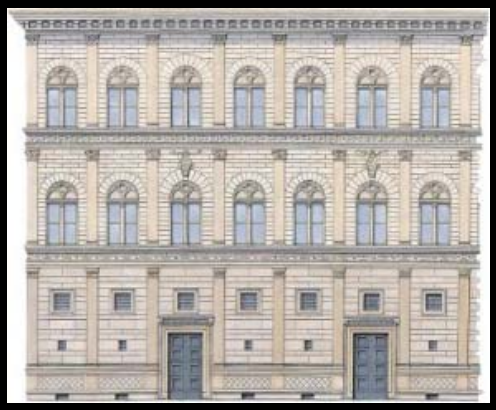
Renaissance 1420 - 1600

Stressed clarity, logic and flat straight lines
Old and New collided
Forward to science and technology
Backward to Ancient Greek and Roman



Renaissance 1420 - 1600

Gutenberg invents printing press 1450
New Worlds discovered Columbus discovers America 1492
Leonardo da Vinci paints the Last Supper 1495
Copernicus – Sun was the center of the Universe 1543
Shakespeare's Hamlet performed 1600

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Fillippo Brunelleschi 1377-1446

1412 Builder / Architect of the Dome of Florence Cathedral

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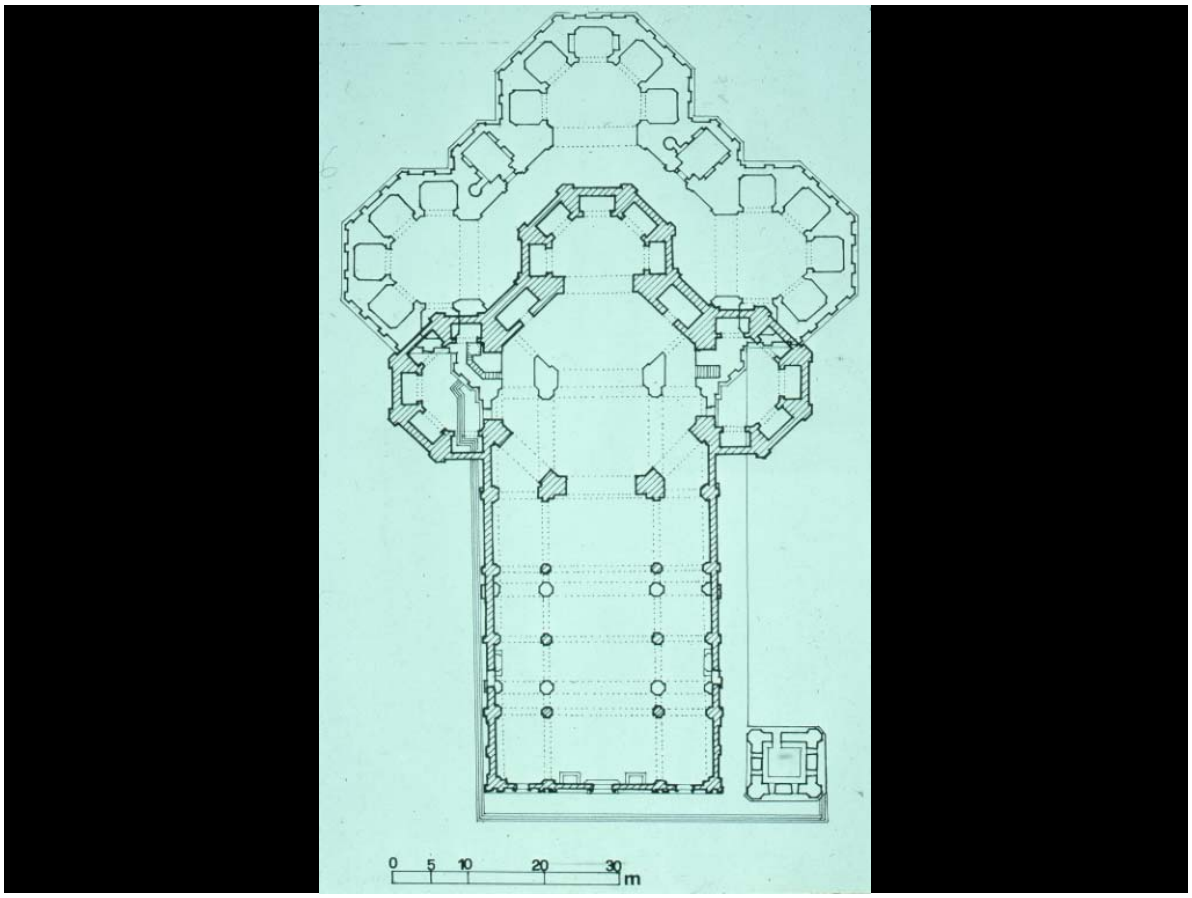

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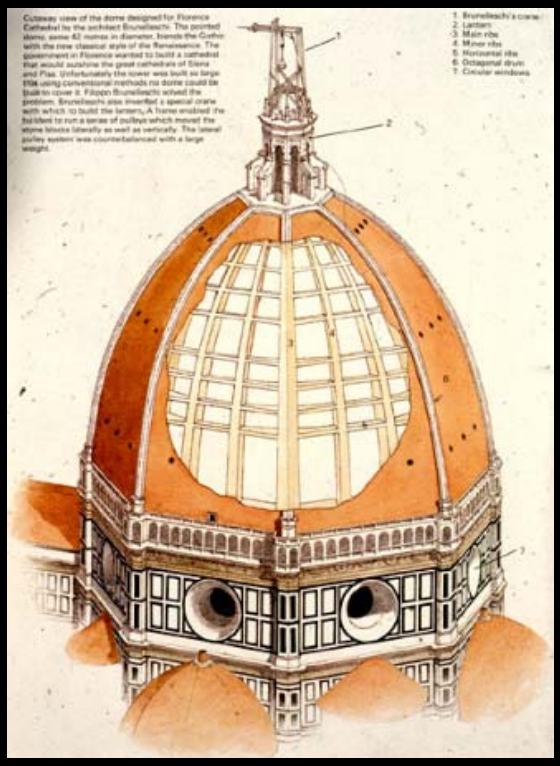
Dome of Florence Cathedral 1412

Dome is 138' across
He studied Pantheon
Built circular course of brick-tapering at top, each course supports the next
A double shell covered of brick in a herringbone pattern, reinforced by ribs and metal bands



Pantheon: 25 BCE -213 AD

One of the last great Pagan Temples
Portico: Corinthian granite columns by Agrippa (25 BCE)
120-124AD Hadrian built the rotunda, with an occulus at the highest point, an opening through which the sun shines

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177 *View from the north, Pantheon, Rome, c. 118–128 A.D.*

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Pantheon: 25 BCE -213 AD

142' spherical rotunda with a 30' oculus, height of dome equals diameter of the floor plan (in theory could hold a sphere).
Coffered ceiling: once embellished with stucco, was introduced to reduce weight.

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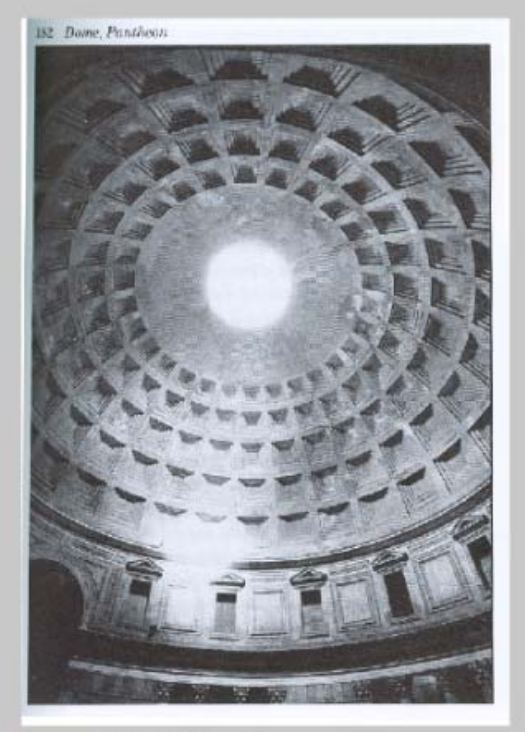
181 *Interior, Pantheon*



182 *Dome, Pantheon*

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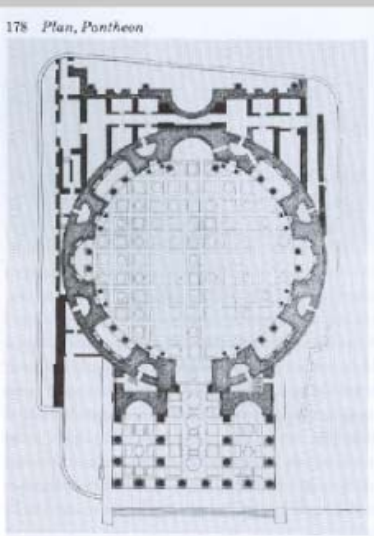
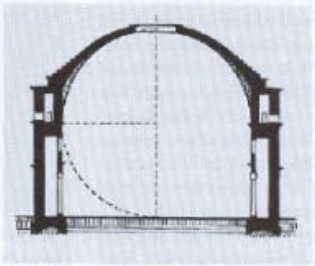


178 *Plan, Pantheon*



179 *Section, Pantheon. (After H. W. Janson)*

180
Pantheon. (Analytical drawing of structure after L. Beltrami)

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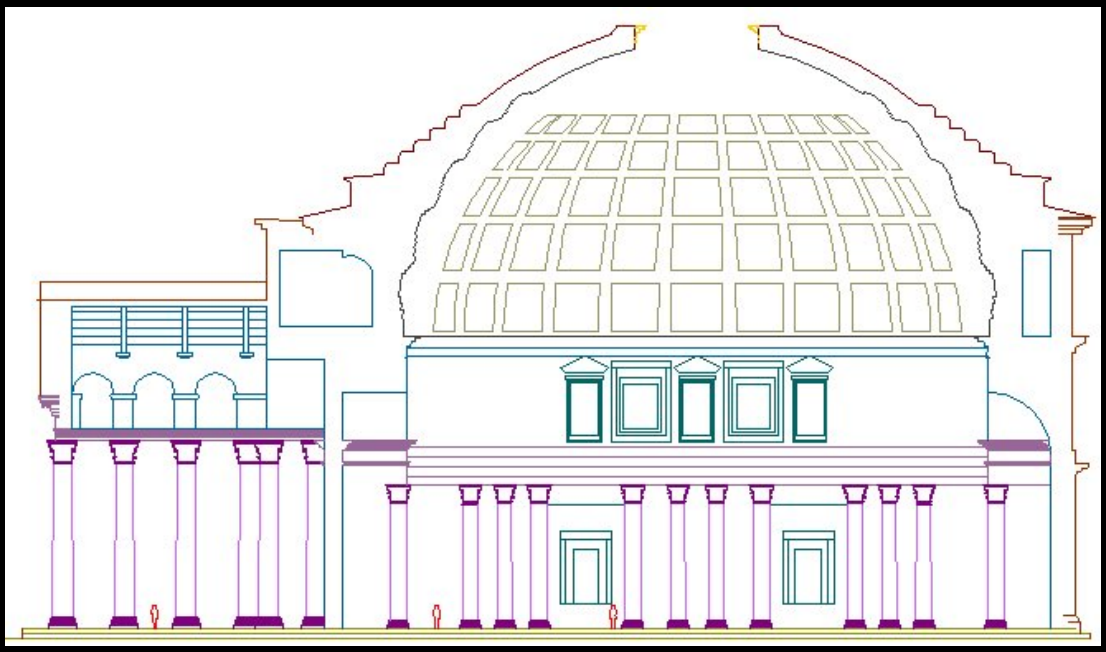
Pantheon: 25 BCE -213 AD

21’ walls built of concrete sandwiched between layers of brick, sheathed in marble veneer



Pantheon: 25 BCE -213 AD

Built with 8 great recesses – 7 for major gods and 1 for the entrance

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Pantheon: 25 BCE -213 AD: Its monumental size is unparalleled by any other masonry structure up to now

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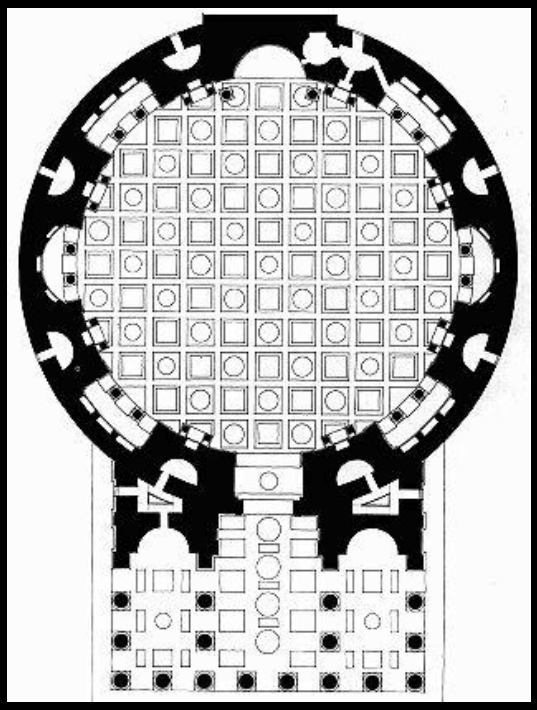

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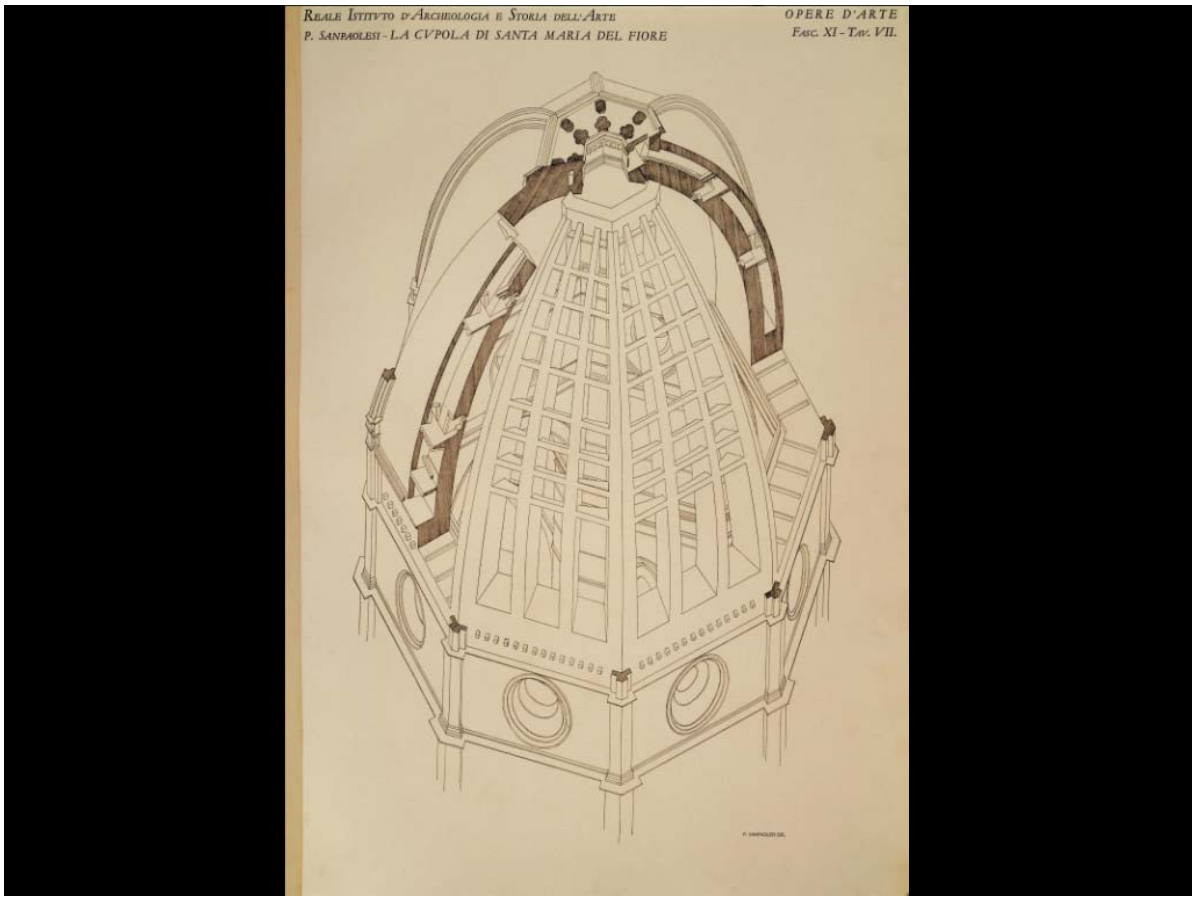

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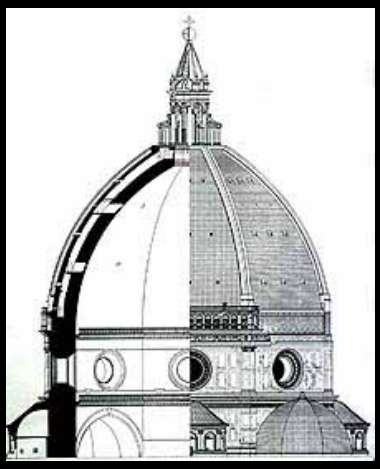
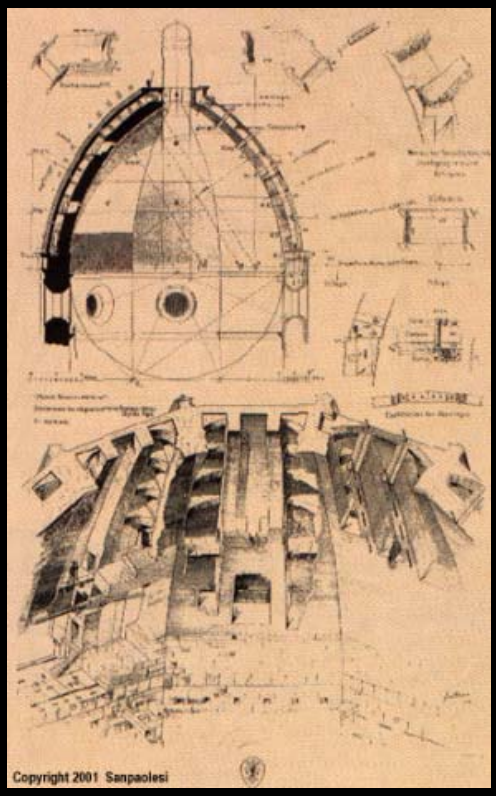
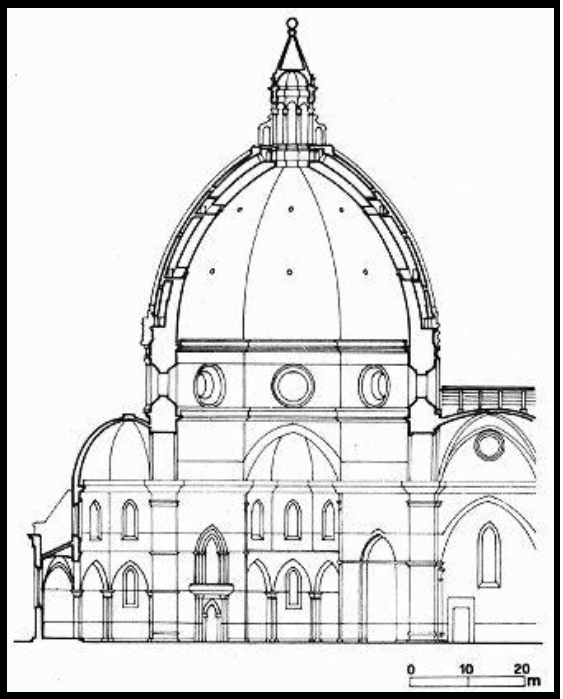
Dome of Florence Cathedral 1412

Lantern acts as a capstone to hold the dome together and prevent spread





Dome of Florence Cathedral 1412



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Dome of Florence Cathedral 1412

Foundling Hospital 1419-24 Brunelleschi, Florence

1st true Renaissance building
Horizontal emphasis & clear mathematical proportions

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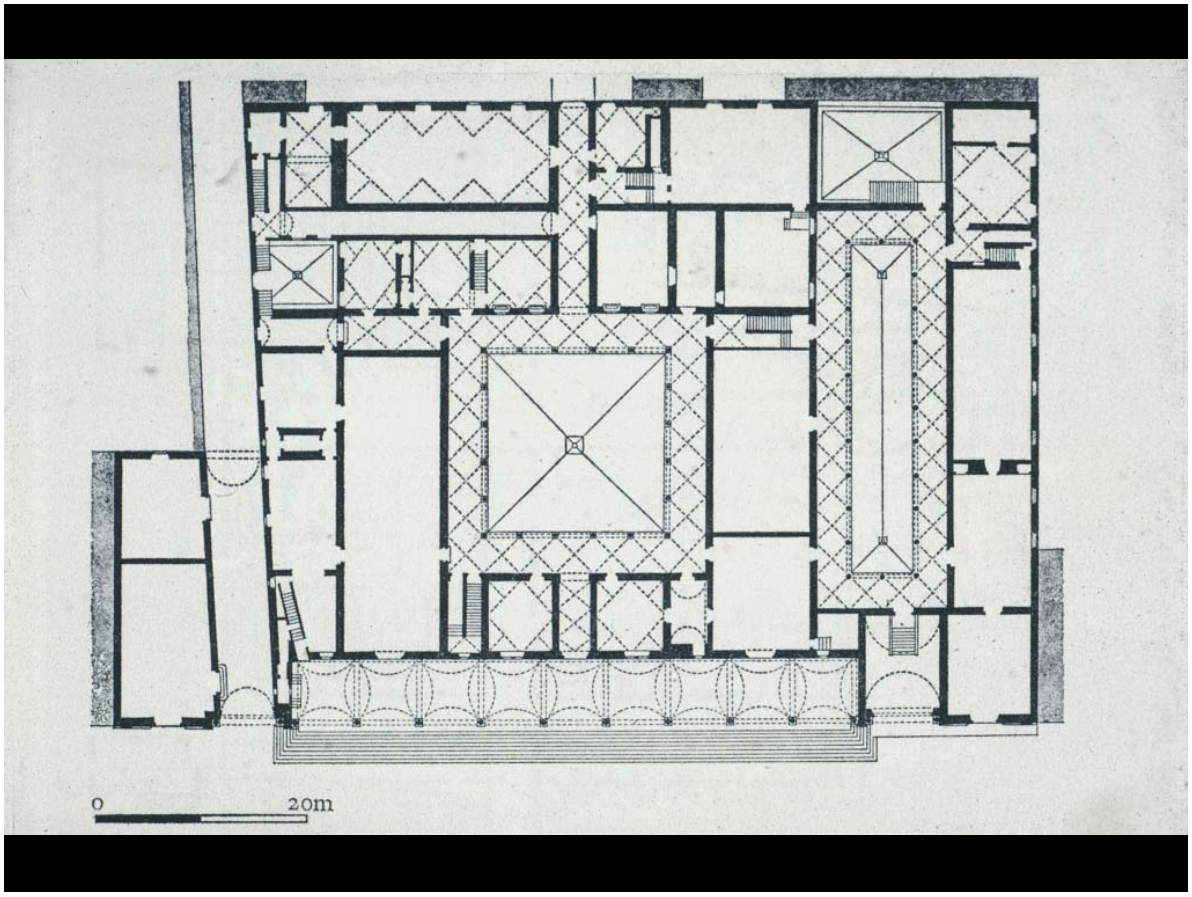

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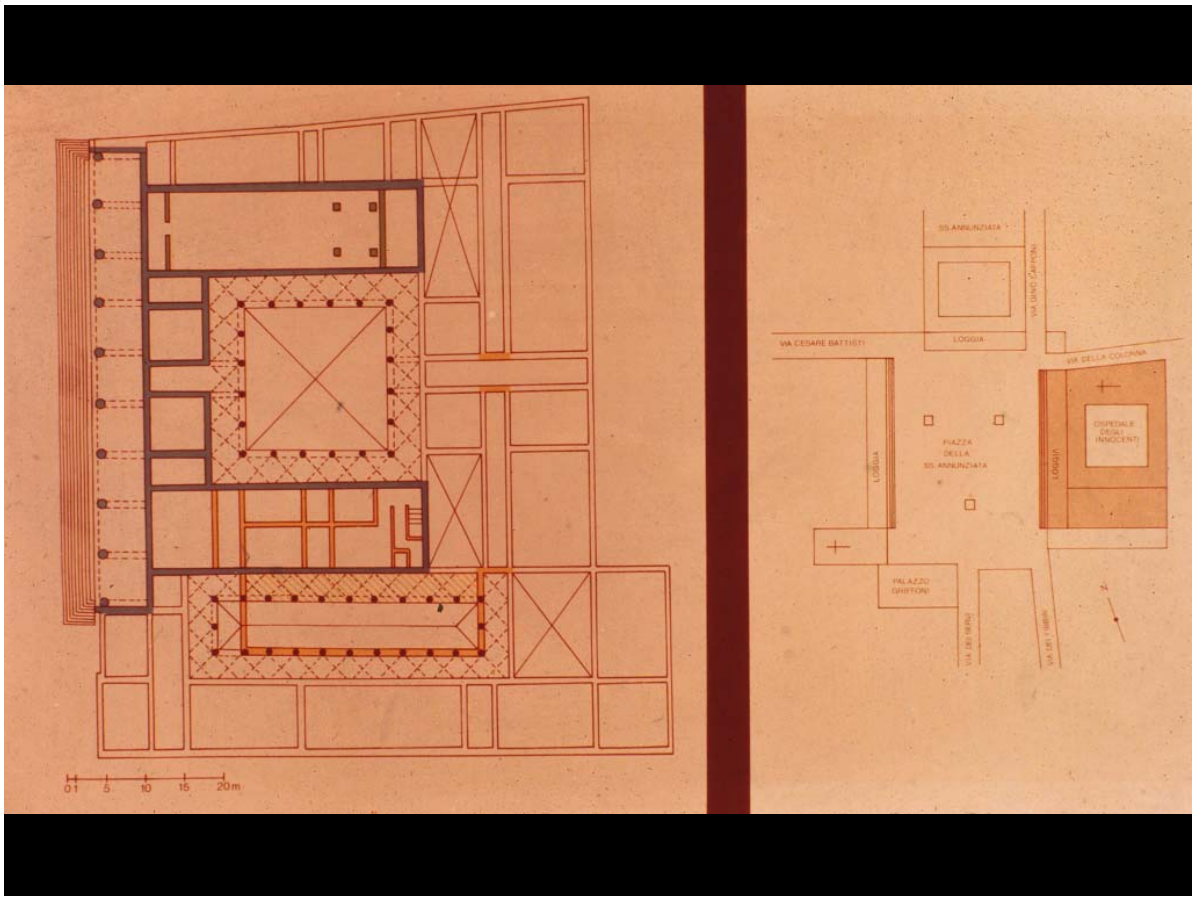

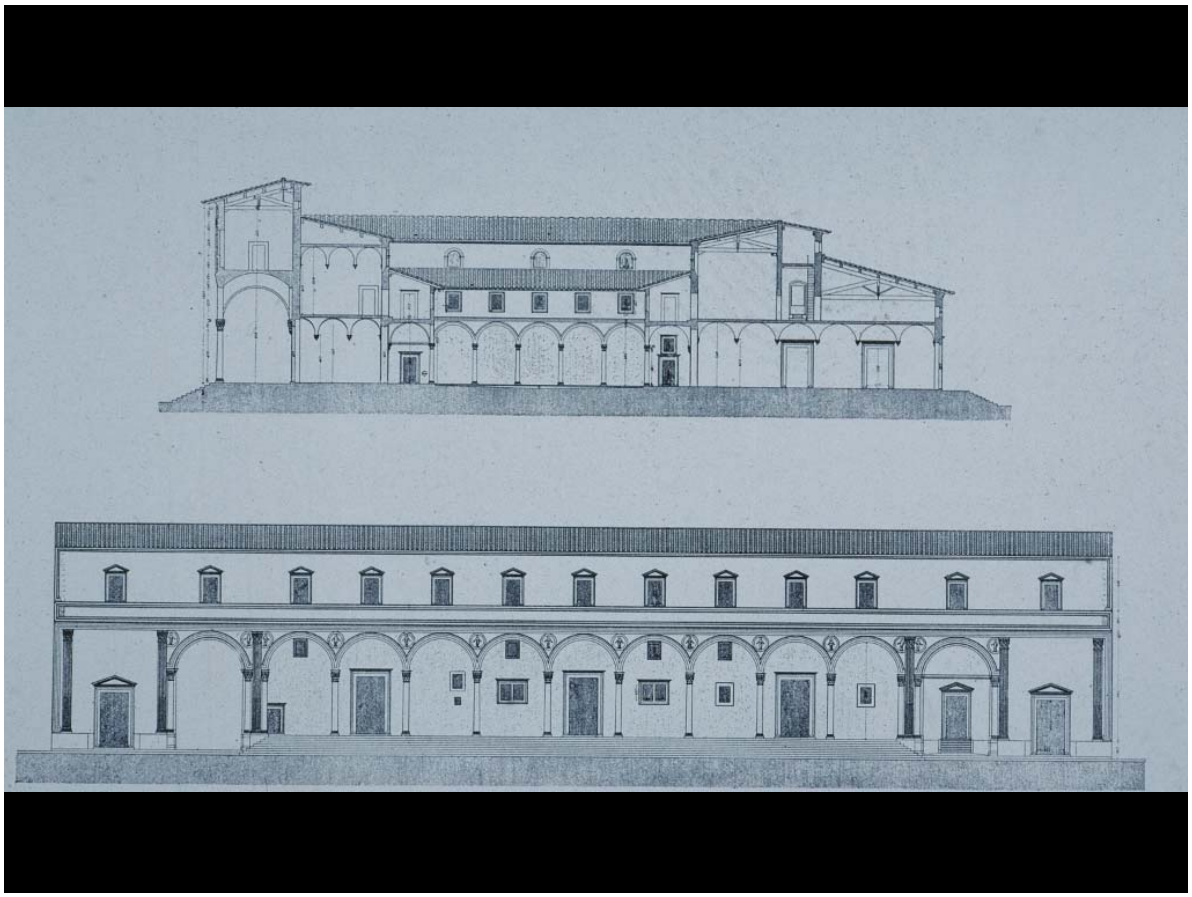

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Foundling Hospital 1419-24 Brunelleschi, Florence

Columns of Loggia (porch created by arcade) are spaced as far apart as they are tall
Arch is half as tall as column – dome forms cube

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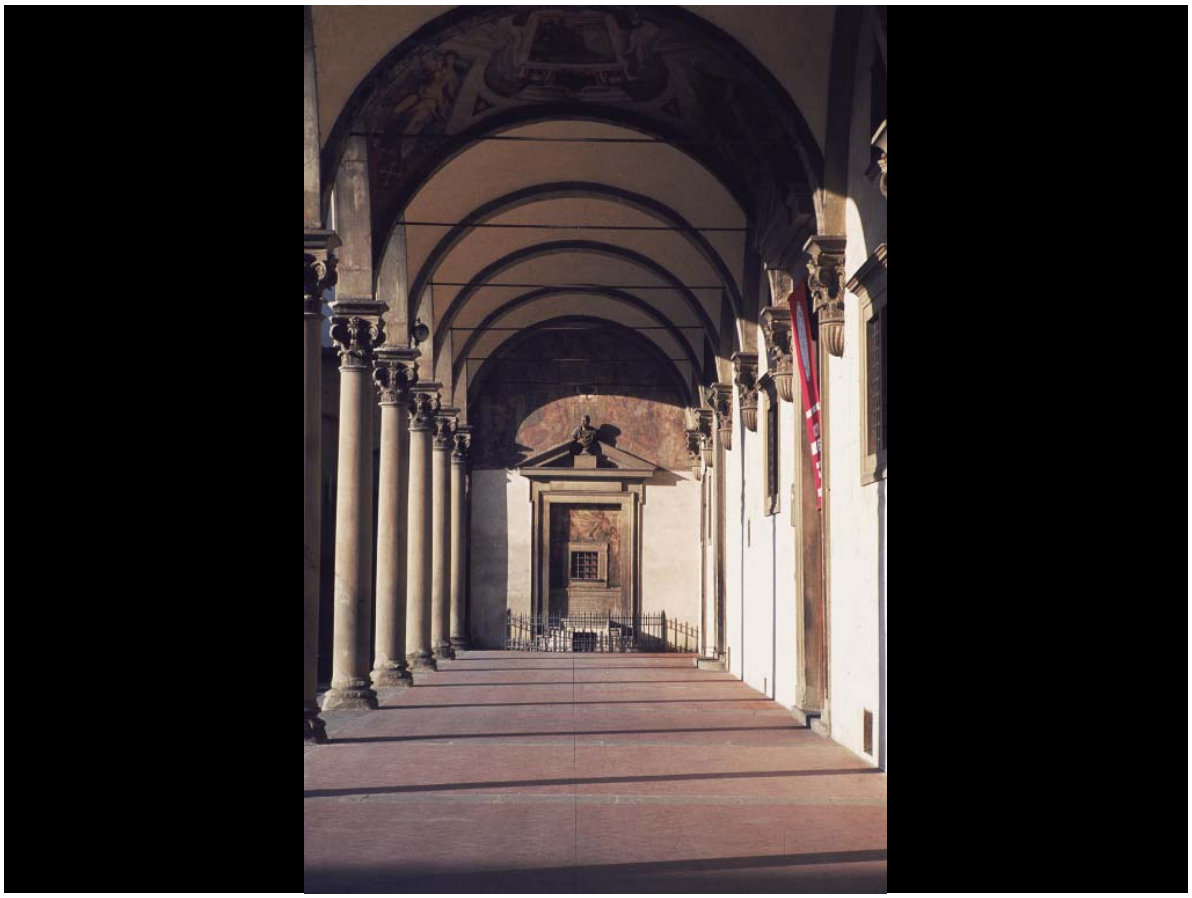

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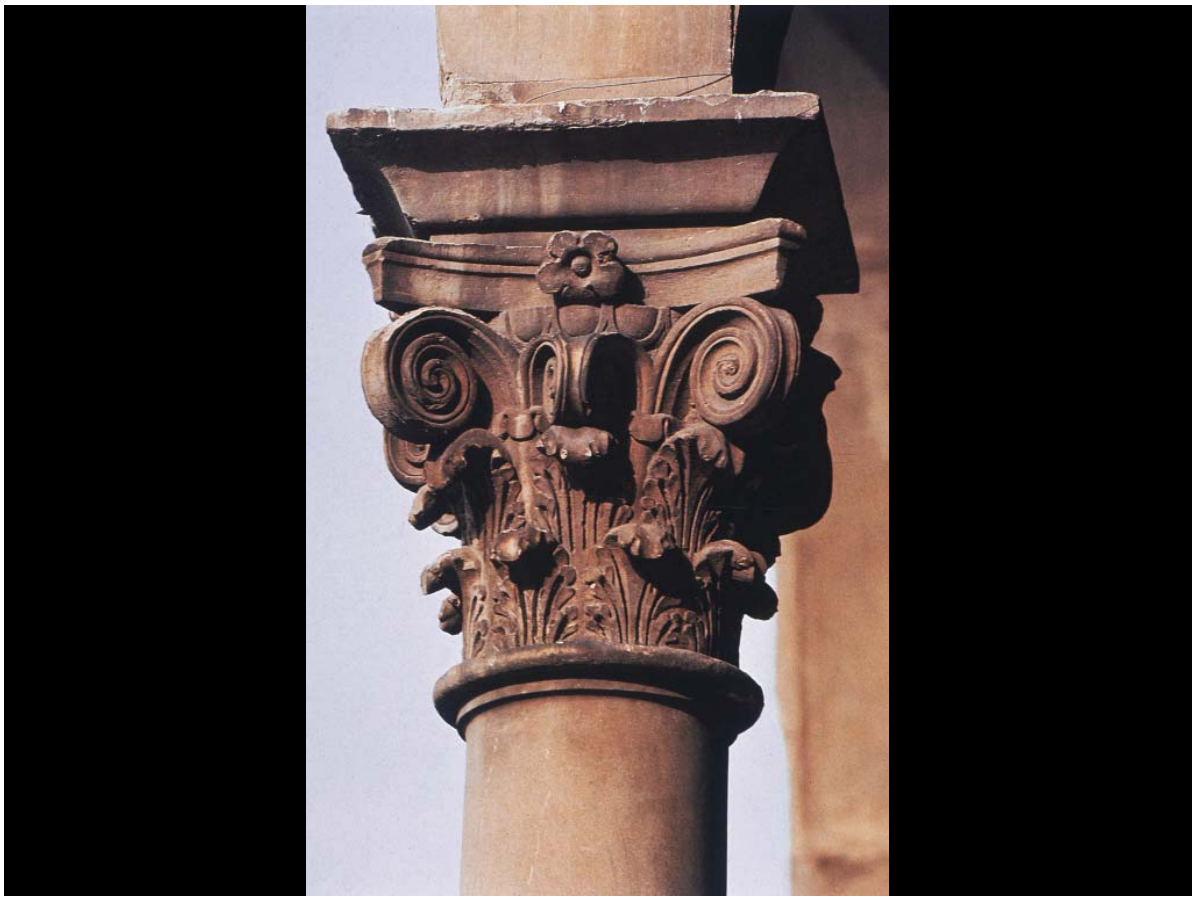

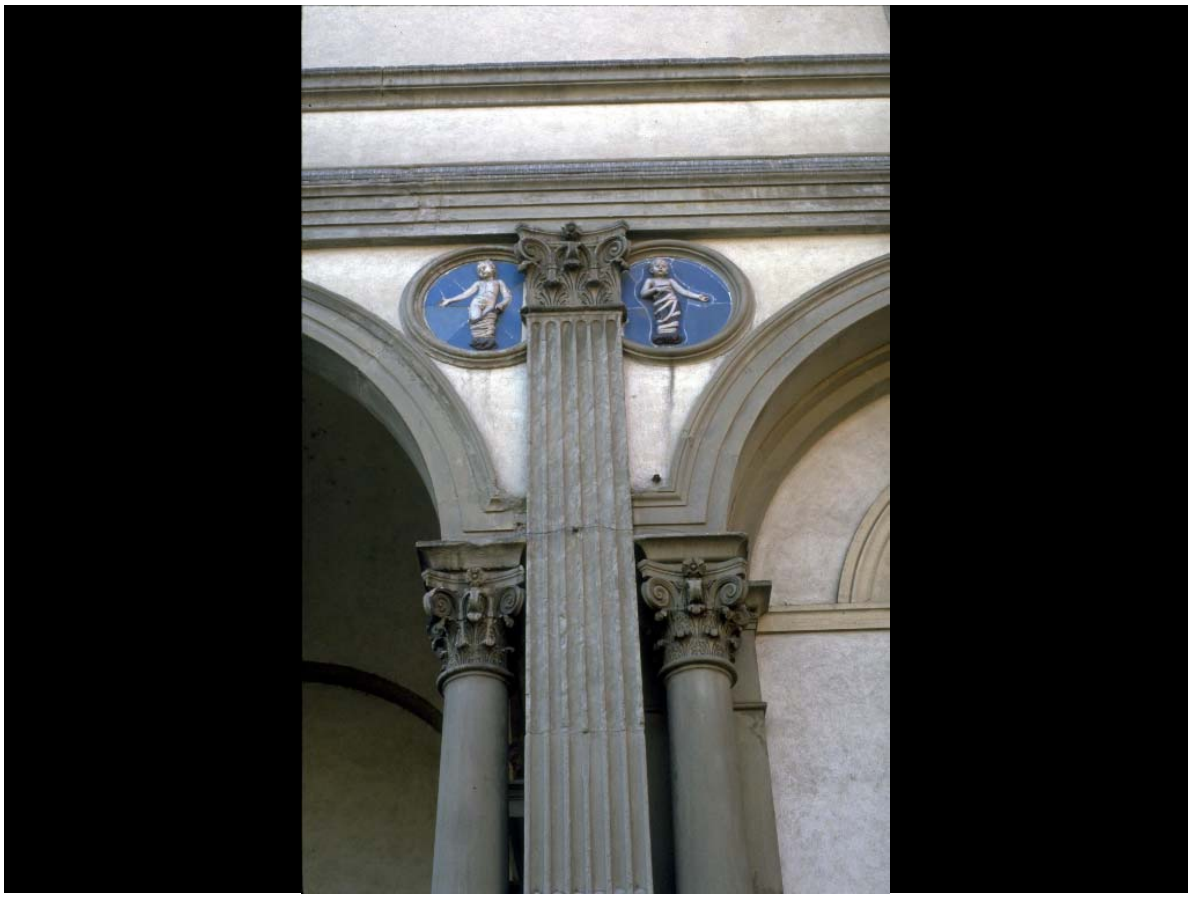

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Foundling Hospital 1419-24 Brunelleschi, Florence

Rational modules and classicalism

Leon Battista Alberti 1404-1472

Painter, mathematician and scientist, studied Greek, Latin and law
Designed buildings and left the construction to others
Wrote the 10 books of Architecture - 1452

"that reasoned harmony of all parts achieved in such a manner that nothing could be taken away or altered except for the worse."

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Santa Maria Novella 1458 Leon Battista Alberti, Florence, Italy

Added façade
Based on geometric shapes – circle and square
Whole façade fits inside of square

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Santa Maria Novella 1458 Leon Battista Alberti, Florence, Italy

Lower level is composed of two squares
Upper level = lower level

San Andrea, Mantua 1472 Leon Battista Alberti

Combination of triumphal arch and temple front

Latin cross plan without side aisles

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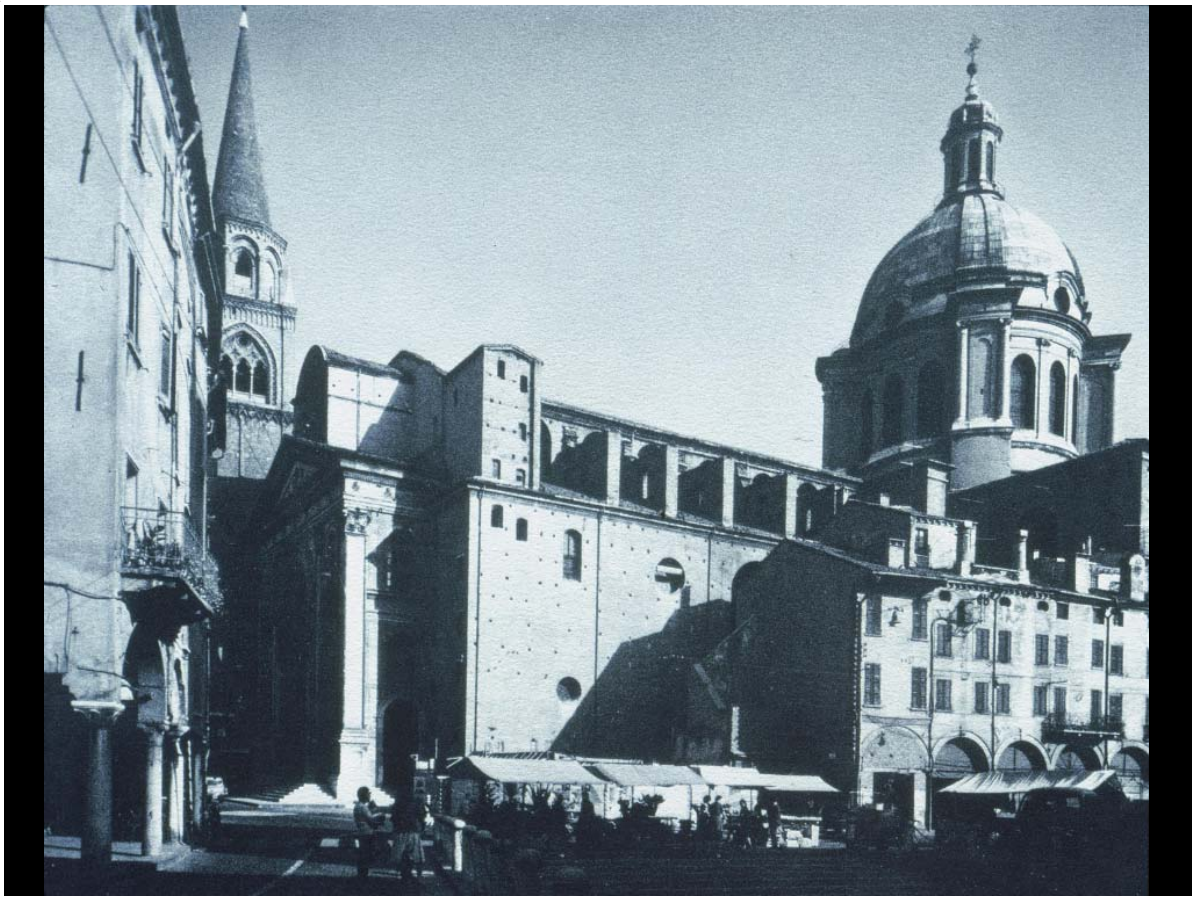

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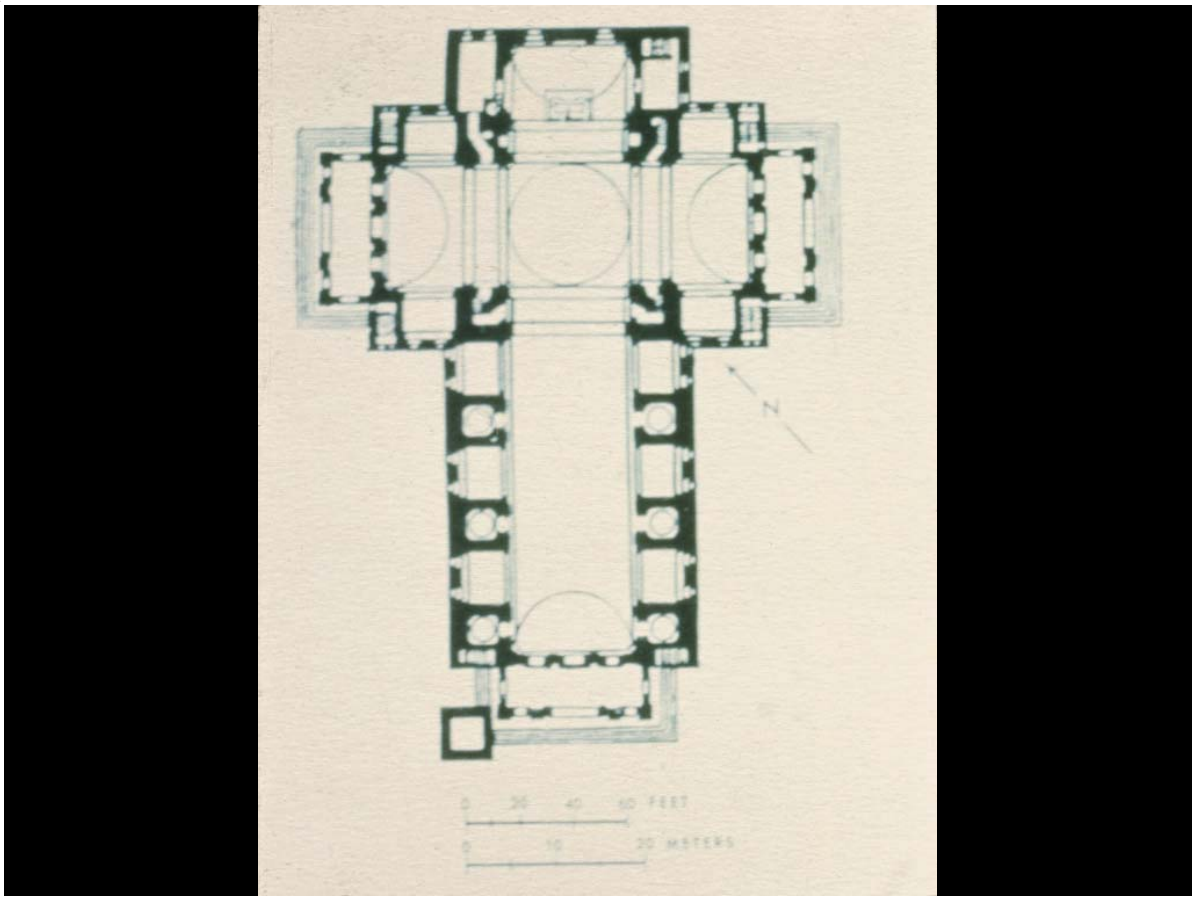

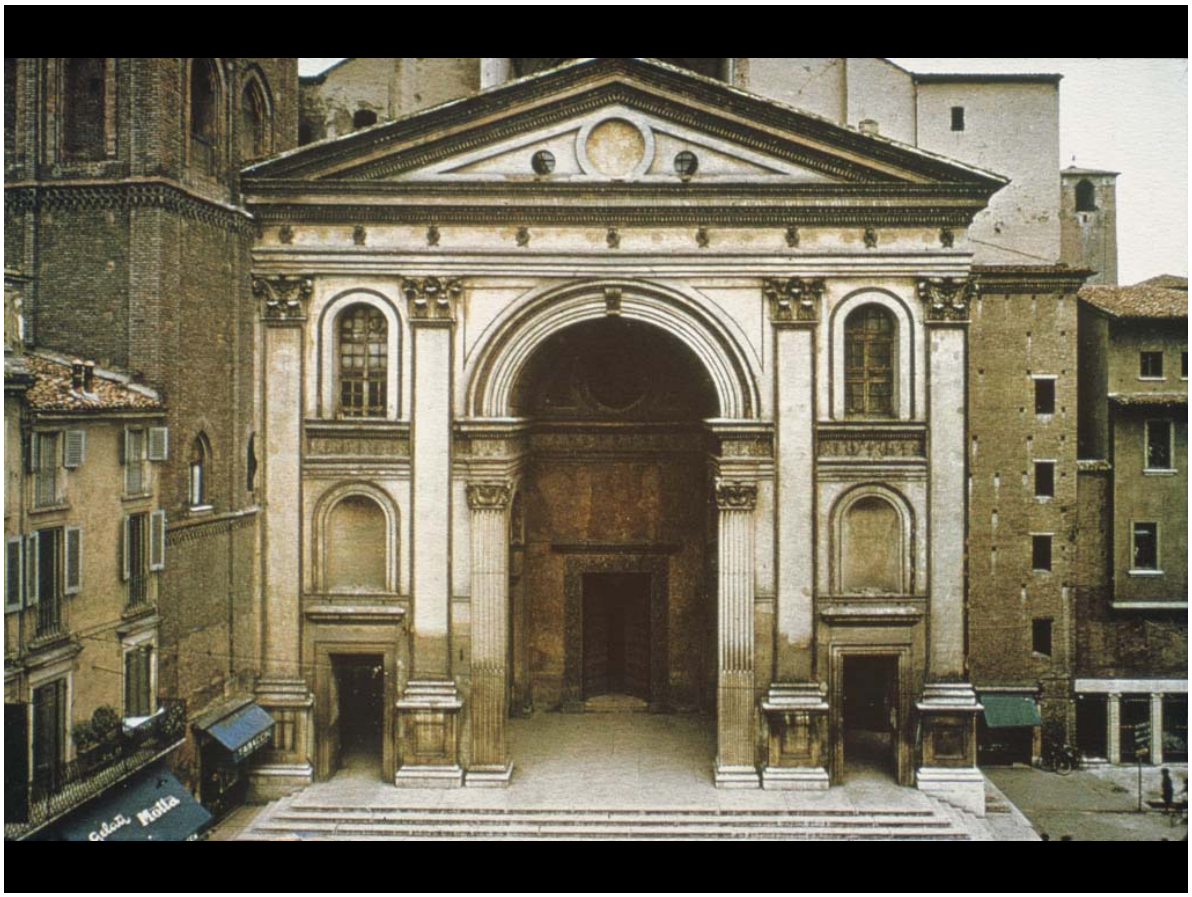

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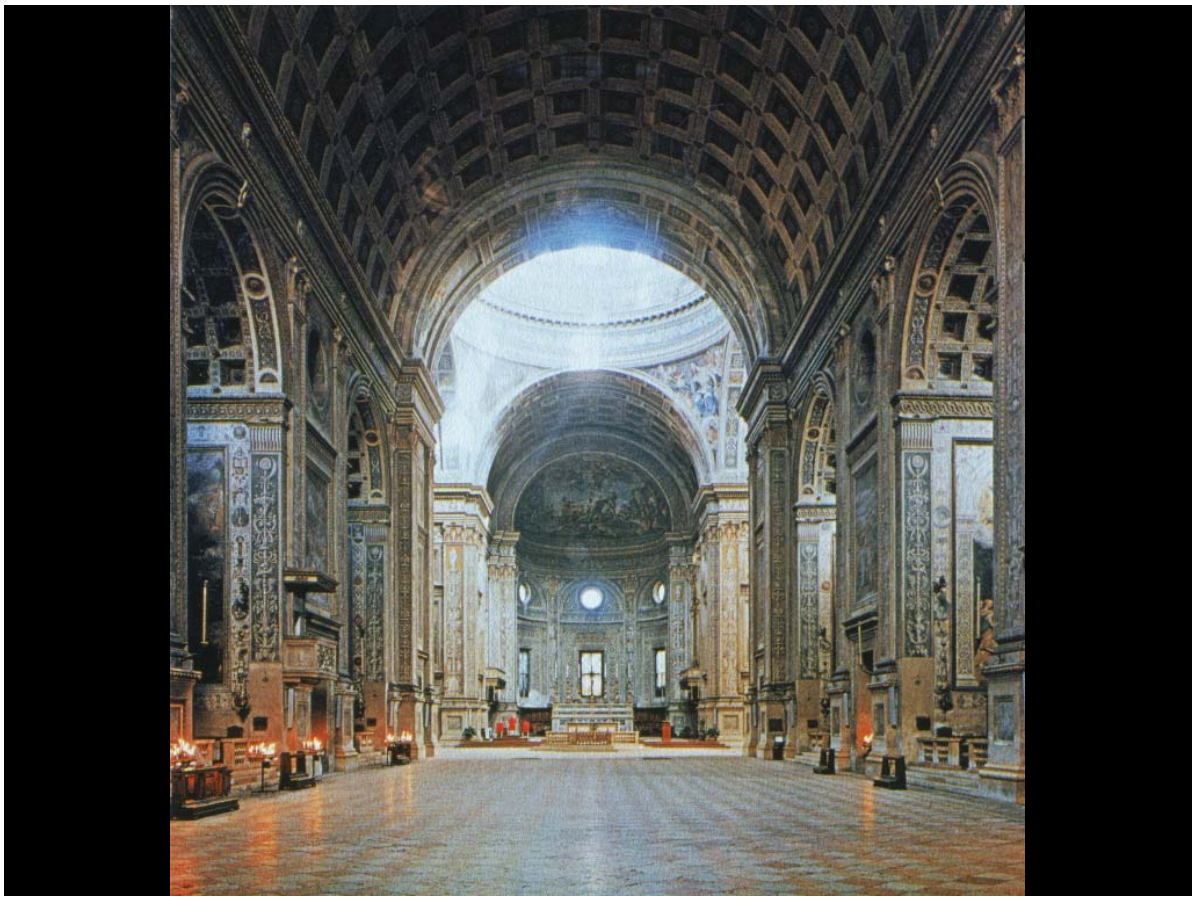

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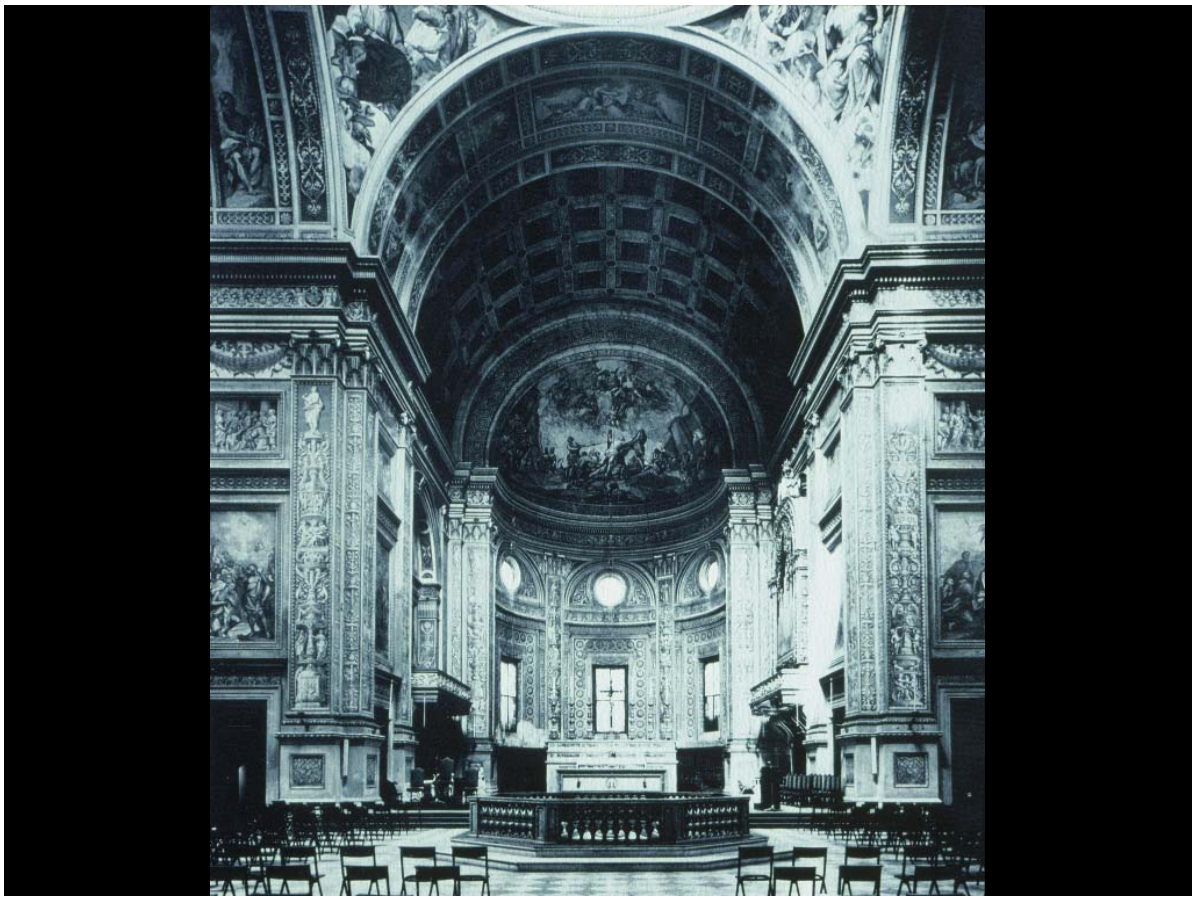

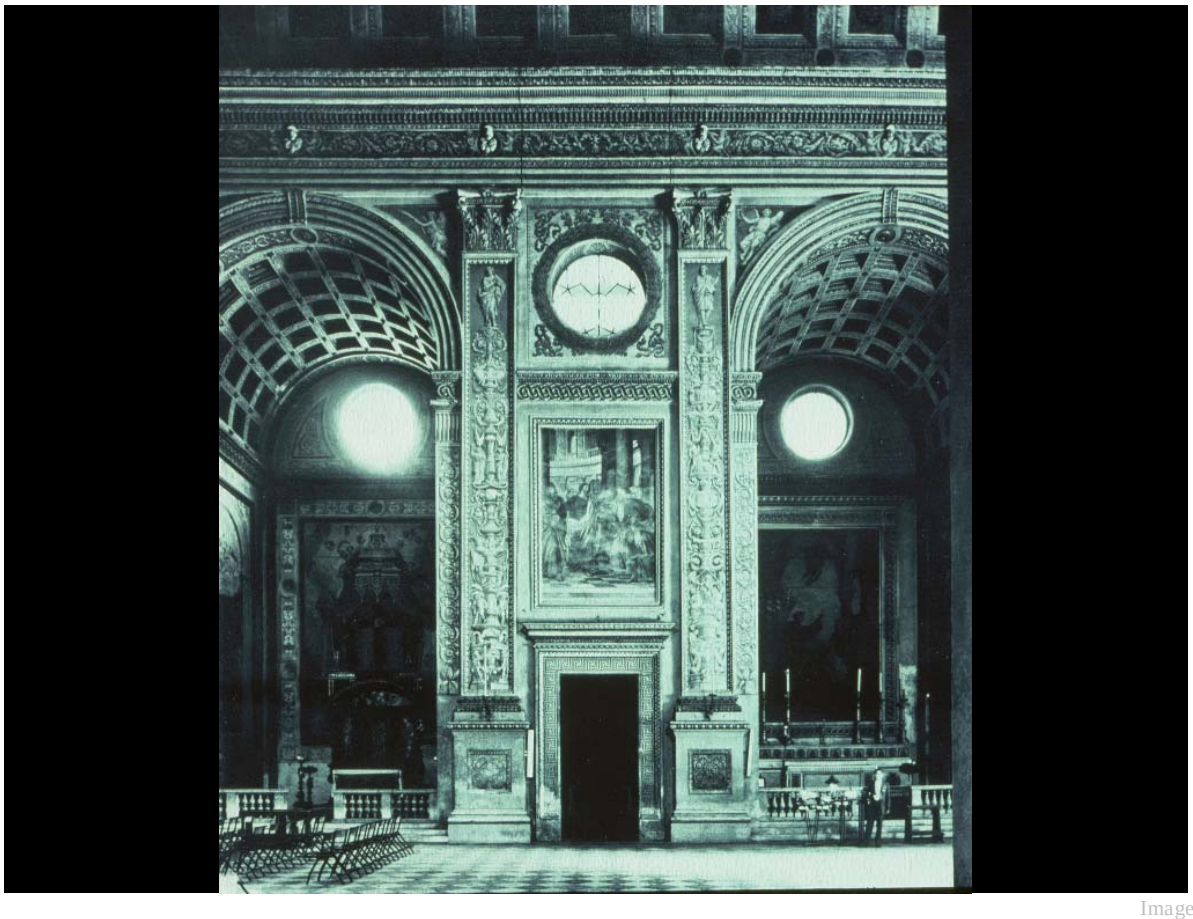

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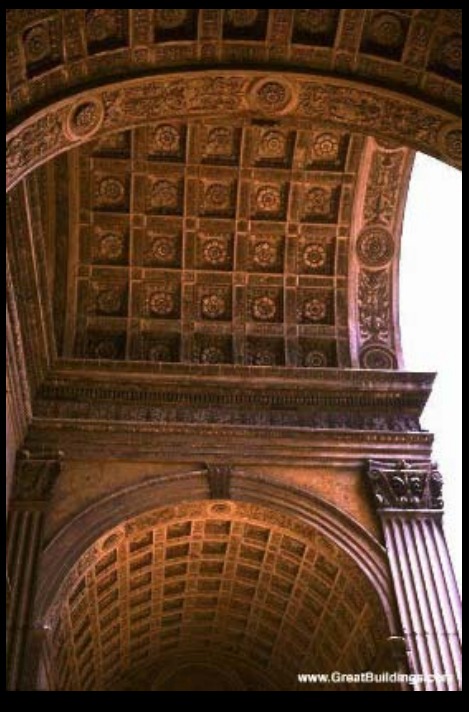
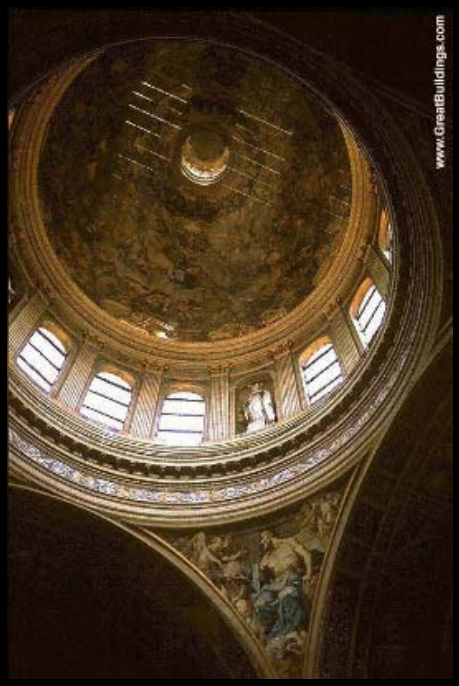
San Andrea, Mantua 1472 Leon Battista Alberti

Coffered barrel vault – sense of inner space

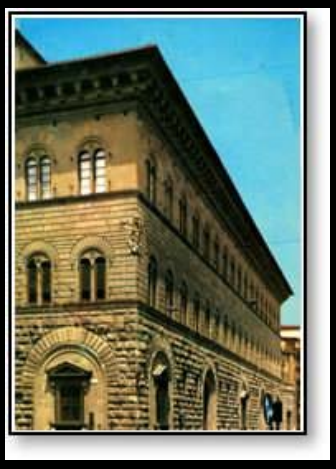




Palatial Homes

Private homes for the rich and noble families

New trend



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Palazzo Rucellai, 1452-60 Leon Battista Alberti, Florence

Built around an inner courtyard surrounded by arched arcades
Service shops on ground floor, 2nd = family, 3rd = servants

6-41 Reconstruction of an insula, Ostia, Italy

ARCH 1121 HISTORY OF ARCHITECTURAL TECHNOLOGY **CLASS 1** GARDENER
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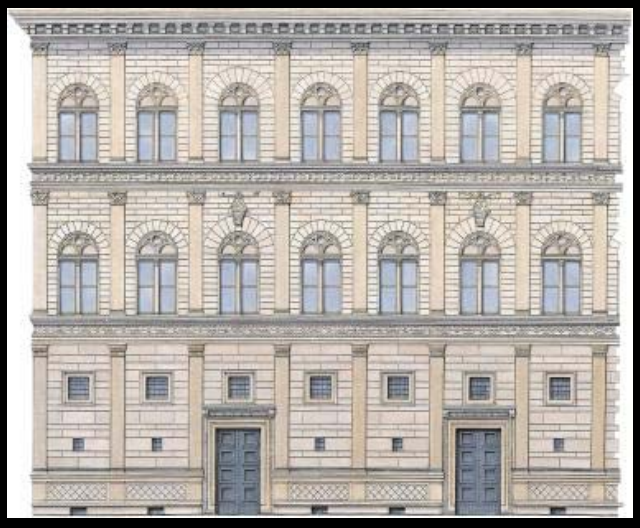
Palazzo Rucellai, 1452-60 Leon Battista Alberti

3 superimposed orders of Pilasters on each floor on the façade
Became basic form for urban blocks throughout Europe



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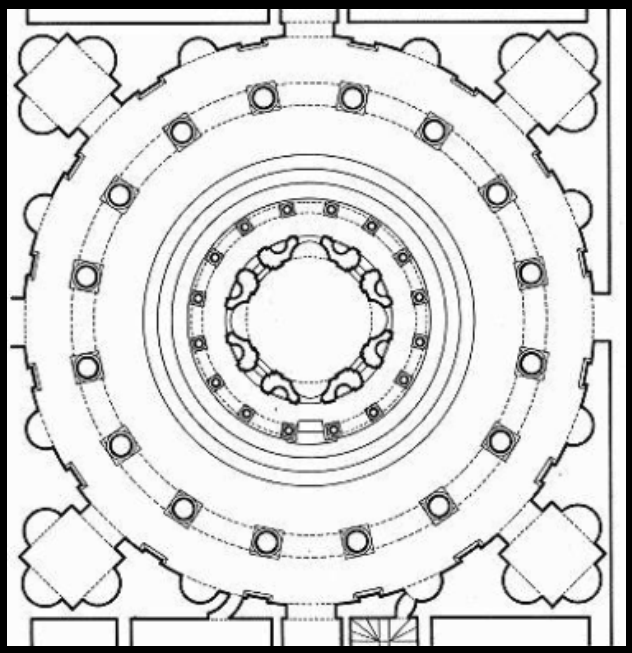
After 1500 the movement of the Renaissance went to Rome
The city was in ruins due to many invasions
Rome's revival was due to Pope Julius II (1503-13)

Donato Bramante, 1444-1514

Trained as an artist

Tempietto, Rome 1502 Donato Bramante

Doric peristyle and steps
surrounding a cylinder
15' diameter
Height = width
Strict geometry of Greek prototype



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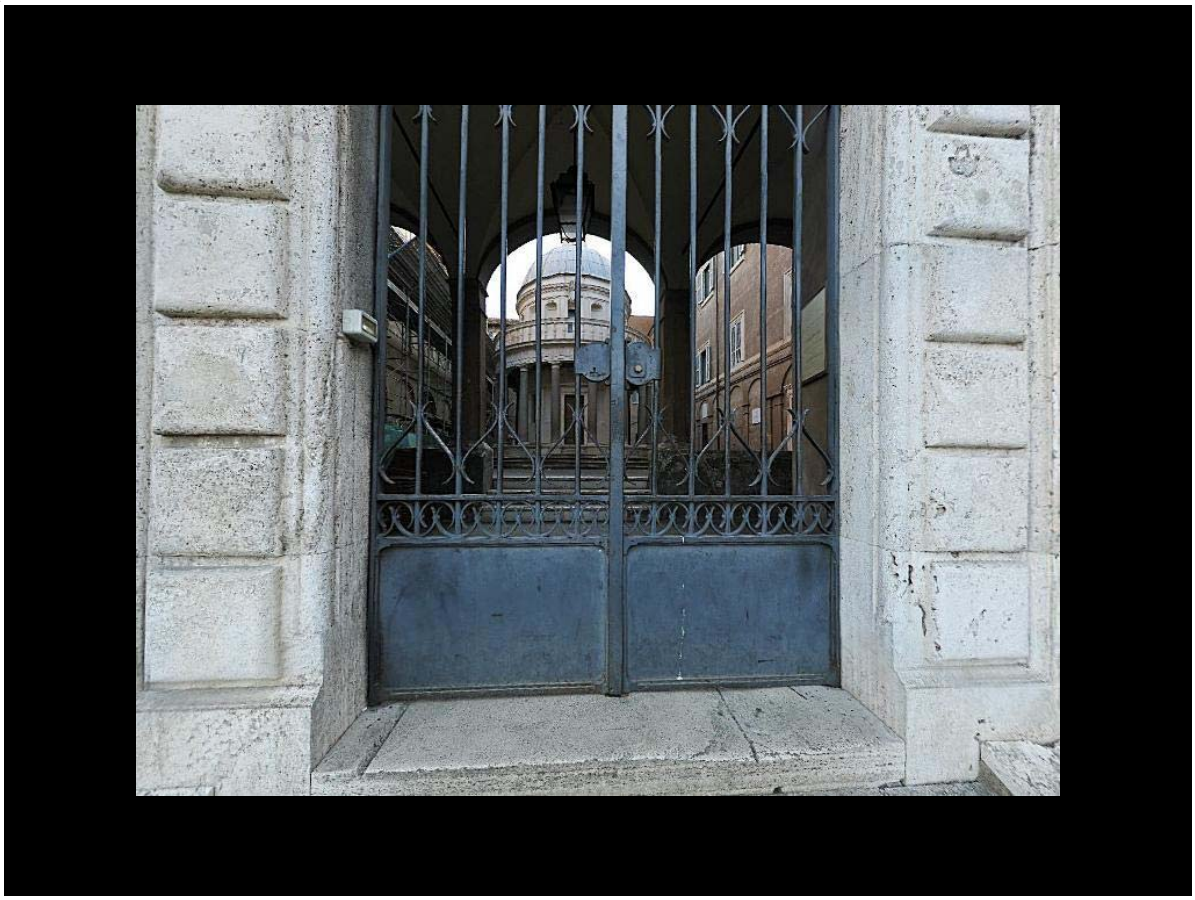

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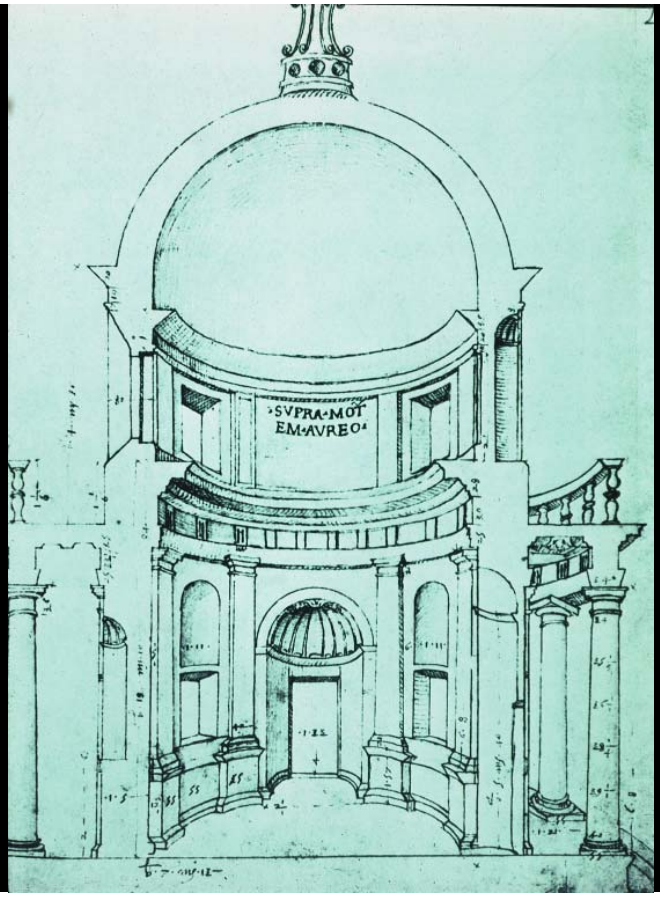
Tempietto, Rome 1502 Donato Bramante



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5-69 Corinthian capital from the tholos at Epidaurus, c. 350 B.C. Museum, Epidaurus.

5-70 The Monument of Lysikrates, Athens, 334 B.C.

ARCH 1121 HISTORY OF ARCHITECTURAL TECHNOLOGY **CLASS 1** GARDENER-ART THROUGH THE AGES
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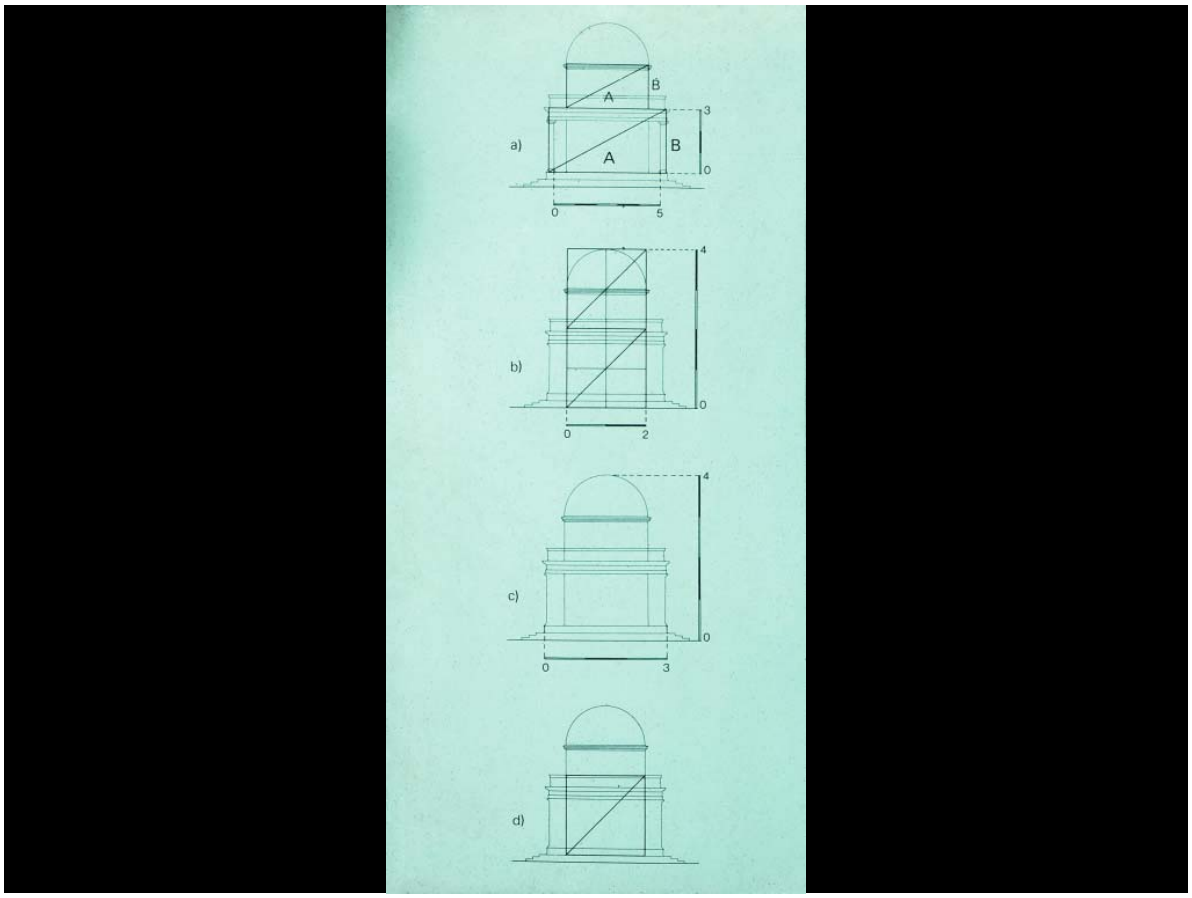

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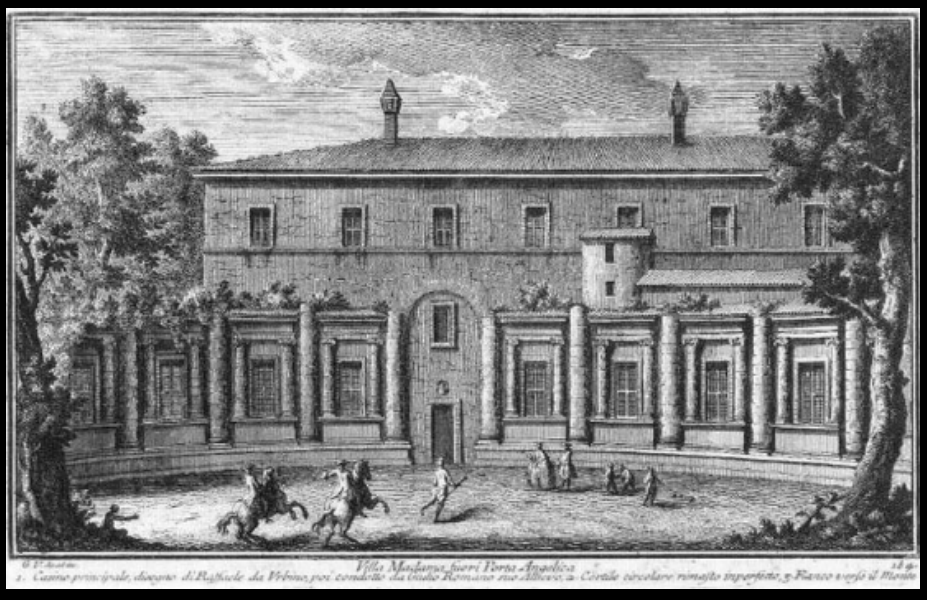
Raphael 1483-1520

Renaissance Painter
Architect the last six years of his life
Designed: 3 palaces, 1 chapel and 1 villa

Romans started escaping the city to the country

Villa Madama, 1517 Raphael

Modeled after Nero's Golden House
Circular courtyard



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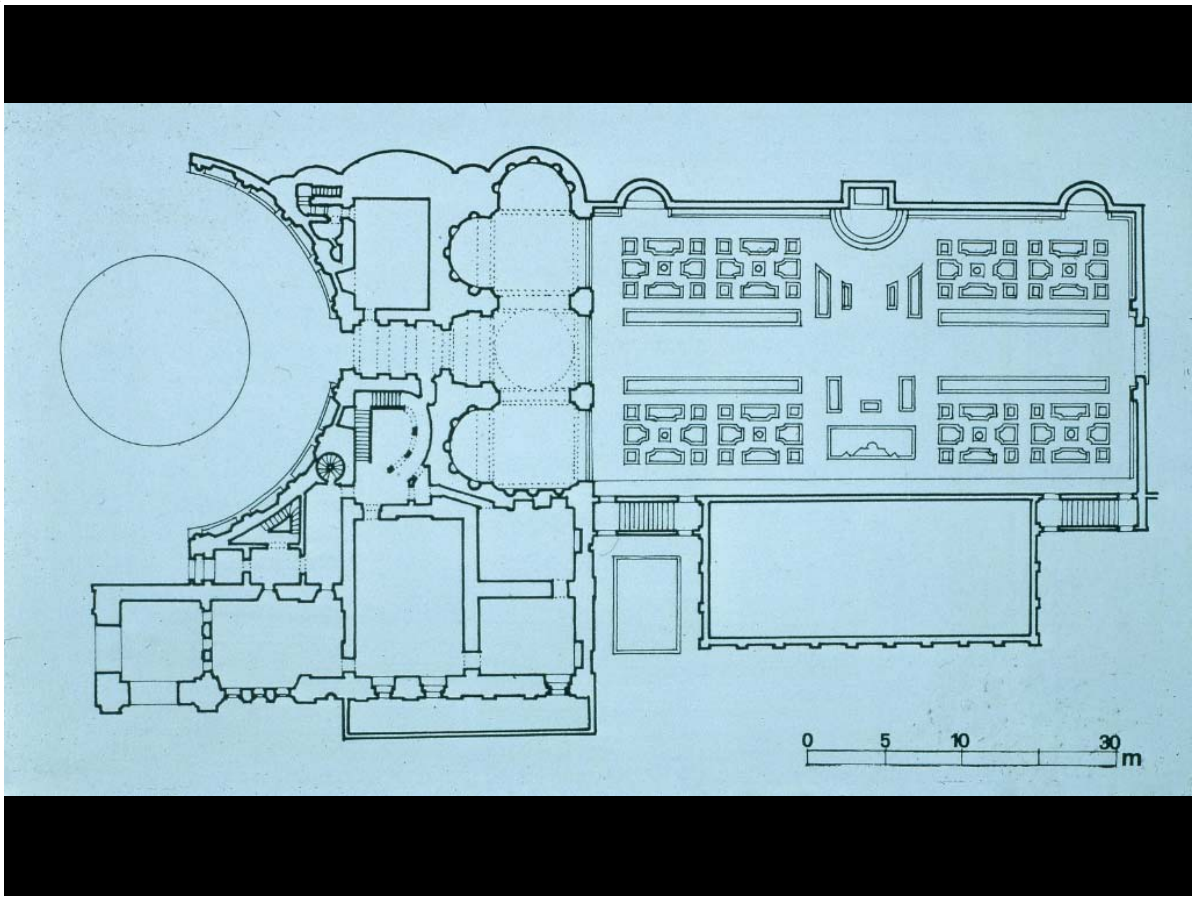

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Villa Madama, 1517 Raphael

Terraced gardens, theater

Villa Madama, 1517 Raphael

Wealth of niches, pilasters and swags
Painted stucco in the vaults of the loggia
Soaring dome

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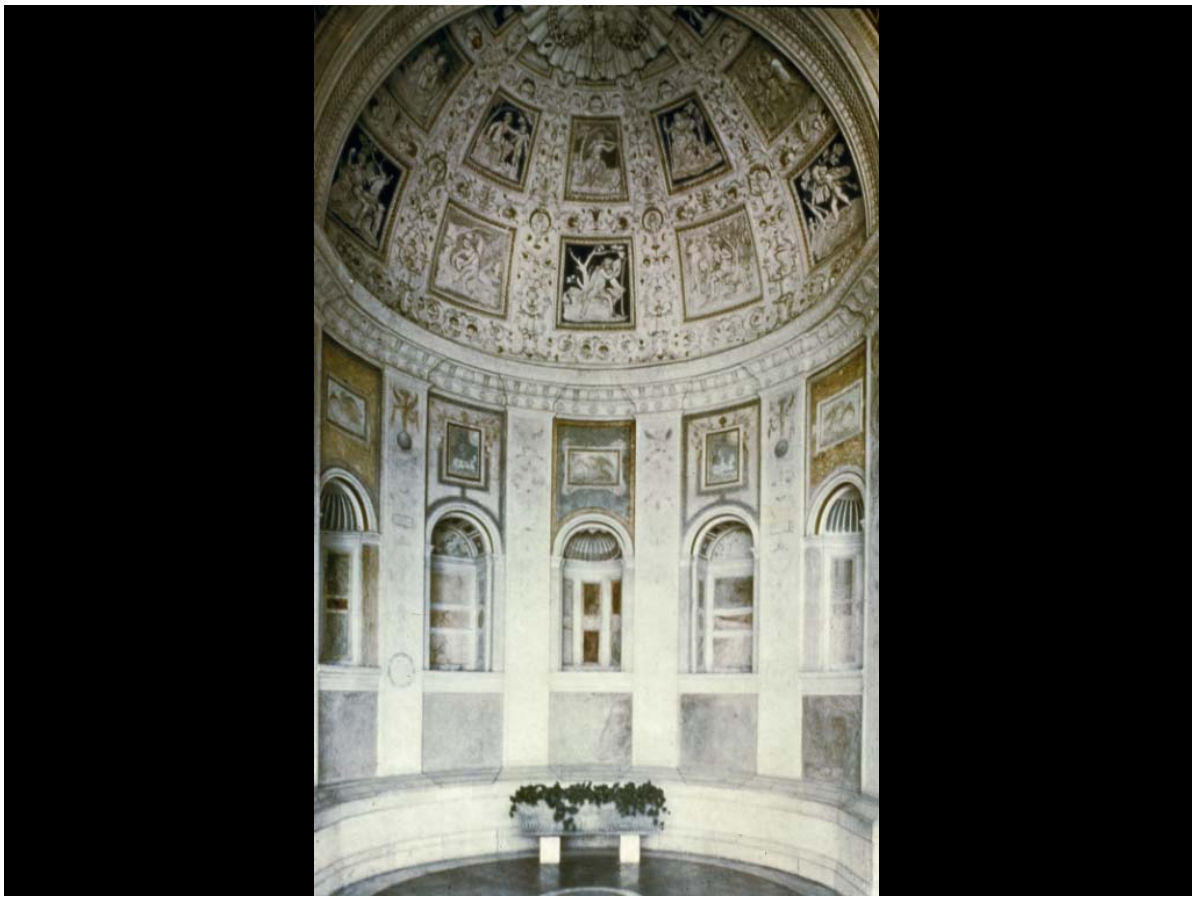

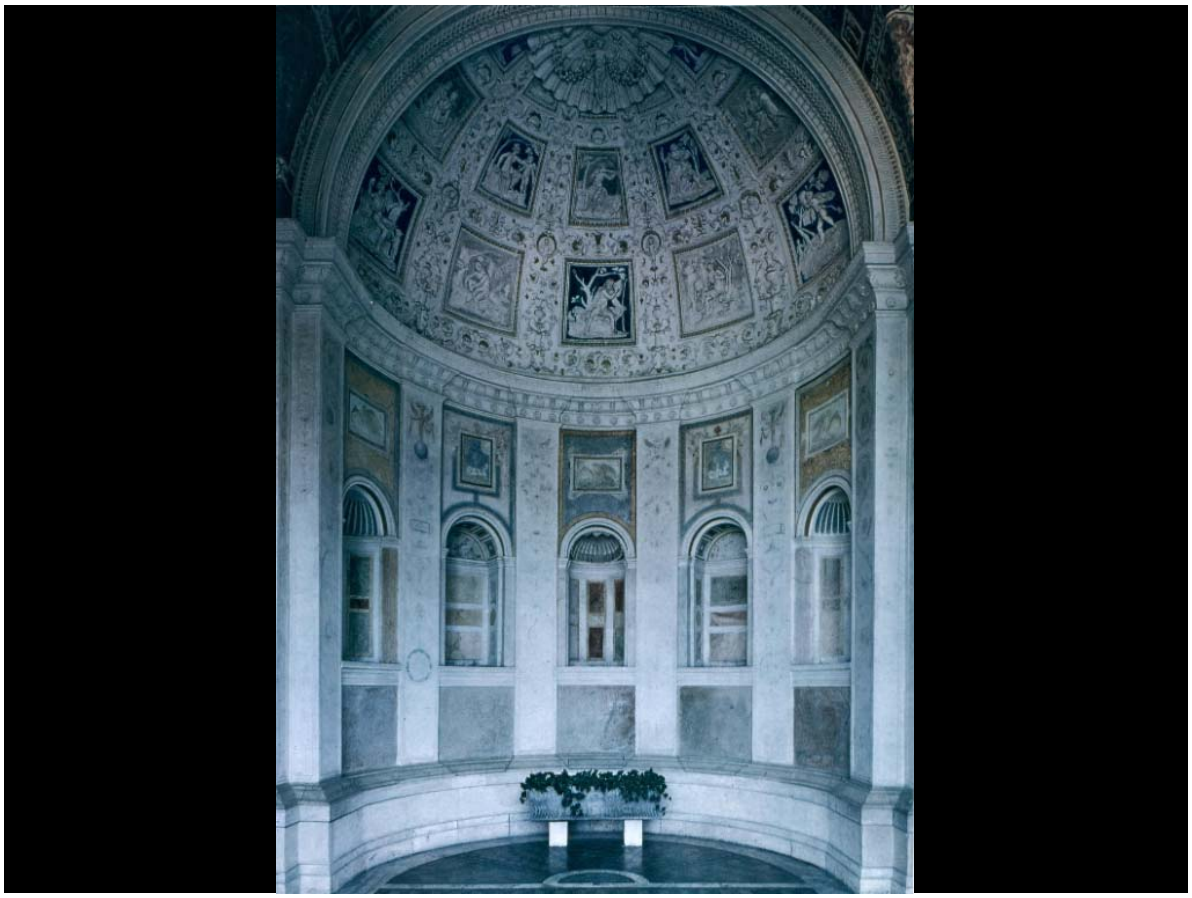

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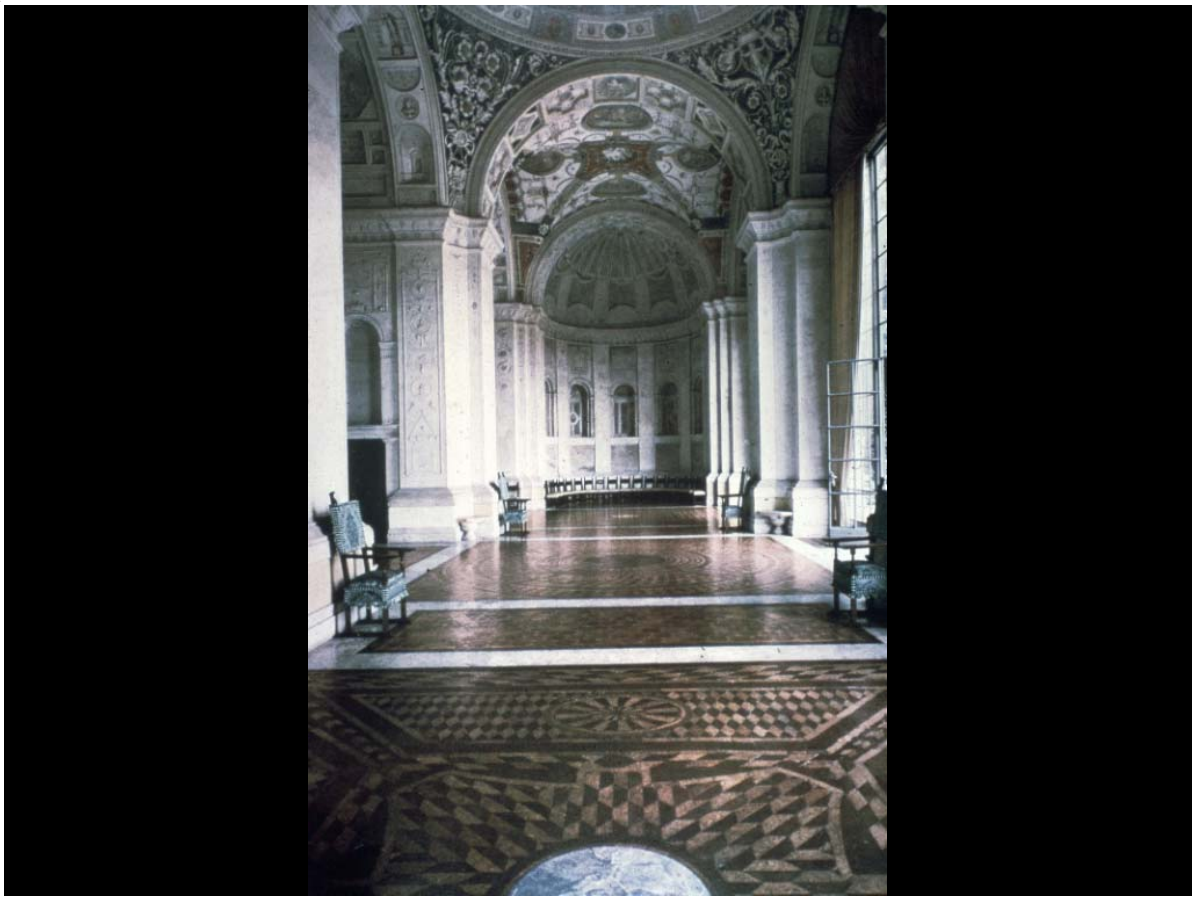

Buonarroti Michelangelo

1475-1564

Sculptor – architect at the age of 70

He approached architecture as an ensemble of buildings as a mass of sculptural solids and voids

Designed in the Mannerism style: protested the sterile rationalism and classical order

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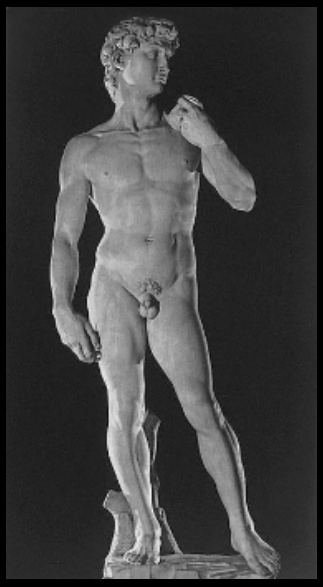
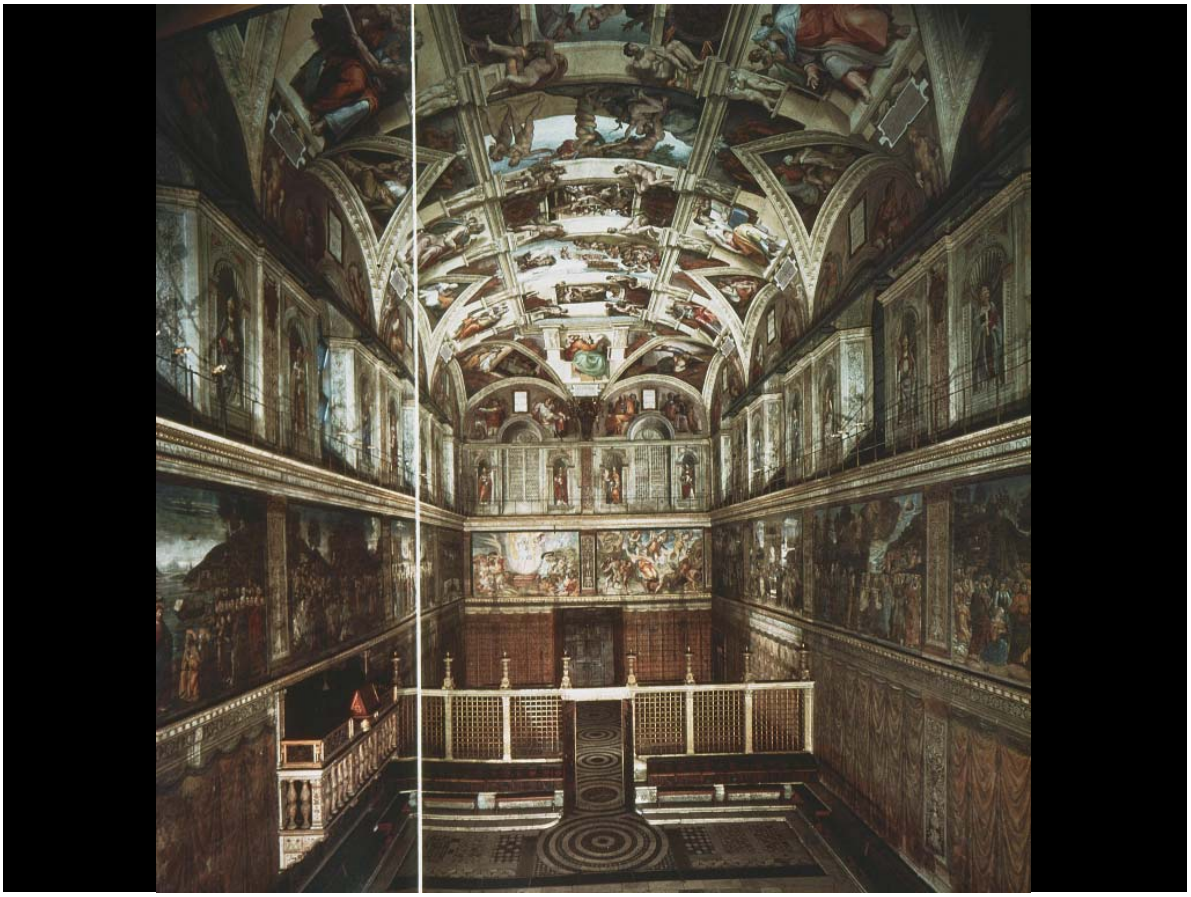
Buonarroti Michelangelo

1475-1564
Sculptor – architect at the age of 70





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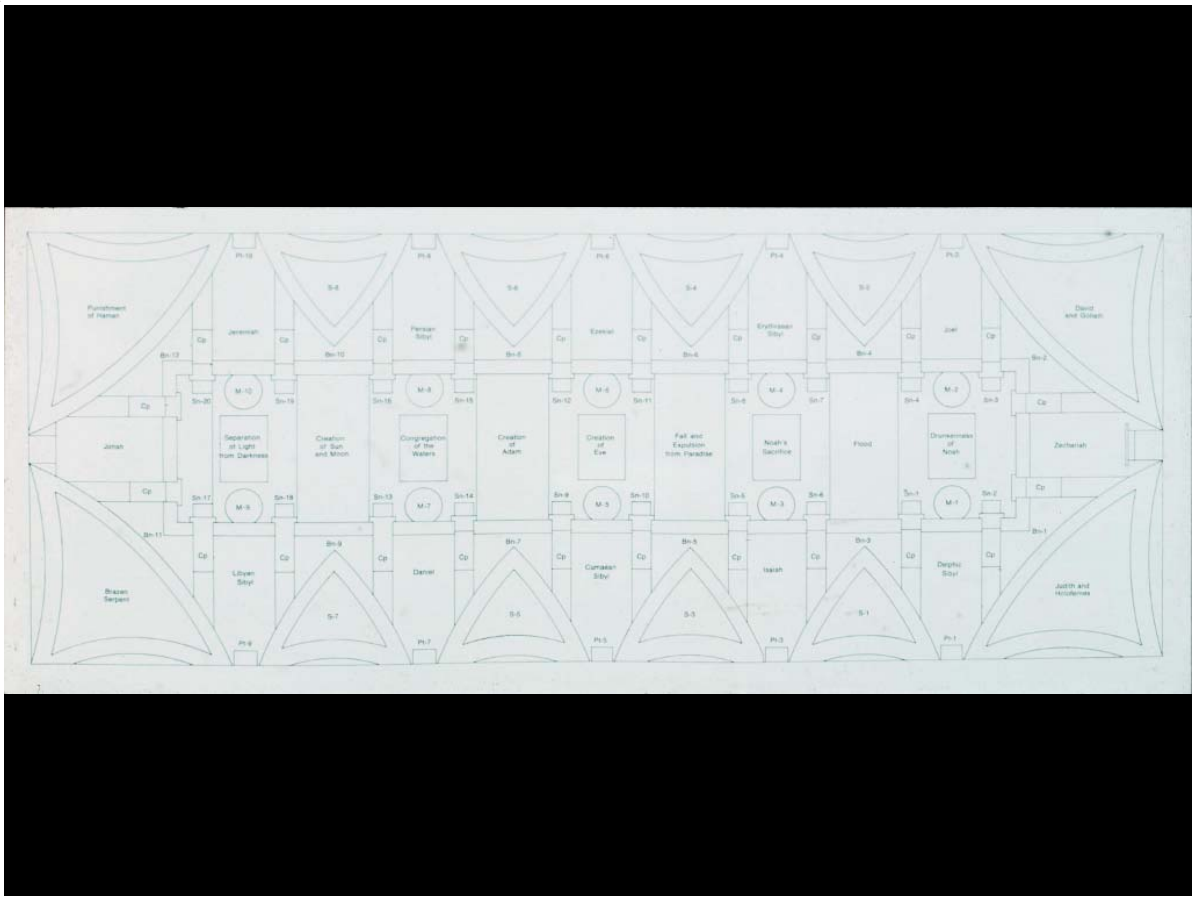

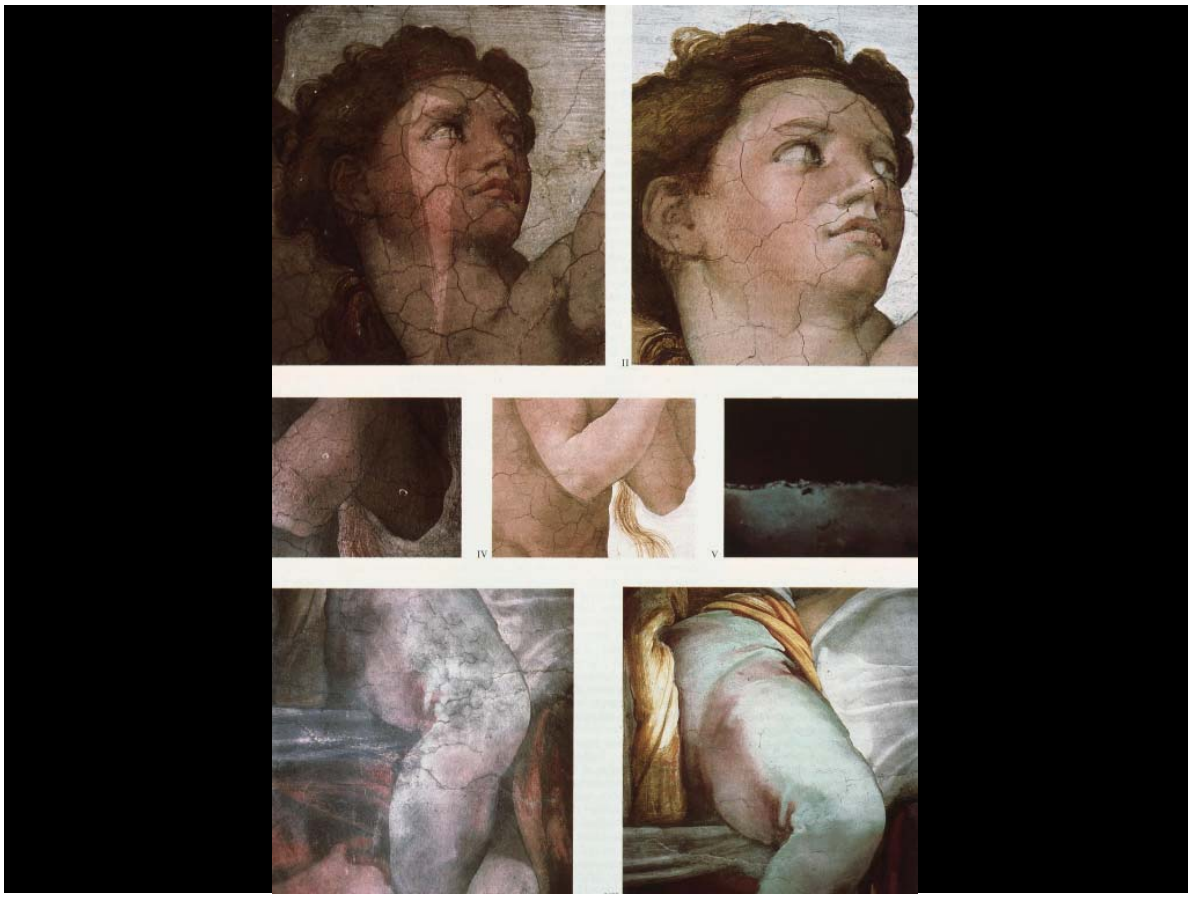

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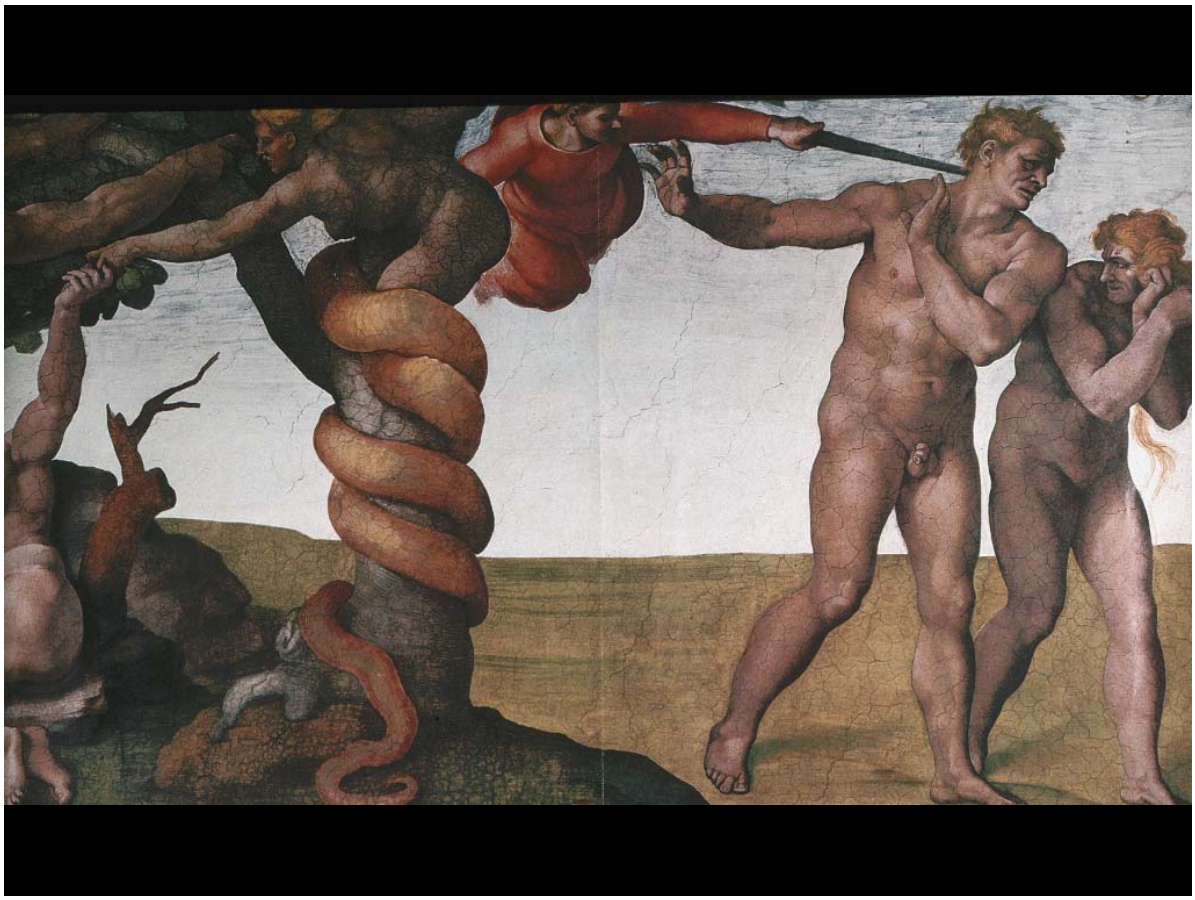

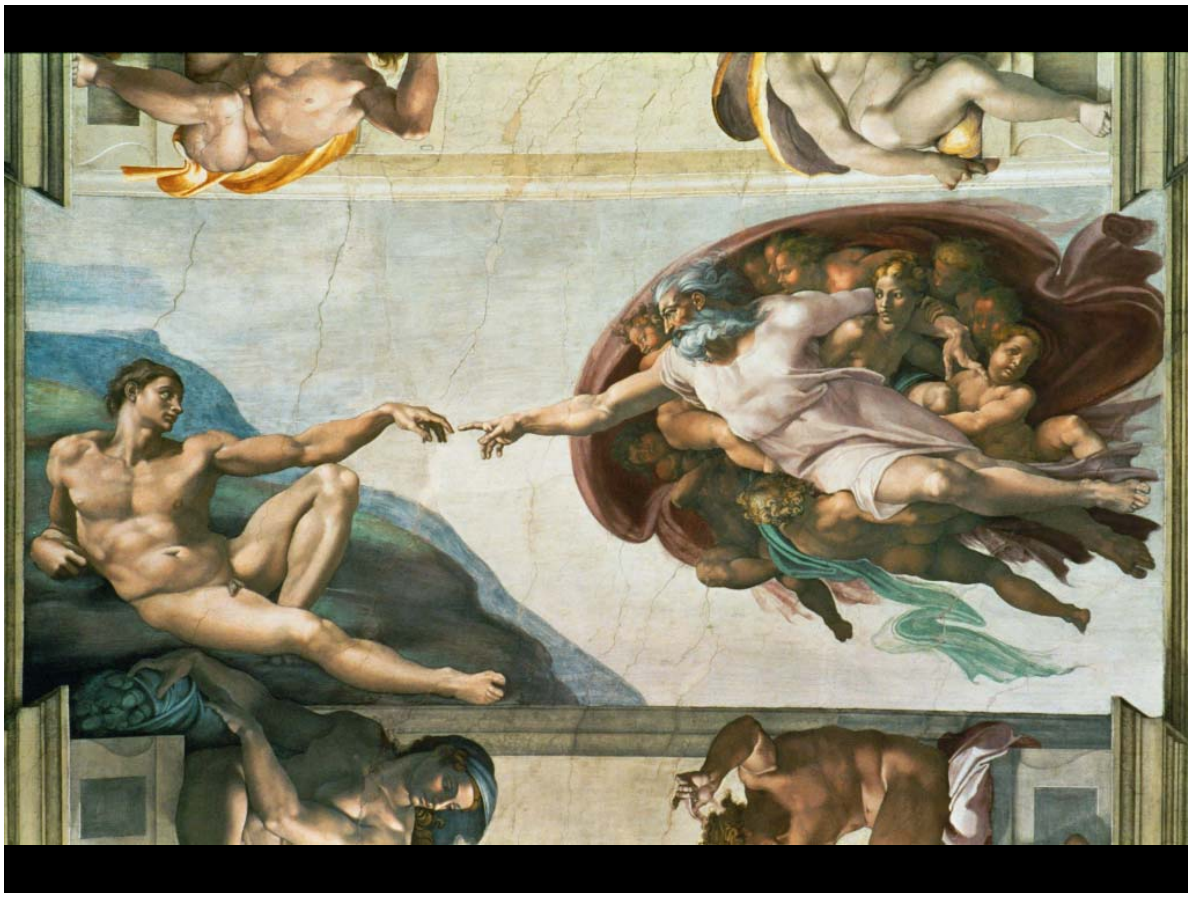

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Laurentian Library, 1524 Buonarroti Michelangelo

Disregards renaissance ideas of balance and proportion
Treated walls as motion
Triple staircase occupying most of the room

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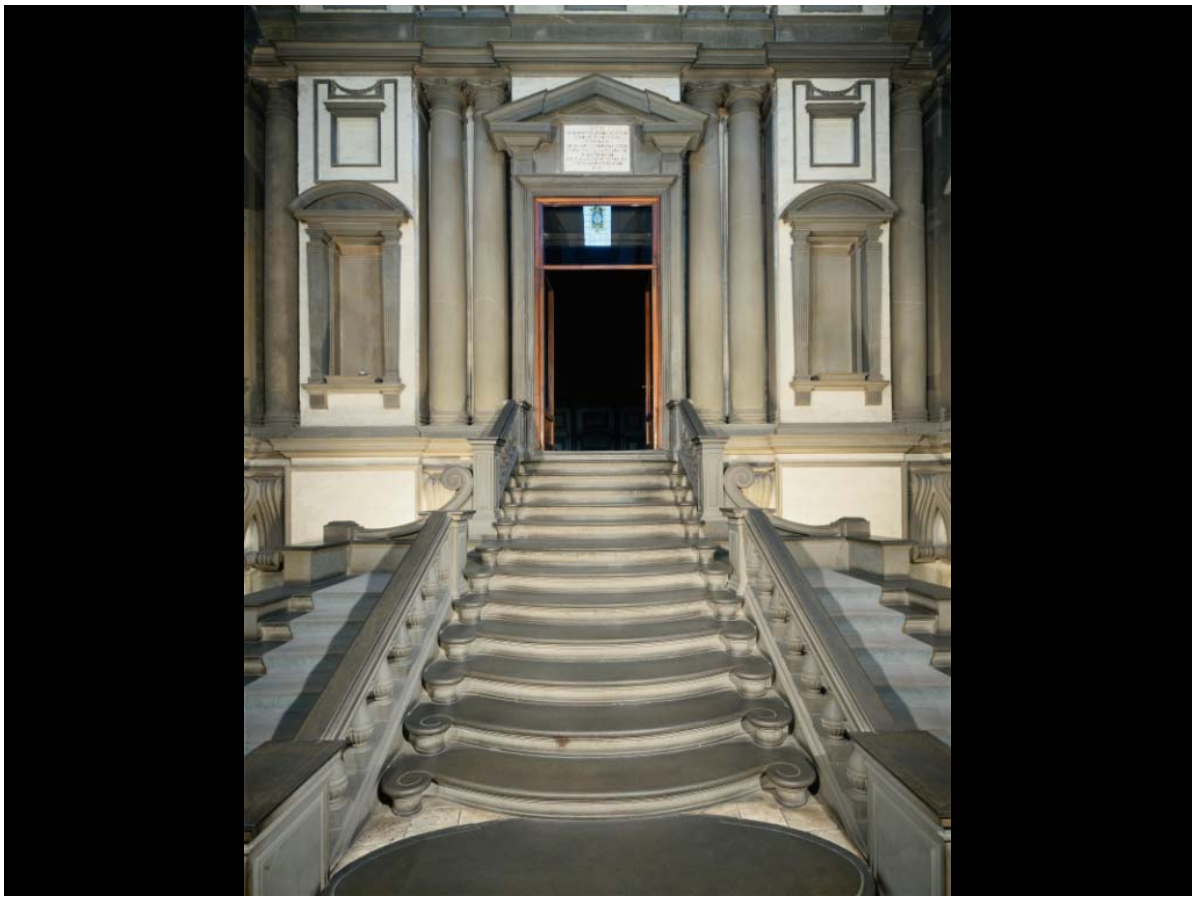

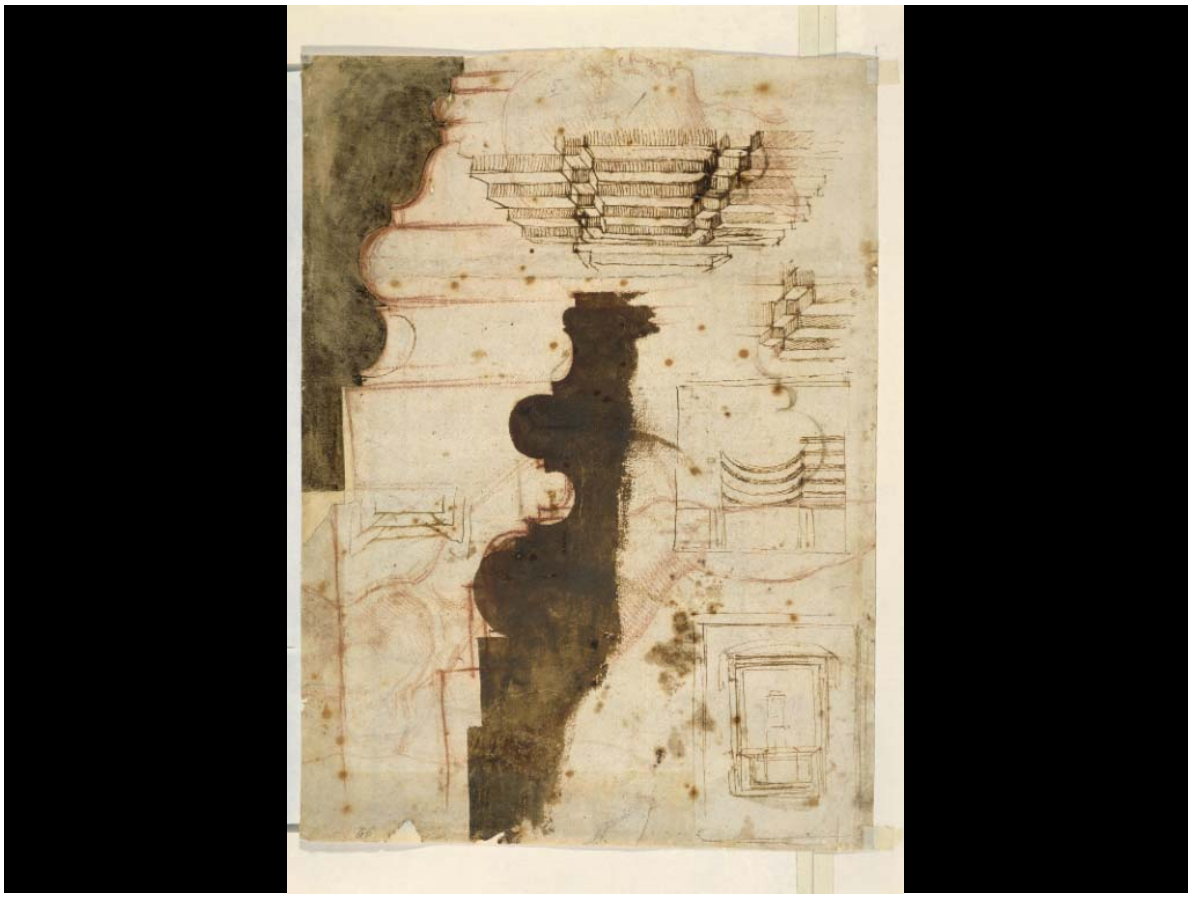

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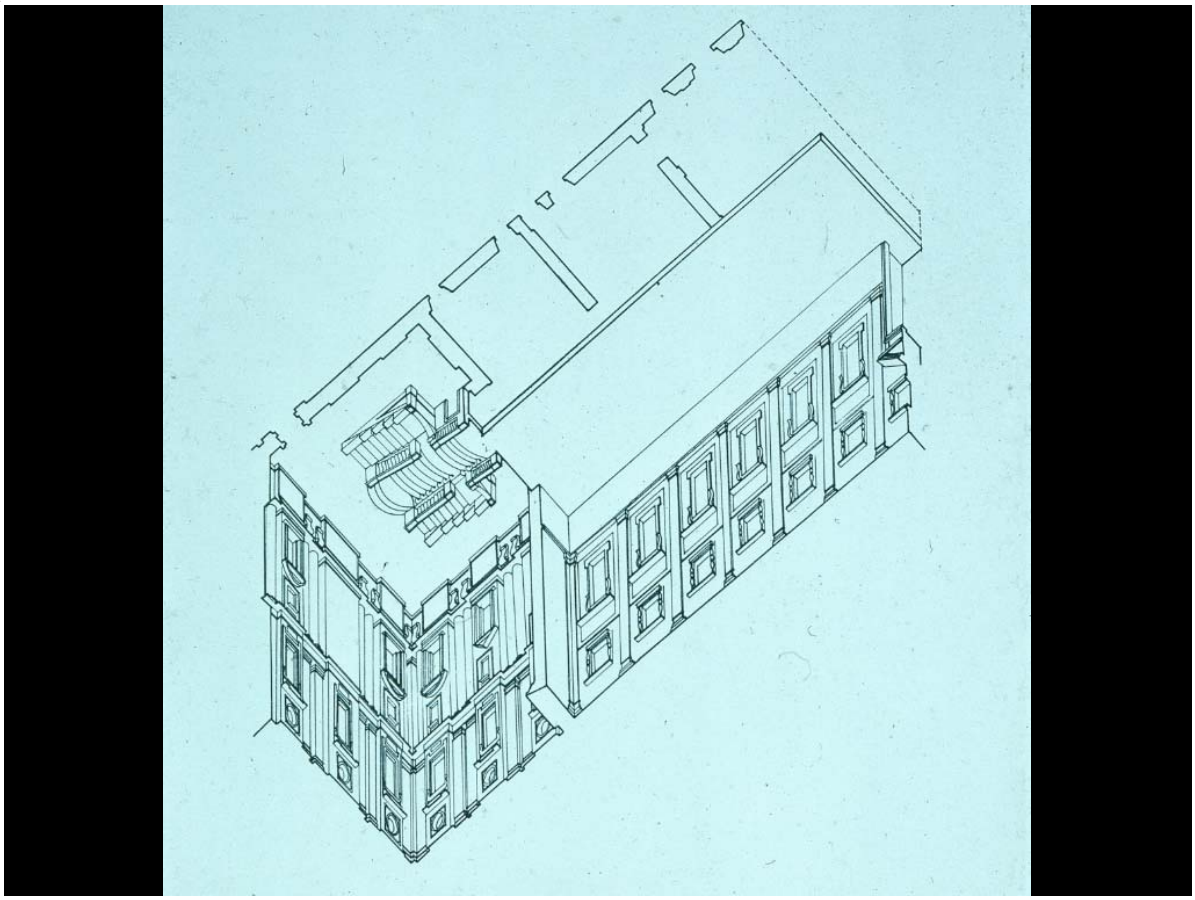

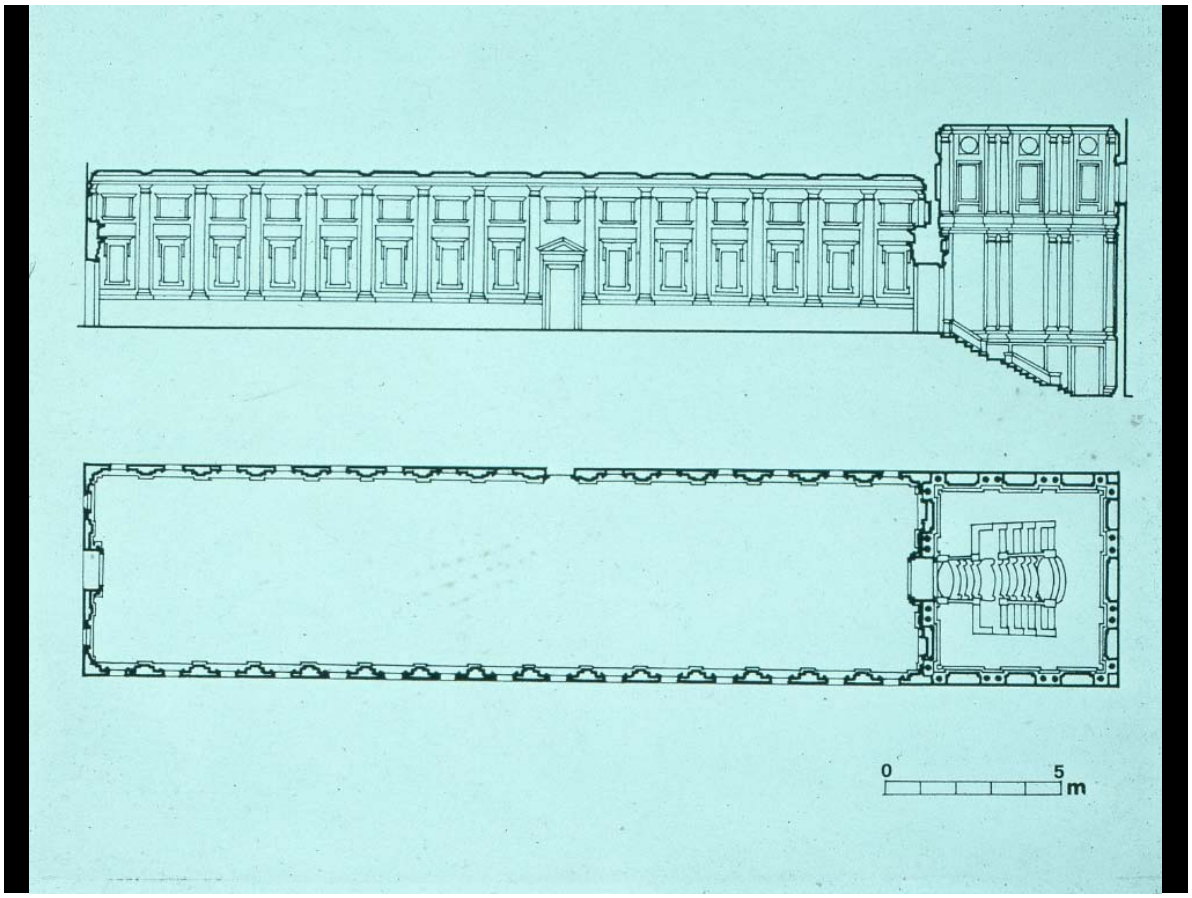

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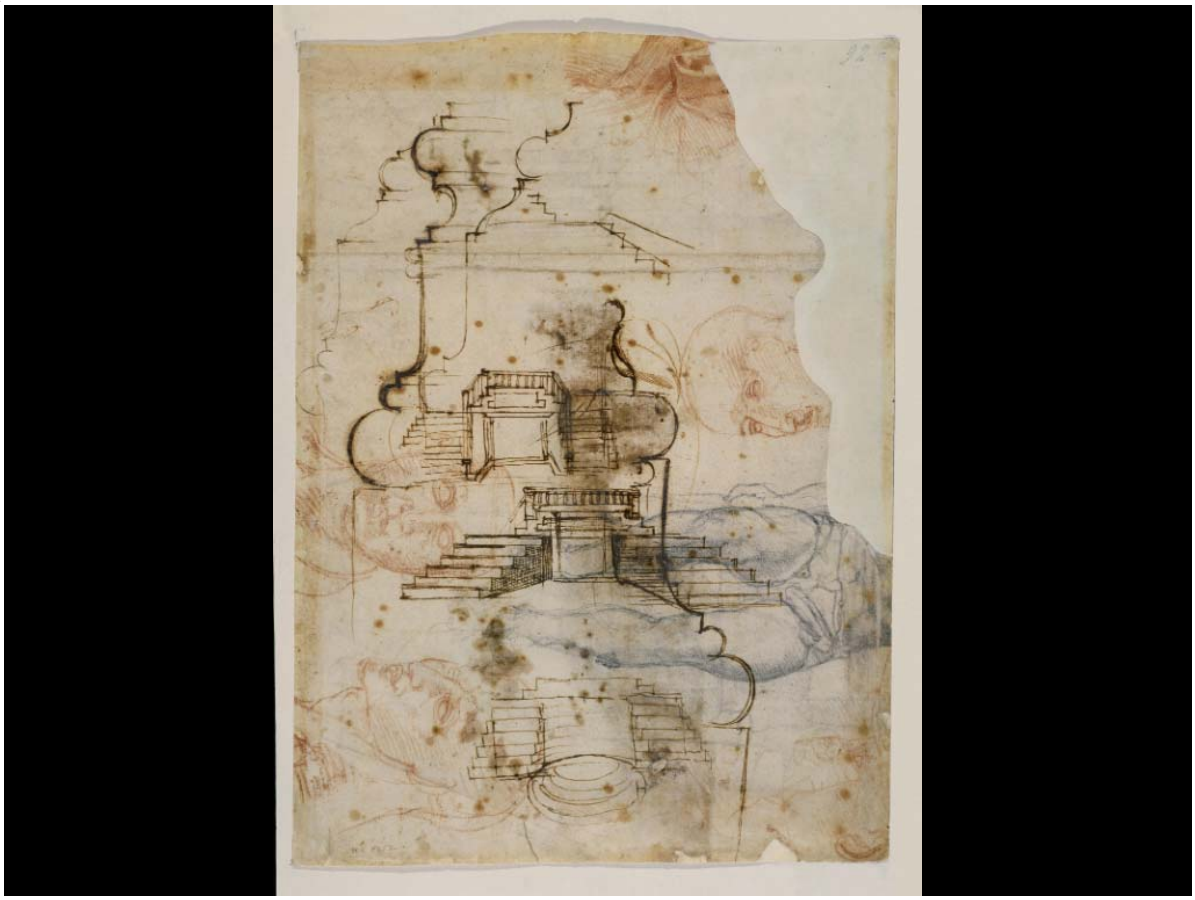

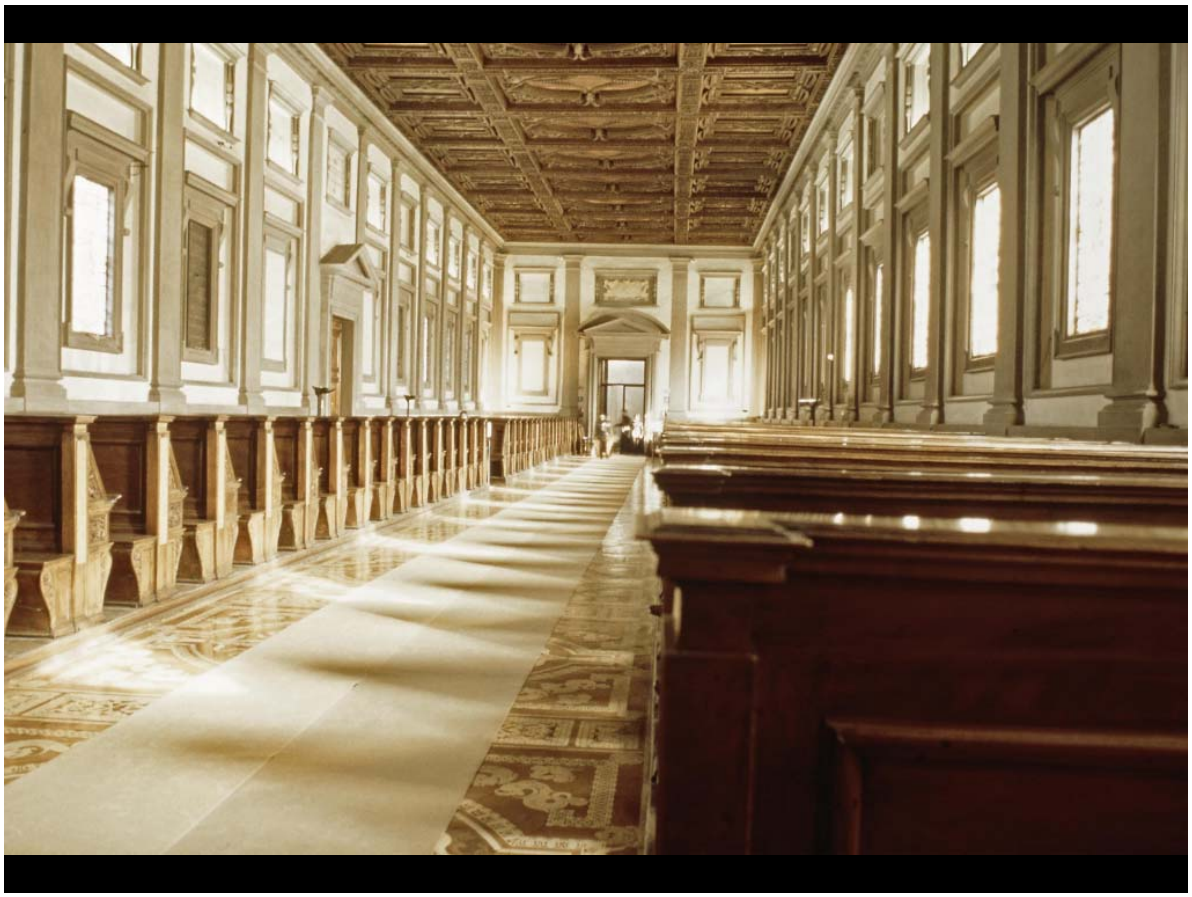

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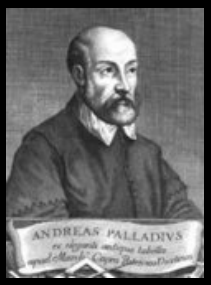
Andrea Palladio 1508-1580

Trained as a stone mason
Went to Rome to measure ruins, study math, music and Latin
Wrote the Four Books of Architecture
Used as the universal prototype throughout Europe and America.



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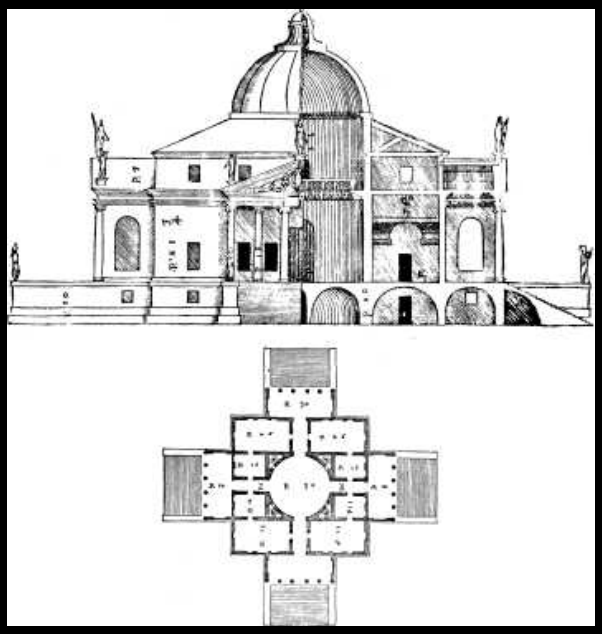
Villa Rotunda, 1560 Andrea Palladio

Identical temple porticos face all 4 sides of the building

Principal room is the center – lit by dome

Symmetry, Clarity and Proportions



Villa Rotunda, 1560 Andrea Palladio

Top of hill with views from all rooms – Site Planning

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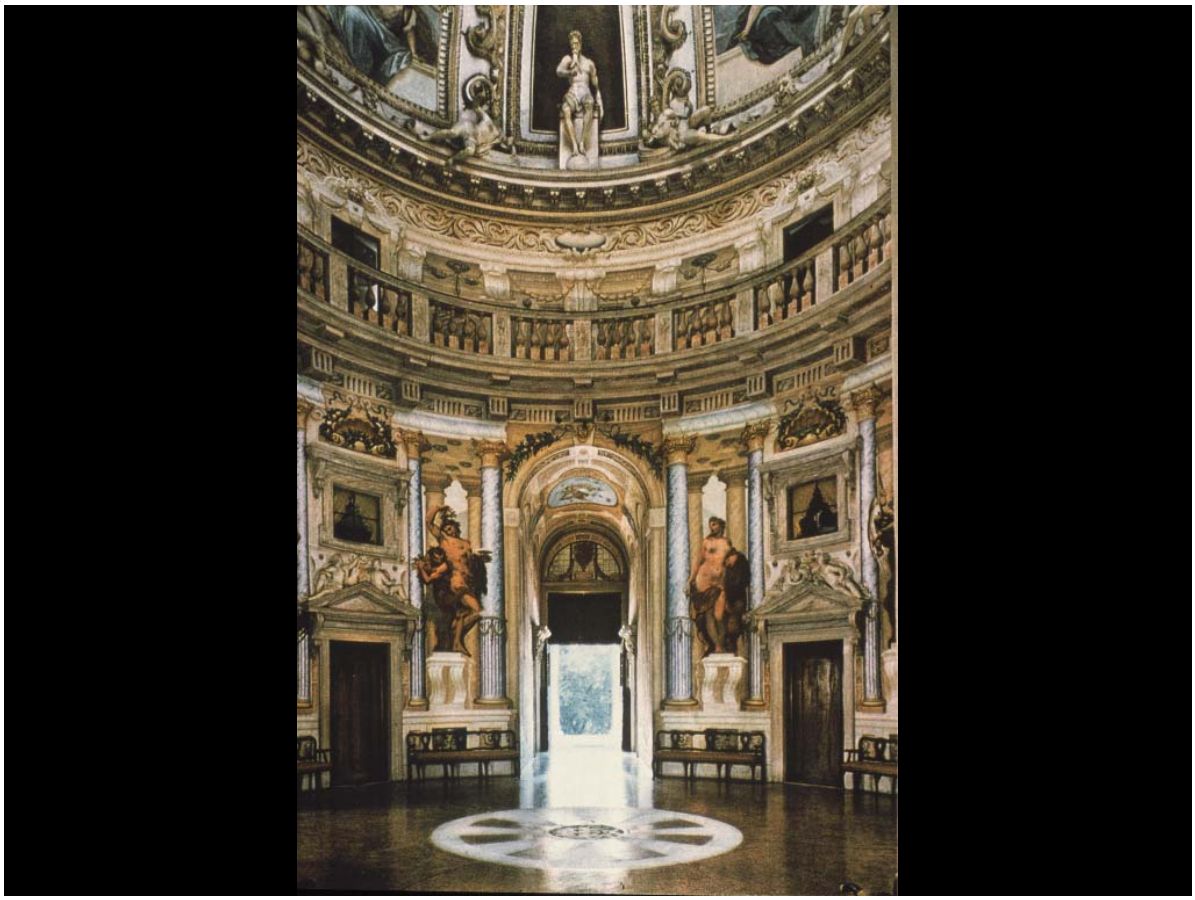

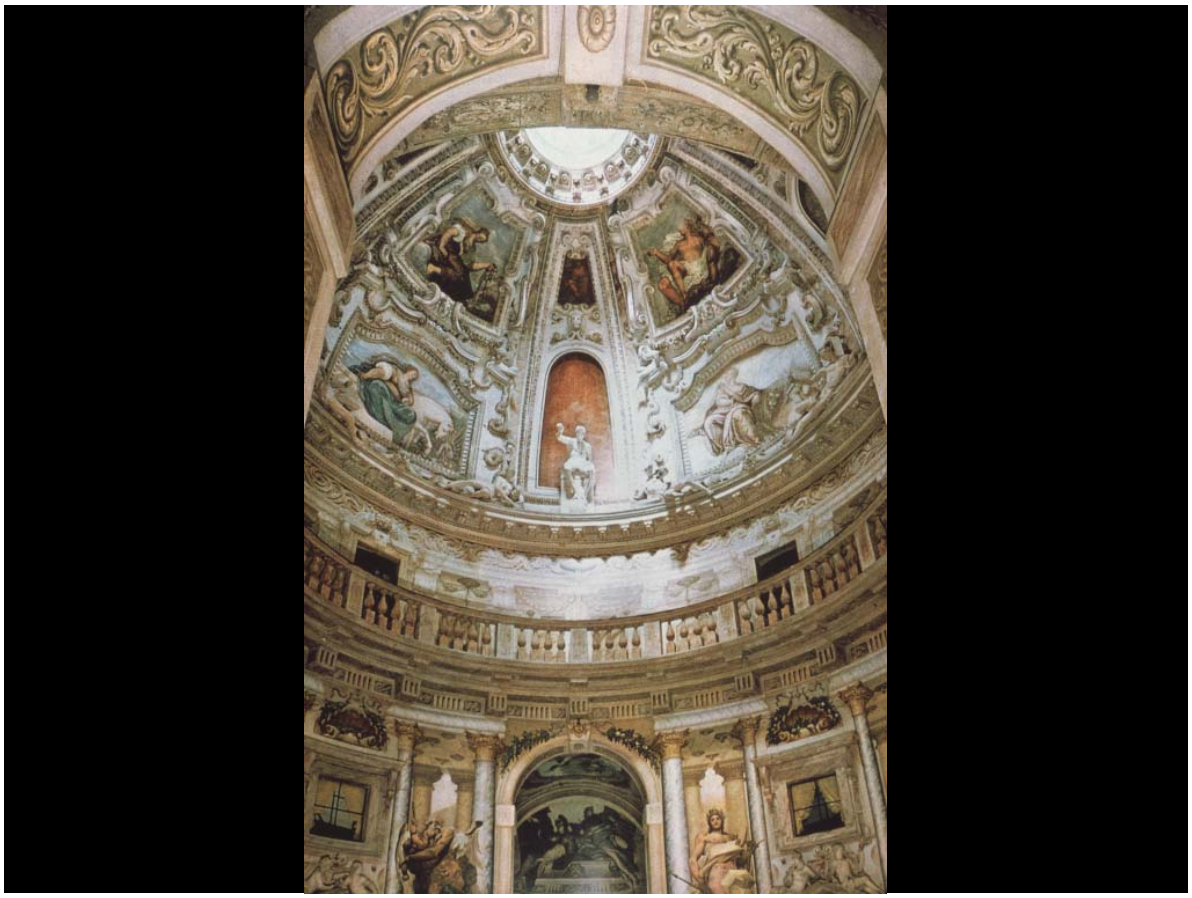

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Villa Rotunda, 1560 Andrea Palladio

Principal room is the center –
lit by dome

St. Peters, 1546-64

1st plan drawn by Bramante

The role of the Orders, first purely decorative (Bramante), then structural (Raphael, Michelangelo)

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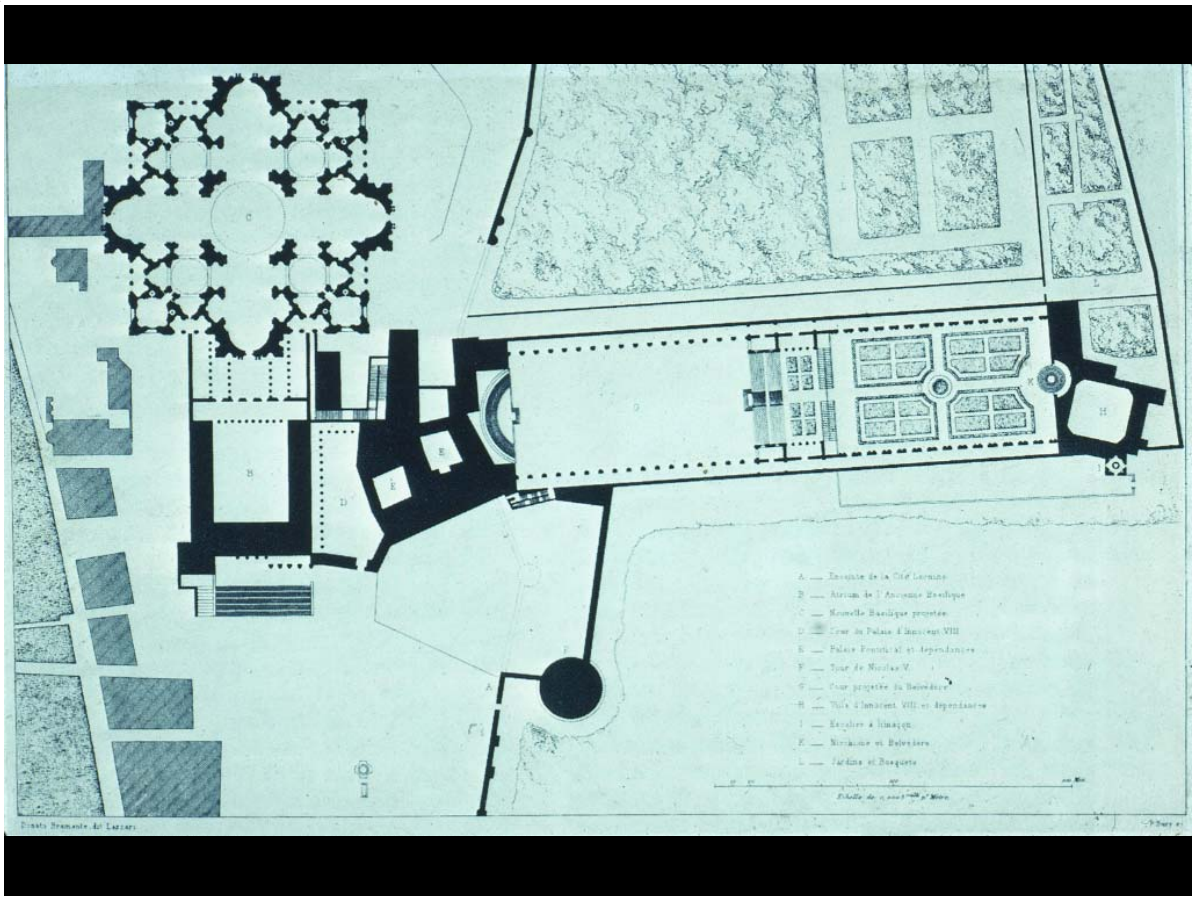

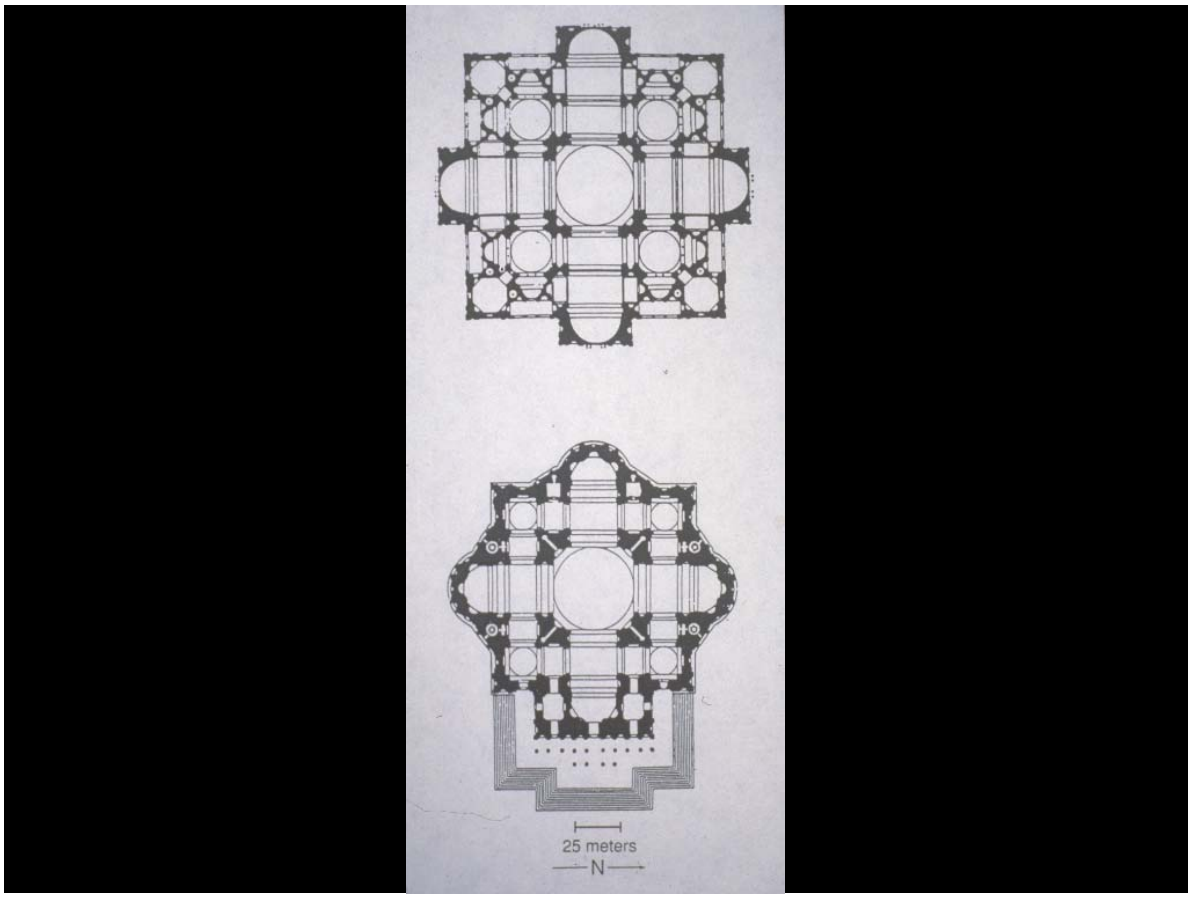

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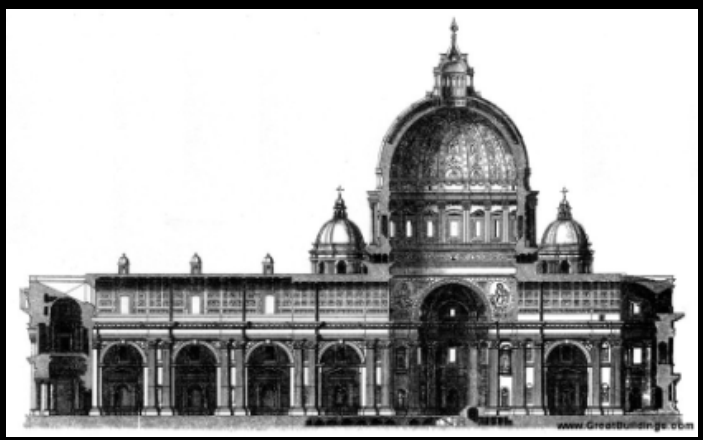
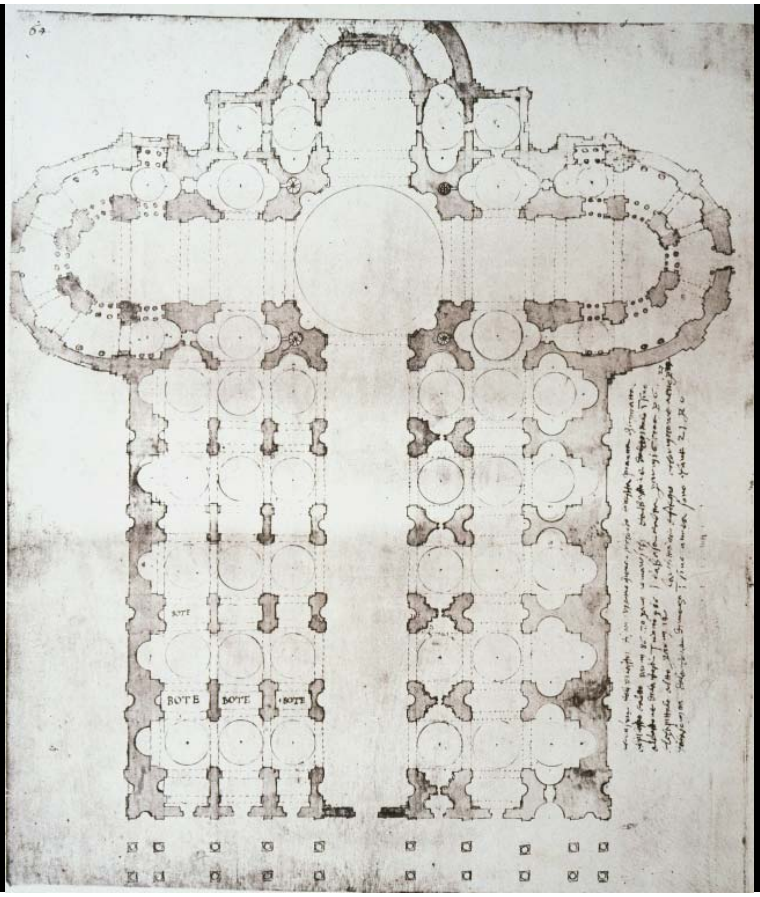
St. Peters, 1546-64

The dome, first with a single masonry shell (Bramante), then a double one (Sangallo, Michelangelo).

The piers intended to support the dome, were too slender in Bramante's plan, they were reinforced.





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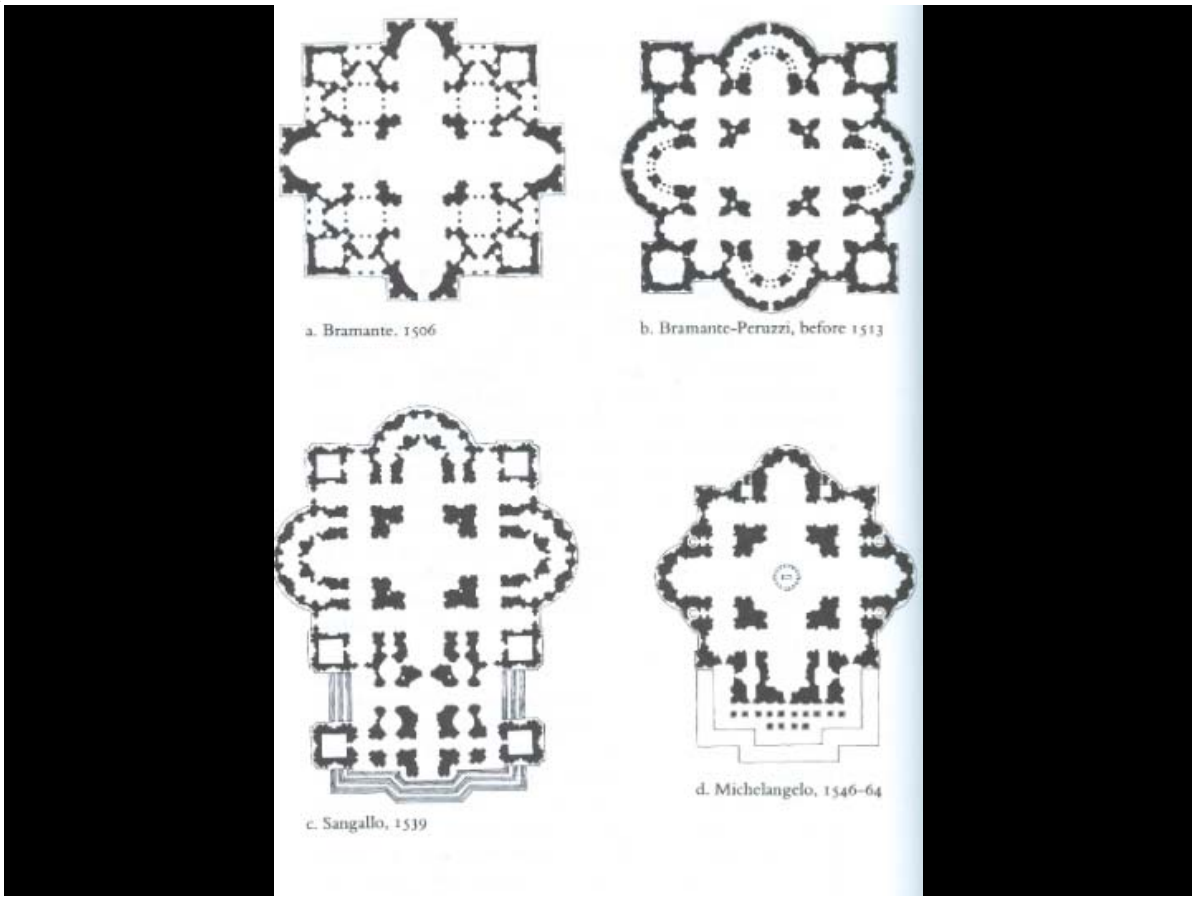

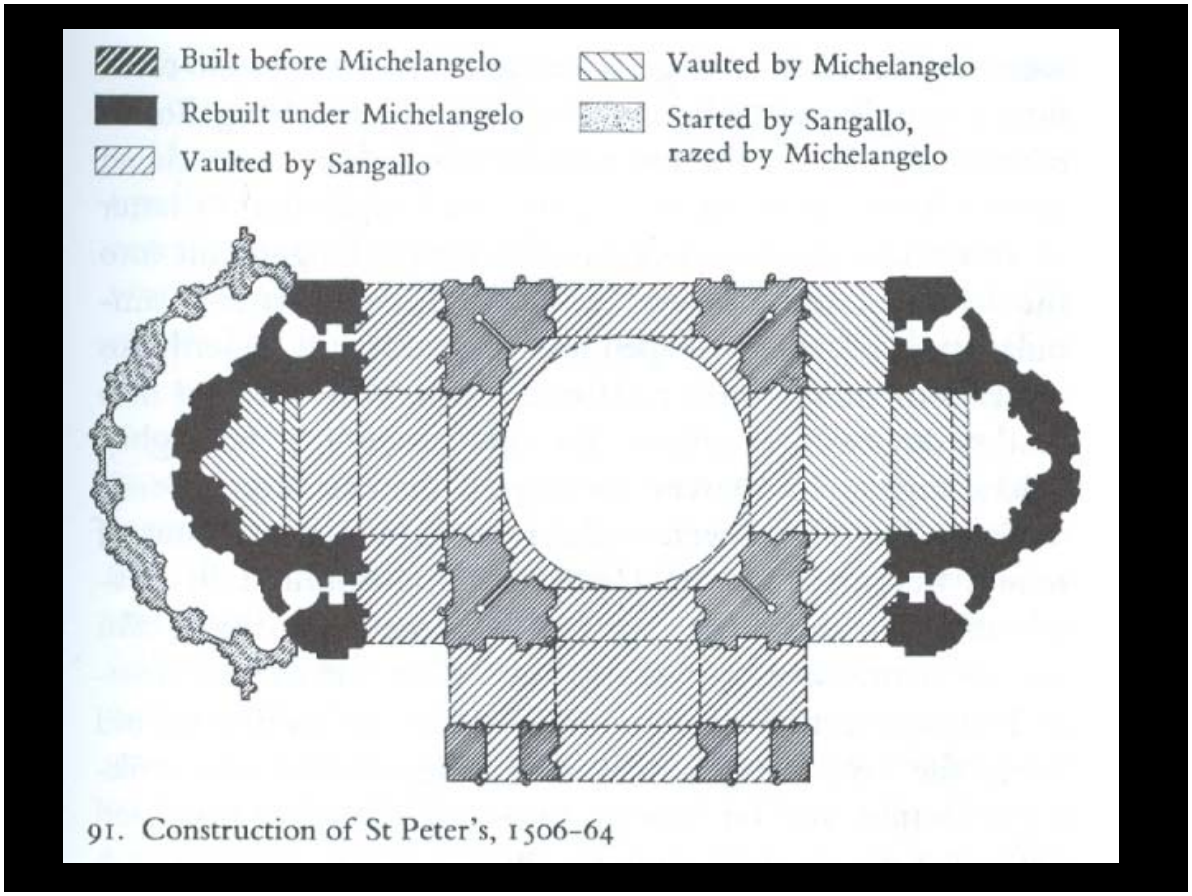

91. Construction of St Peter's, 1506–64

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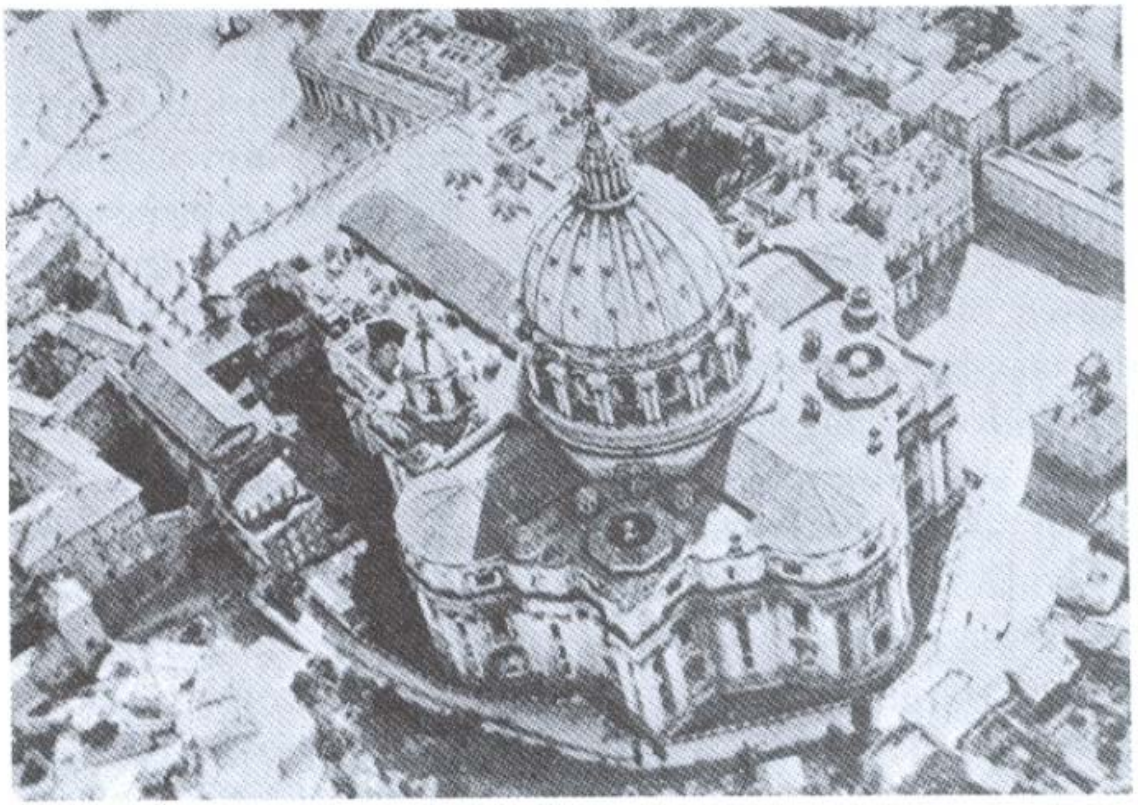
St. Peters, 1546-64



93. St. Peter's. Air view

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