Polski Komitet Narodowy Międzynarodowej Rady Ochrony Zabytków ICOMOS

FONDAZIONE ROMUALDO DEL BIANCO

SAPIENZA UNIVERSITÀ DI ROMA

POLITECHNIKA LUBELSKA

UNIVERSIDAD POLITÉCNICA MADRID

SAPERE AUDE VILNIUS GEDIMINAS TECHNICAL UNIVERSITY

FONDAZIONE FLAMINIA PER L'UNIVERSITÀ IN ROMAGNA

Sustainable Urban Rehabilitation in Europe

Historical building adaptation to modern function

Erasmus+

Sustainable Urban Rehabilitation in Europe

3rd Semester

Susana Mora Alonso-Muñoyerro
Ignacio Mora Moreno
David García García
Carolina Hernández Martínez
Camila Burgos Vargas

Historical building adaptation to modern function

3 ECTS

SH

Sustainable Heritage

EC

Elective Courses

Erasmus+

SURE
SUSTAINABLE URBAN REHABILITATION IN EUROPE

UNIVERSIDAD POLITÉCNICA DE MADRID

Sustainable Urban Rehabilitation in Europe

Historical building adaptation to modern function

3 ECTS

SH Sustainable Heritage

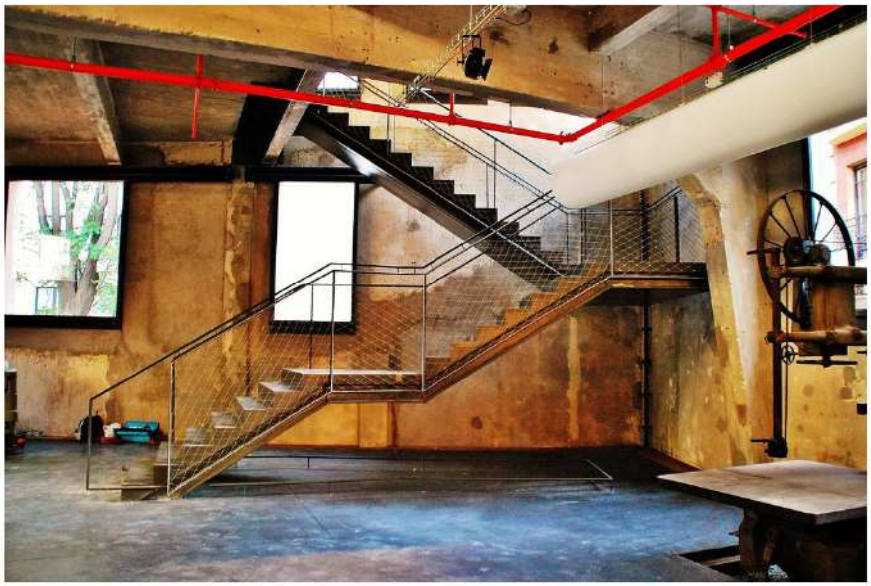
EC Elective Courses

01 Introduction to building adaptation
02 Typology: big to big & small to small adaptations
03 Typology: big to small & small to big adaptations
04 Programme: extensions
05 Programme: bubbles
06 Programme: other adaptations
07 Circulations: horizontal circulations
08 Circulations: vertical circulations
09 Enclosure: protective enclosure
10 Enclosure: lightweight roofs, façades and finishings
11 Systems: climatization
12 Systems: fire protection, water supply and evacuation
13 Illumination: natural lighting
14 Illumination: artificial lighting
15 Illumination: lighting systems

Sustainable Urban Rehabilitation in Europe

Historical building adaptation to modern function

3 ECTS



LESSON 08: VERTICAL CIRCULATIONS

Erasmus+

SURE
SUSTAINABLE URBAN REHABILITATION IN EUROPE

UNIVERSIDAD POLITÉCNICA DE MADRID

CIRCULATION ELEMENTS

HORIZONTAL CIRCULATIONS :

PAVEMENT

WALKWAYS AND CORRIDORS

VERTICAL CIRCULATIONS:

STAIRS

ESCALATORS

ELEVATORS, TRAVALATORS

STAIRCASES

Staircases serve the purpose of communicating spaces on different levels. Therefore, it is the main element of vertical circulation, and plays a decisive role in how a building is used. Typically, staircases are located within open spaces to allow a good contemplation of these spaces from different point of view. Staircases can also be studied from its form and typology (Straight, L-shaped, Winder, U-shaped, Spiral, Curved, Bifurcated, Ladder) and its structure and material.

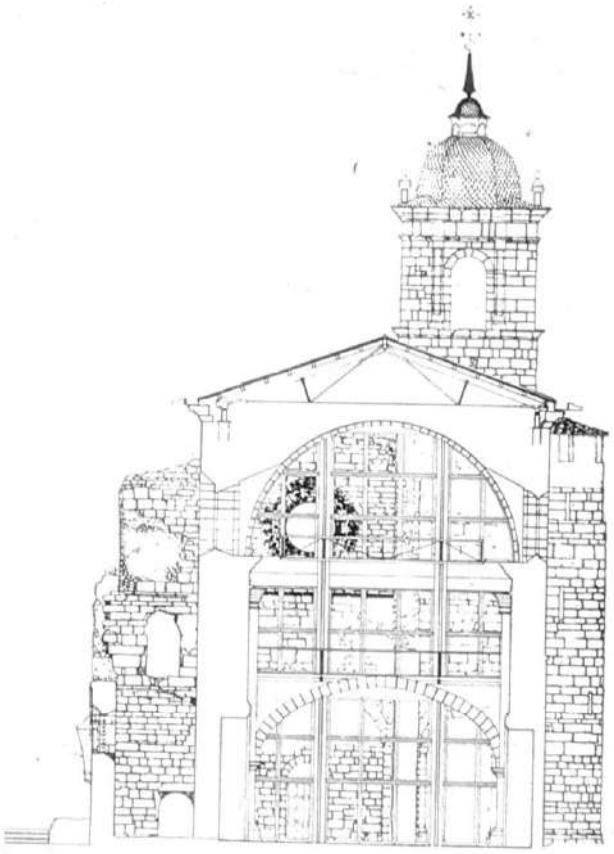
In the following examples, we can see the changes in circulation the addition of a new staircase generates.

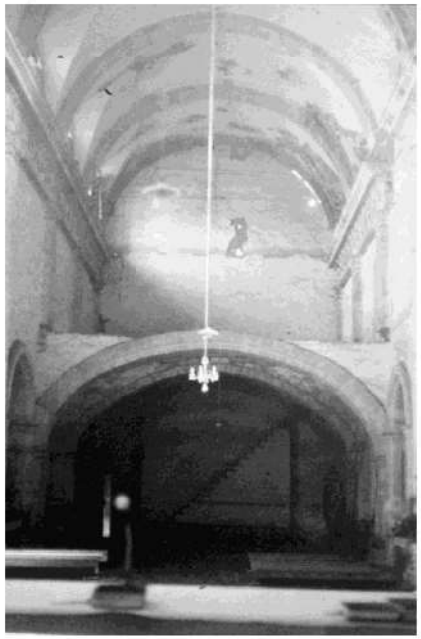
Emergency staircase, Palazzo della Ragione. M. Dezzibardeschi

Staircases 1

Santa María de Carracedo monastery, Burgos, Spain.

Salvador Pérez Arroyo y Susana Mora Alonso-Muñoyerro





CIRCULATIONS - VERTICAL CIRCULATIONS

Exterior staircase

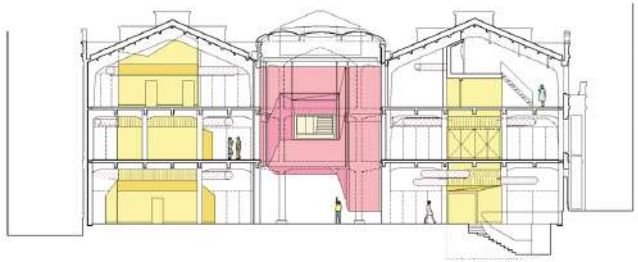
New choir spiral staircase

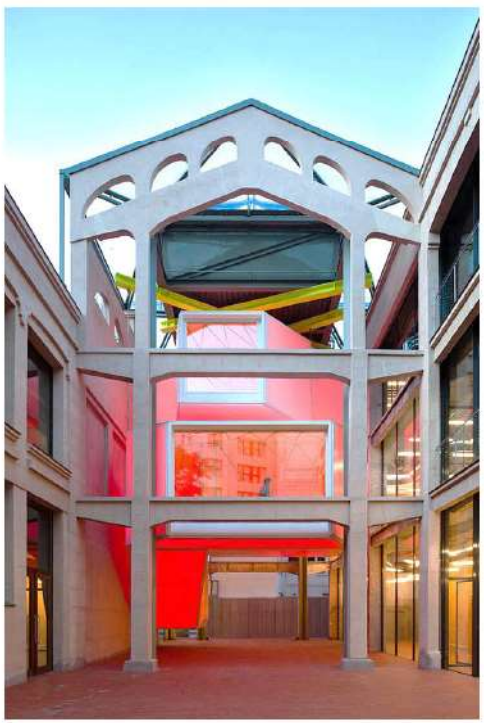
Staircases 2

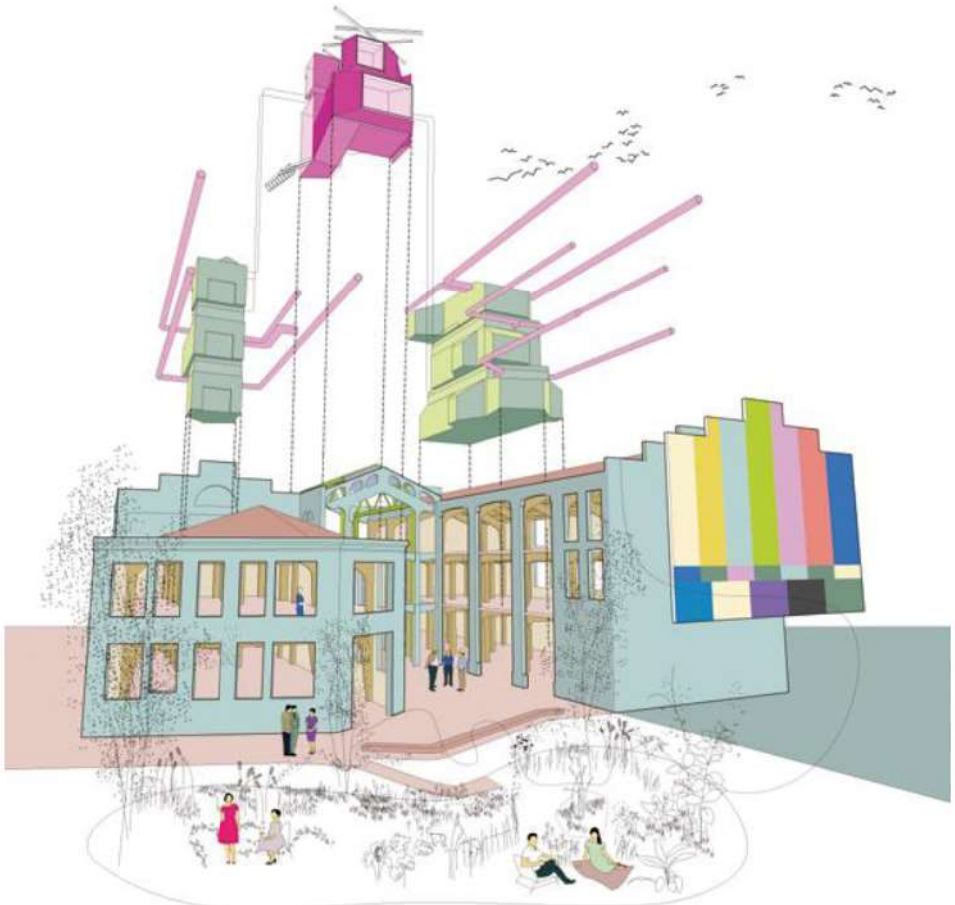
Adaptation of the Belgian sawmill for the headquarters of the Medialab-Prado Center

Madrid, Spain.

Langarita-Navarro

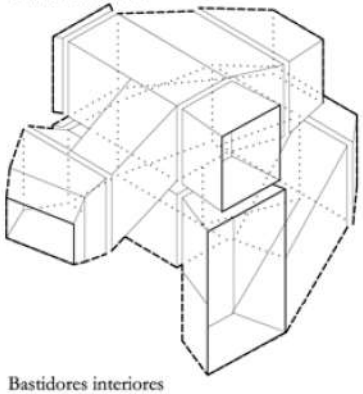




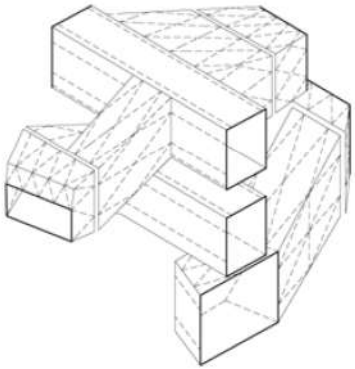


CIRCULATIONS - VERTICAL CIRCULATIONS

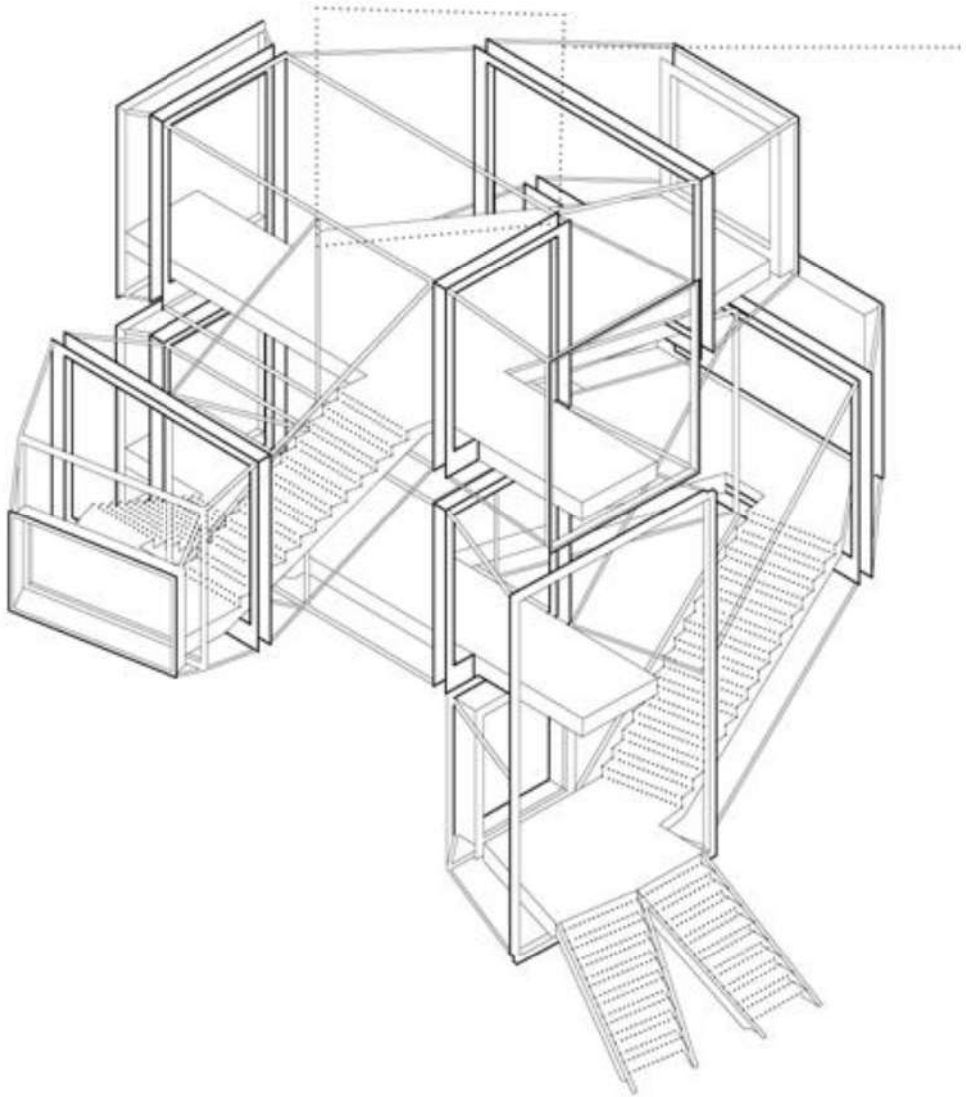
Textiles exteriores



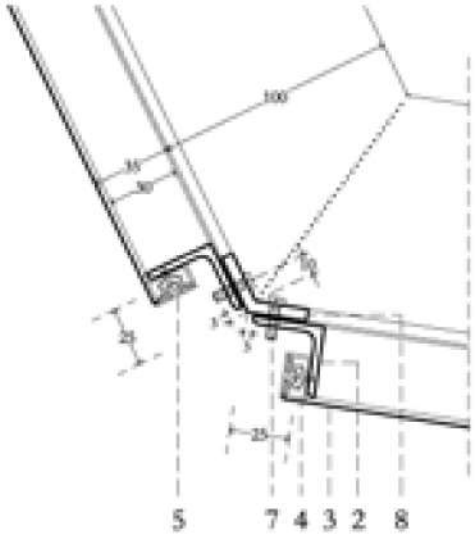
Bastidores interiores

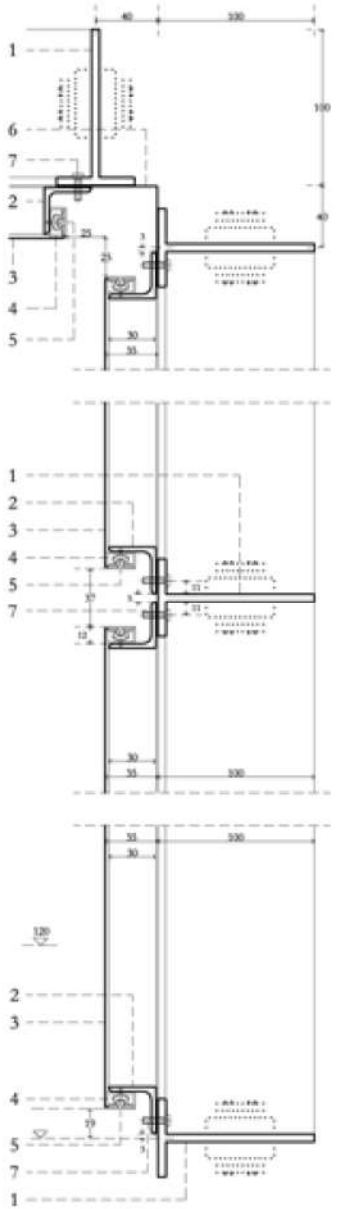


La Cosa exterior



CIRCULATIONS - VERTICAL CIRCULATIONS





Staircases 3

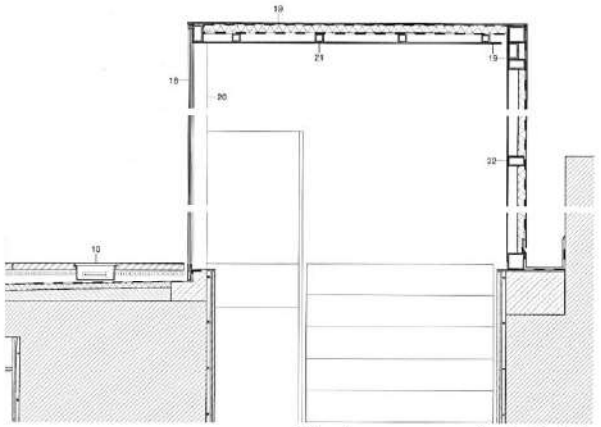
La Luz Castle. Conversion into the Sea Museum.

Las Palmas de Gran Canaria, España.

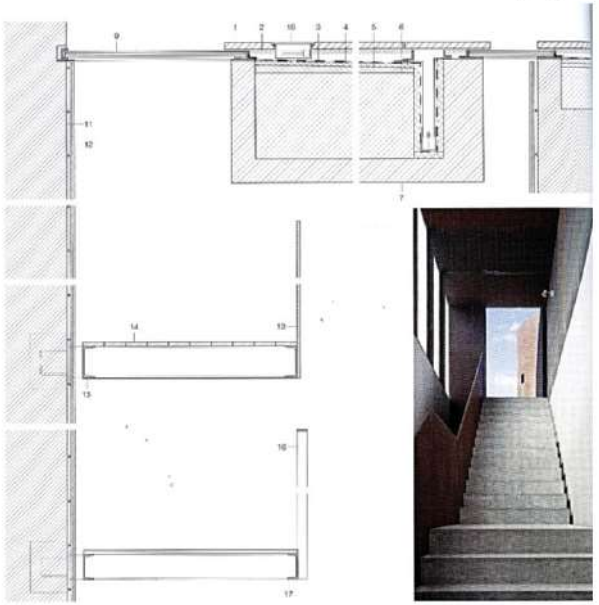
Nieto y Sobejano

Elevator inside patio

•Metalic structure walkways.



Staircase and skylight.



Metalic structure walkways.

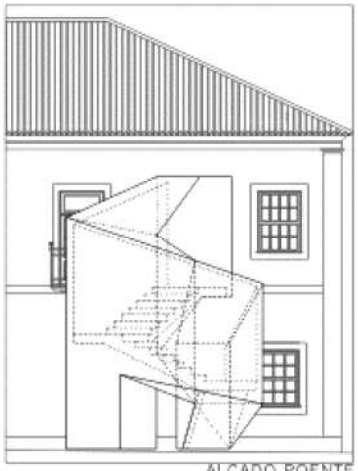
Staircases 4

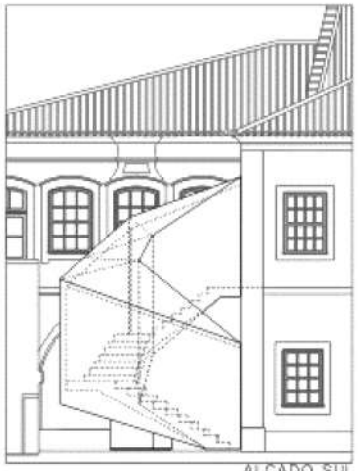
Memory Centre-Archive and local museum

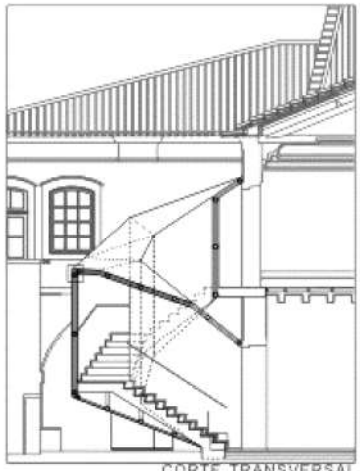
Vila do Conde, Portugal. 2000-2006

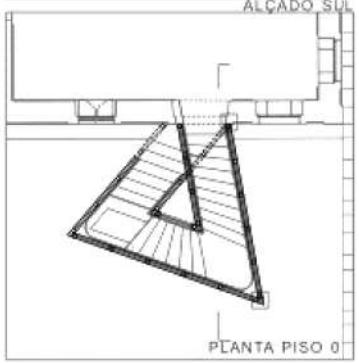
Manuel Maja Gómez

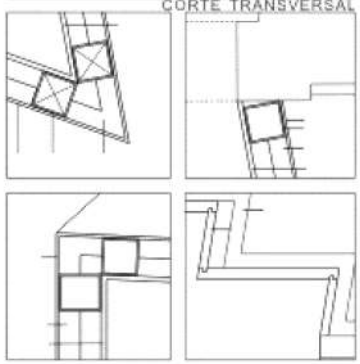
CIRCULATIONS - VERTICAL CIRCULATIONS



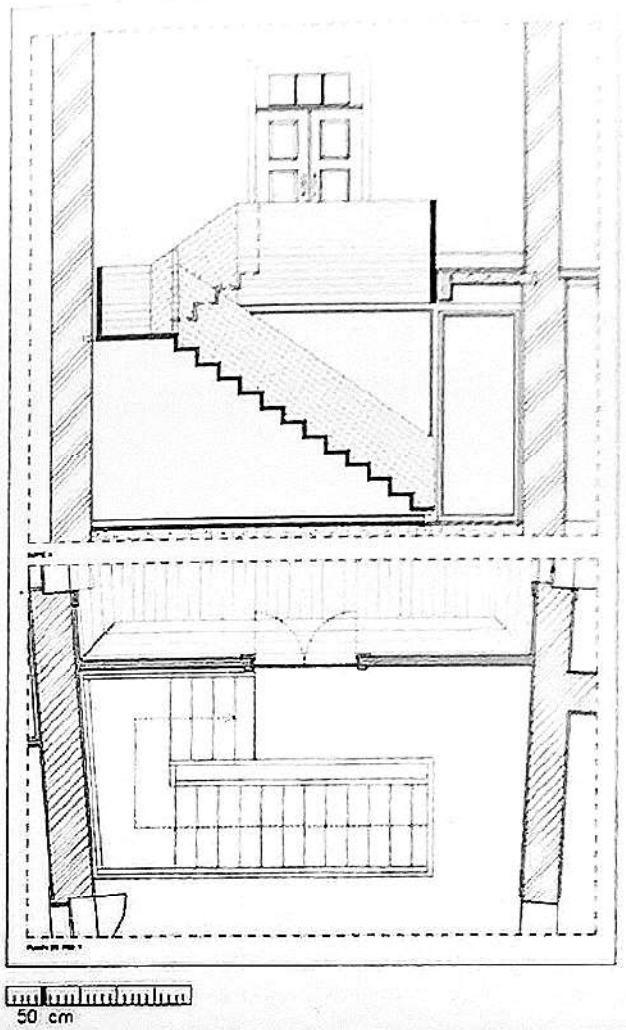








CIRCULATIONS - VERTICAL CIRCULATIONS

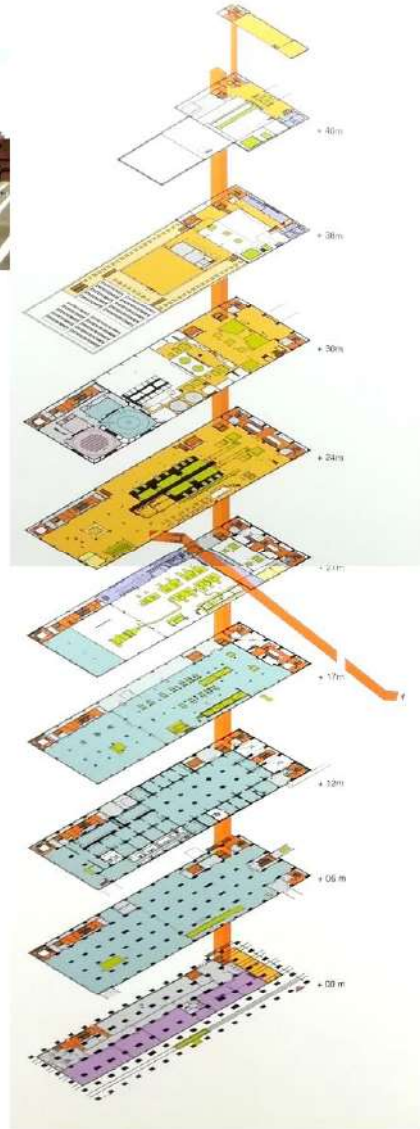


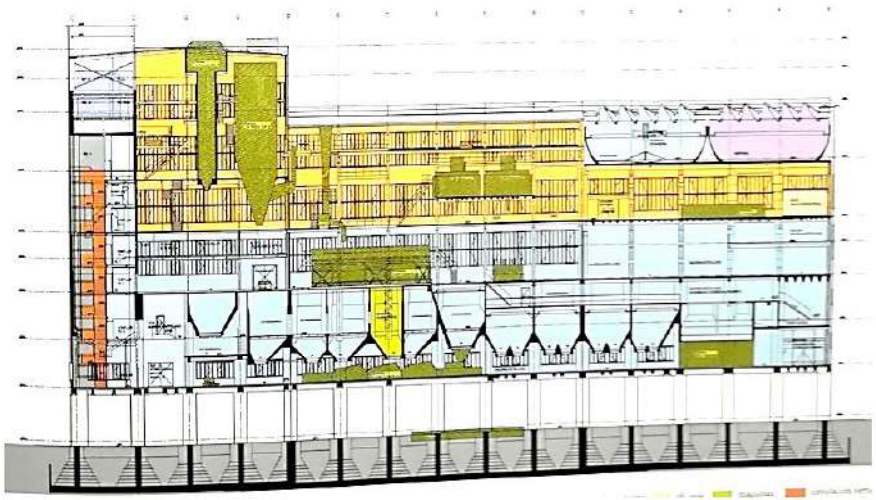
Staircases 5

Coal processing plant rehabilitation.

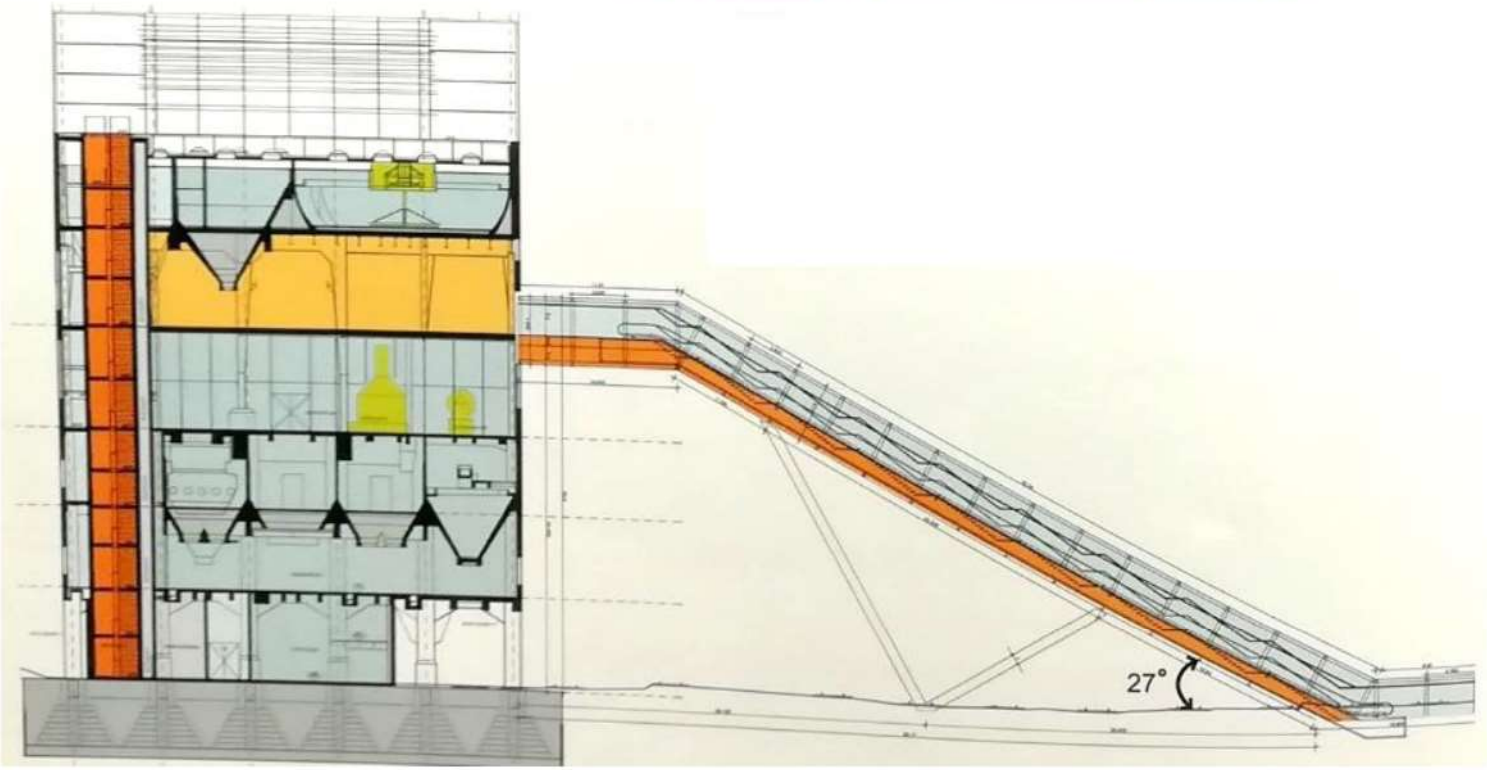
Essen, Germany, 2000-2009

OMA & Böll

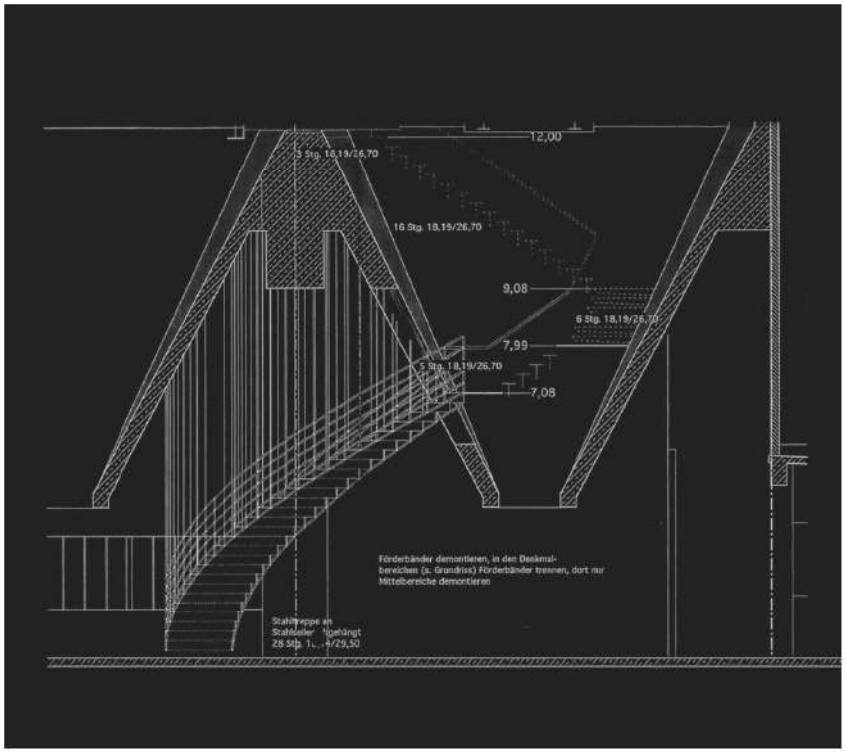




CIRCULATIONS - VERTICAL CIRCULATIONS



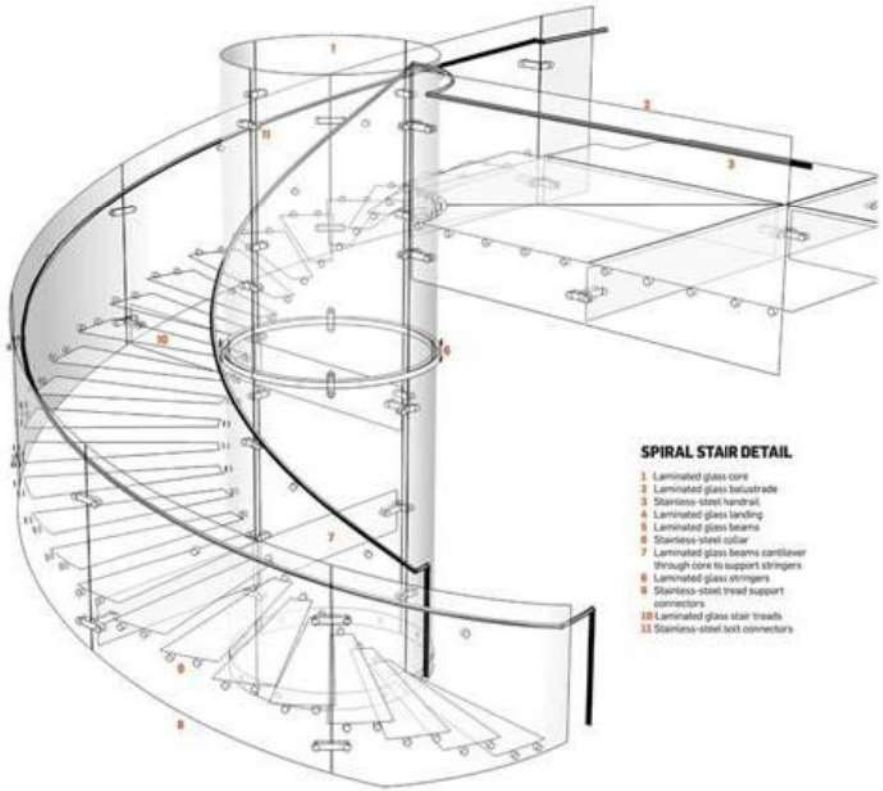
CIRCULATIONS - VERTICAL CIRCULATIONS



Staircases 6

Apple Store in Amsterdam, the Netherlands.

AGS Architects



CIRCULATION ELEMENTS

HORIZONTAL CIRCULATIONS :

- FLOORING
- WALKWAYS AND CORRIDORS
- MOBILE WALKWAY-TRAVELATOR

VERTICAL CIRCULATIONS:

- STAIRS
- **ELEVATORS**
- ESCALATORS

ELEVATORS AND ESCALATORS

In modern building, elevators serve the same purpose as staircases, without the fatigue of walking up the stairs. In the case of building adaptation, the new use may require accessibility improvement, whether the function is residential or opened to the public.

The most remarkable case is the implementation of elevator within the urban context. This new use of the element is meant to solve the accessibility problems to the historical sets, many of which are isolated and steep due to it defensive origins.

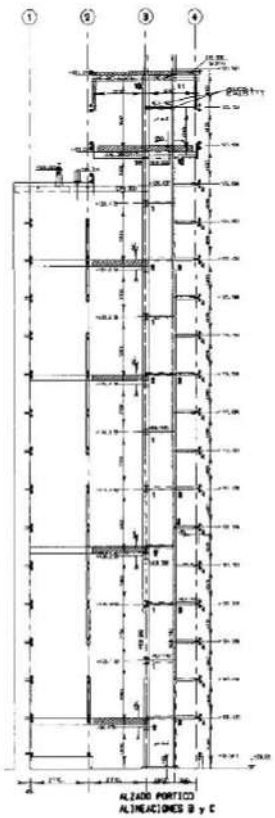
The implementation of elevators, travellators and escalators could generate a discussion about its necessity and its integration into a historical environment (shape, materials, etc.)

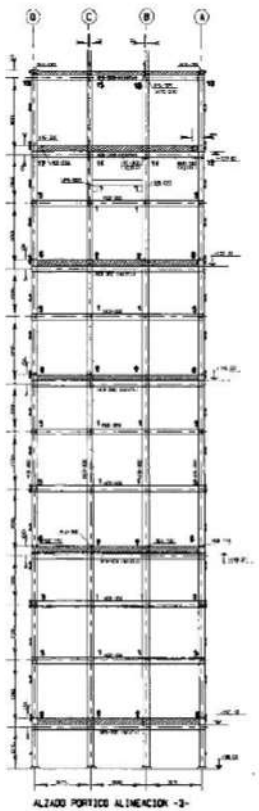
Elevators and escalators 1

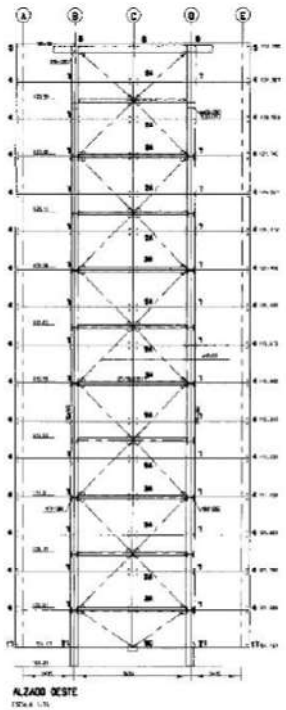
Glass tower from Reina Sofía Art Museum

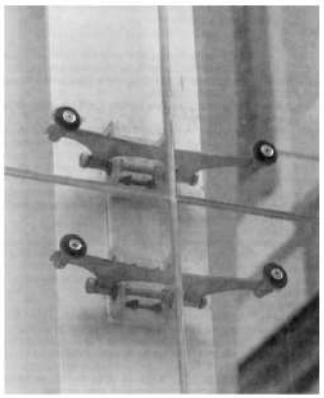
Madrid, Spain. 1991

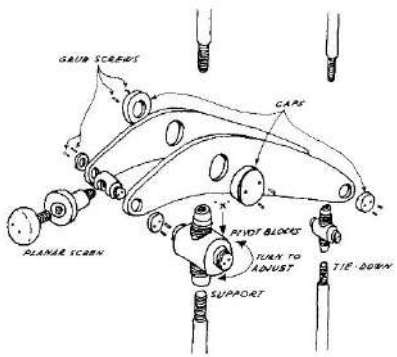
Íñiguez de Onzoño y Vazquez de Castro





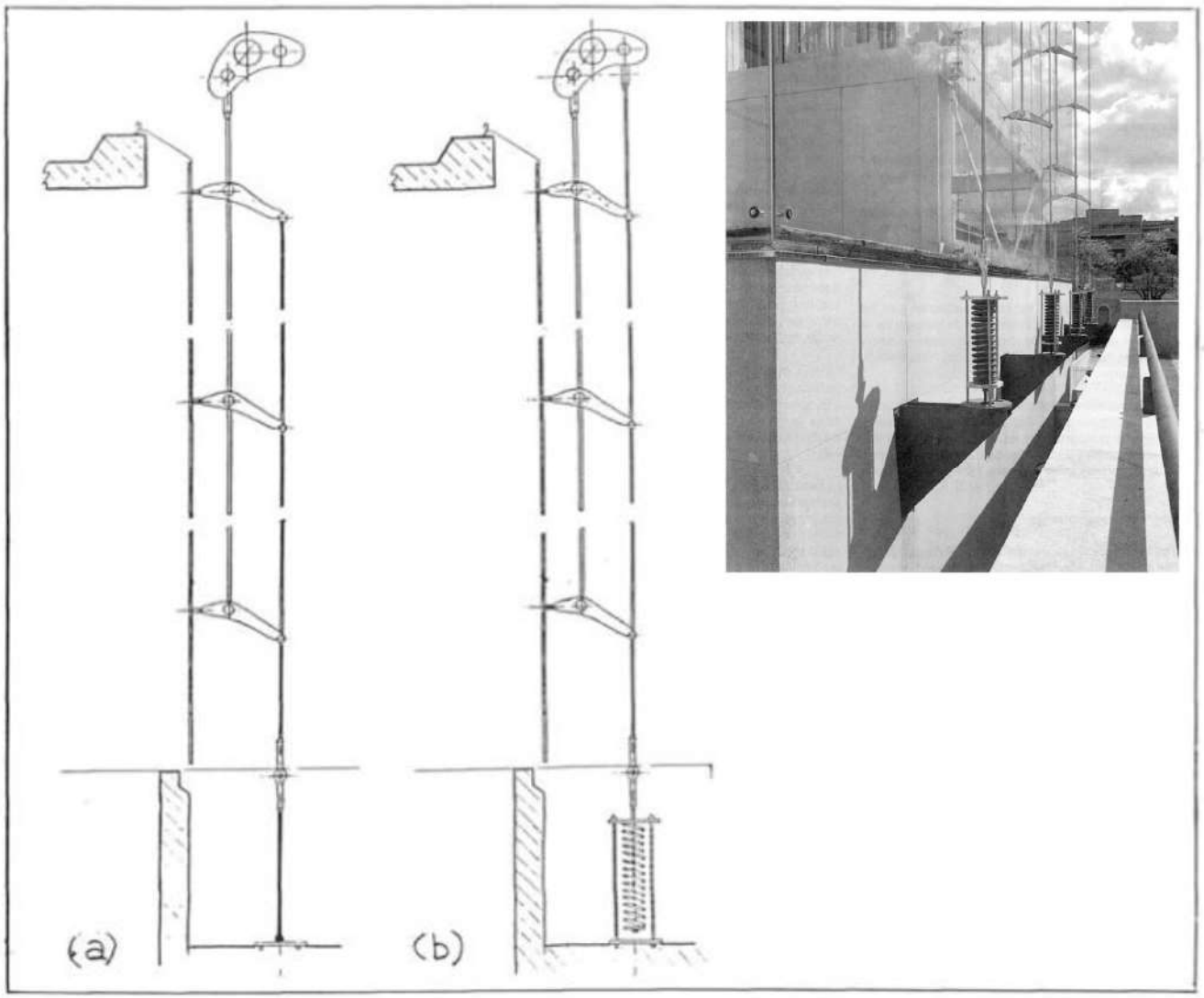






Despiece del soporte de vidrio.

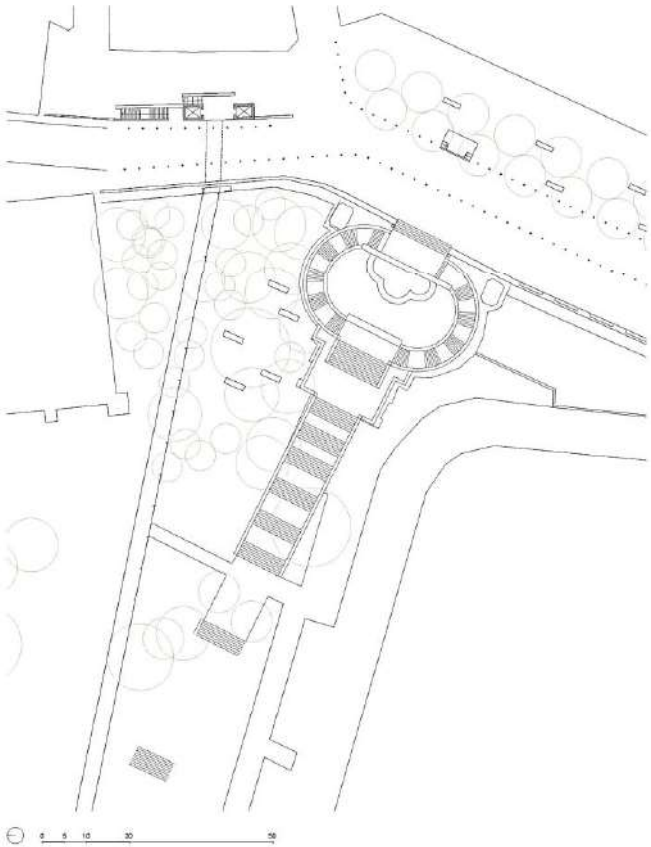
CIRCULATIONS - VERTICAL CIRCULATIONS



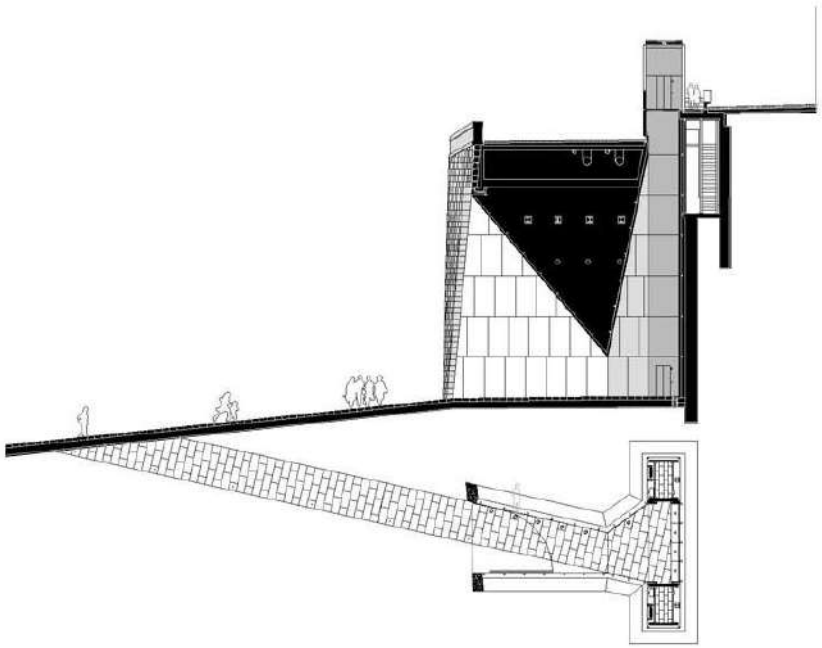
Elevators and escalators 2

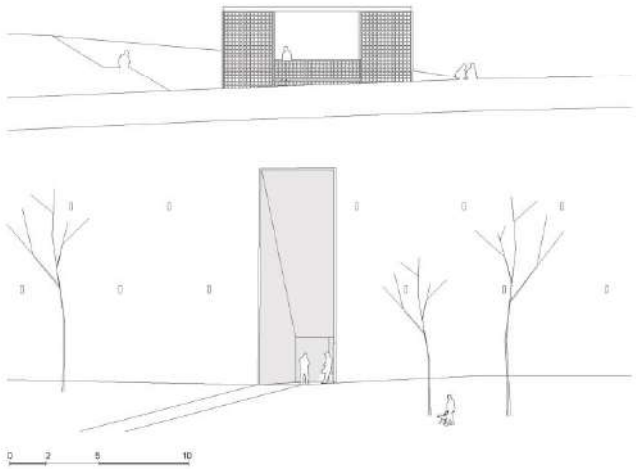
Urban elevator in Teruel, Aragón, Spain. 2005-06

David Chipperfield



CIRCULATIONS - VERTICAL CIRCULATIONS





Elevators and escalators 3

Mobile walkways in Vitoria-Gasteiz.

Vitoria-Gasteiz, Spain. 2005-06

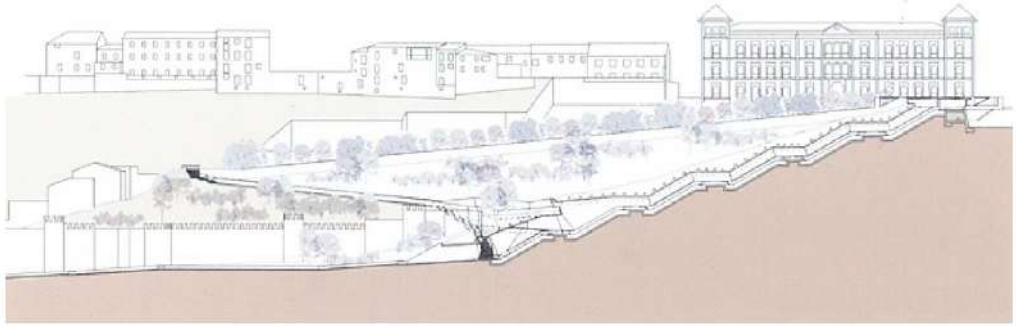
Architects: Roberto Ercilla - Miguel Ángel Campo

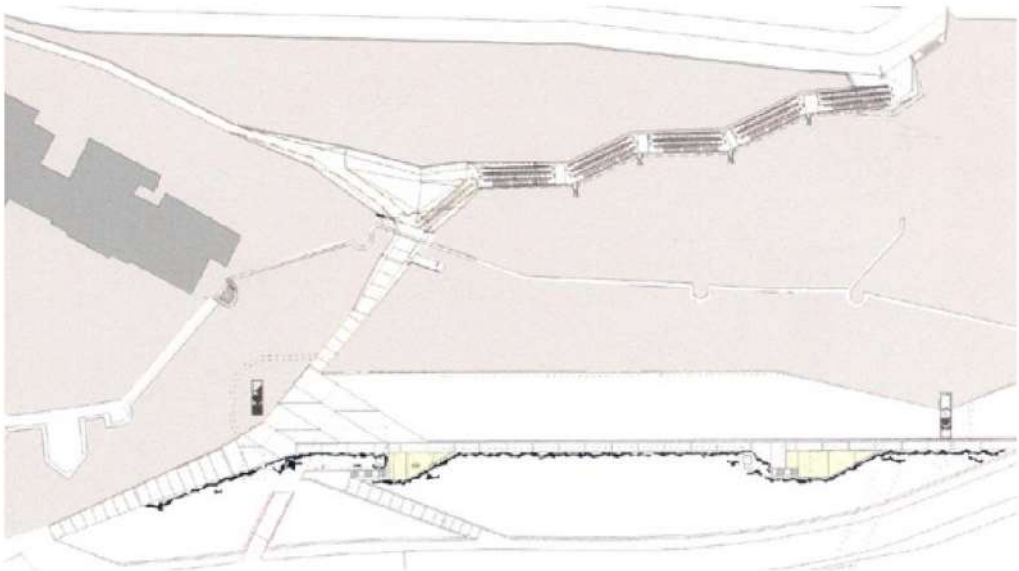
http://arqa.com/arquitectura/rampas-moviles-cantones-centro-historico-vitoria-gasteiz-espana.html

Elevators and escalators 3

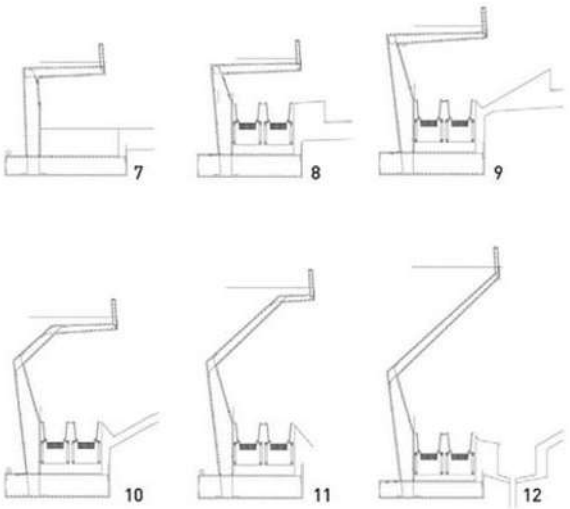
La Granja Scalators. Toledo, Spain. 2000

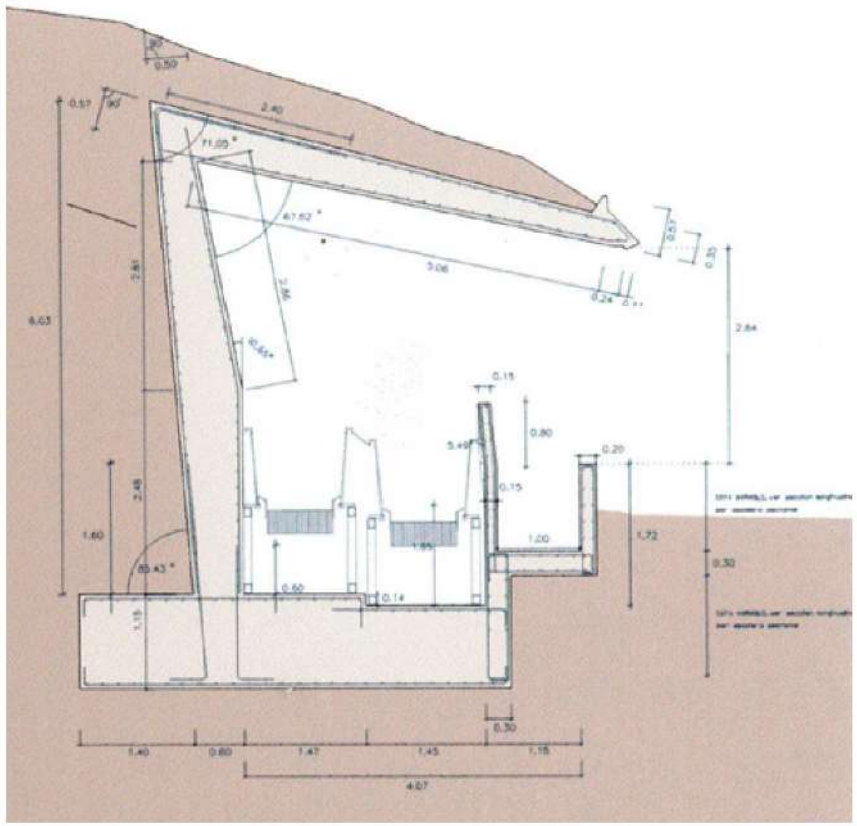
Elías Torres y Martínez Lapeña





CIRCULATIONS - VERTICAL CIRCULATIONS





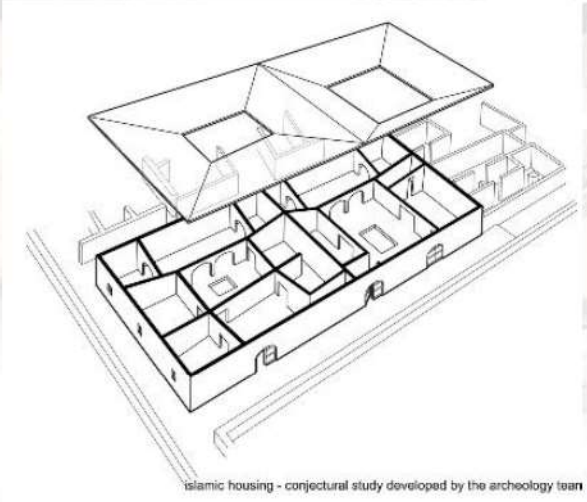
EXERCISE 02: ADAPTATION AND CIRCULATION

INSTRUCTIONS

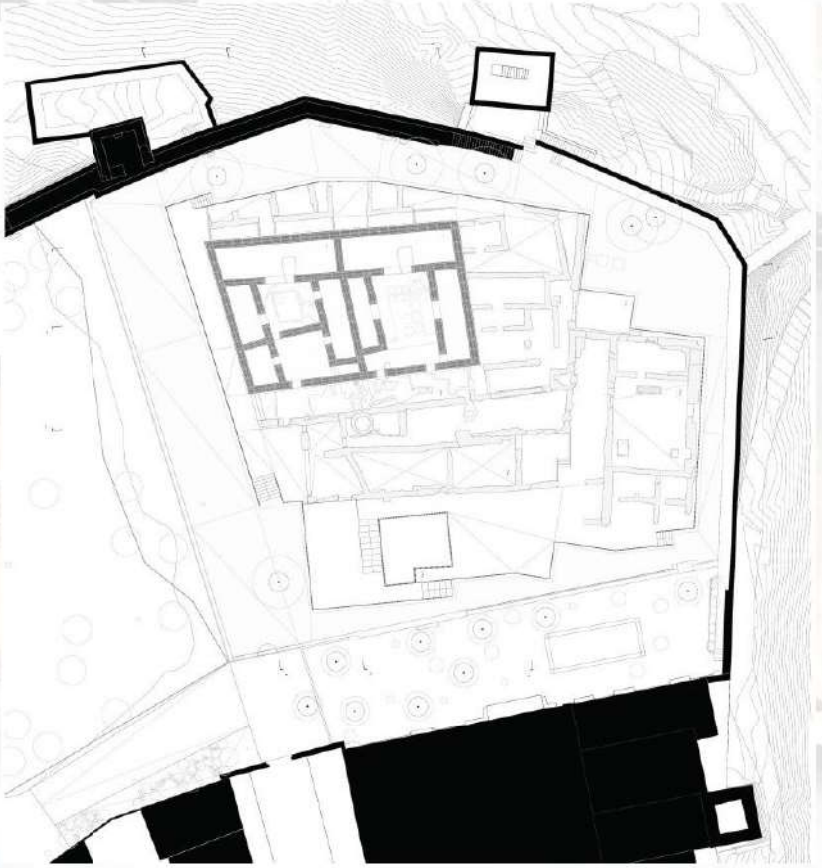
From the following ruins, the archaeological Site of Praça Nova of São Jorge Castle, elaborate a study of its circulations in order to enable them for visiting. This will require some sketches over the possible itineraries, a description of horizontal and vertical elements and a contructive approach to the proposed elements. The drawings could be accompanied by some explanation about the architectonical, design and constructive criteria.

EXERCISE 02: ADAPTATION AND CIRCULATION

DOCUMENTATION

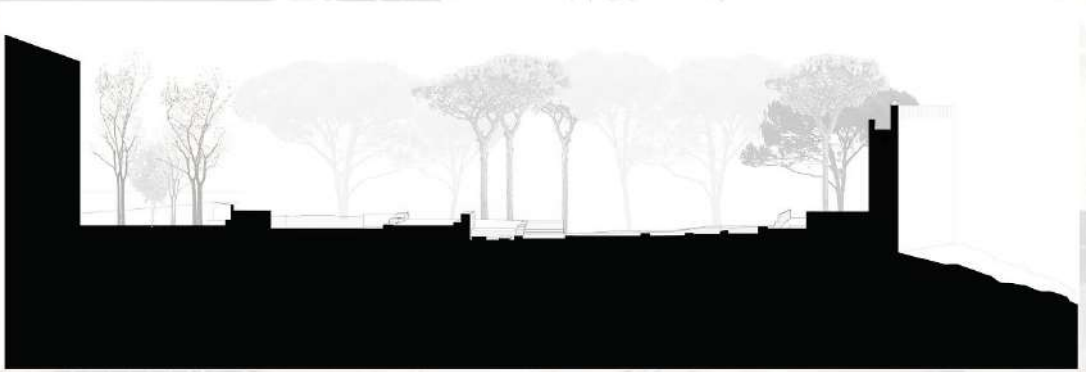


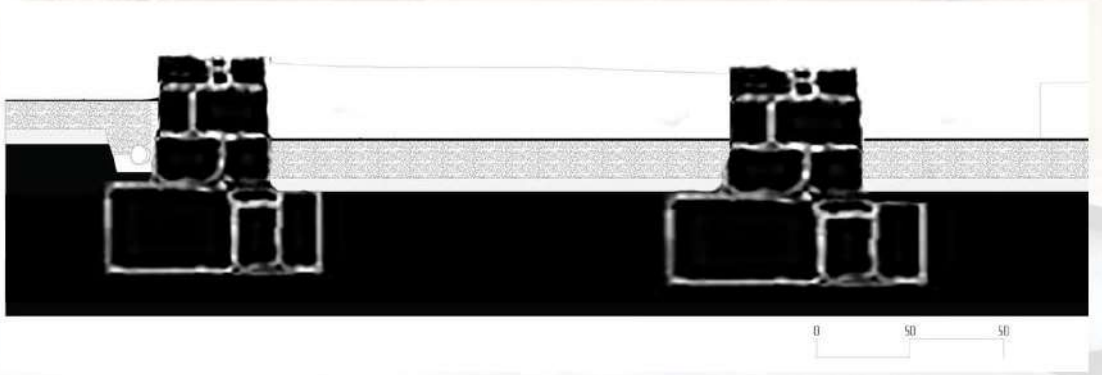
islamic housing - conjectural study developed by the archeology team



EXERCISE 02: ADAPTATION AND CIRCULATION

DOCUMENTATION





EXERCISE 02: ADAPTATION AND CIRCULATION

PHOTOGRAPHS

**Project "SURE - Sustainable Urban Rehabilitation in Europe"
implemented in frames of Erasmus+ Programme
Key Action 2: Strategic Partnership Projects
Agreement n° 2016-1-PL01-KA203-026232**

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