



Historical building adaptation to modern function



Erasmus+

Historical building adaptation to modern function

3 ECTS

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Sustainable Heritage

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Elective Courses



Historical building adaptation to modern function

3 ECTS

The conservation of architectural heritage represents a difficulty that can be facilitated bringing these building into use. This course studies historical buildings in terms of different aspect: original typology - its relation between form and use- and state of preservation; determination of compatible uses for the building; strategies and constructive techniques appropriate and compatible to allow the change of function. The aim of the course is to approach the challenge that represents the use and preservation of built heritage, addressing formal, functional, habitability, technical and ecological aspects.

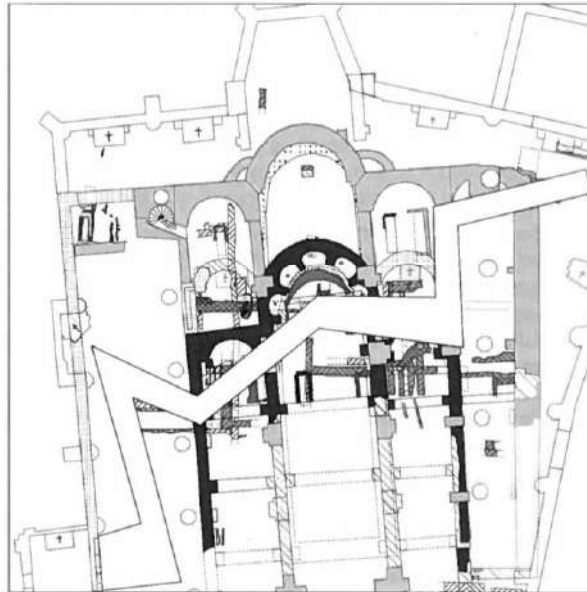
Historical building adaptation to modern function

3 ECTS

- 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

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3 ECTS



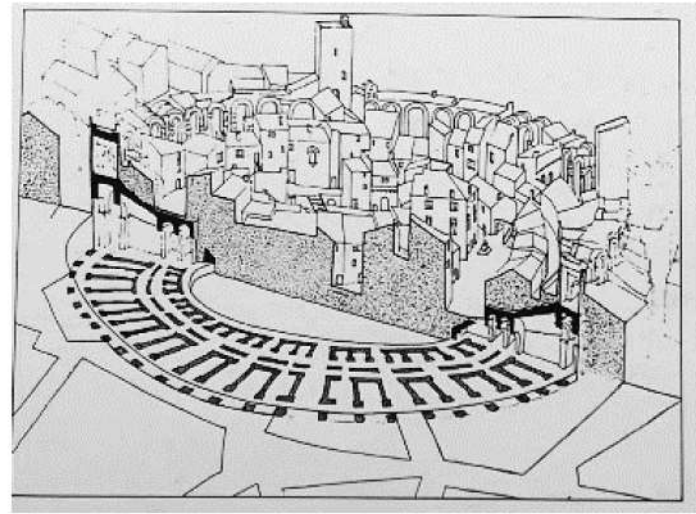
LESSON 01: INTRODUCTION TO BUILDING ADAPTATION

ADAPTATION OF BUILDINGS

- **BUILDING WITHIN**
 - BUILDING OVER
 - BUILDING AROUND
 - BUILDING ALONGSIDE
 - RECYCLING MATERIALS
 - ADAPTING TO NEW FUNCTION
 - BUILDING IN STYLE OF
- ❖ This is the case of a building designed around patios and courtyards, which can now be covered to serve new functions. An example of this is the Mosque-Cathedral of Córdoba, in which the cathedral was built in the mosque's patio. A more recent example is the British Museum

INTRODUCTION TO BUILDING ADAPTATION

BUILDING WITHIN



The Roman Arles (Arelate) contracted drastically during the High Middle Ages, becoming the Amphitheater (Arènes) in the new "fortified" city. The amphitheatres at Arles and Nimes which became medieval villages.

INTRODUCTION TO BUILDING ADAPTATION

BUILDING WITHIN



The church inserted in the Great Mosque of Córdoba

INTRODUCTION TO BUILDING ADAPTATION

BUILDING WITHIN



The Museum of Architecture in the envelop of a 19th century building town house in Frankfurt by Oswald Mathias Ungers

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- ❖ One of the first options could be to rise the height of the building, adding a new body on top. It is desirable that the extension is light-weighted and distinguishable from the old building.

INTRODUCTION TO BUILDING ADAPTATION

BUILDING OVER



The Pan Am Building by Walter Gropius
above Grand Central Station, New York



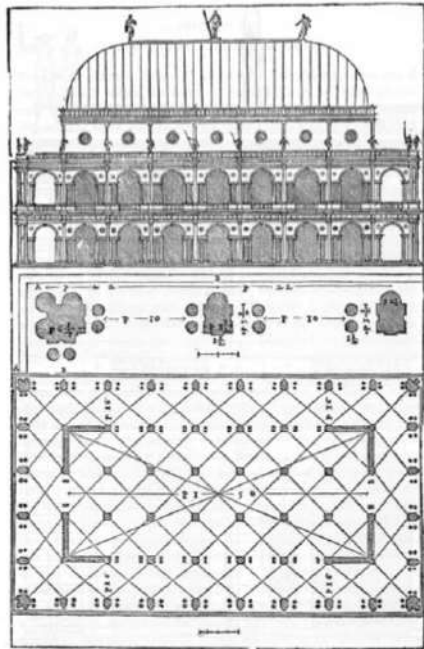
The raising of the Berliner Tageblatt building
by Enrich Mendelsohn and Richard Neutra

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- ❖ This is an uncommon case. It would involve to build a new space next to every side of the building, surrounding it. This can serve the purpose of giving the building a new façade, like in the case of Palladio's Basilica.

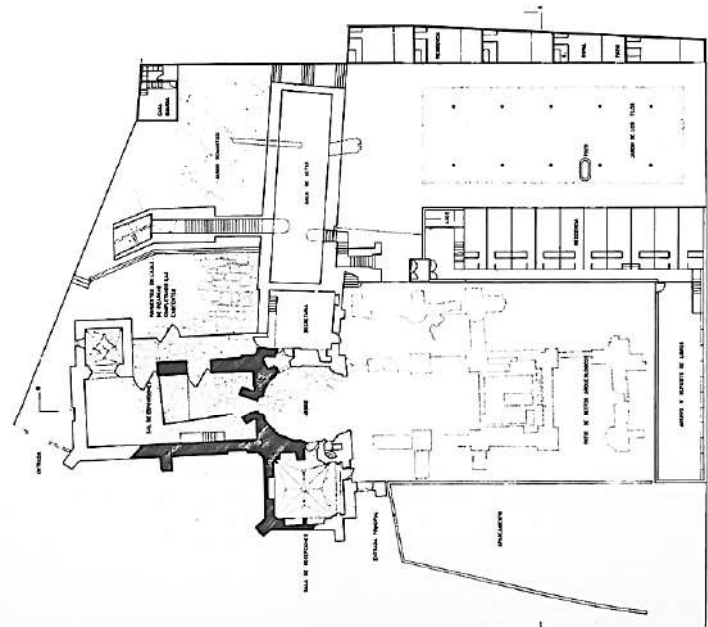
INTRODUCTION TO BUILDING ADAPTATION

BUILDING AROUND



The Vicenza Basilica – the concentric extension of the Palazzo della Ragione by Andrea Palladio.

The Palazzo della Ragione converted into a basilica. Palladio's new building has preserved the symbolic potency of the place and at the same time strengthened the image and modified the scale



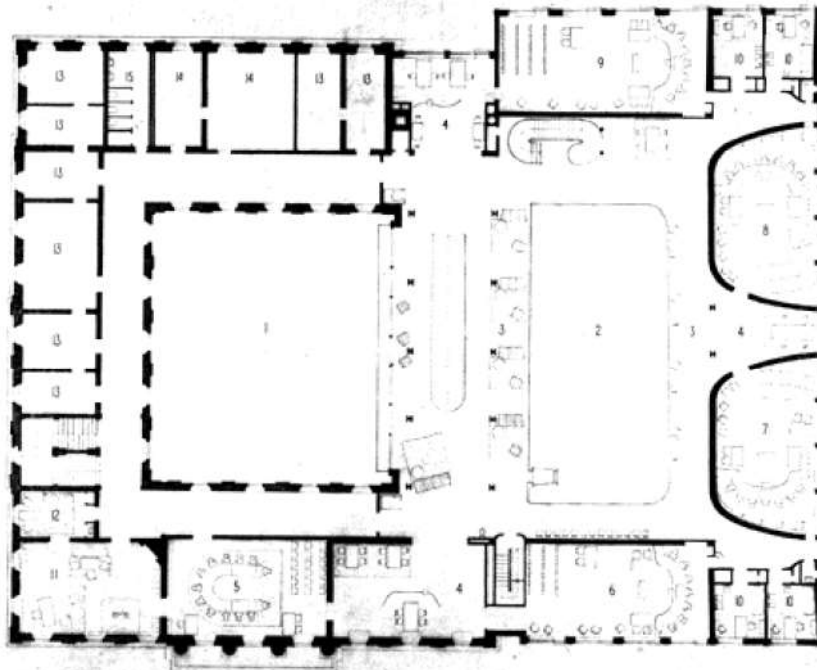
Hispano-Portuguese- Institute 'Rei Alfonso Henriques'
Zamora, Spain. Manuel de las Casas

ADAPTATION OF BUILDINGS

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 - BUILDING AROUND
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 - BUILDING IN STYLE OF
- ❖ This is the most common type of adaptation, which consists in the construction of a new structure attached and connected to the previous building. The complex can be perceived as a whole body or it can be designed as a new pavilion clearly distinguishable from the original.

INTRODUCTION TO BUILDING ADAPTATION

BUILDING ALONGSIDE

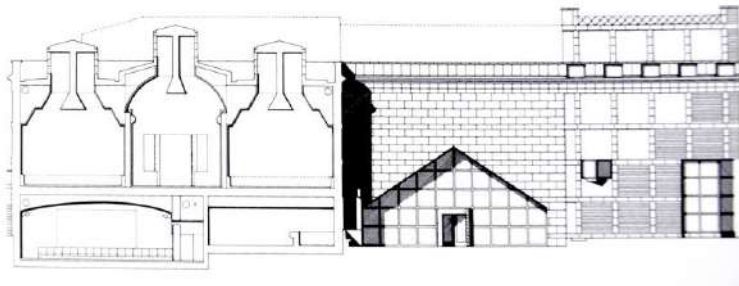


Erik Gunnar Asplund, Extension to Gothenburg Townhall, 1913-1937, Gothenburg, Sweden

In his extension to Goteborg Town Hall, Asplund expressed the difficulty of “rounding off” an awkward building. According to Michael Graves, we ought to be able to consider a building as the uncompleted part of a larger building; can such notion, however, be applied in the case of a symmetrical composition?

INTRODUCTION TO BUILDING ADAPTATION

BUILDING ALONGSIDE



Tate Gallery extension by James Stirling, Liverpool



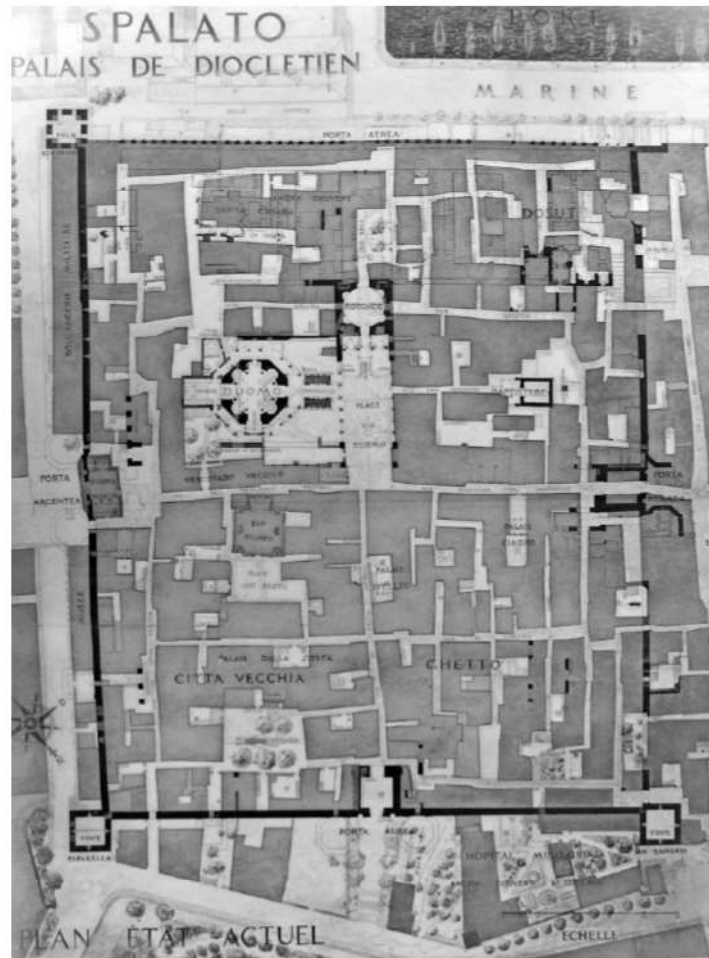
Guggenheim Museum extension by Gwathmey/Siegel

ADAPTATION OF BUILDINGS

- BUILDING WITHIN
 - BUILDING OVER
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 - BUILDING ALONGSIDE
 - **RECYCLING MATERIALS**
 - ADAPTING TO NEW FUNCTION
 - BUILDING IN STYLE OF
- ❖ This historical phenomenon involves the pillaging of materials and their reuse in new constructions. We can distinguish two major categories: the reemployment of old construction materials (ashlars, bricks, tegulas ...), with that same building function; and also, a second group referred to the reuse of old pieces sculpted and decorated for the new building (capitals, bases, shafts, epigraphs, stelae, etc.)

INTRODUCTION TO BUILDING ADAPTATION

RECYCLING MATERIALS OR VESTIGES



The town of Split, integrated into the ruins of Diocletioan's Palace (Croatia)

ADAPTATION OF BUILDINGS

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- BUILDING IN STYLE OF

INTRODUCTION TO BUILDING ADAPTATION

ADAPTATION TO A NEW FUNTION



Temple of Antoninus and Faustina, converted into a Roman Catholic church, the Chiesa di San Lorenzo in Miranda, by Leone Battista Alberti



Baths of Diocletian converted into a church by Michaelangelo (Santa Maria degli Angeli in Rome)

Roman significant buildings converted into churches

INTRODUCTION TO BUILDING ADAPTATION

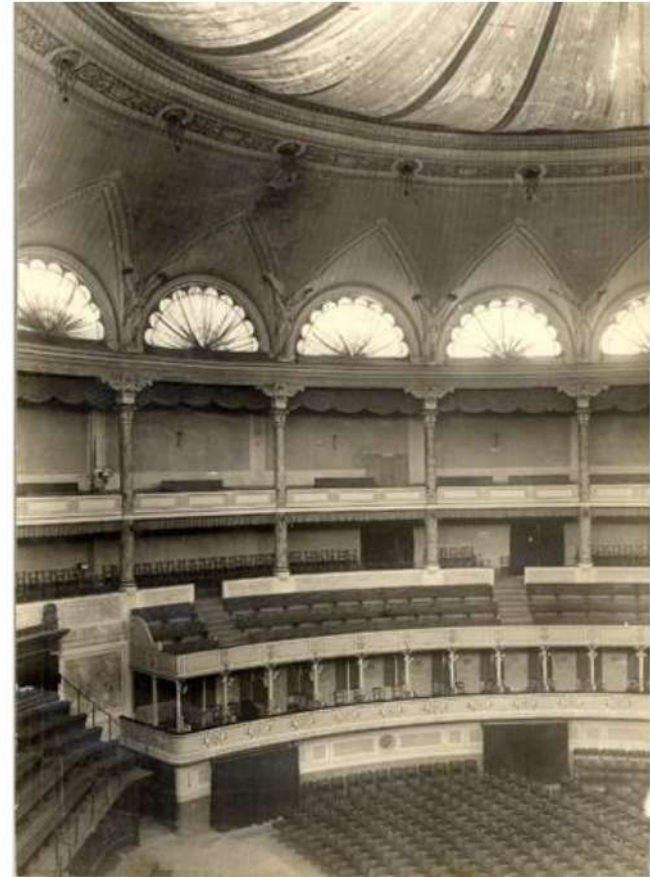
ADAPTATION TO A NEW FUNTION



The museum in the Castelvecchio in Verona by Carlo Scarpa.

INTRODUCTION TO BUILDING ADAPTATION

ADAPTATION TO A NEW FUNTION



The Mausoleum of Augustus in Rome, converted into a fortress, gardens, an amphitheatre, .
And then into a concerto hall.

ADAPTATION OF BUILDINGS

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 - **BUILDING IN STYLE OF**
- ❖ The inventory is a reminder of the way in which conversion brings into play memory of place and future use, at the same time and within the same space. It is this relationship which has inspired so many architects and which, today, has once more emerged as a particularly fertile field of intervention.

INTRODUCTION TO BUILDING ADAPTATION

BUILDING IN STYLE OF



Employing the vocabulary of an existing building.

The Frankfurt Museum of Decorative Arts has been built around a nineteenth century house. The original volumes, proportions and fenestration provide the vocabulary for the new composition. (Richard Meier, architect).

BUILDING IN STYLE OF

The arcade, columnna, tympanum, rustification, and the classical vocabulary employed by the post-modernists, from Hans Hollein to Kohn-Pedersen Fox, and from Charles Moore to Ricardo Bofill.

This inventory — limited to outstanding examples — illustrates the variety of such interventions. Which span every period of history and which cover the whole range of architectural forms.

It includes no work of the modern movement; although Le Corbusier, Mies van der Rohe. Alvar Aalto and Frank Lloyd Wright often made reference to the past, they never proposed integrating their projects with existing buildings. The return to historicism, and the " contextual ' approach which typifies today's architectural production, perhaps constitute a reaction against the way in which the modern movement envisaged cohabitation with the existing built fabric or even the destruction of the latter.

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**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**

This publication has been funded within support from the European Commission.

Free copy.

This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

**Co-funded by the
Erasmus+ Programme
of the European Union**

