

Schools Scaled

PRECEDENT RESEARCH

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

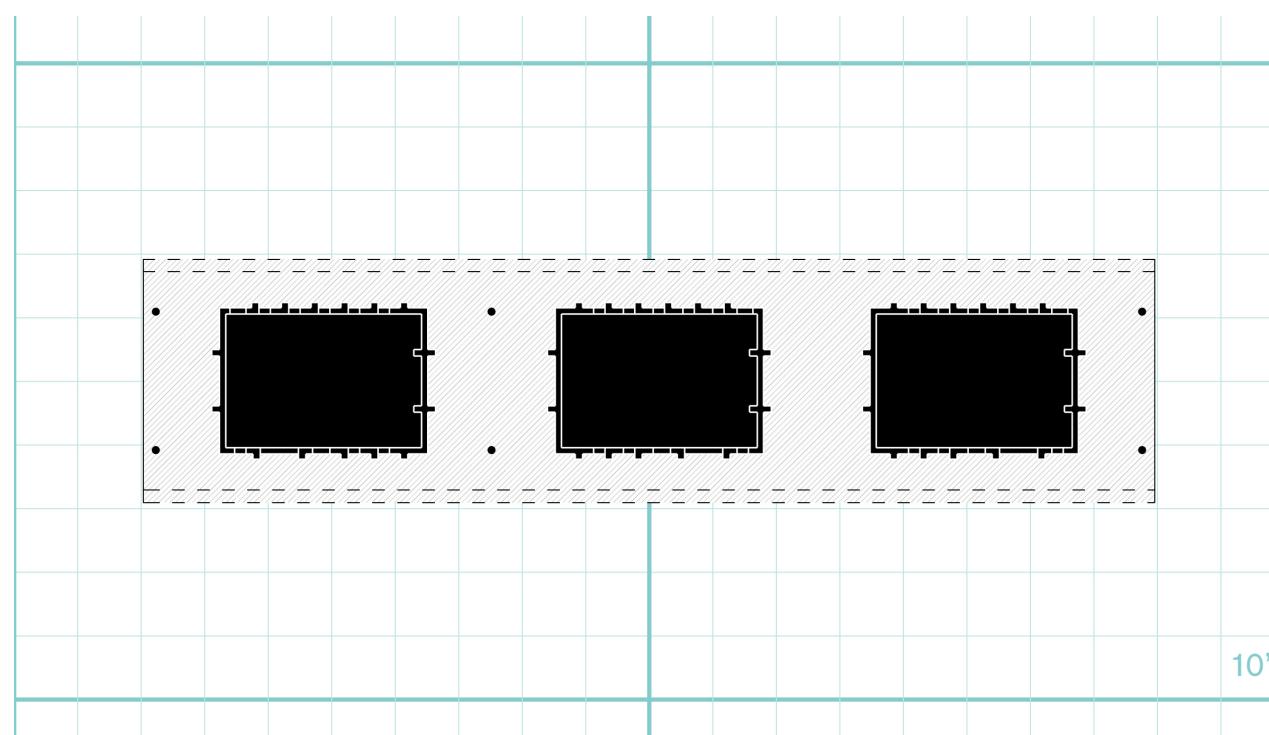
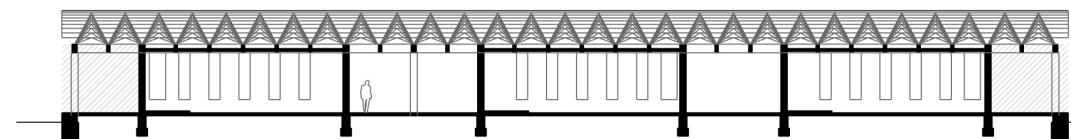
Solids Making Voids

SYSTEM OF CONSTRUCTION

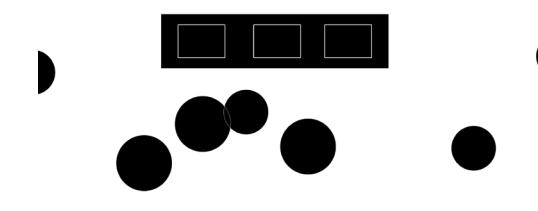
Compressed Earth Block
Roof (Rebar Truss, Mtl Deck)

FORM-GIVING ELEMENTS

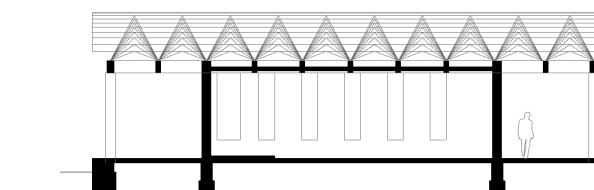
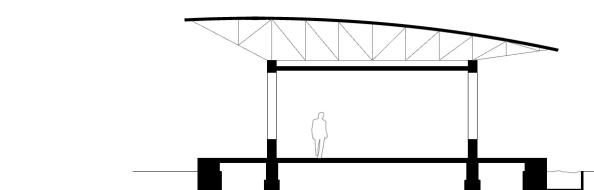
Classrooms
Roof
Breezeway
Concrete Pad
Buttressed Wall



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?

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

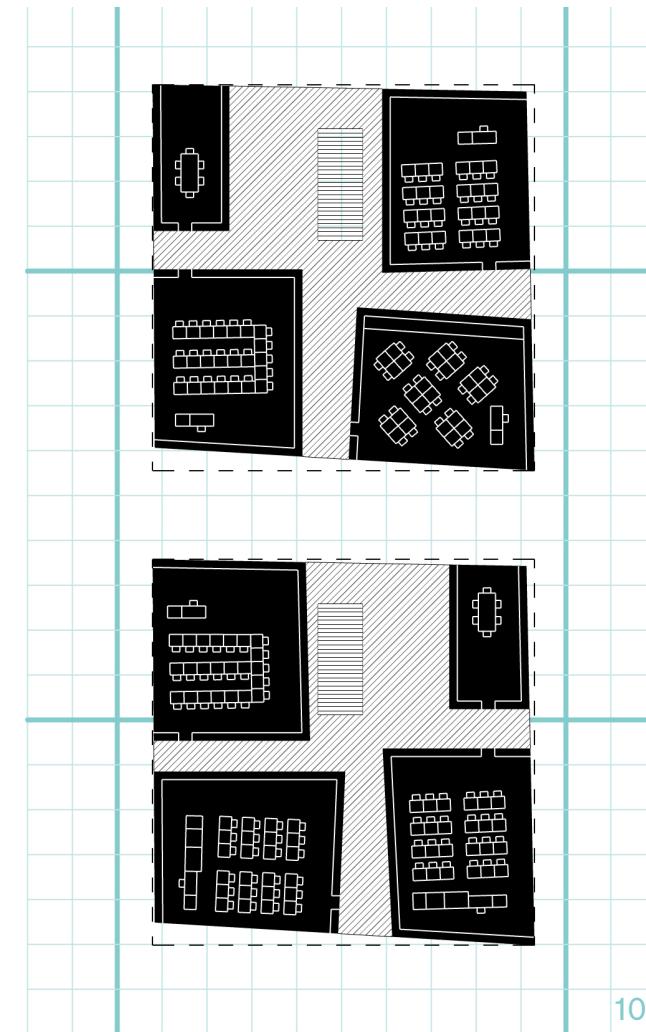
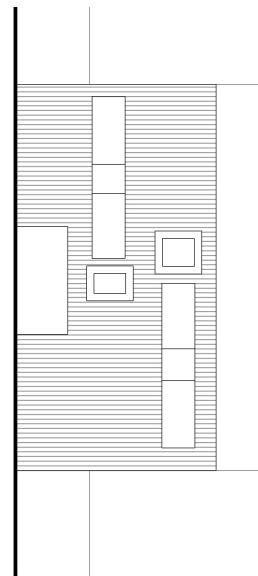
Cast in place concrete

FORM-GIVING ELEMENTS

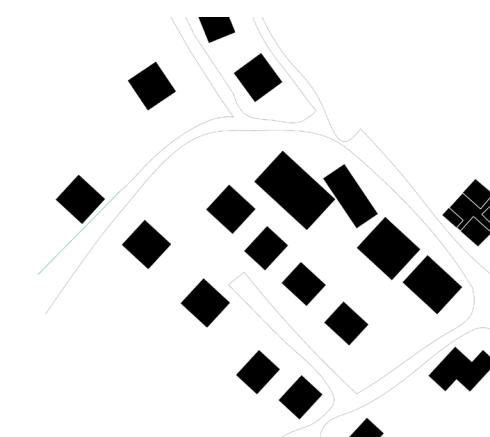
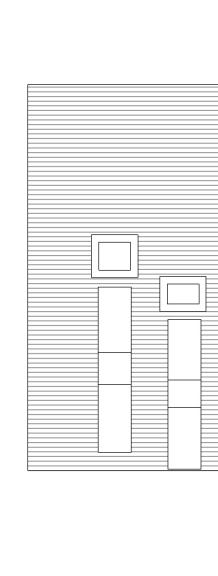
Corridor

Classroom

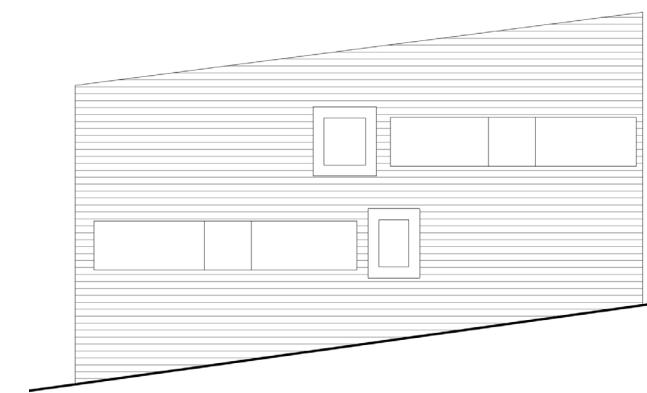
Elevation (Window)



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?

Lycee Schourge

CONTEXT

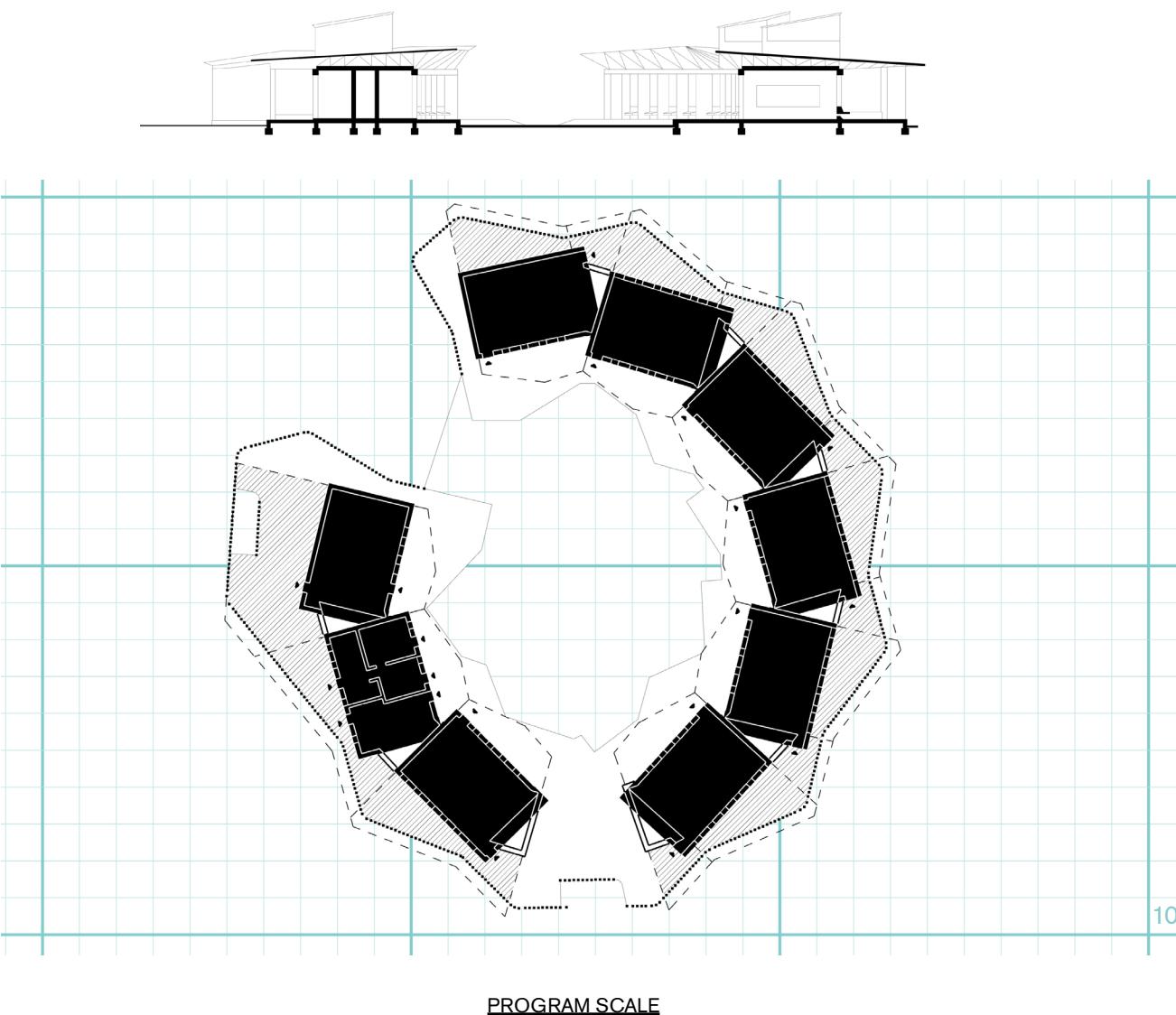
Burkina Faso, 2016

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.

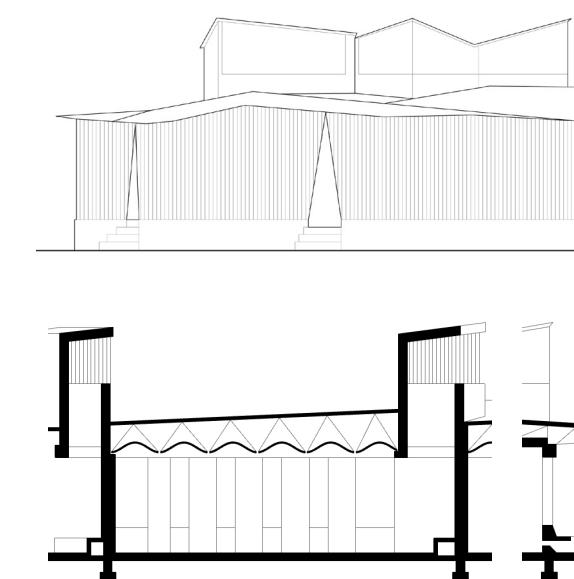
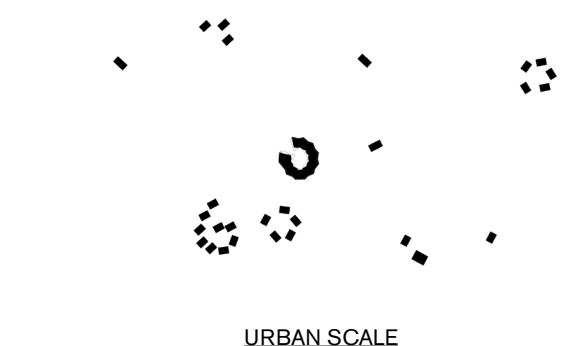


SPATIAL ORGANIZATION

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?

Volta School

CONTEXT

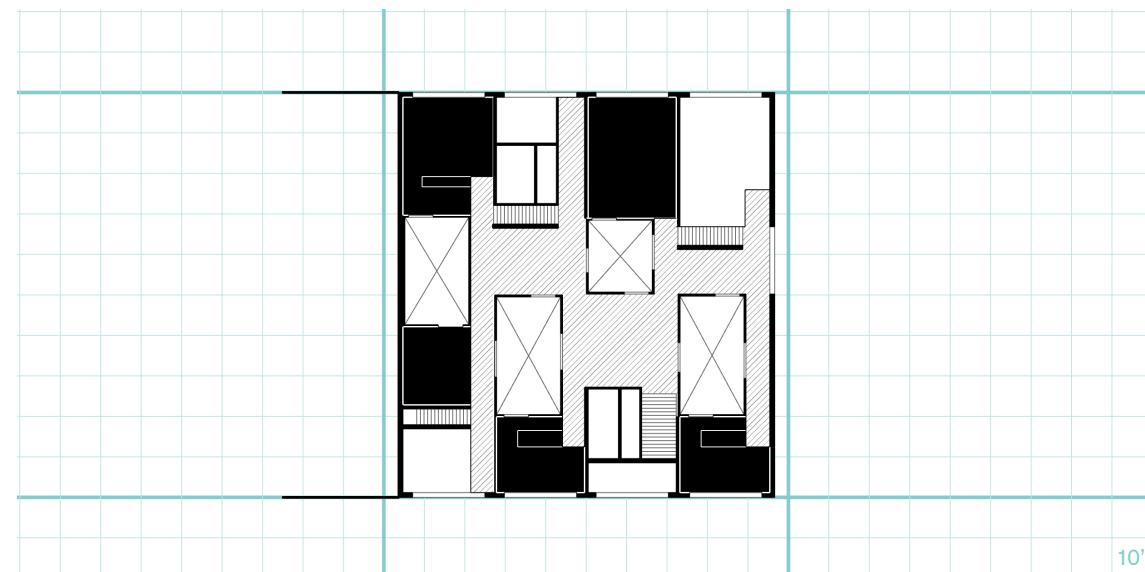
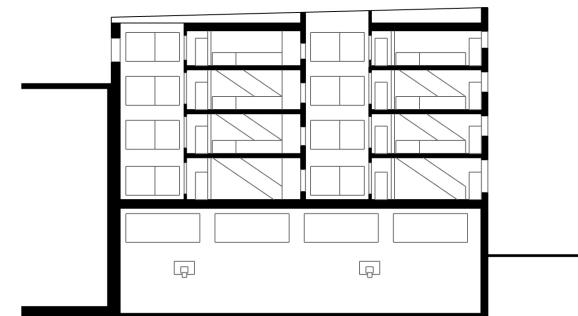
Basel, Switzerland, 1997

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).



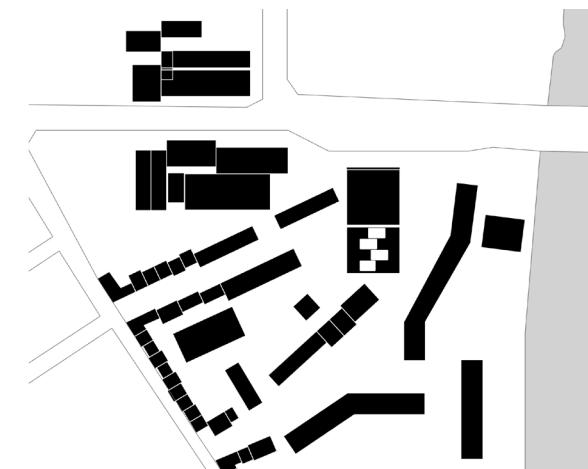
PROGRAM SCALE

SPATIAL ORGANIZATION

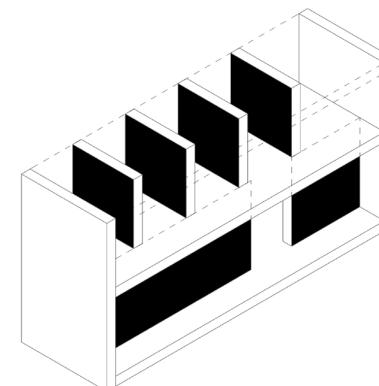
Onion/Swiss Cheese

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

Fagnano Olona

CONTEXT

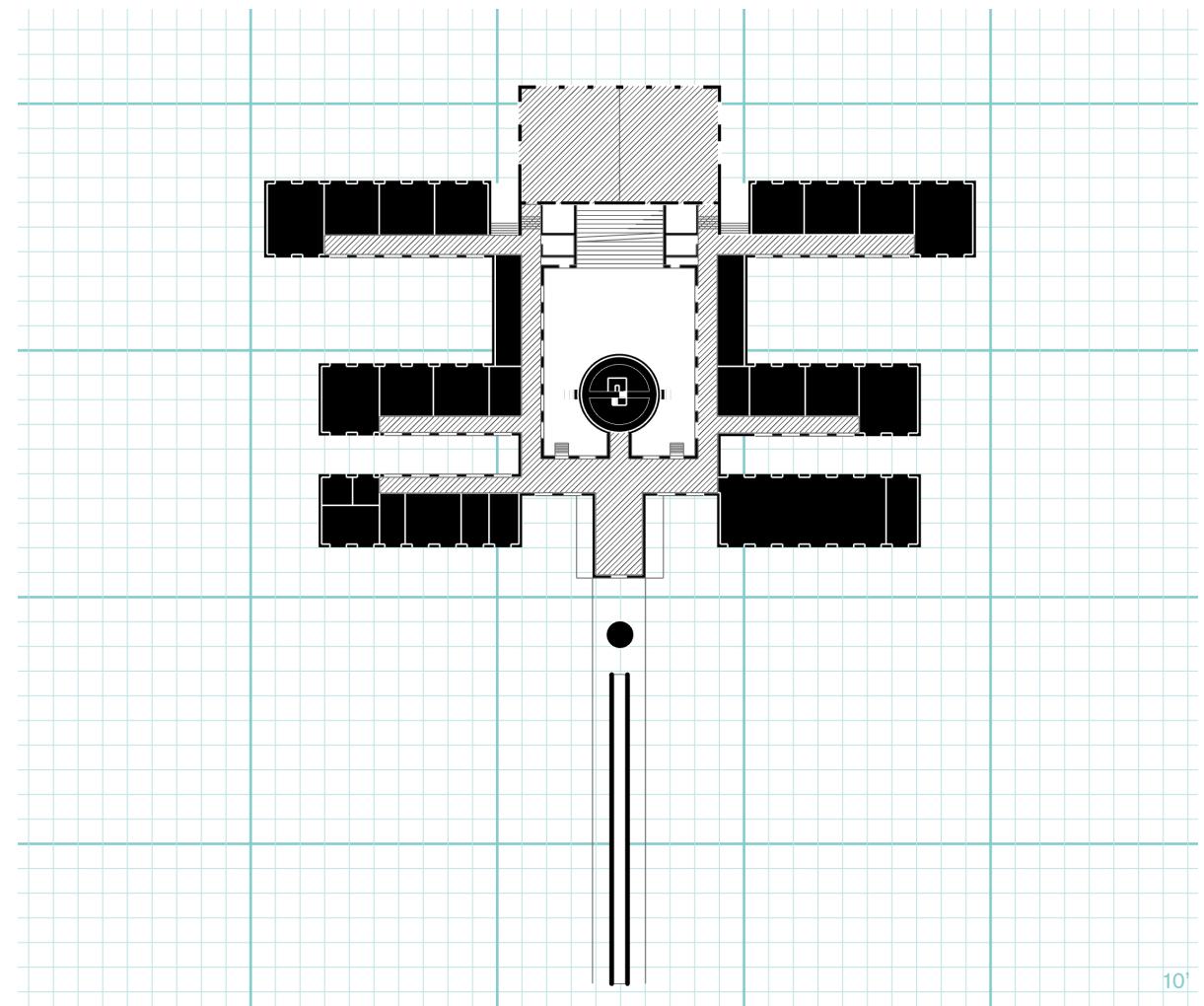
Olona, Italy, 1972

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.

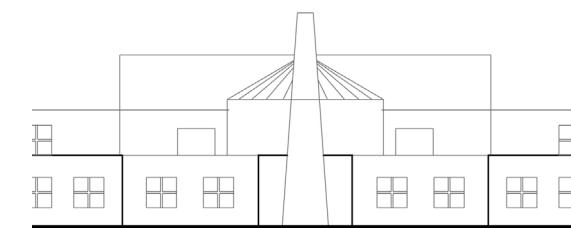
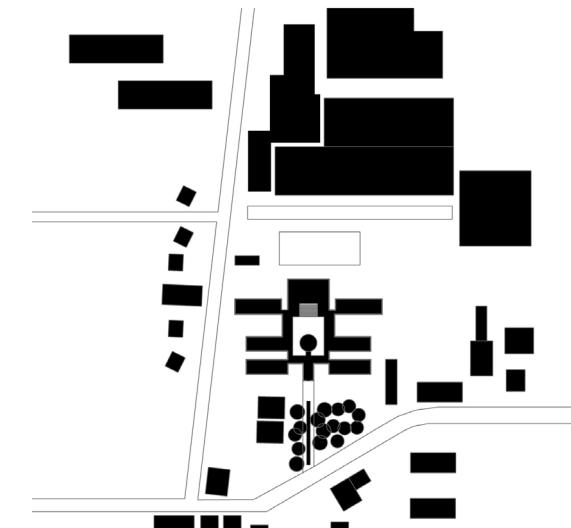


SPATIAL ORGANIZATION

Spine

SYSTEM OF CONSTRUCTION

Concrete Timber



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

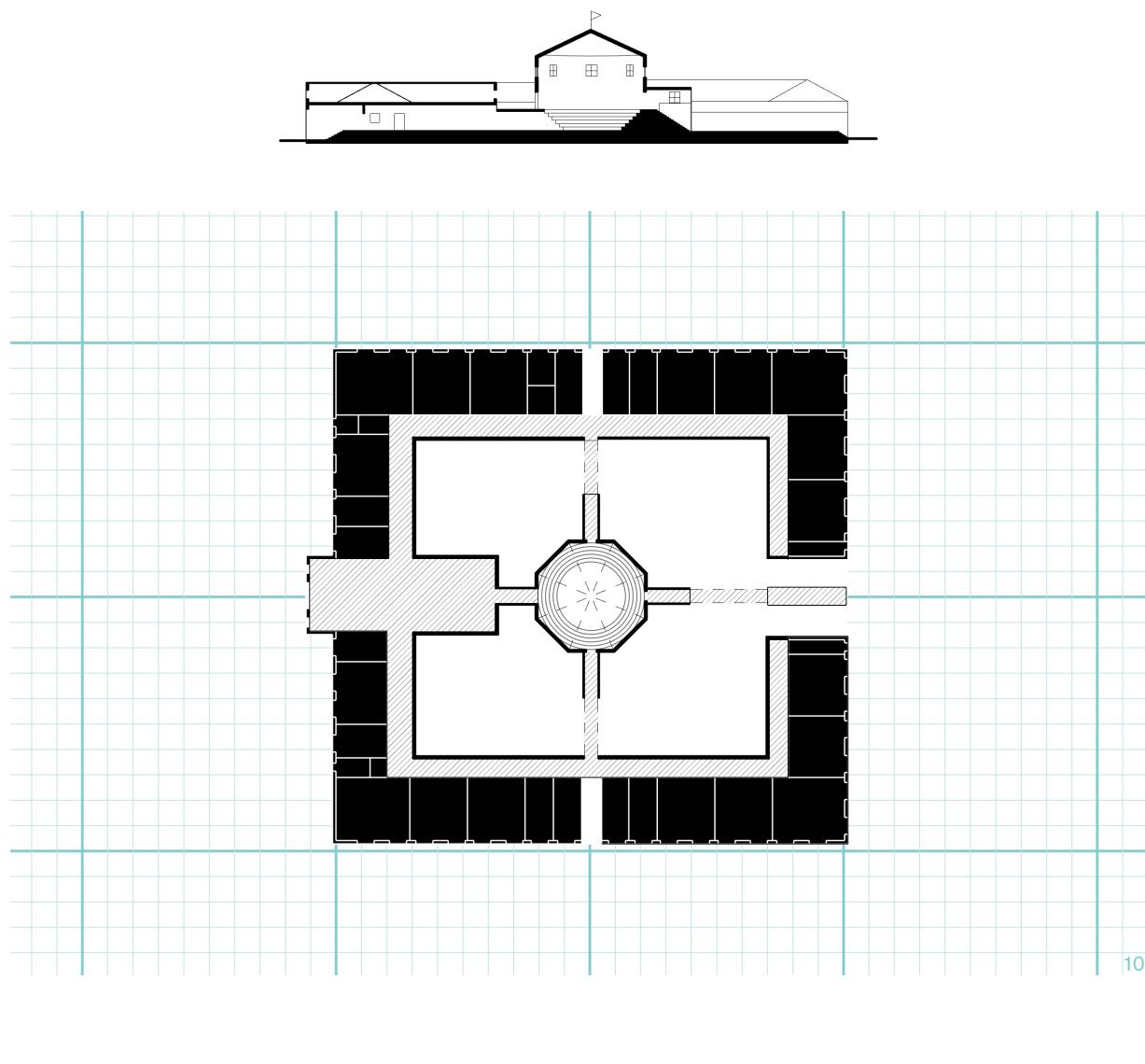
Italy, 1979

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

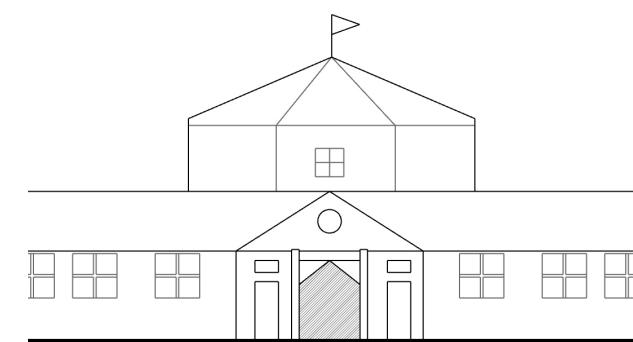


SPATIAL ORGANIZATION

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?

Schule im Birch

CONTEXT

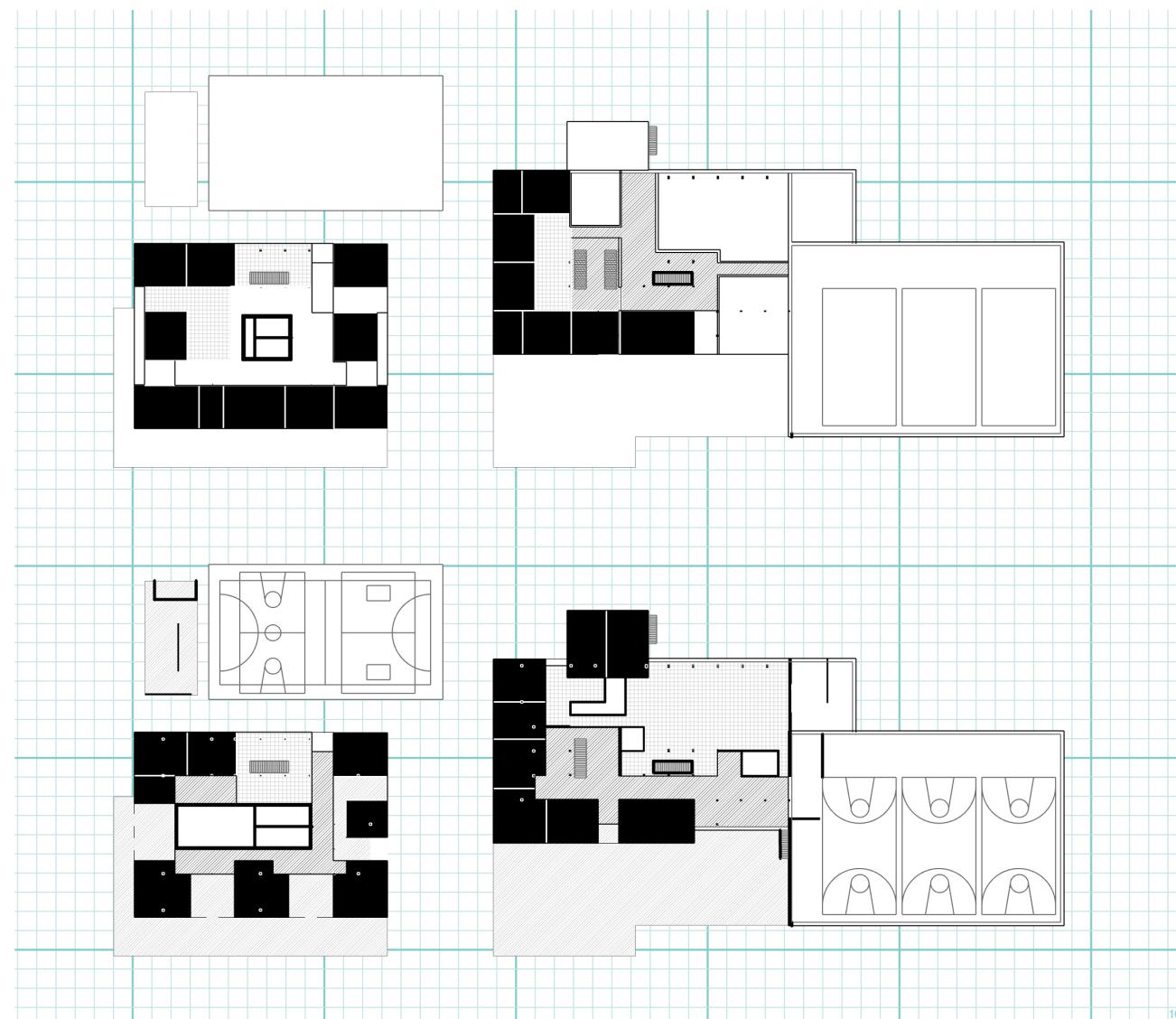
Zurich, Switzerland, 2004

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

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

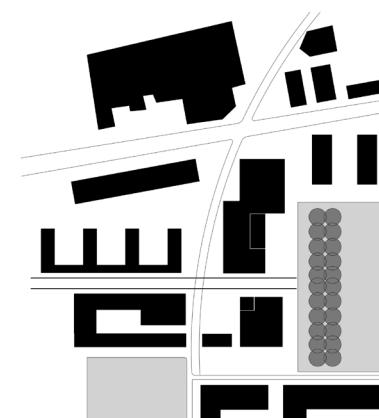
How to connect the neighborhood to the park and activate the site for the neighborhood? How to create entrances to separate schools?

DISCIPLINARY QUESTIONS

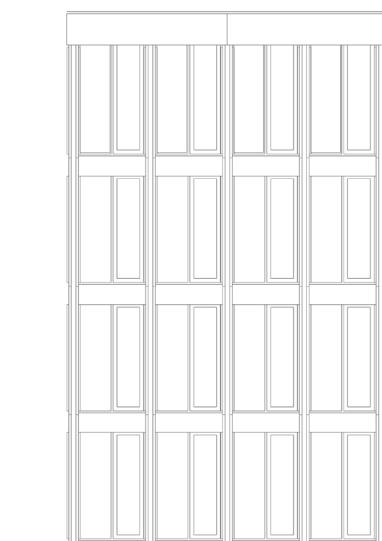
How to create one building without requiring a giant footprint? (Two building that read as one)?

TECTONIC QUESTIONS

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



URBAN SCALE



DETAIL SCALE

Milstein Hall

CONTEXT

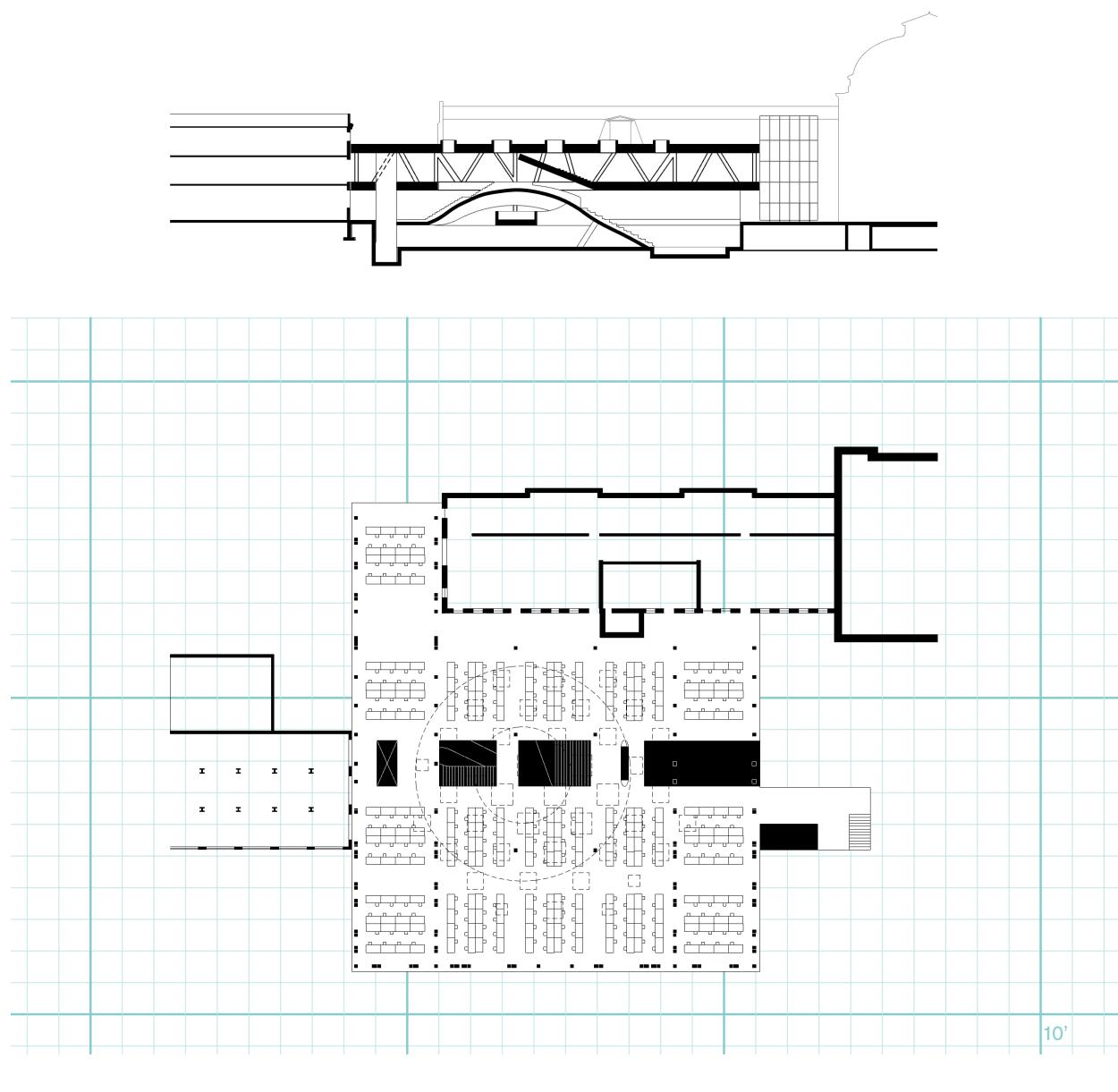
New York, United States, 2006-2011

ARCHITECT

Office of Metropolitan Architecture

SCHEME

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



SPATIAL ORGANIZATION

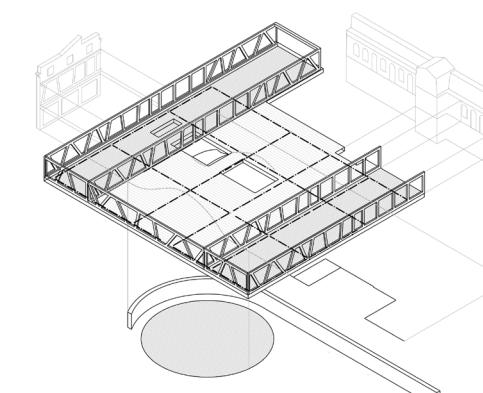
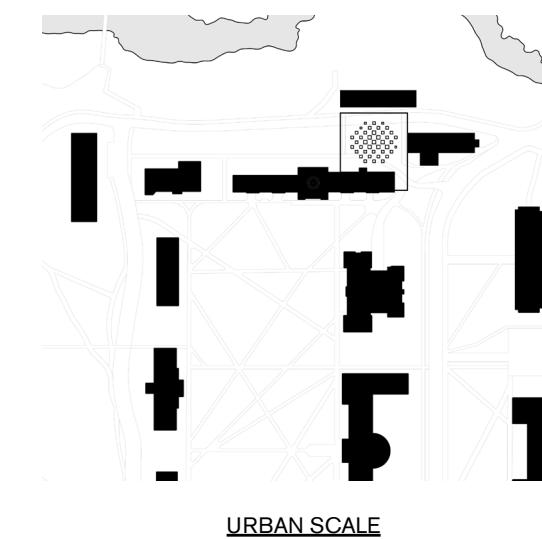
Undifferentiated Field

SYSTEM OF CONSTRUCTION

Steel Trusses
Reinforced Concrete Shell

FORM-GIVING ELEMENTS

Virindeel Trusses
Ground Plane



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?

Villa Alem

CONTEXT

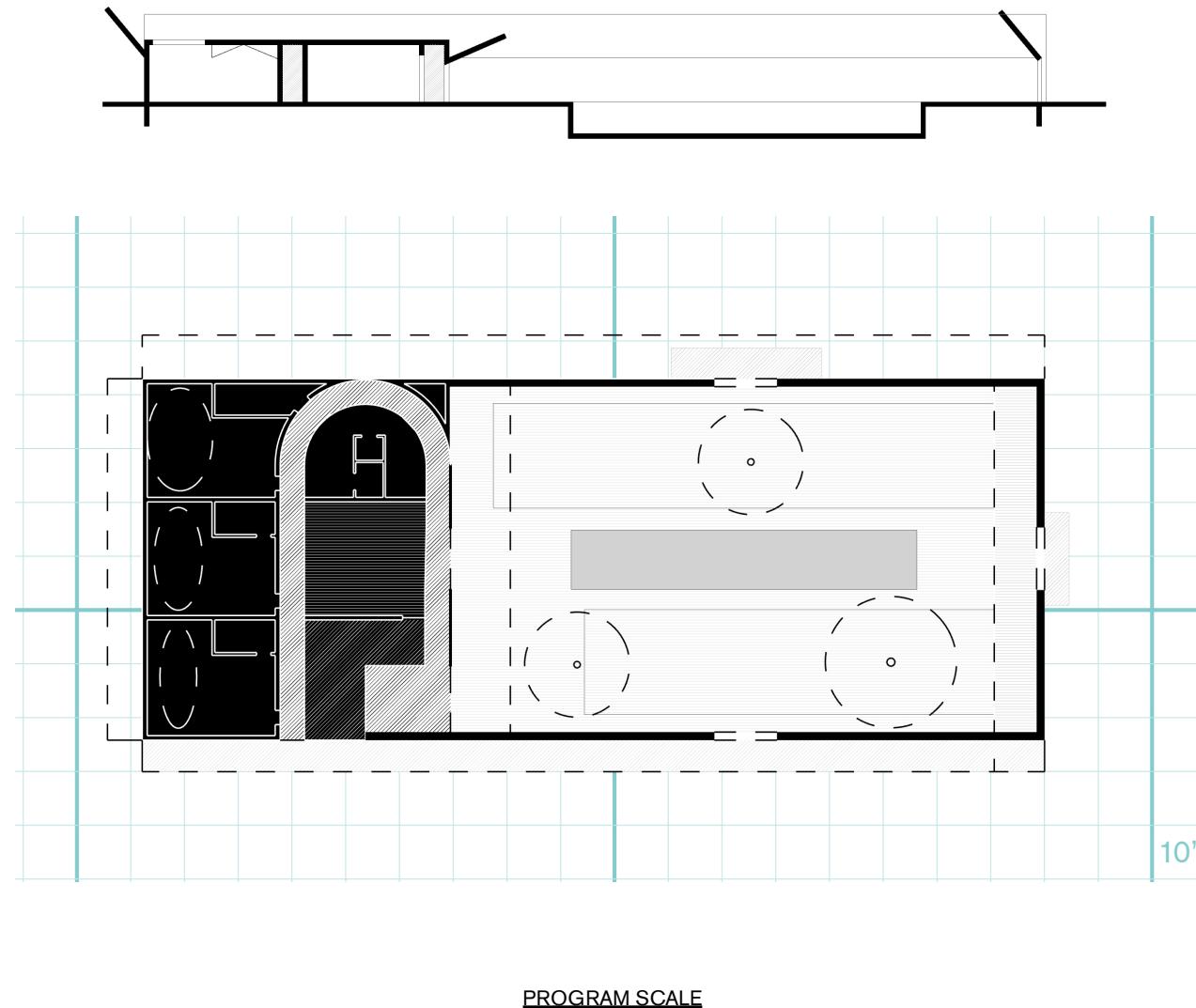
Portugal, 2014

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.

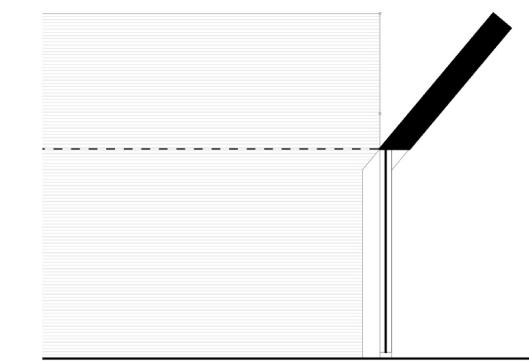
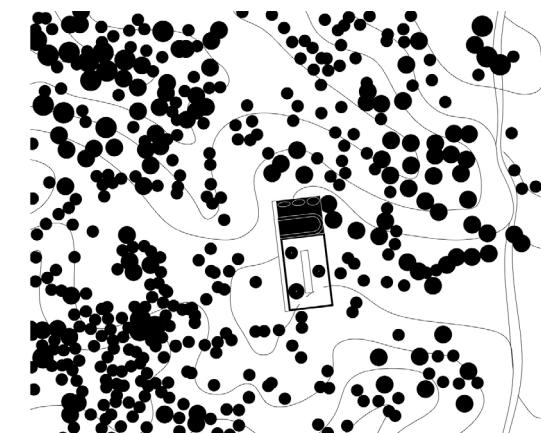


SPATIAL ORGANIZATION

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?

Maison Latapie

CONTEXT

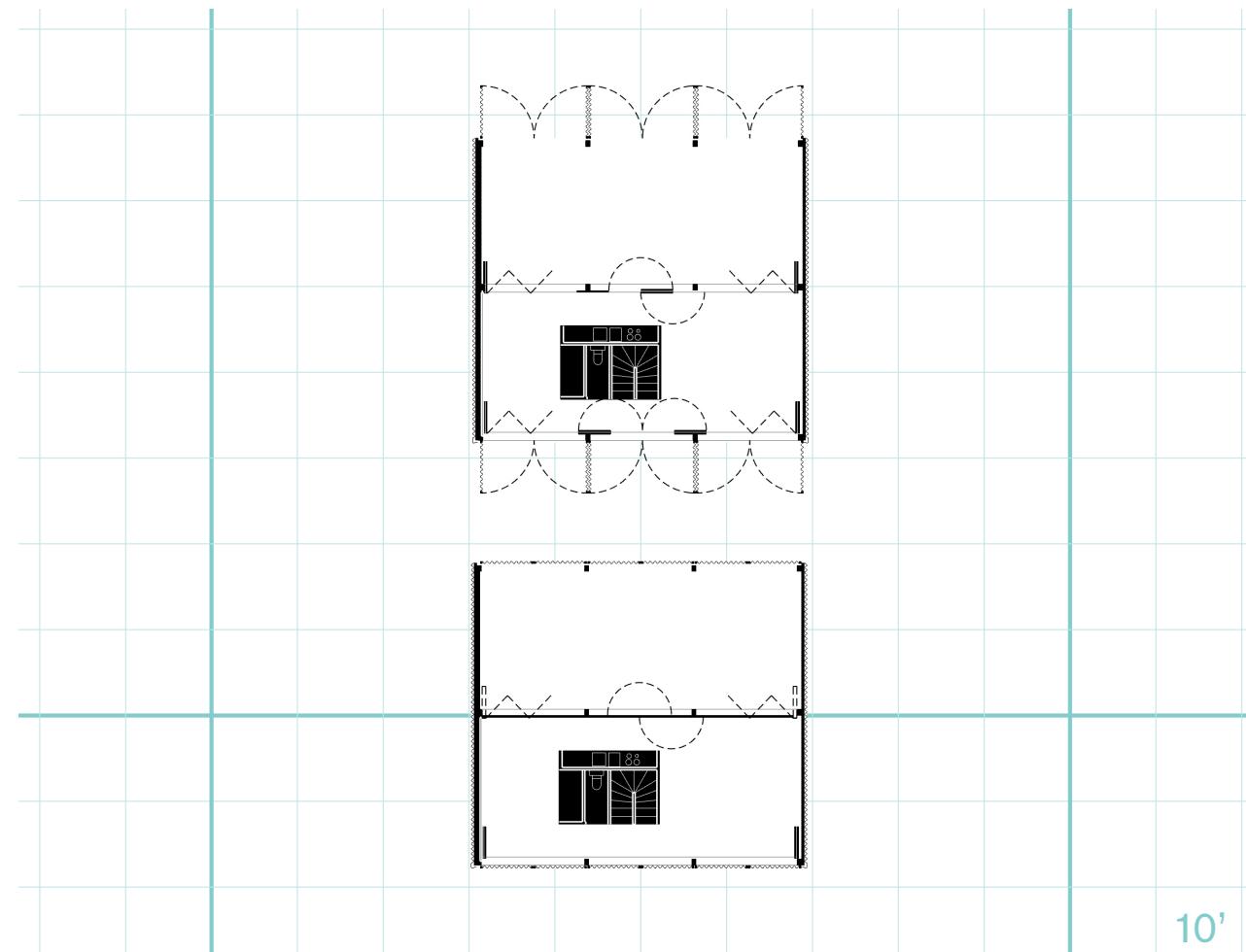
France, 1993

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.



SPATIAL ORGANIZATION

Onion

SYSTEM OF CONSTRUCTION

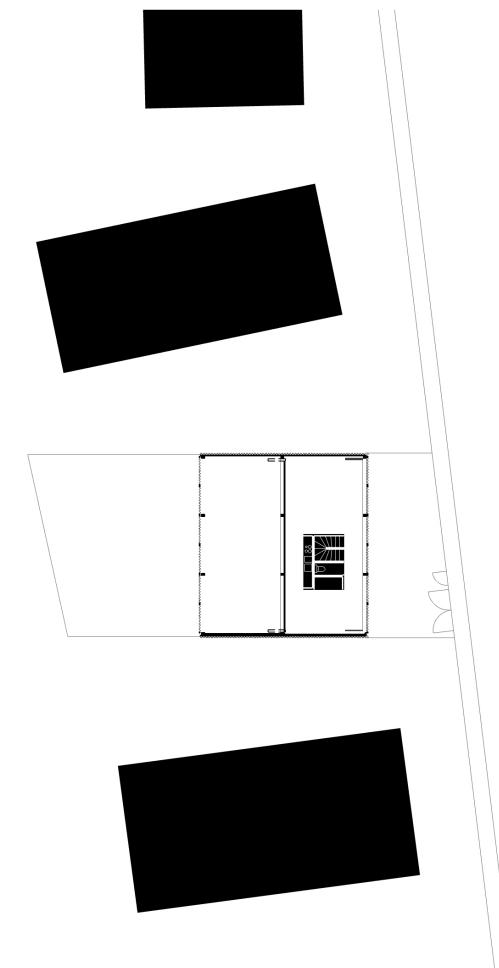
Steel Frame / Polycarb Cladding

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?

