
Determinants of Modern Design

01 — Modern Origins

01 — Modern Origins

Classicism

>Vitruvius

>>Orders

>>>Cosmos

>>>Body

>>>>Symbolic

>>>>Ideal

>>>>Beauty

>>>>>Truth

>>>>>Myth

Aristotle

Ptolemy

>Geo-centric

>>Heavenly star dance

Enlightenment

>Ancien Regime

>Philosophes

>>Rationalism

>>Reason

>>>Science

>>>Empiricism

>>> Secular

>>>>Modern

Nicolaus Copernicus

Galileo Galilei

Sir Isaac Newton

Benjamin Franklin

Joseph Priestly

Denis Diderot

Marc-Antoine Laugier

J-G Soufflot

>Sainte-Genevieve (1755)

>>Paris, France

Balthasar Neumann

>Basilica of the Fourteen

Holy Helpers (1742)

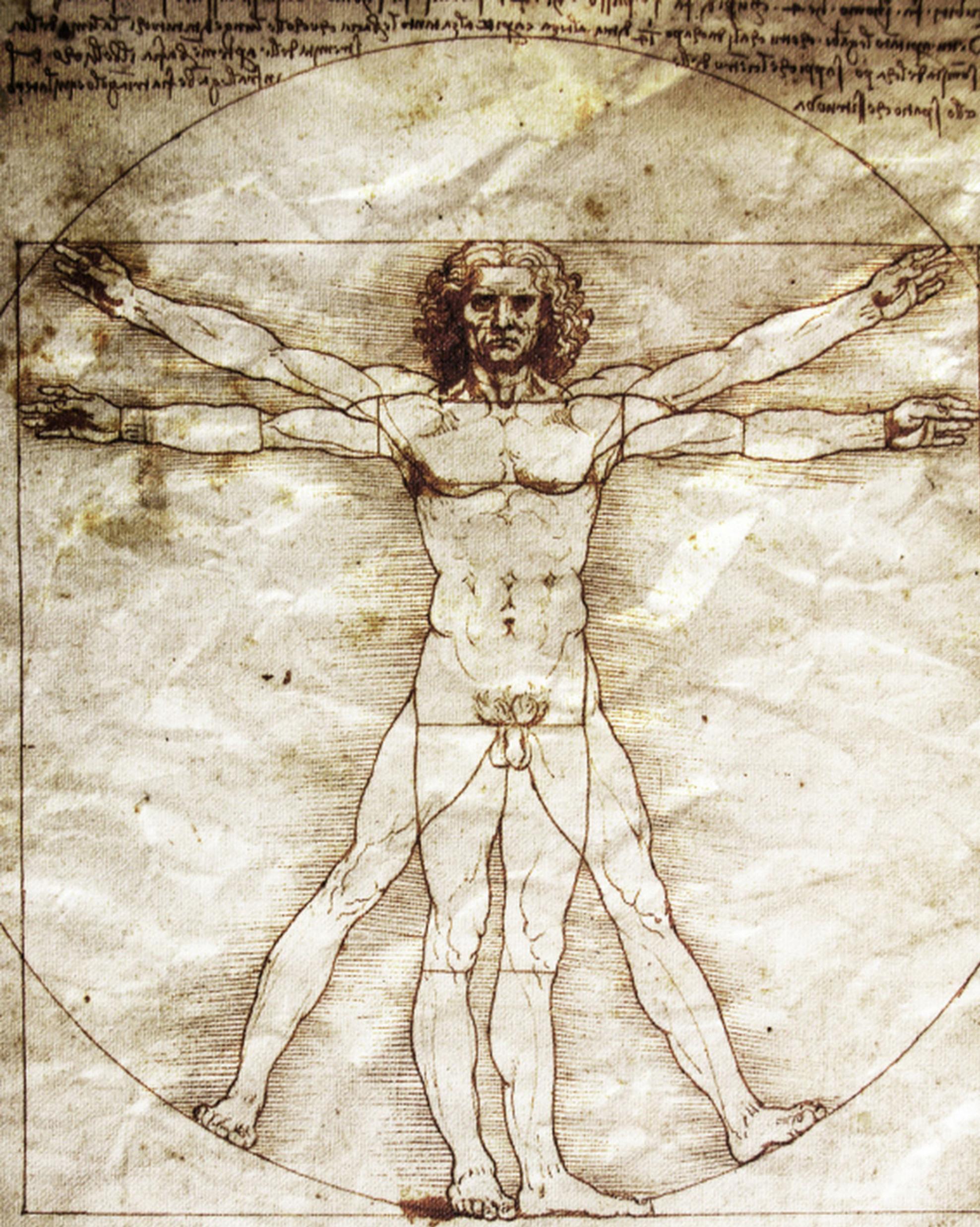
>>Bavaria, Germany

Claude Perrault

>Louvre Facade

>>Paris, France

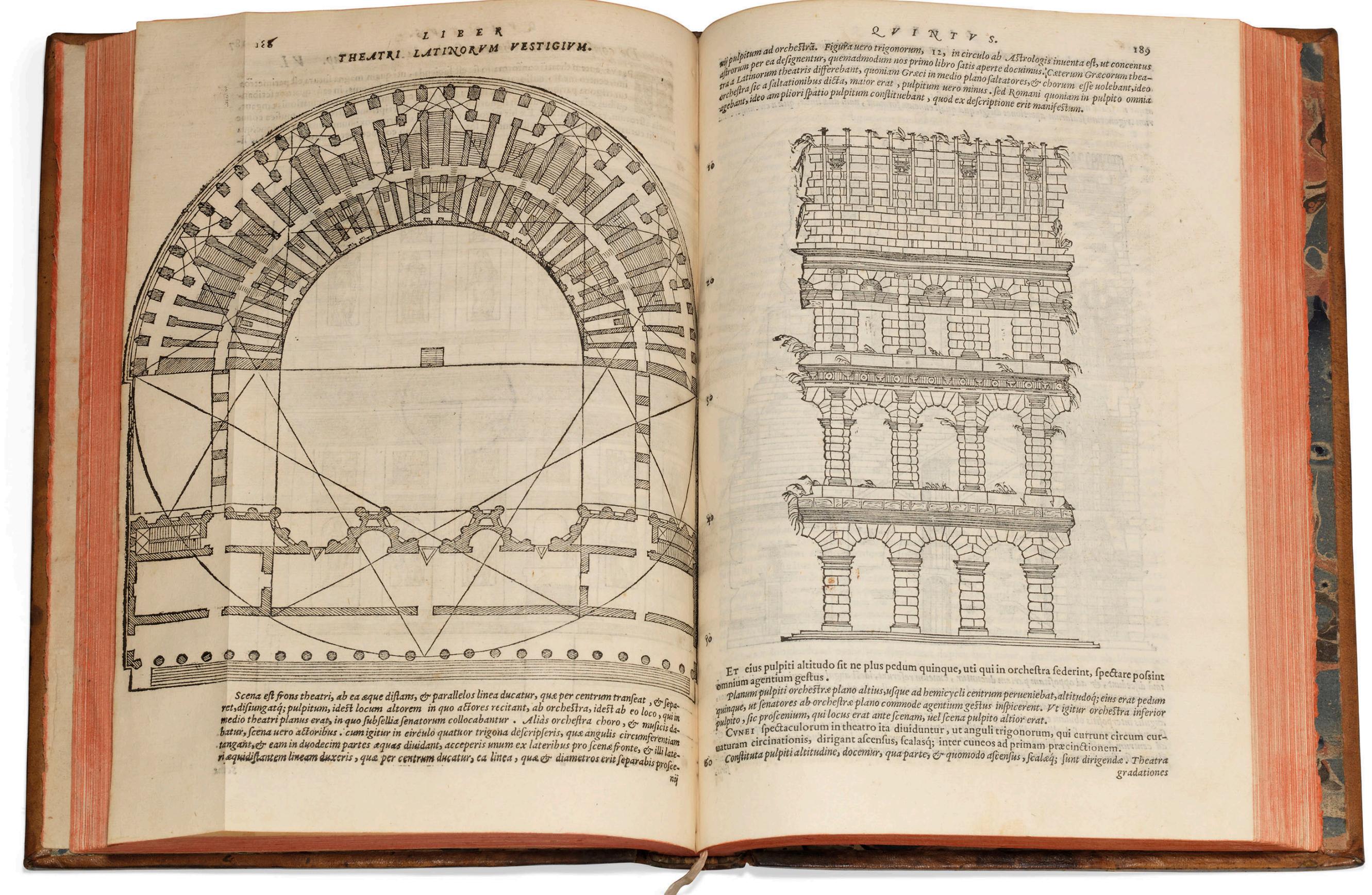
What is Modern
is not Classical.



Vitruvian Man, Leonardo Da Vinci

De Architectura

"TEN BOOKS ON ARCHITECTURE"

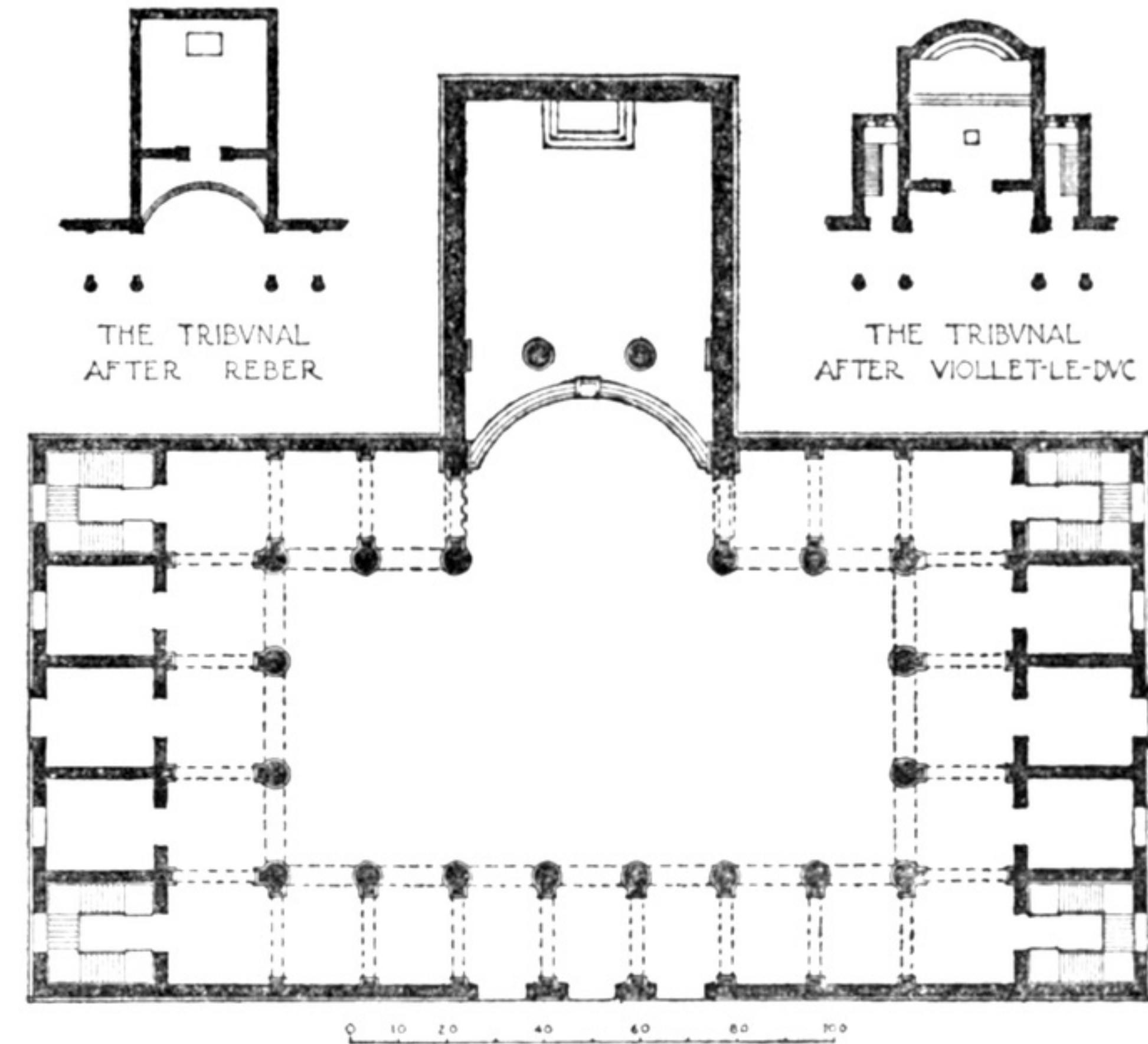


Firmitas, Utilitas, Venustas

“STRENGTH, UTILITY, BEAUTY”

or

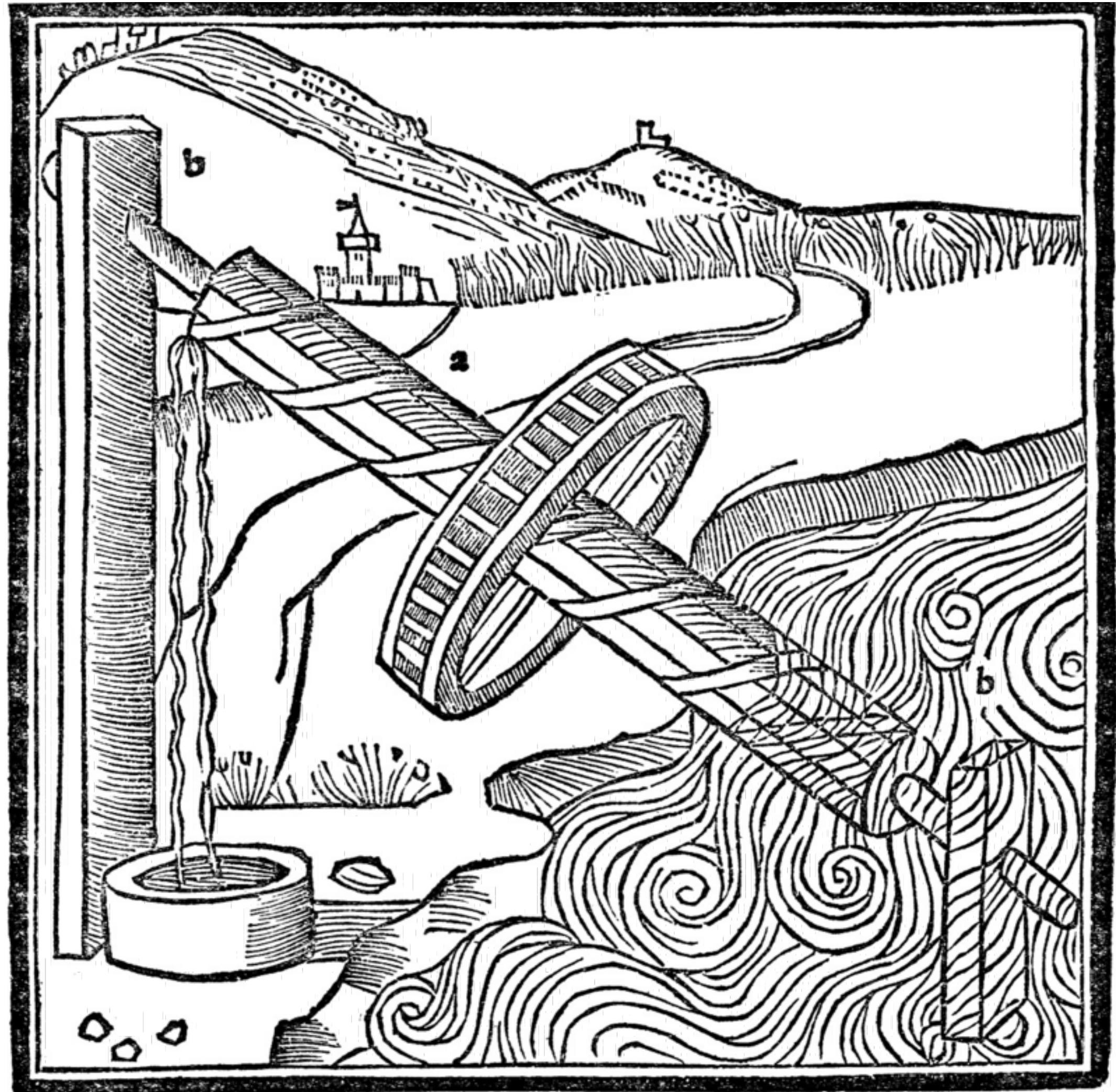
“FIRMNESS, COMMODITY, DELIGHT”



VITRUVIUS' BASILICA AT FANO

Technology

Archimedes' screw aka the water screw was described by Vitruvius in *De Architectura*. Vitruvius was involved in more than simply aesthetic, "architectural" pursuits. As a member of Caesar's military, Vitruvius had expanded knowledge of essential technologies.



Ballista

Hey, is that a nomadic structure?

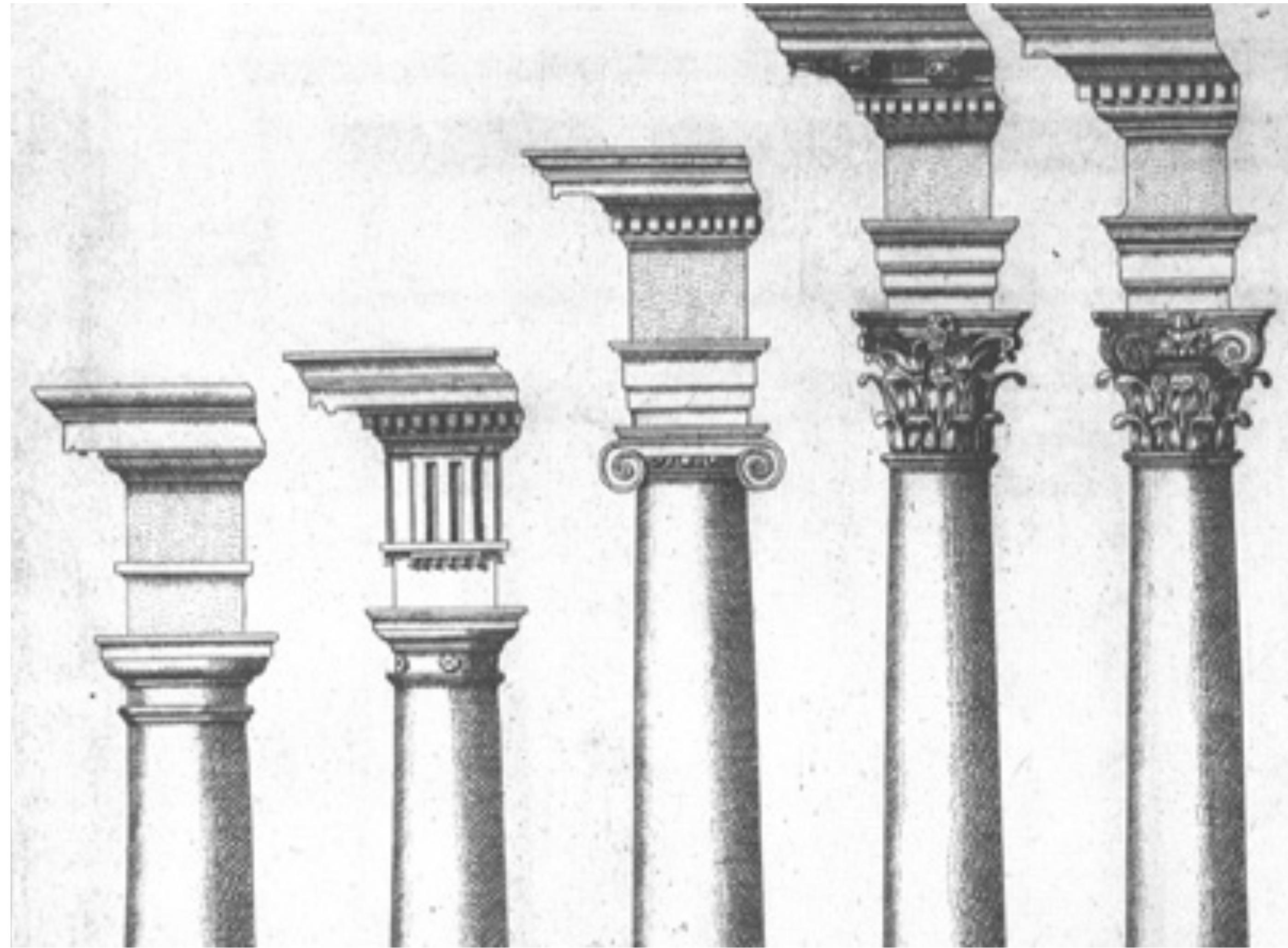
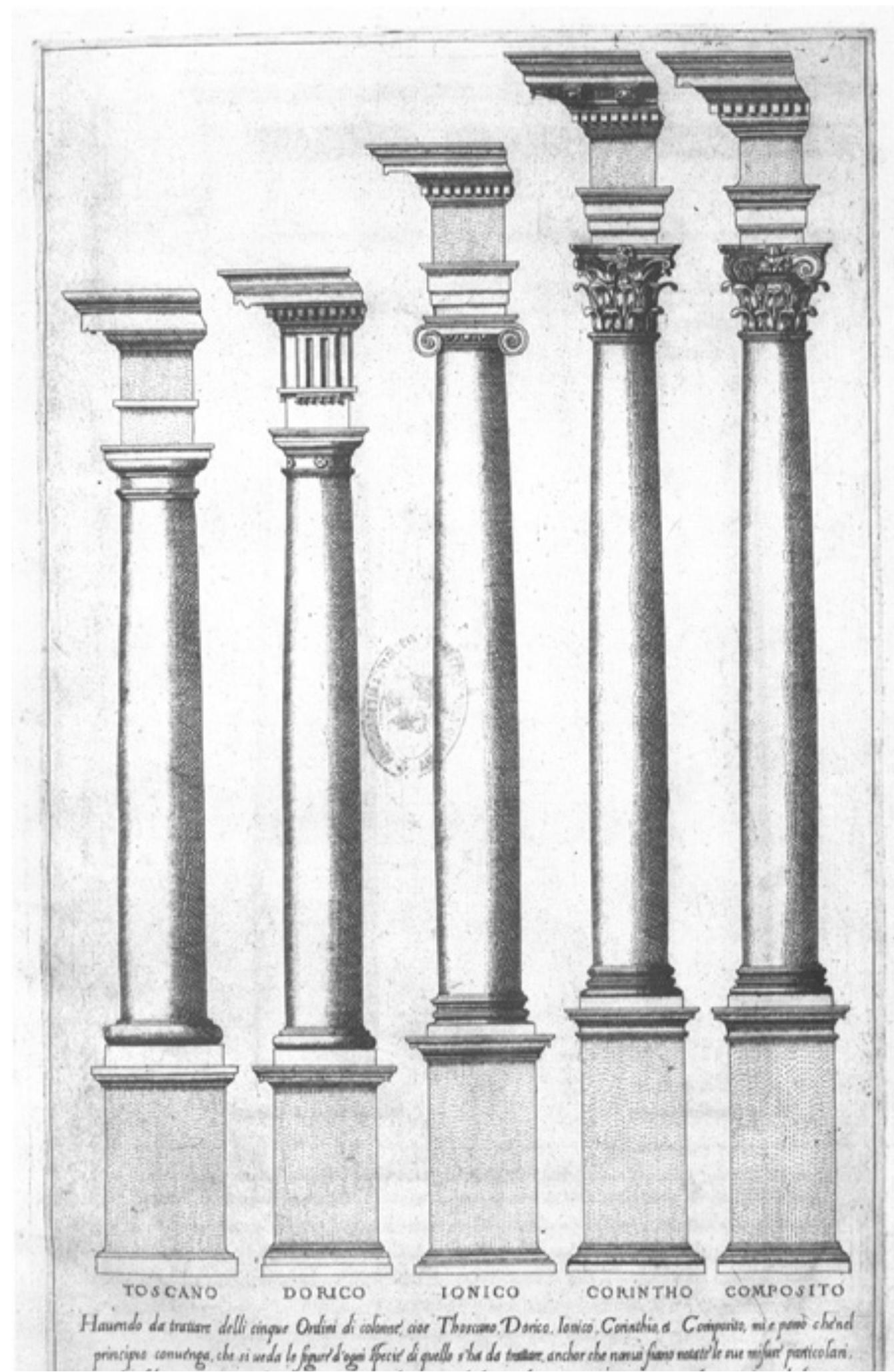




Temple of Apollo

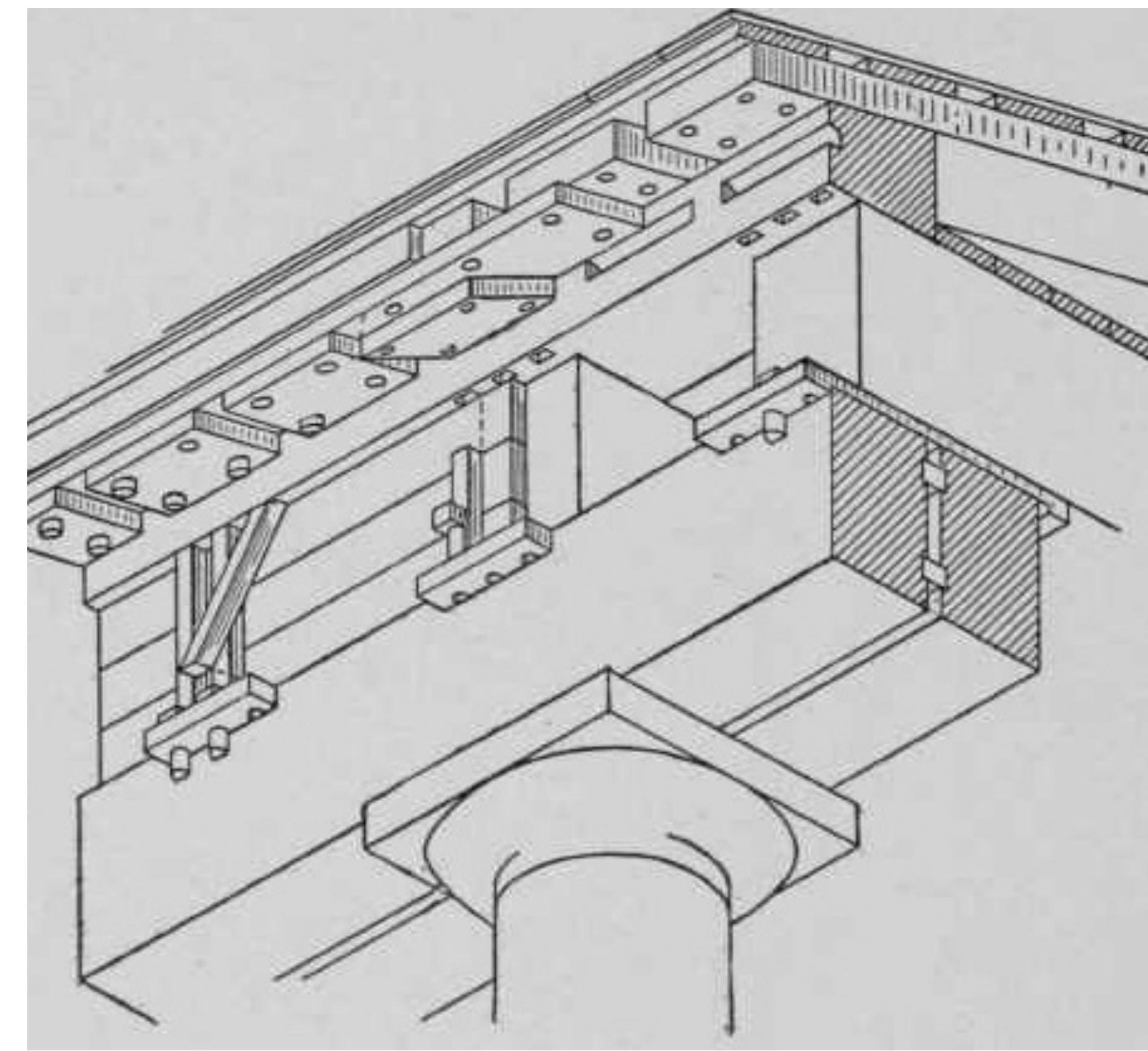
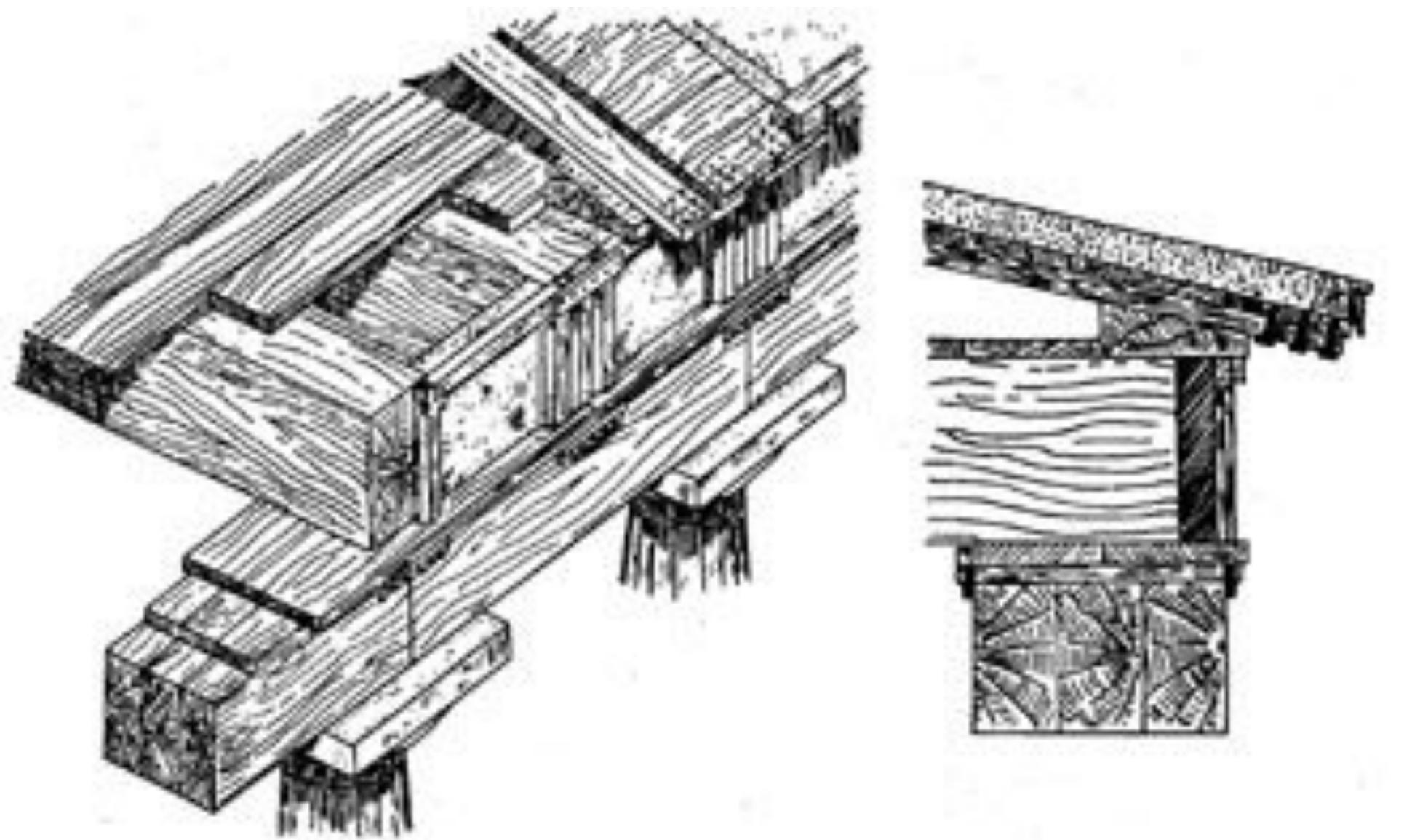


Treasury, Athens



Vignola's drawing of the orders.

Vignola – Rules of the Five Orders of Architecture – https://archive.org/details/regoladellicinu00vign_0/page/n6



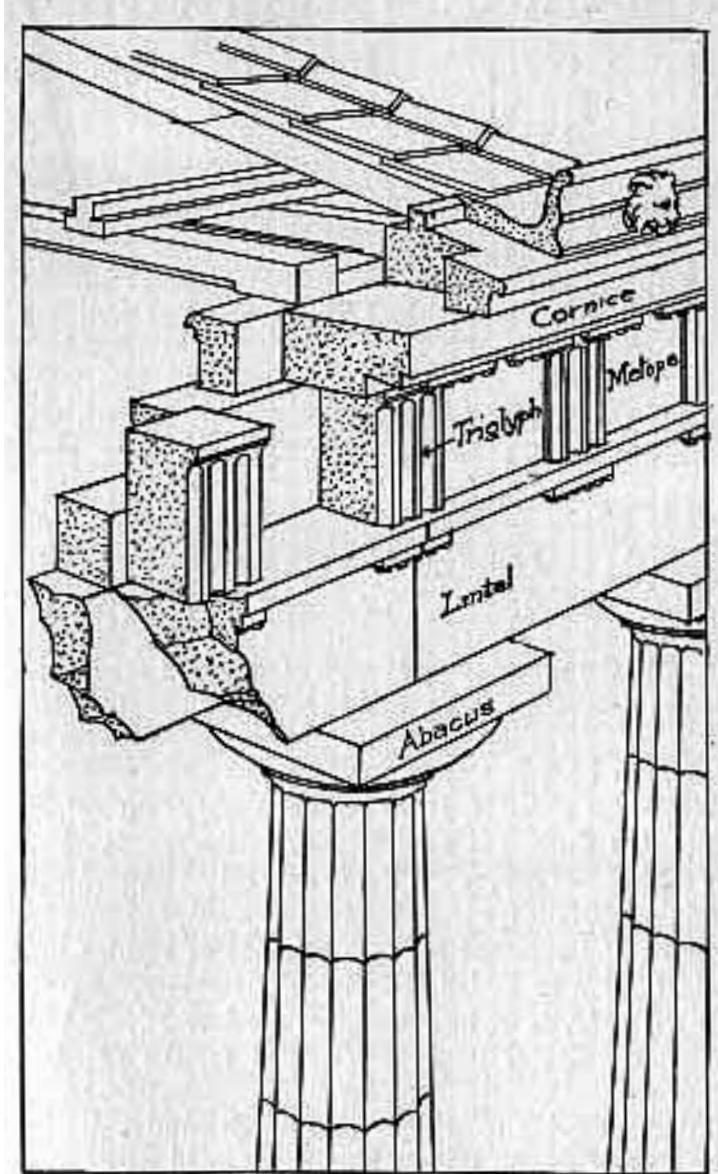
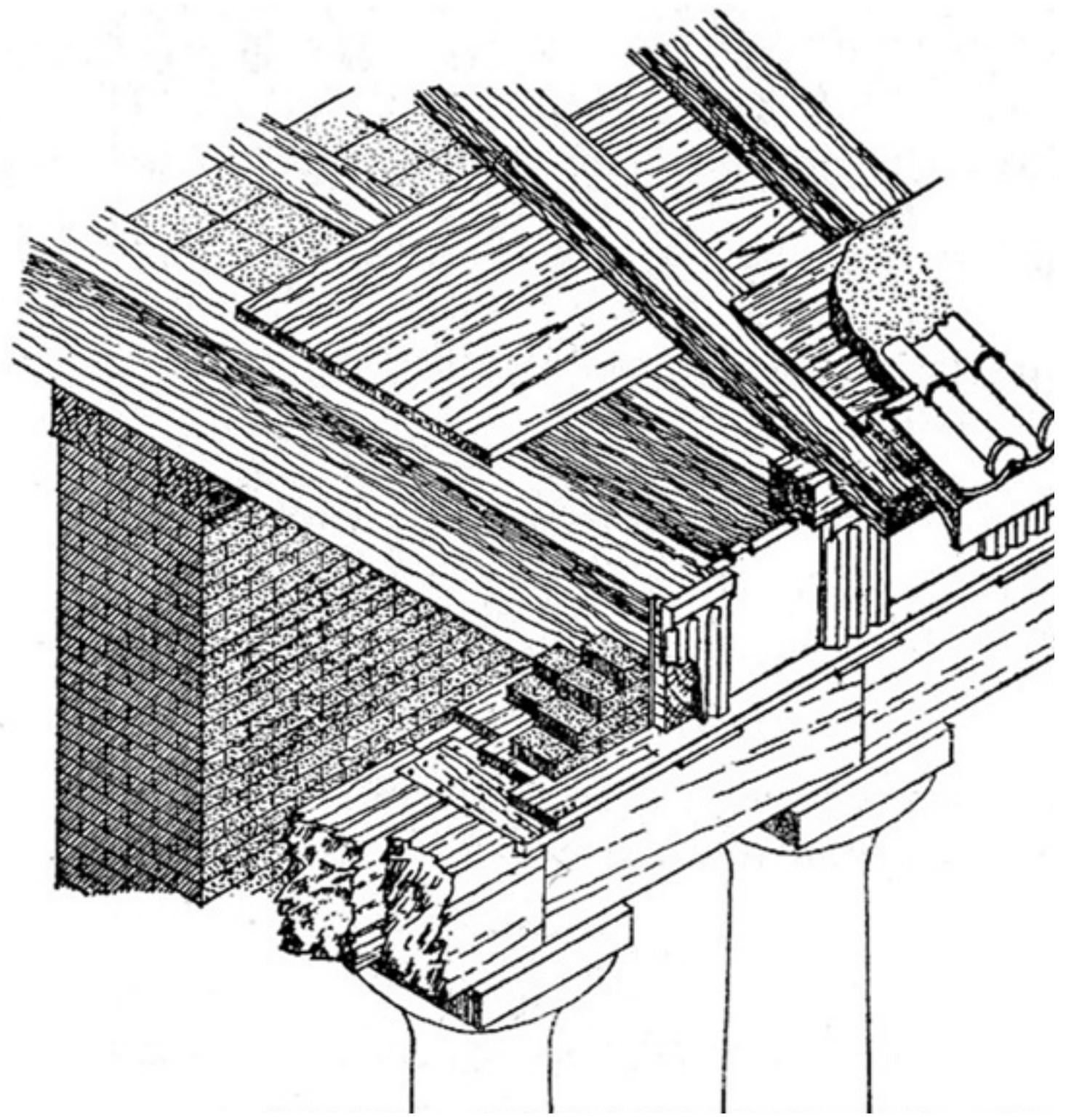
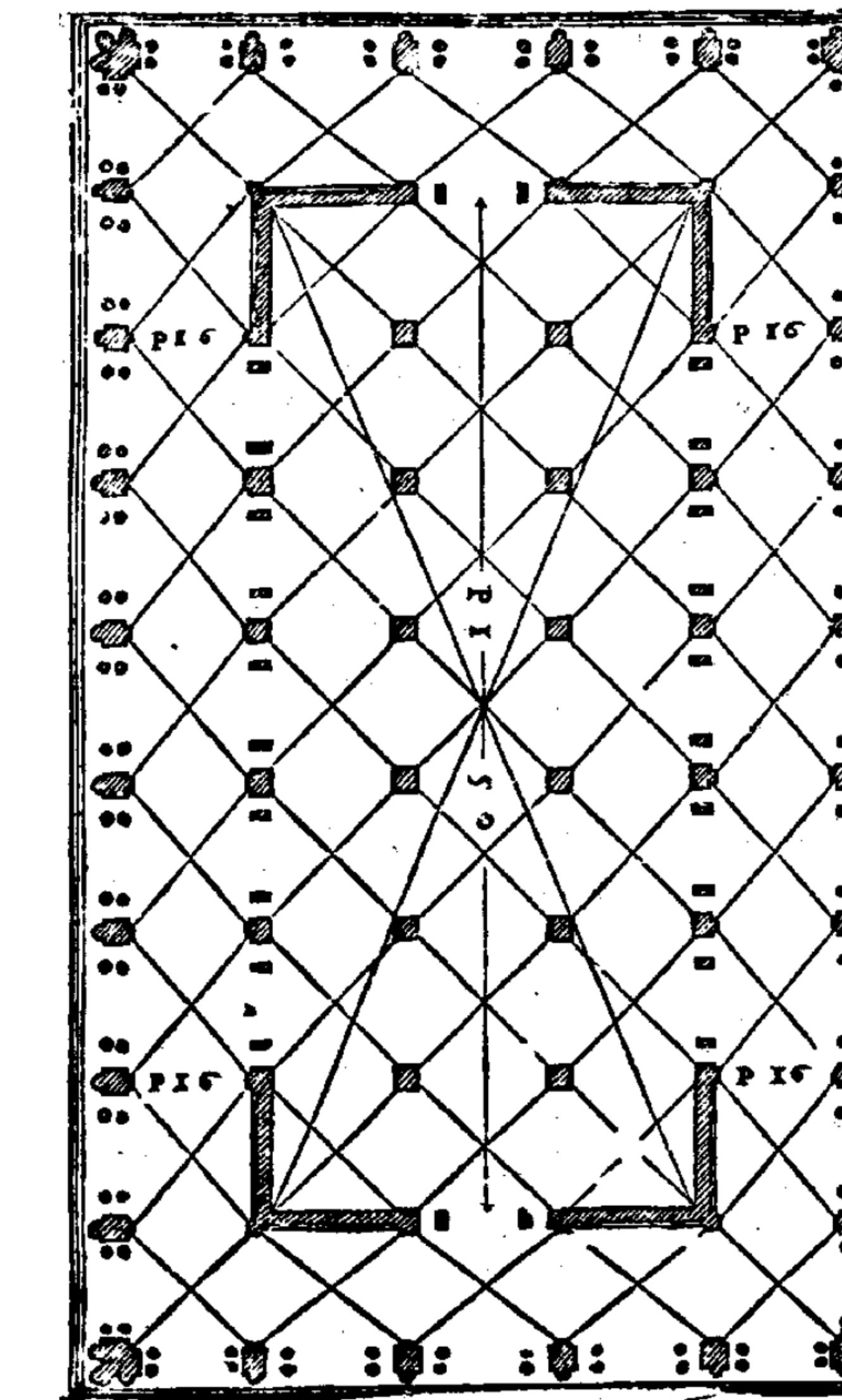
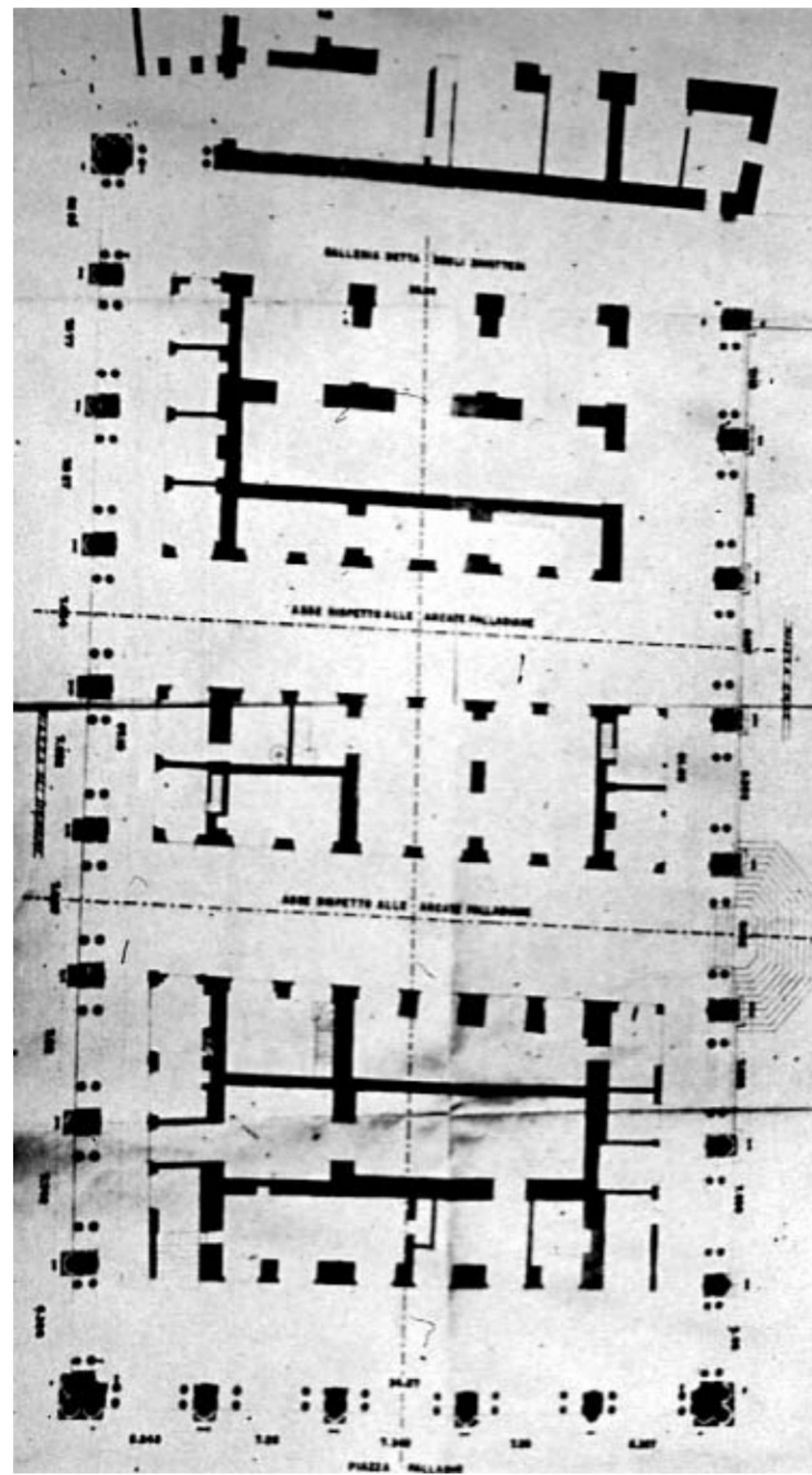


FIG. 8—GREEK STONE CONSTRUCTION



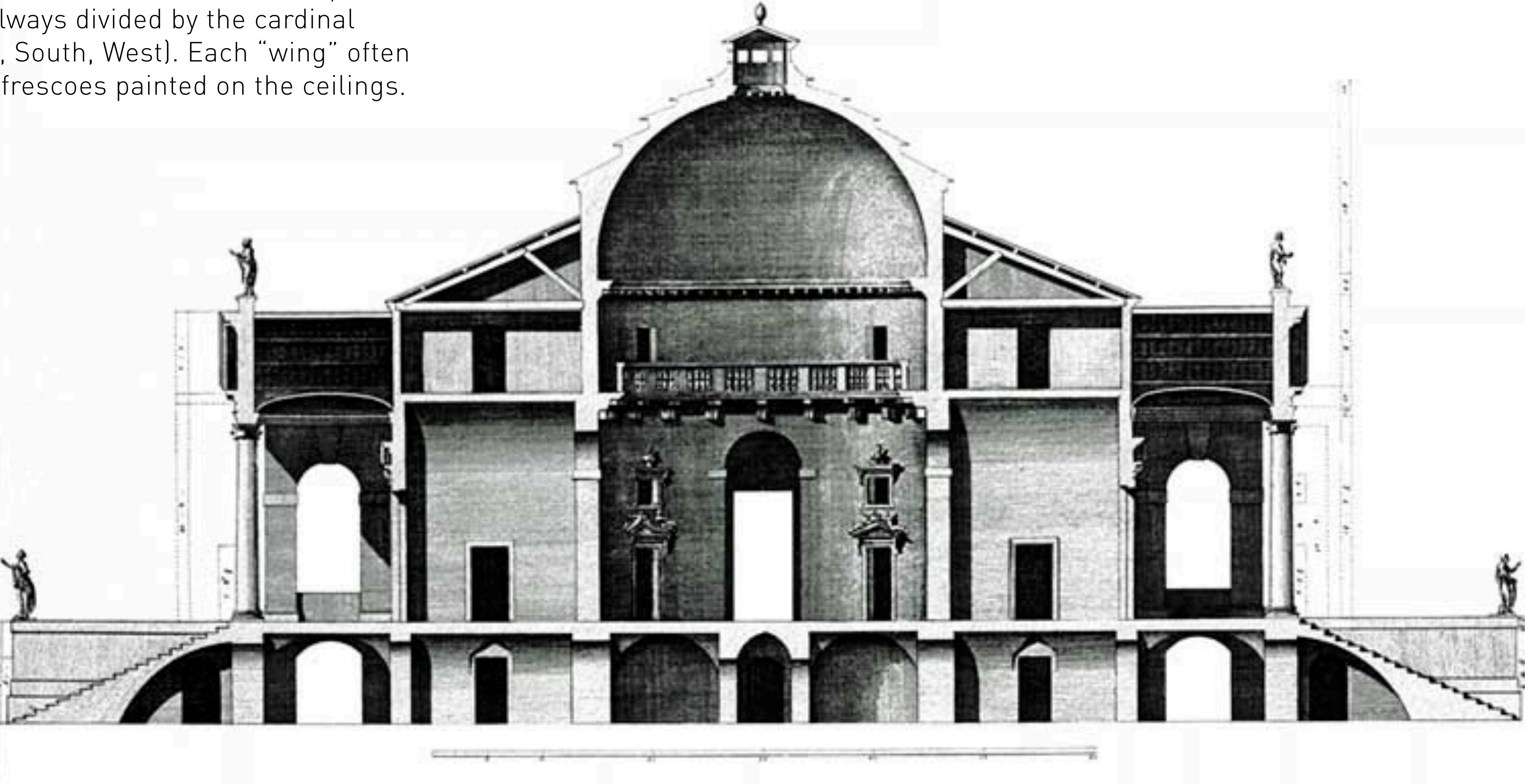
1.2 (above) Palladio, The Basilica, Vicenza, 1546-1617, view across the Piazza dei Signori (Tavernor, Palladio 35).

1.3 (far left) Palladio, The Basilica, Vicenza, 1546-1617, plan, measured drawing as built (Zorzi, Le opere pubbliche plate 45).

1.4 (left) Palladio, The Basilica, Vicenza, 1546-1617, plan (Four Books on Architecture 4.42).

Palladian Villas

There is a formal logic to most, if not all, Palladian Villas. Symmetry is a very common element read in the plans as space was almost always divided by the cardinal directions (North, East, South, West). Each “wing” often had different thematic frescoes painted on the ceilings.



Villa Capra

“La Rotonda” is one of the most influential Palladian designs.



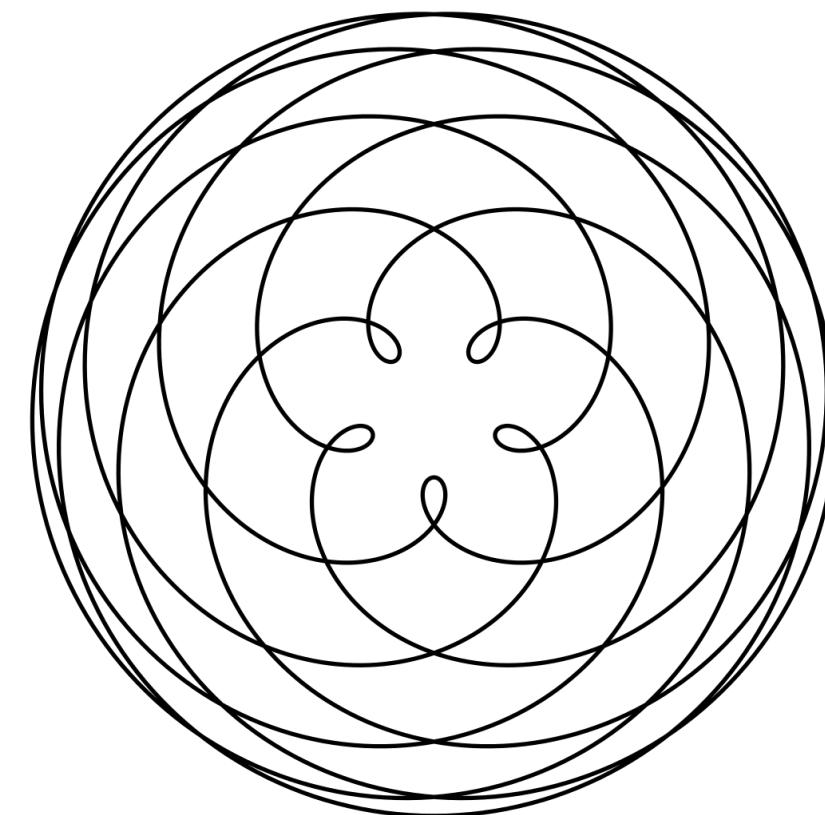
Scientific Revolution

Aristotle (384-322 BC)

- Aristotelian geo-centric cosmology dates back to classical antiquity
- student of Plato
- polymath

Ptolemy (100-170 AD)

- Ptolemaic model of planetary motion (Earth is at the center)



Copernicus (1473-1543)

- On the Revolutions of the Heavenly Spheres (1543)
- offered the first counter-point to the Ptolemaic geocentric model.
- Index of Forbidden books
- Martin Luther outraged, called it silly, offered scripture from Joshua

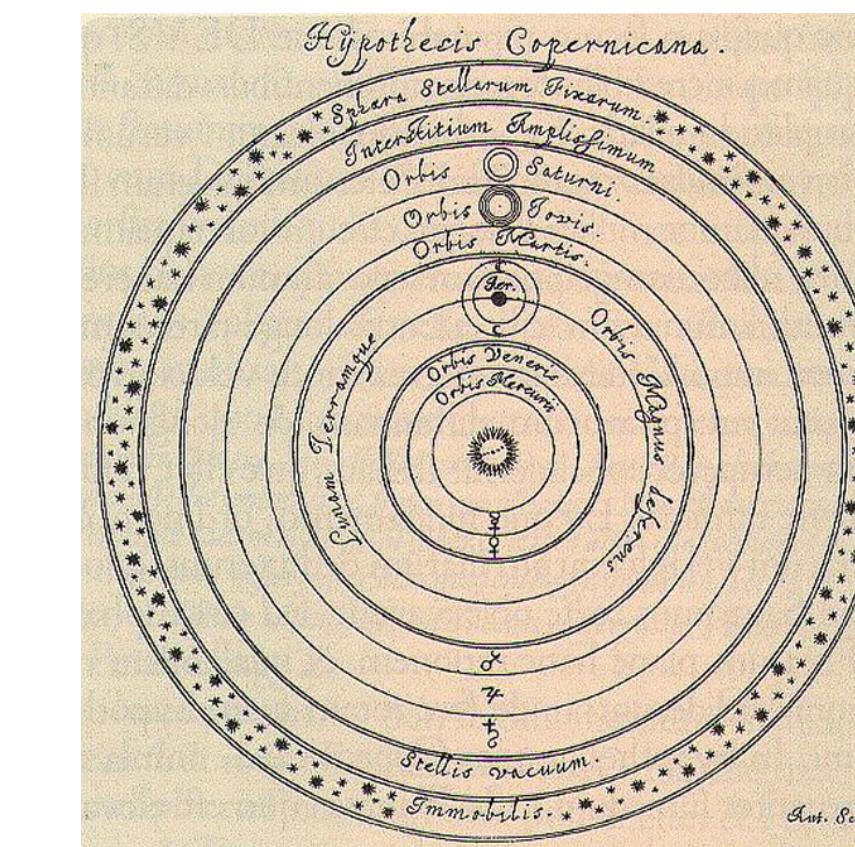
Vesalius

- published De Humani Corporis Fabrica the same year (1543)



Galileo (1564-1642)

- In 1632 published Dialogue Concerning the Two Chief World Systems (Copernicus to Ptolemy)
- Index of Forbidden books
- found to have committed heresy, recanted, and lived under house arrest for the rest of his life
- in 1638, published "Two New Sciences" (strength of materials, and objects in motion)



Francis Bacon (1561-1626)

- Scientific Method
- Empiricism
- Evidence as truth
- Science as truth

Newton (1643-1727)

- In 1687, publishes Mathematical Principles of Natural Philosophy
- framework for Classical Mechanics
- with Leibiz, develops calculus



The Scientific Revolution, Hume, Bacon, et al promoted direct observation and understanding of the natural world — no more myth & mysticism.

Inigo Jones

The most significant English architect

1573-1652

Unconventional origins... where did he come from? Not wealthy or elite. Was an apprentice joiner (carpentry) at St. Paul's in London, the Anglican mother church, designed by Sir Christopher Wren.

Known for theater design and masques. Only begins to work on "architecture" in his mid-to-late thirties.

Influenced by Palladio! Had an Italian copy of Palladio's "Four Books" which is heavily annotated with **marginalia**.

Responsible for introducing Vitruvian ideas (as translated by Palladio) to England. Stylistically very rigid and ruled. Appears to be idealizing proportion and rules, & yet & yet....





The 4 Bodily Humors:

Blood, Phlegm, Black Bile, Yellow Bile

Casting:

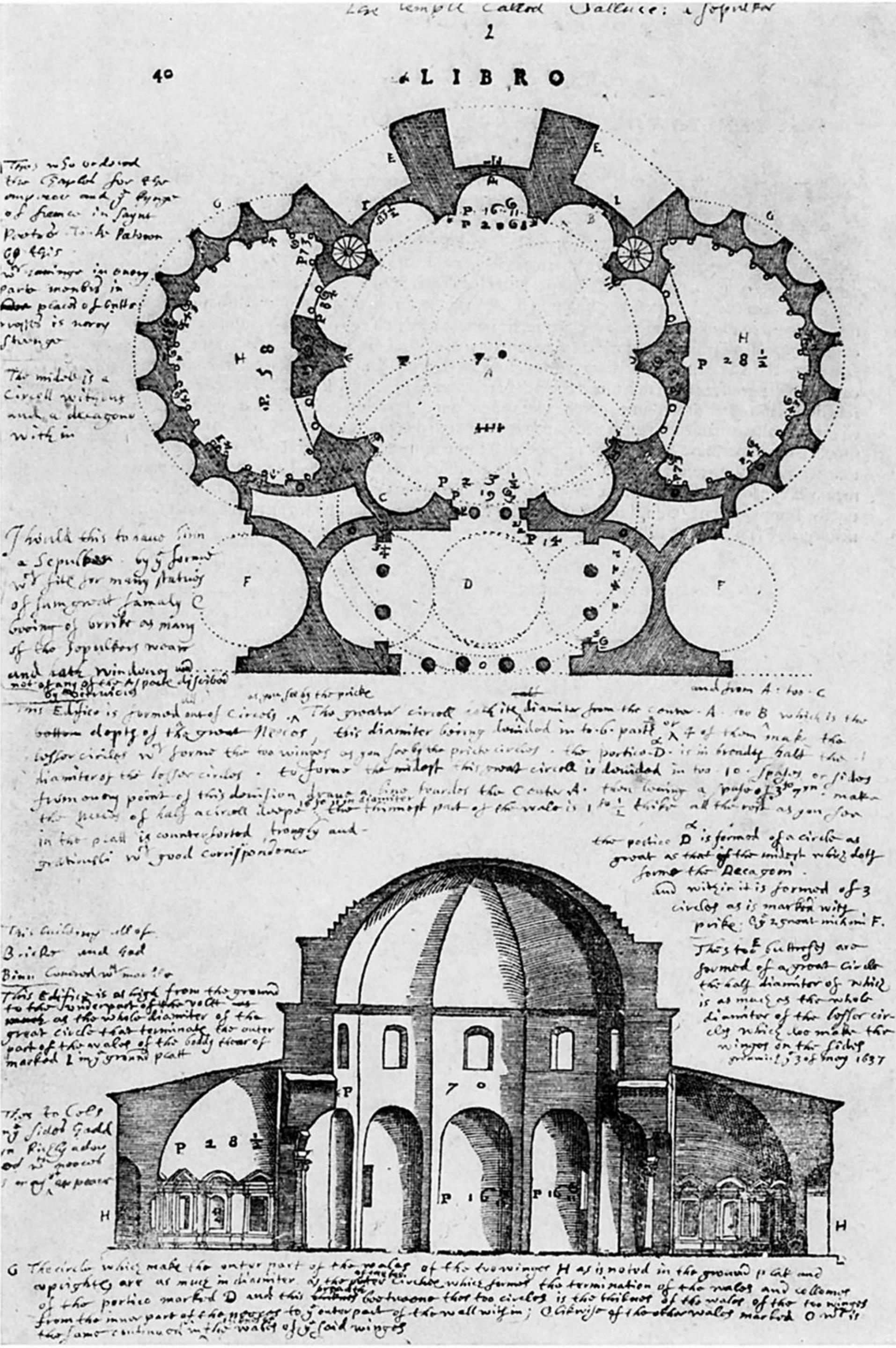
Evacuating the stomach by vomiting

Glisters:

Recipes for clisters, or enemas

In Other Words:

"Jones regularly ate food through his ass and shat waste out of his mouth" – David Theodore



Copernicus, Galileo, Newton, Diderot, et al
undermined the authority of monarchs.

Claude Perrault

1613 to 1688, France

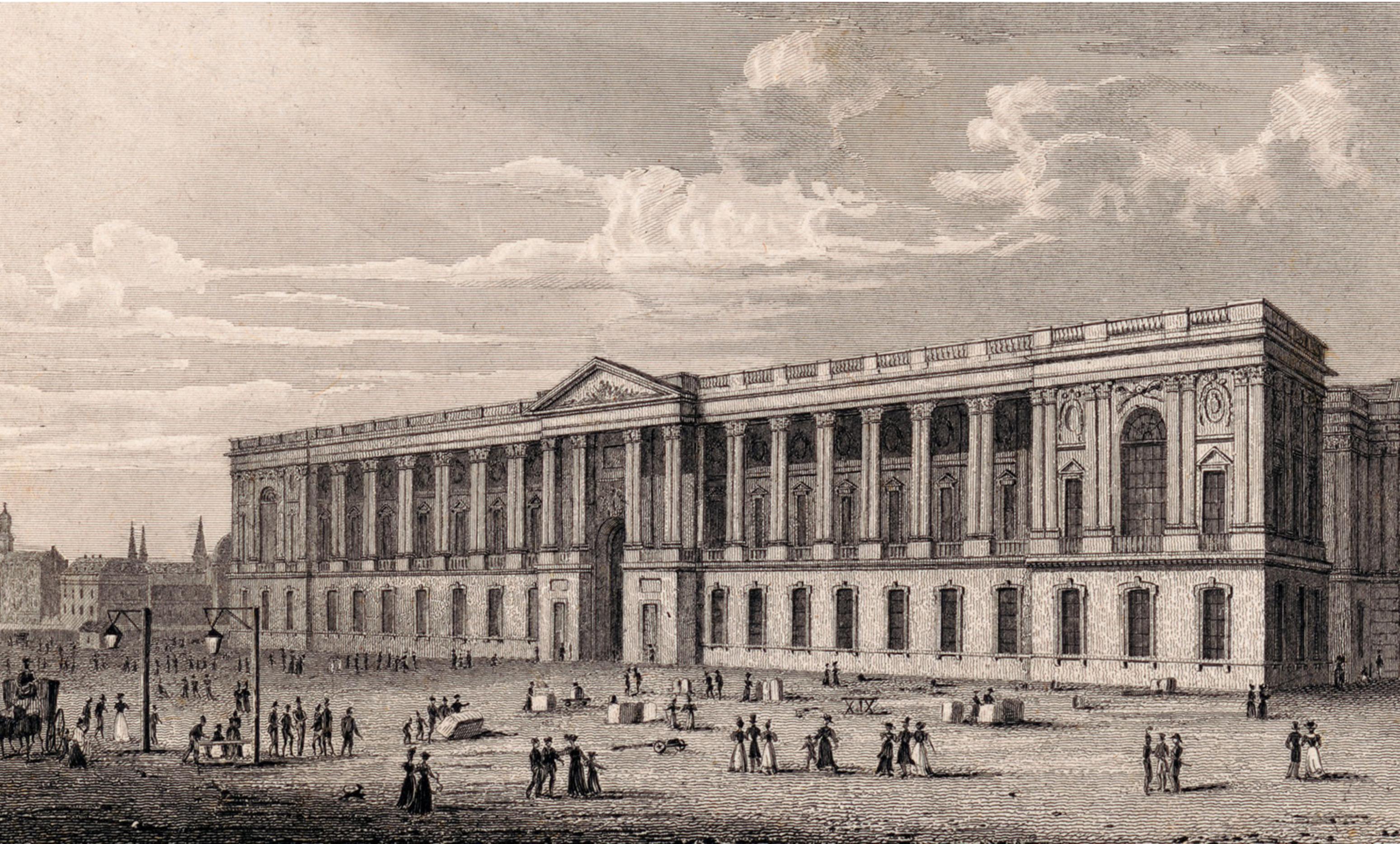
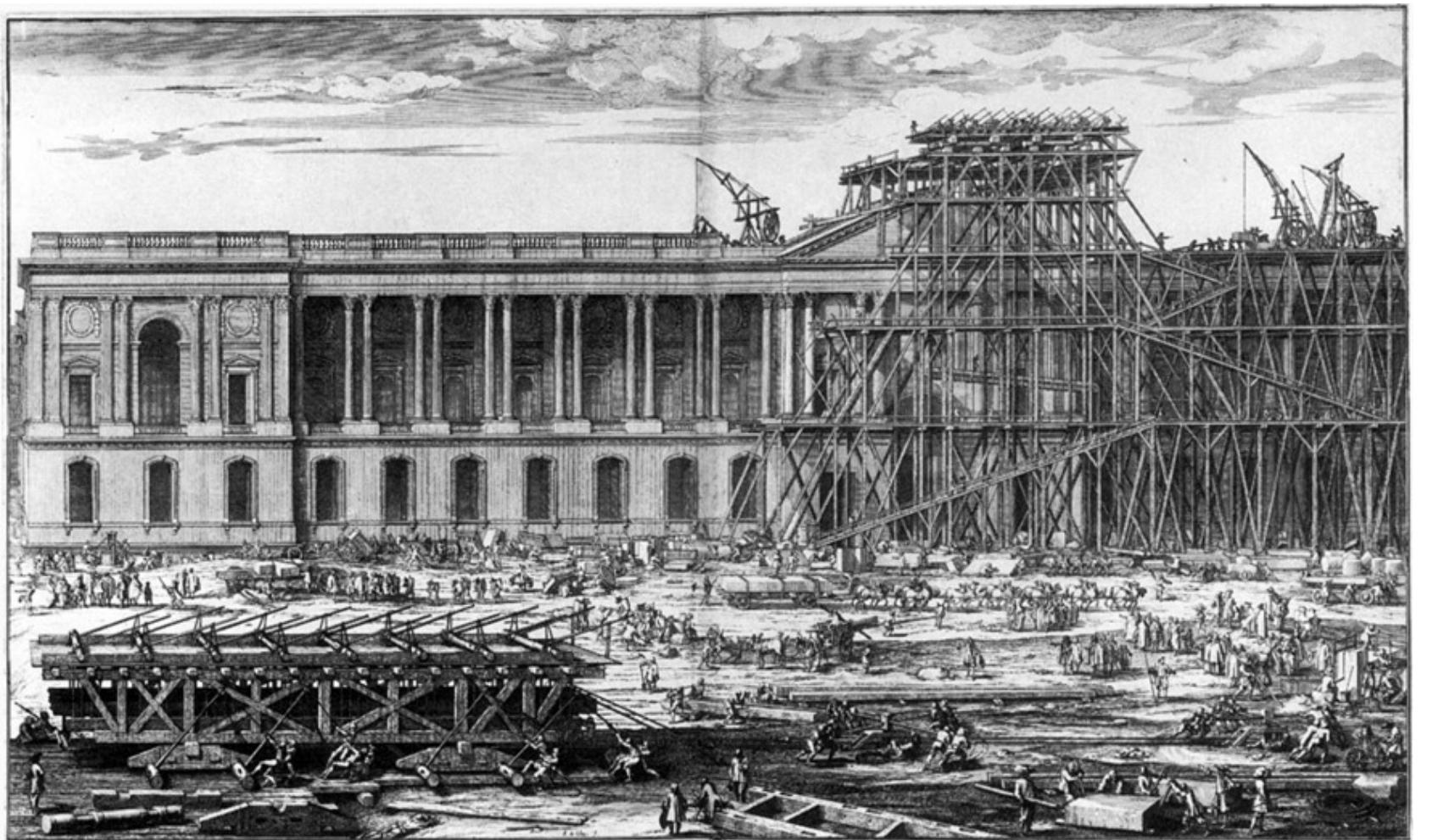
Perrault was trained as a doctor and devoted a great part of his life to scientific research.

Perrault also worked on architecture and his legacy is intertwined with the Scientific Revolution because he was writing during a period in Western culture when the Galilean scientific revolution was generally accepted. Along with Bacon, Perrault turned away from the classics, dismissing them as “comedies” and believing in a new worldview that is based upon knowledge gained from observable phenomenon.

Perrault was a founding member of the French Royal Academy of Science. His brother Charles wrote “Parallele des Anciens et Modernes” which describes the conflict between ancient cosmology and new scientific advancements.



Louvre



Sainte-Genevieve

Soufflot

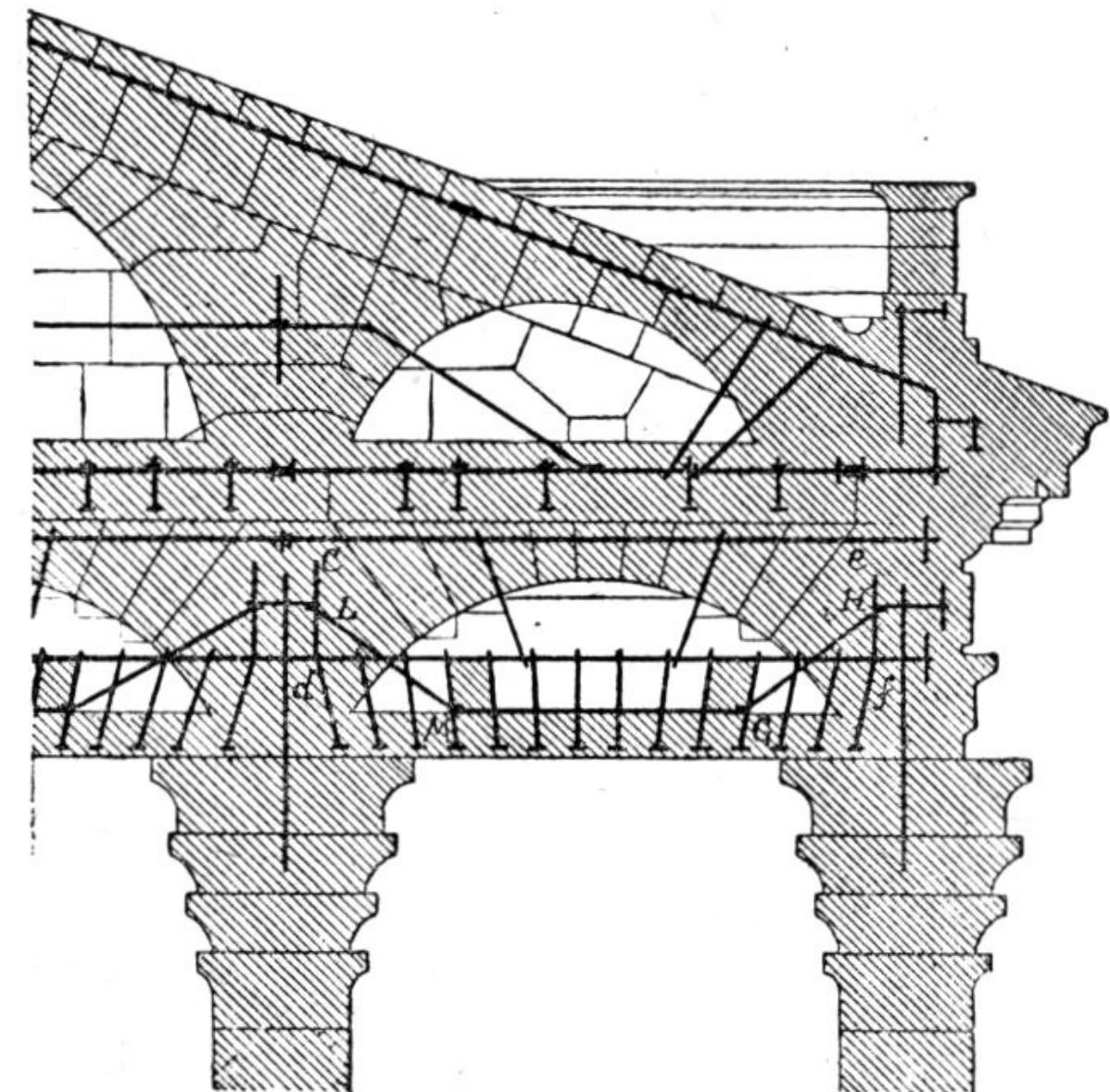
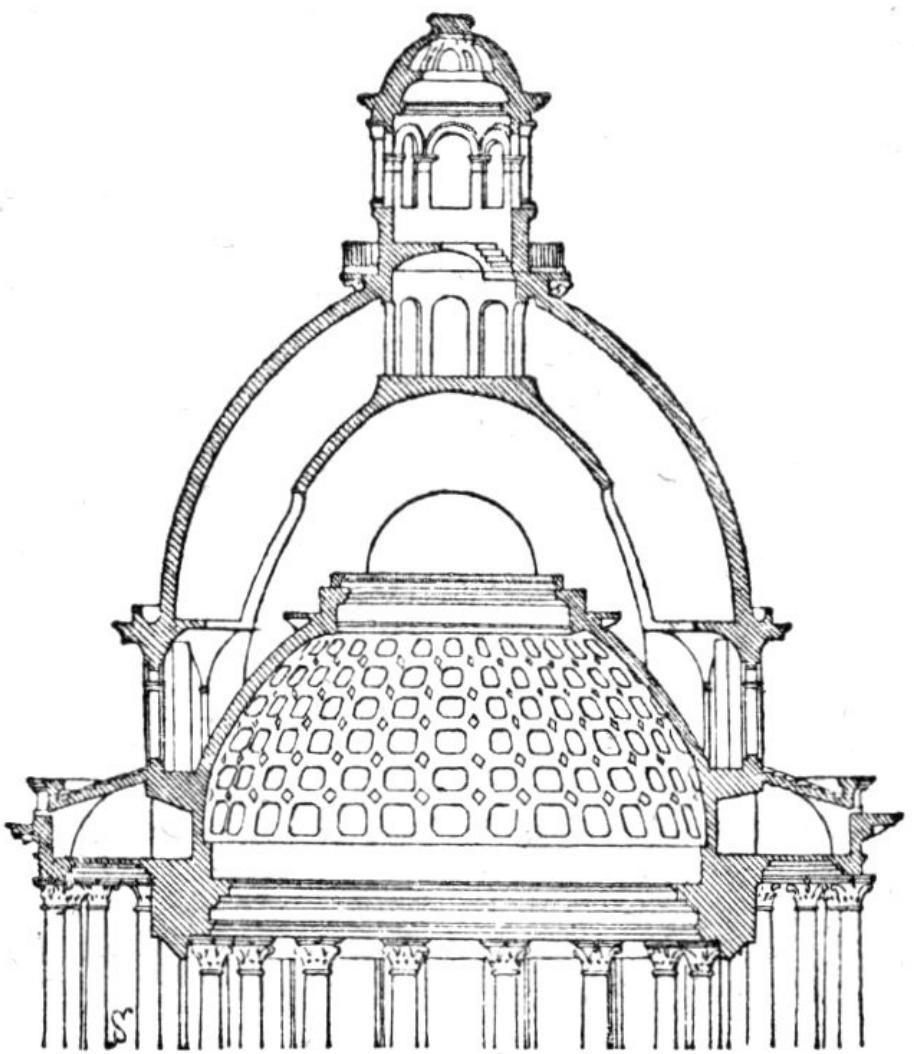
stone
philosophes
faith in human reason
rationality

Fourteen Holy Helpers

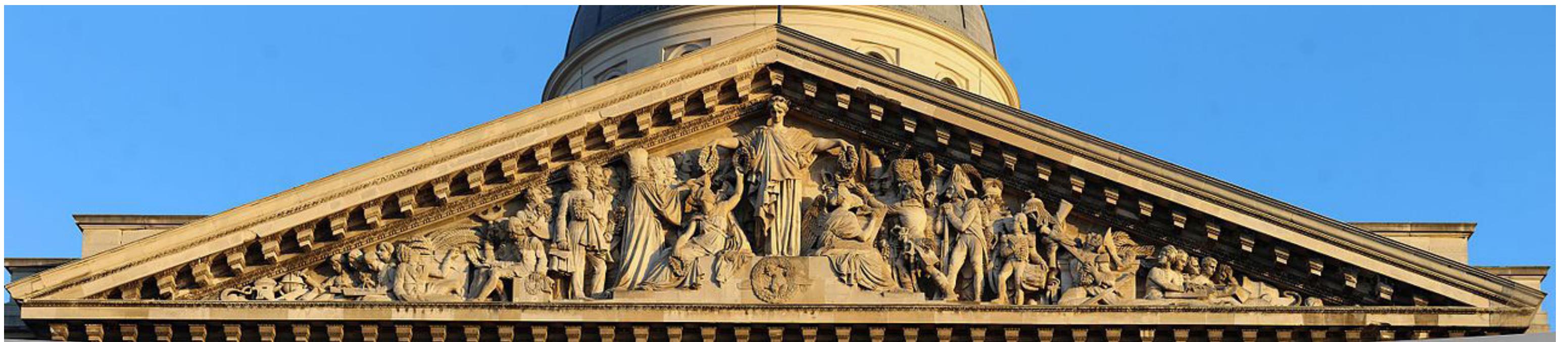
Neumann

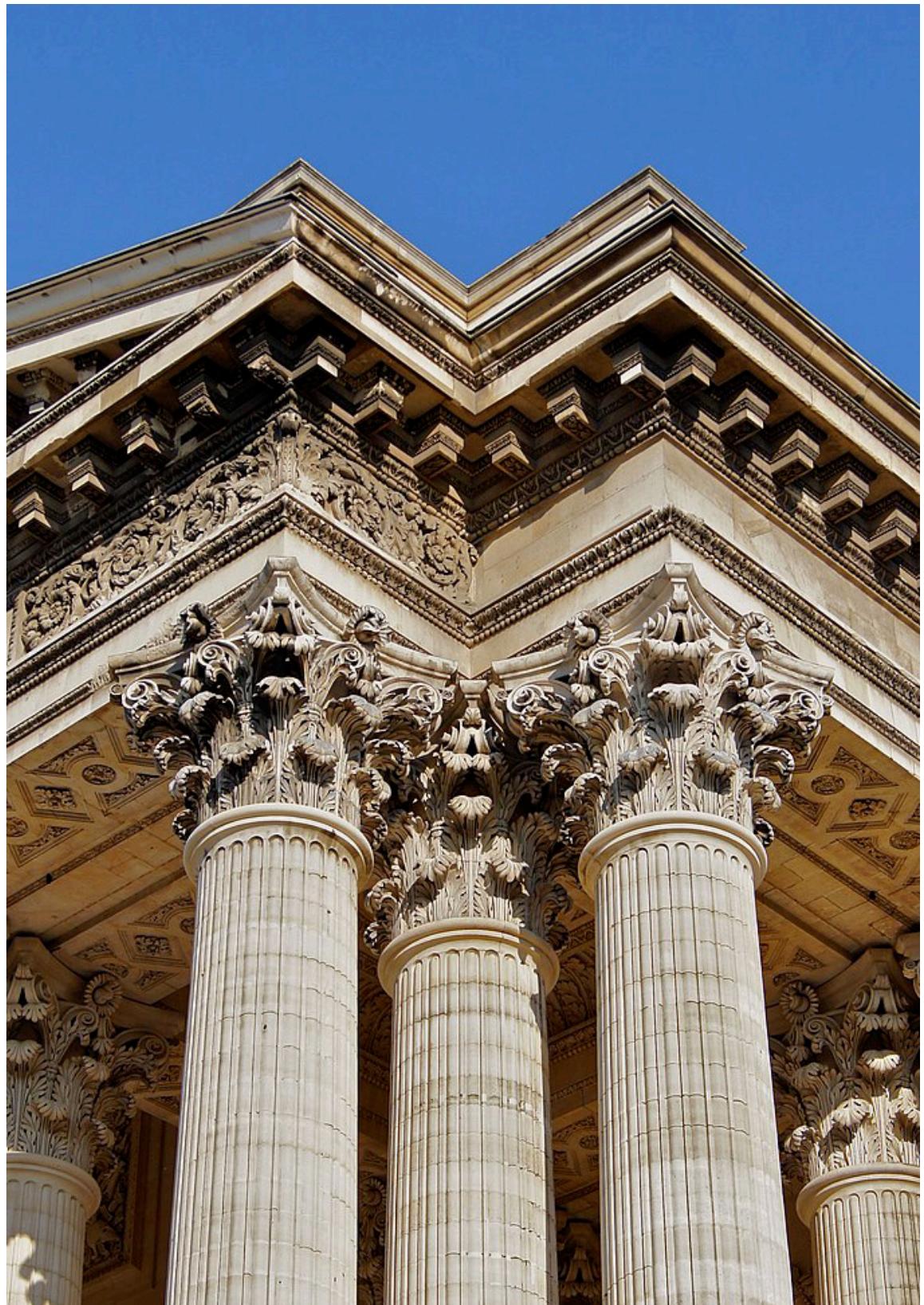
vs.
vs.
vs.
vs.
plaster
ancien regime
pandering to monarchy
supernatural

Sainte-Genevieve — Pantheon

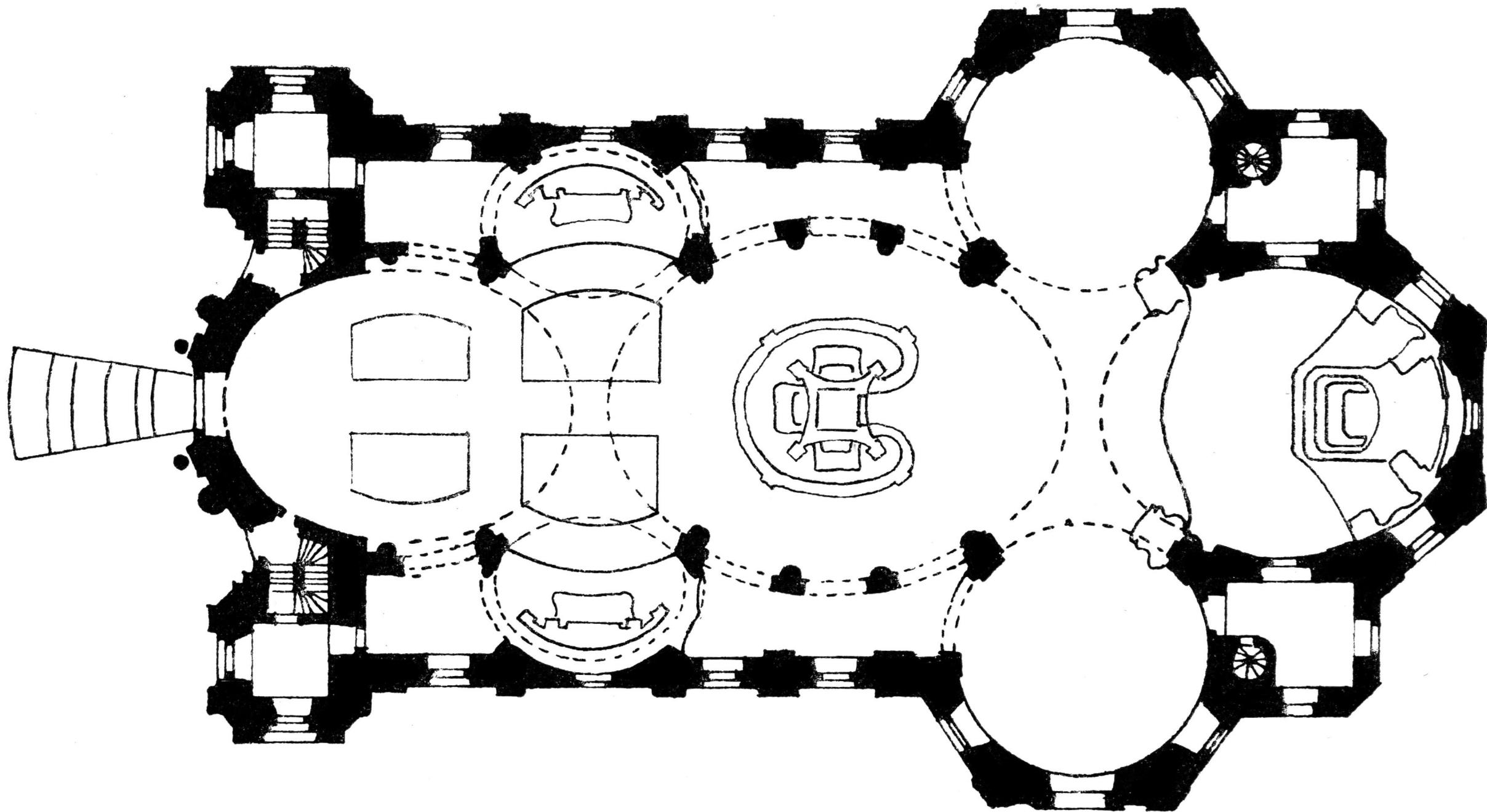






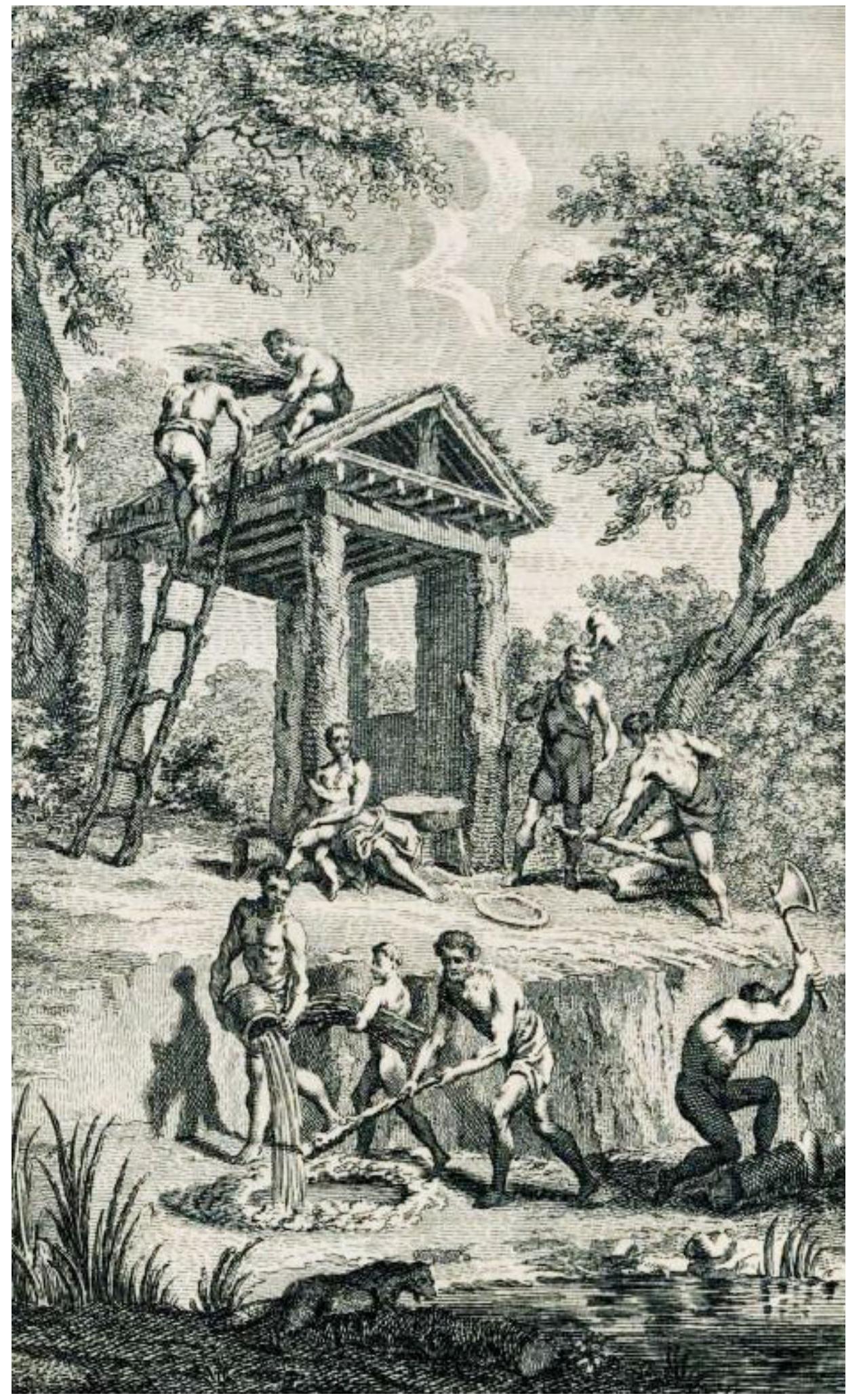


Basilica of the 14 Holy Helpers

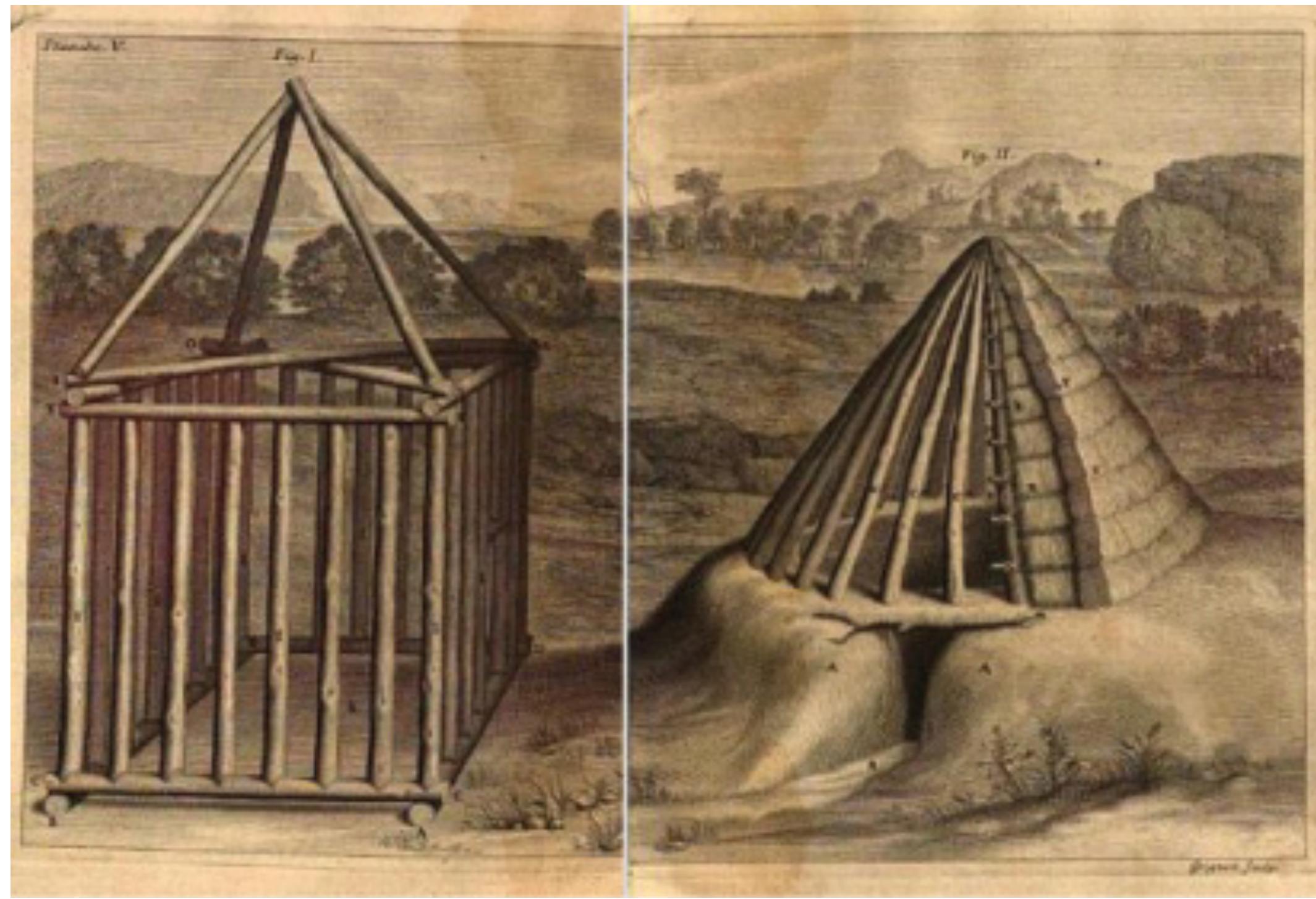








Laugier, Primitive Hut.



**Laugier invented a structuralist
“Genesis” myth with Primitive Hut.**