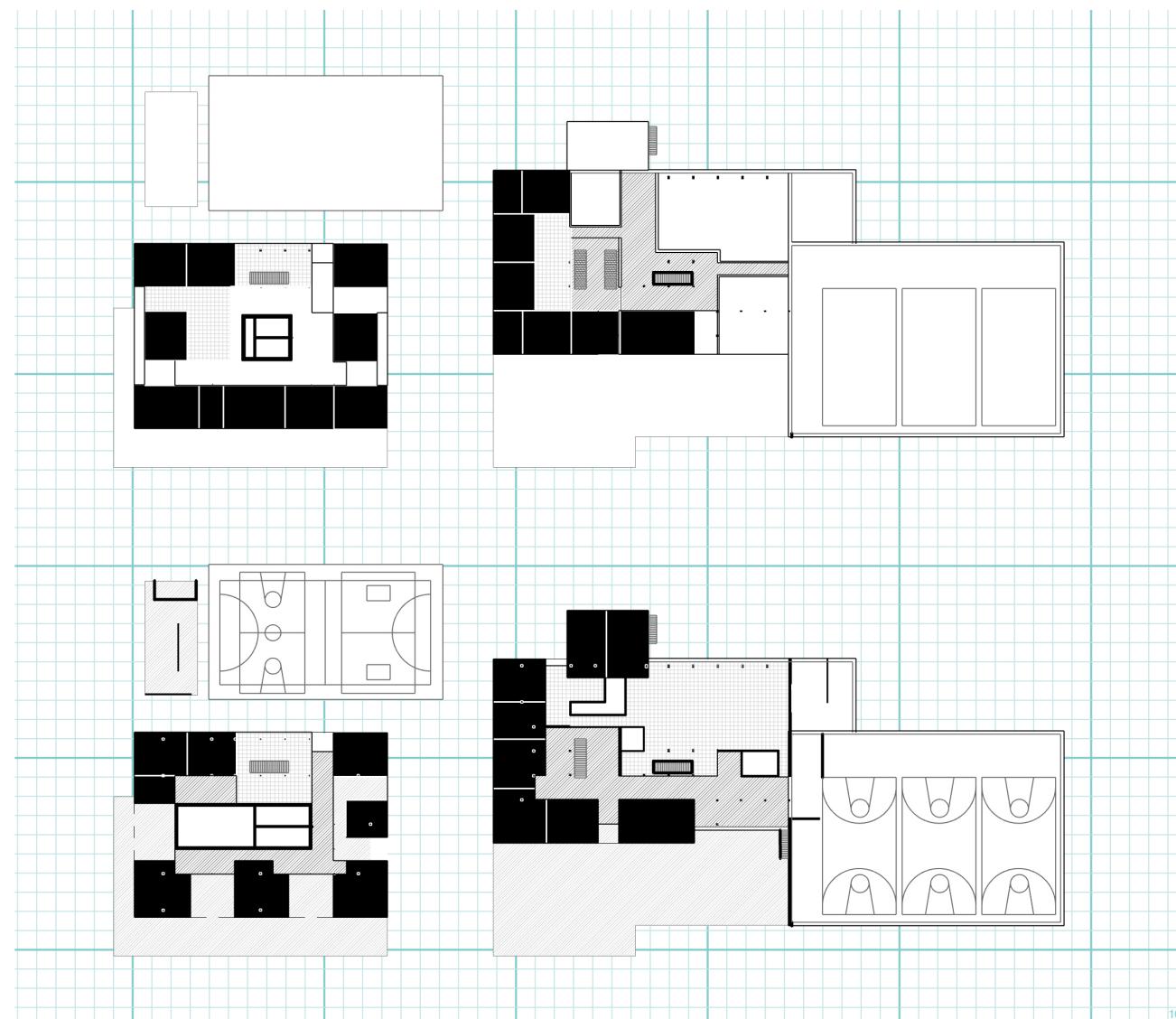
Zurich, Switzerland, 2004

## ARCHITECT

Peter Markli

## SCHEME

Multiple schools separated into functionally independent classroom rings that surround shared lobbies with circulation. Separate schools made to read as a single mass



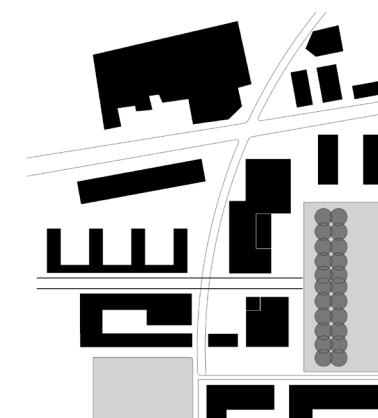
PROGRAM SCALE

## SPATIAL ORGANIZATION

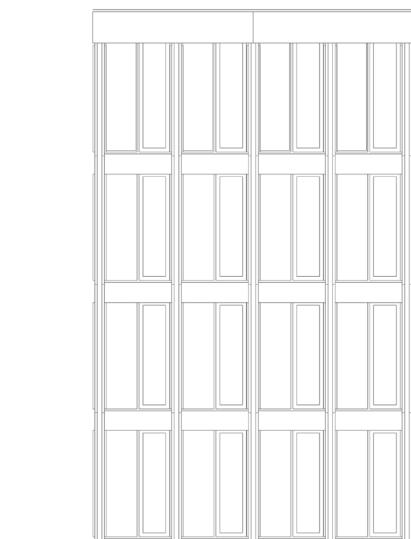
Overlapped Clusters

## SYSTEM OF CONSTRUCTION

Precast Column and Slab



URBAN SCALE



DETAIL SCALE

## FORM-GIVING ELEMENTS

Site Slabs

Classroom Clusters

Plazas + Fields

## PROGRAM/FUNCTIONAL QUESTIONS

How to create groups of classrooms, small schools within a larger school?

## SITE QUESTIONS

How to connect the neighborhood to the park and activate the site for the neighborhood? How to create entrances to separate schools?

## DISCIPLINARY QUESTIONS

How to create one building without requiring a giant footprint? (Two building that read as one)?

## TECTONIC QUESTIONS

How to give a precast facade delicacy? How to maximize openness of the classrooms and the connections between them?

# Milstein Hall

## CONTEXT

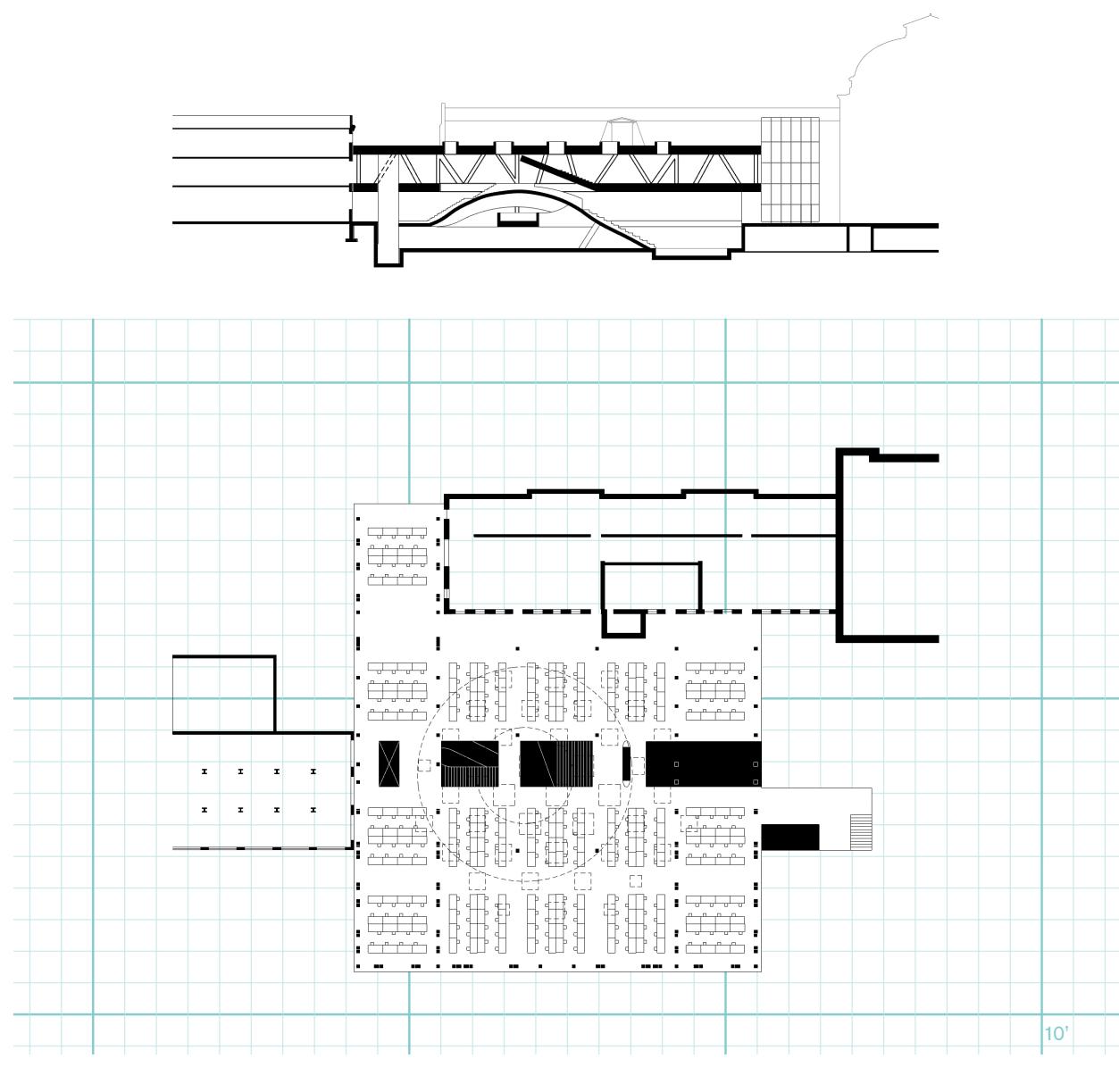
New York, United States, 2006-2011

## ARCHITECT

Office of Metropolitan Architecture

## SCHEME

Long-spanning, minimally divided plate filled with studio desks, poised on public “ground” and tacked to existing buildings



PROGRAM SCALE

## SPATIAL ORGANIZATION

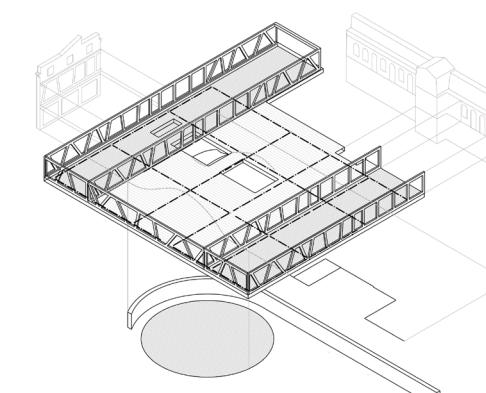
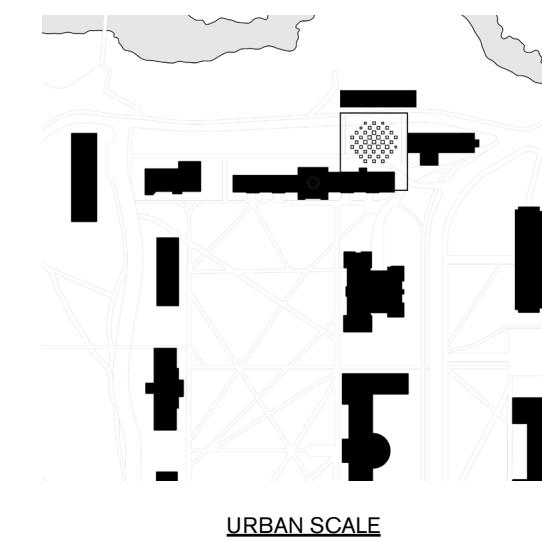
Undifferentiated Field

## SYSTEM OF CONSTRUCTION

Steel Trusses  
Reinforced Concrete Shell

## FORM-GIVING ELEMENTS

Virindeel Trusses  
Ground Plane



DETAIL SCALE

## DISCIPLINARY QUESTIONS

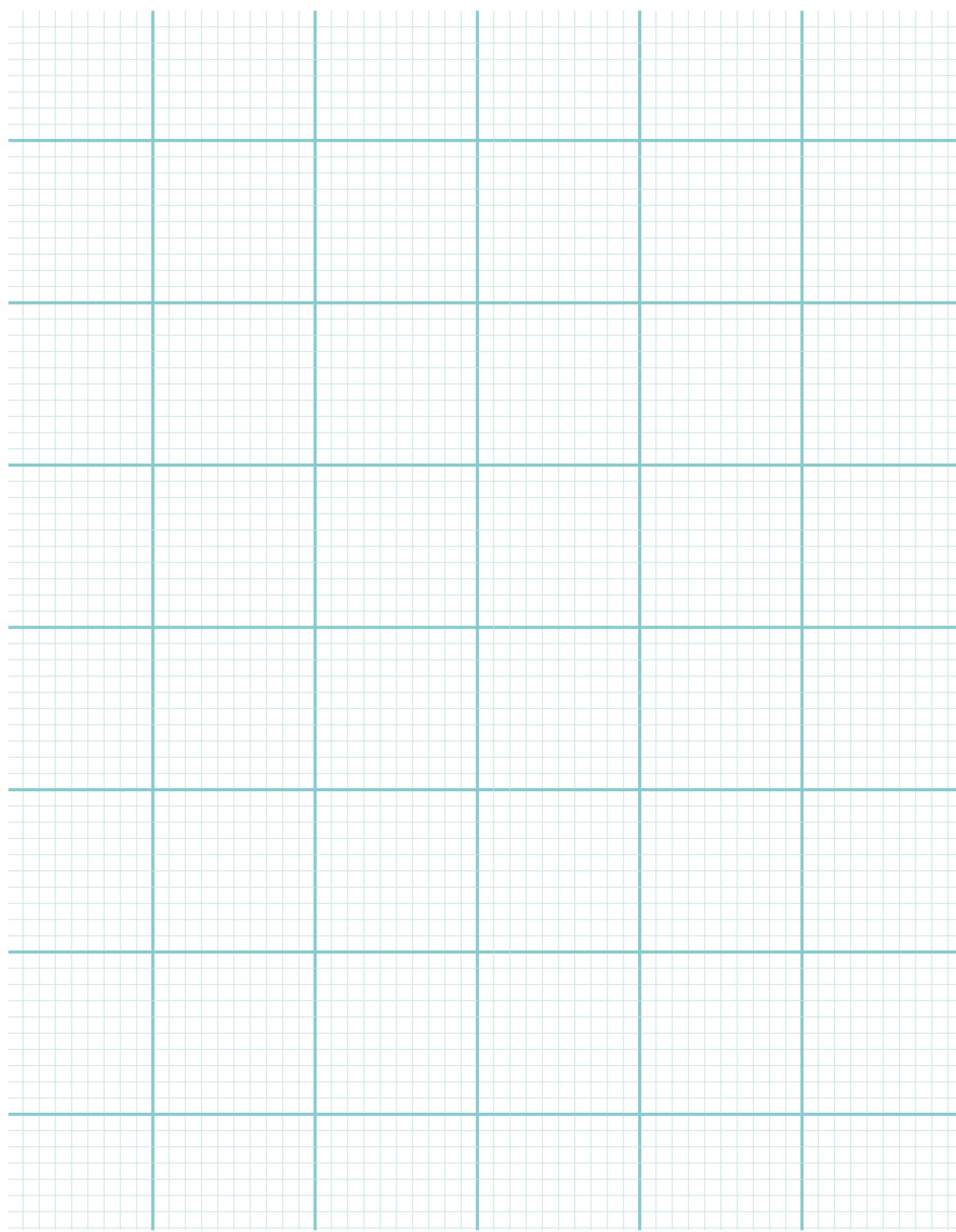
How to create localized fields of space with the minimum amount of architecture? How to get structure to make space and identity?

## SITE QUESTIONS

How to preserve site circulation?  
How to sit on a historic quad?

## PROGRAM/FUNCTIONAL QUESTIONS

How to make a studio space with only structure? How to float the box?





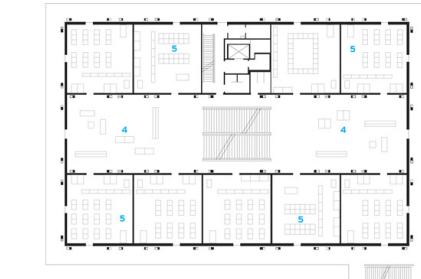
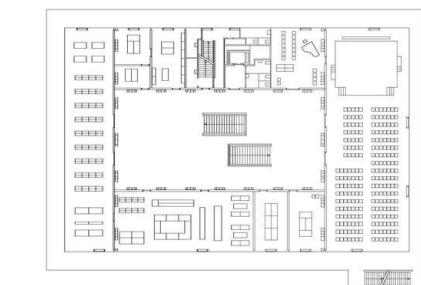
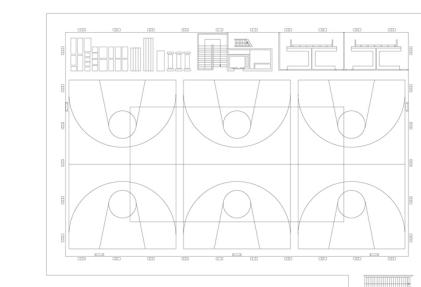
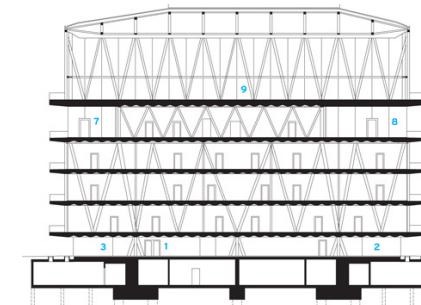
# Leutschenbach School

## CONTEXT

Zurich, Switzerland, 2009

## ARCHITECT

Christian Kerez



PROGRAM SCALE

**DRAWING CREDIT:**  
Section and Ground Floor Plan from Arch Record:  
<https://www.architecturalrecord.com/articles/7272-leutschenbach-school>

## BUILDING TYPE

Box

## SYSTEM OF CONSTRUCTION

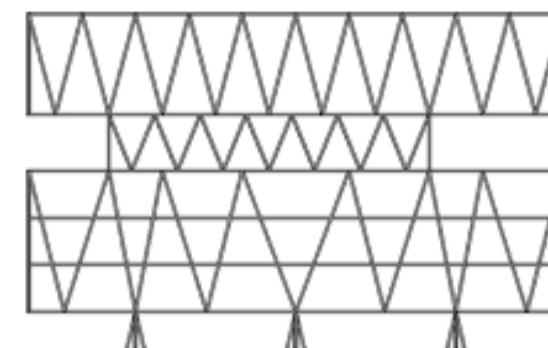
Steel Girders  
Concrete Slabs

**DRAWING CREDIT:**  
Satellite Image from Google Earth



URBAN SCALE

**DRAWING CREDIT:**  
Structural Diagram from MIT Architecture:  
<https://architecture.mit.edu/sites/architecture.mit.edu/files/attachments/lecture/ARCC%20Article%202012.pdf>



DETAIL SCALE

## FORM-GIVING ELEMENTS

Trussed Griders  
Corridor  
Egress  
Ceiling System/Soffit

## DISCIPLINARY QUESTIONS

How can structure create identity and spatial freedom?

## SITE QUESTIONS

How to minimize the footprint in a park/overdeveloped area (but connect to the park perpetually?)

## PROGRAM/FUNCTIONAL QUESTIONS

How to make the corridor a space (and free it from egress)? How to weave a primary and upper school?

## TECTONIC QUESTIONS

How to land the building on tiny feet? How to create partitions while maintaining maximum openness?

# Vella School Complex

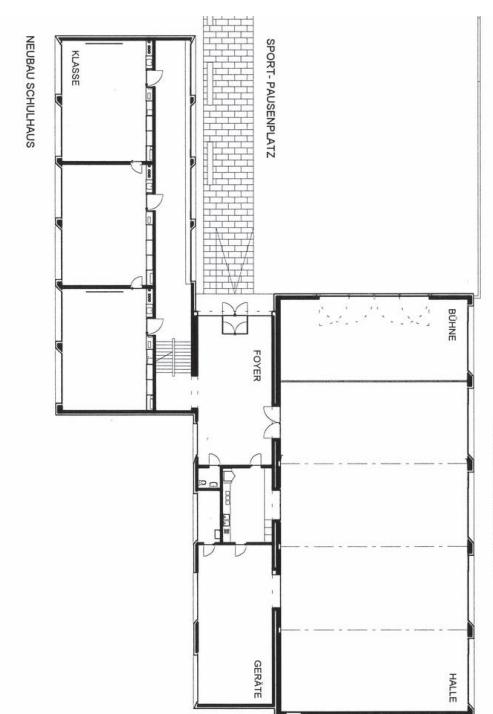
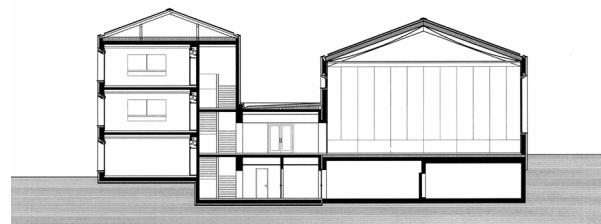
## CONTEXT

Vella, Switzerland, 1997

## ARCHITECT

Bearth & Deplazes

DRAWING CREDIT:  
<https://www.atlasofplaces.com/architecture/schule-mit-halle/>



PROGRAM SCALE

## BUILDING TYPE

Bar + Bar

## SYSTEM OF CONSTRUCTION

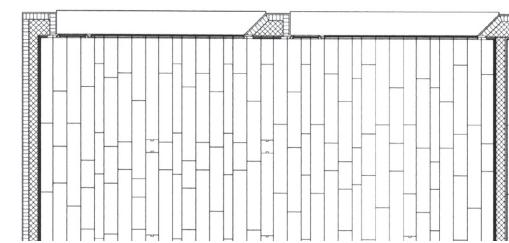
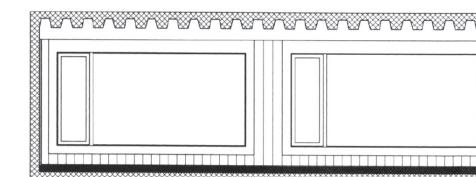
Cast in Place Concrete  
Precast Concrete

DRAWING CREDIT: Google Earth



URBAN SCALE

DRAWING CREDIT:  
<https://www.atlasofplaces.com/architecture/schule-mit-halle/>



DETAIL SCALE

## FORM-GIVING ELEMENTS

Passive Solar  
Precast Ceiling Ribs

## DISCIPLINARY QUESTIONS

How to provide an architectural (not technological) proposal for a sustainable building?

## SITE QUESTIONS

How to use the solar energy of the site in a more profound way than tacking solar panels to the roof?

## PROGRAM/FUNCTIONAL QUESTIONS

How to create areas of usable and useful thermal mass in classrooms?

## TECTONIC QUESTIONS

How to detail the windows and shades for radiation without glare?

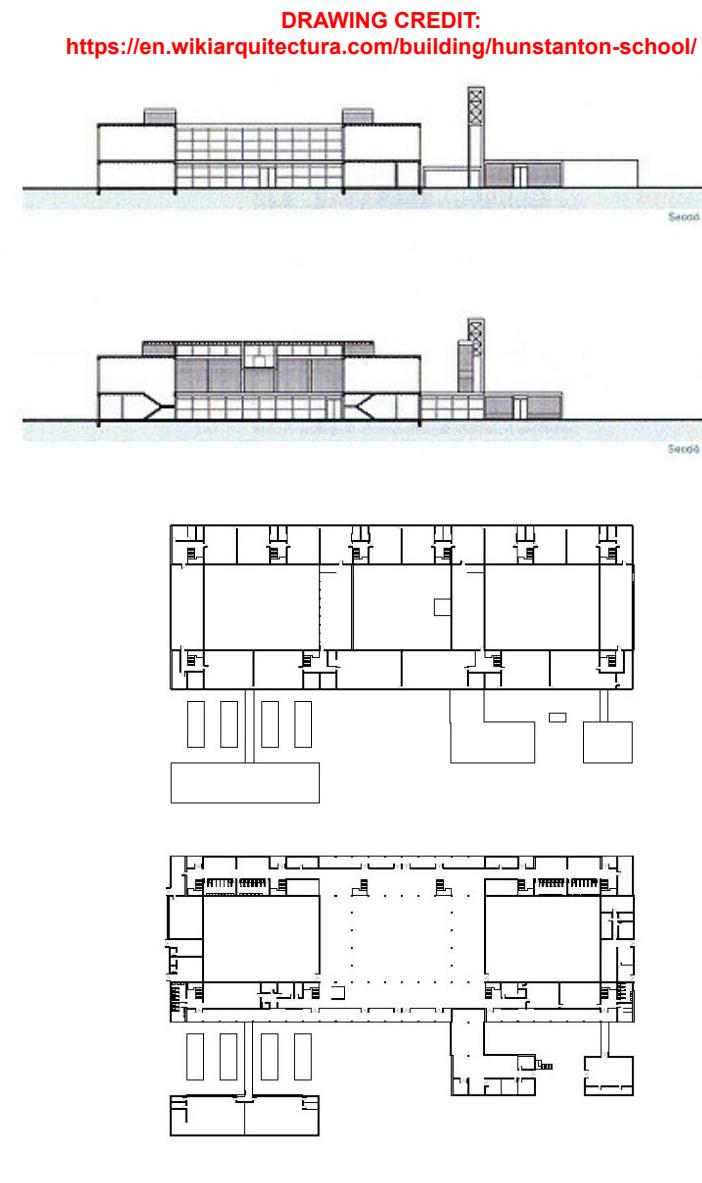
# Hunstanton School

## CONTEXT

England, 1940s

## ARCHITECT

Alison and Peter Smithson



PROGRAM SCALE

## BUILDING TYPE

Courtyard + Courtyard

## SYSTEM OF CONSTRUCTION

HSS Steel / Brick Infill Panels

## FORM-GIVING ELEMENTS

Structural System  
Courtyard  
Interior “Courtyard”  
Watertower



URBAN SCALE



DETAIL SCALE

## DISCIPLINARY QUESTIONS

How to use industrial components to produce something that is neither as fussy as Mies nor as generic as British prefab?

## EXPERIENTIAL QUESTIONS

How to apply the logic of the Bailey bridges?

## PROGRAM QUESTIONS

How to make classrooms with no corridors? How to connect with an efficient system of circulation?

## TECTONIC QUESTIONS

How to “make a composition of existing elements rather than designing them?”

# Laban Center for Dance

## CONTEXT

London, England, 2013

## ARCHITECT

Herzog & de Meuron

## BUILDING TYPE

Box

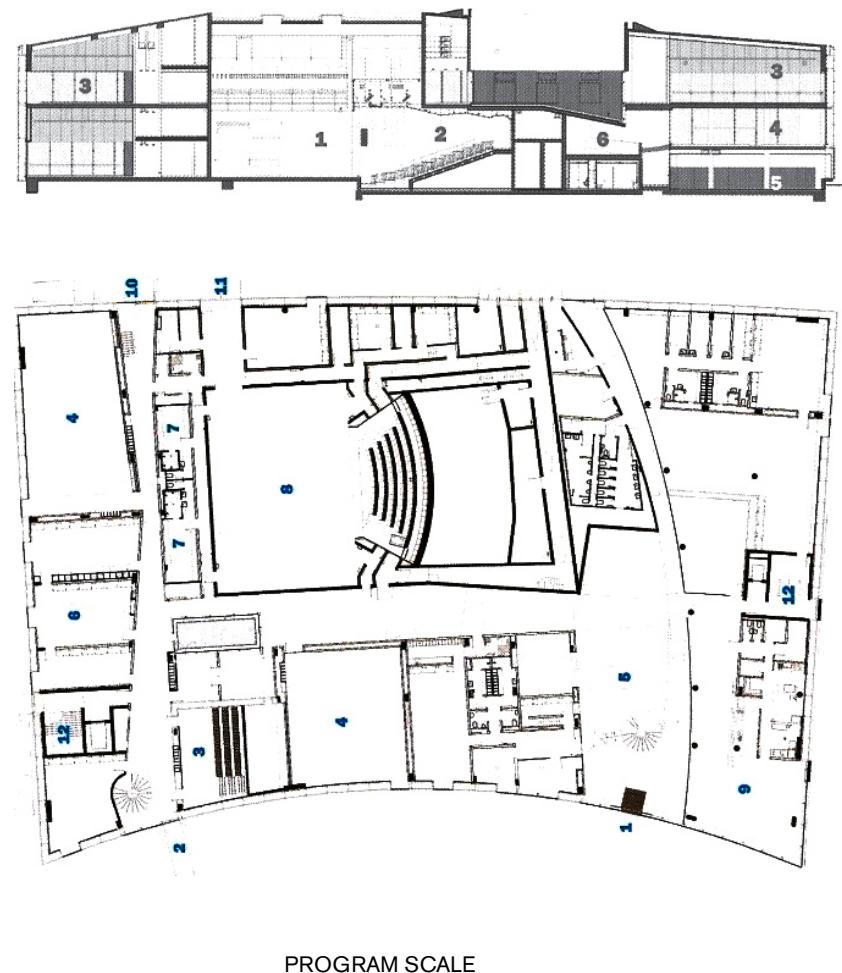
## FORM-GIVING ELEMENTS

Corridor/Ramp  
Studio  
Facade  
Handrail

## SYSTEM OF CONSTRUCTION

Brick-faced Concrete

DRAWING CREDIT: <https://en.wikiarquitectura.com/building/laban-centre-for-movement-and-dance/>



## DISCIPLINARY QUESTIONS

How to dematerialize a building?  
How to create architecture that is picturesque?

## EXPERIENTIAL QUESTIONS

How to make the architecture one of the dancers?

## PROGRAM QUESTIONS

How to display the activity to those passing by without the vulgarity of a sheet of glass?

## TECTONIC QUESTIONS

How to make a building float?  
How to make the facade a curtain that the windows dance along?

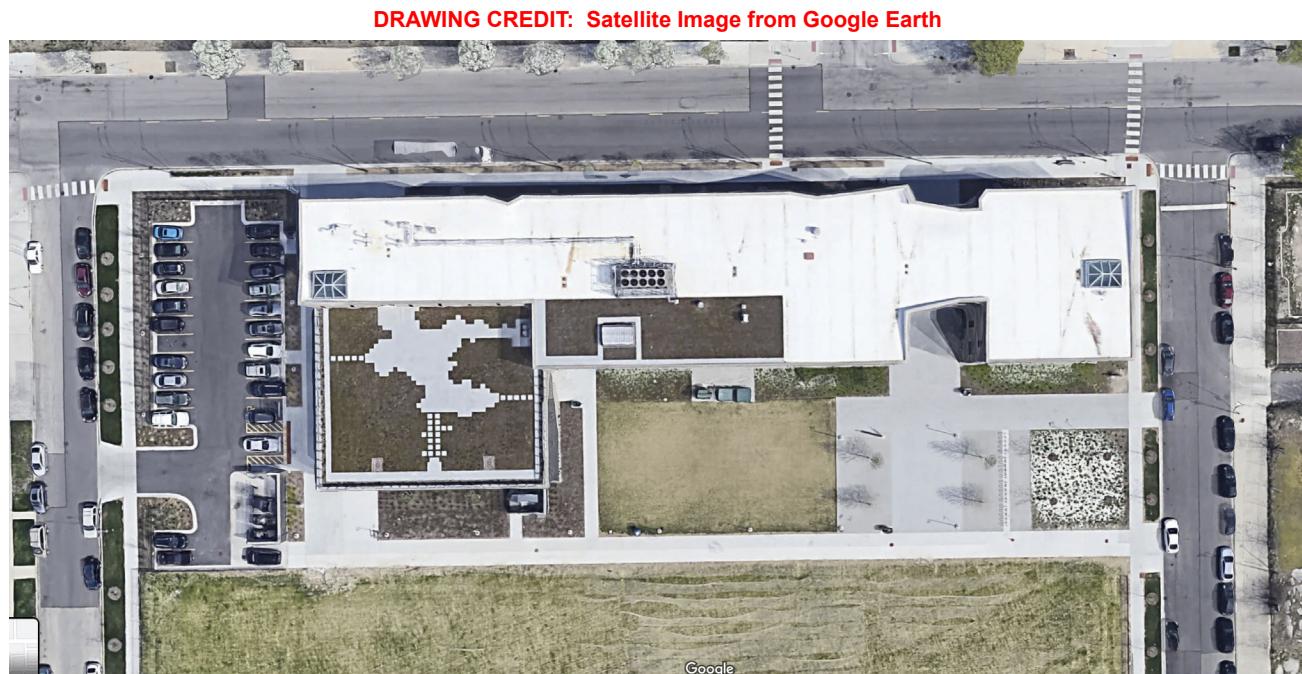
# UCCS Woodlawn

## CONTEXT

Chicago, United States, 2018

## ARCHITECT

Davies Toews



PROGRAM SCALE

## BUILDING TYPE

Bar

## SYSTEM OF CONSTRUCTION

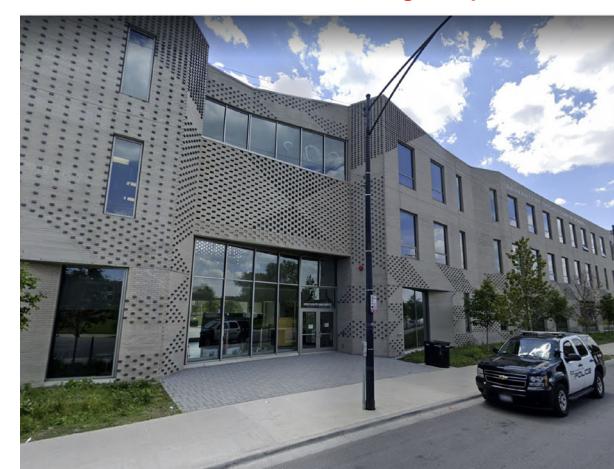
Brick-faced Concrete

## DRAWING CREDIT: Google Earth



URBAN SCALE

## DRAWING CREDIT: Google Maps



DETAIL SCALE

## FORM-GIVING ELEMENTS

Parapet

Brick Facade

Entry/Corridor

College Center

Bridge

## DISCIPLINARY QUESTIONS

How to strike a balance between architectural expression and the

## EXPERIENTIAL QUESTIONS

How to create an inspiring experience aimed at reaching college in a tough neighborhood?

## SITE QUESTIONS

How to make the building have identity from afar in the neighborhood, even at night?

## PROGRAM/FUNCTIONAL QUESTIONS

How to create a bridge? How to feature the college center?

## TECTONIC QUESTIONS

How to break up a big building and obtain extra expression at no extra cost? How to break up the scale of a