

A Short History of Urban Form



Rome, the Noli Map, 1748, Giambattista Nolli

ARCH 4601. Architectural Design Studio VI (6:3:8).
Prerequisite: ARCH 3502.
Urbanism: design of urban aggregates of buildings, infrastructure, and land use. Explores the interface between culture and architecture at the scale of the city.



Learning Objectives for ARCH 4601:

1. Urban analysis and response: Ability to analyze an urban condition and to respond directly to that analysis in the design of a public space and a related building design for public use.
2. Urban Culture: Ability to engage the change of urban conditions over time by demonstrating an understanding of the cultural forces – social, political, economic, aesthetic, religious – that produce change in the urban environment.

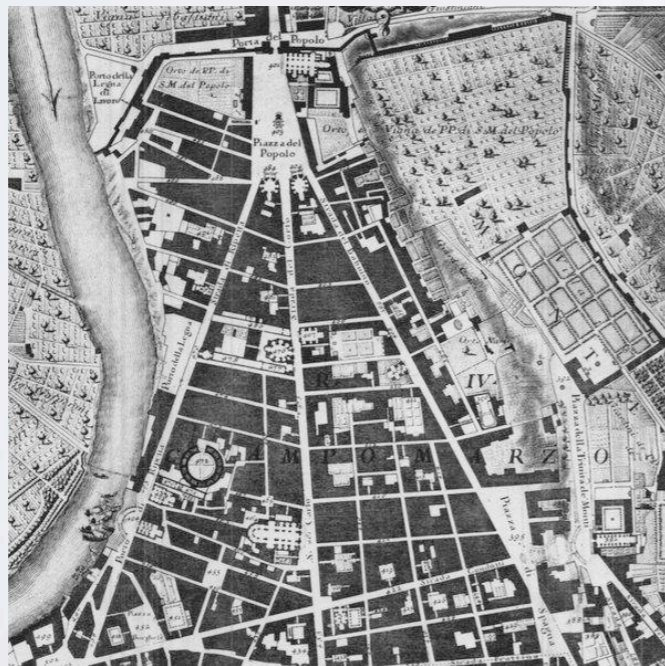
Analysis



Cultural Forces



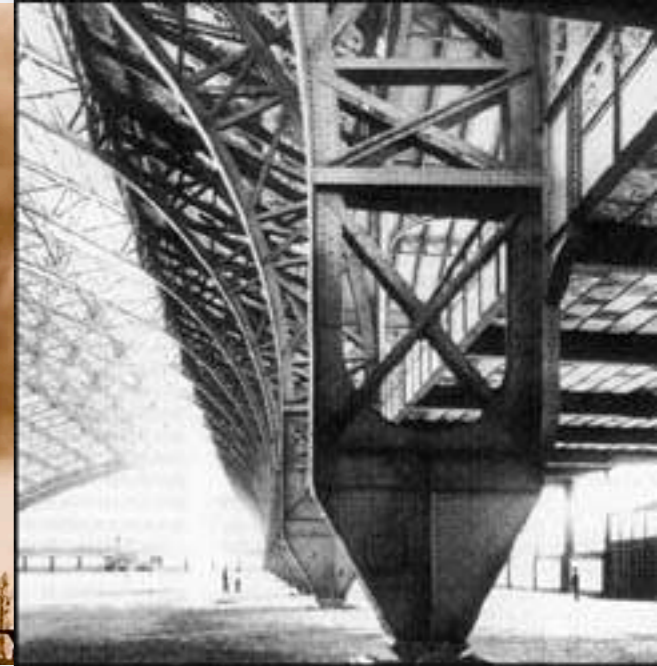
**Ecstasy of St. Theresa,
1650, Bernini**



**Piazza Popolo, Rome,
1555, Pope Sixtus V**



**Industrial Revolution
19th century**



**Hall of Machines, 1889
Paris, J.C. Dutert**

Applicable NAAB Criteria:

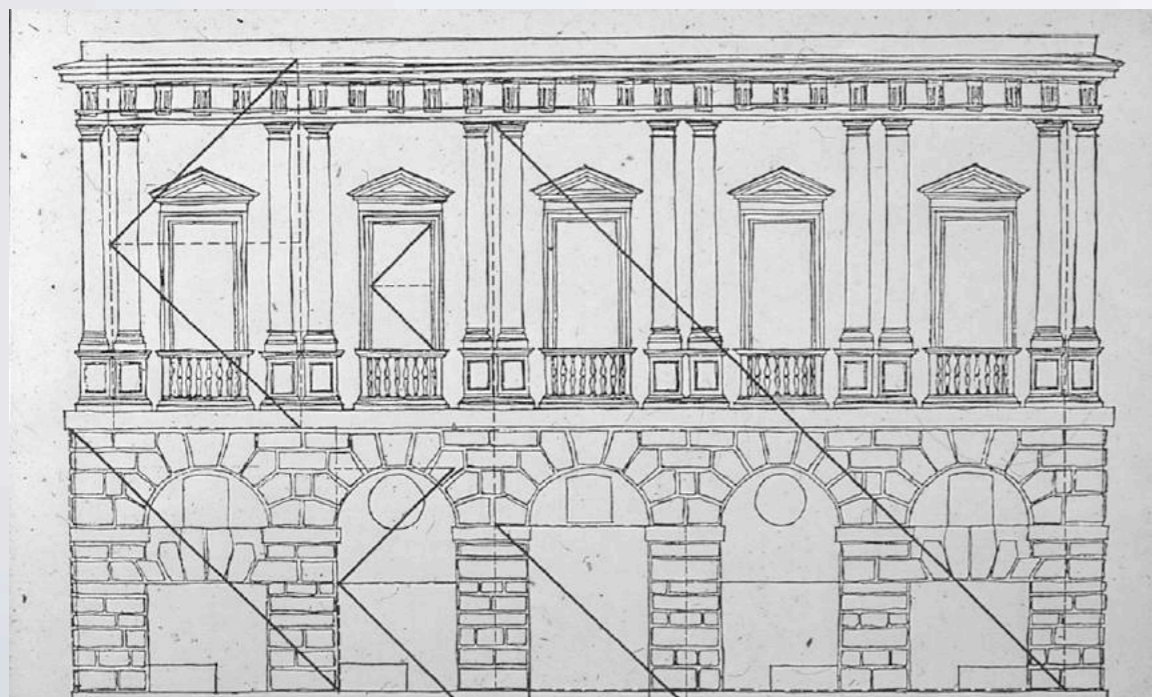
5. Formal Ordering Principles: Understanding of the fundamentals of visual perception and the principles and systems of order that inform two and three dimensional design, architectural composition and urban design

11. Use of Precedents: Ability to incorporate relevant precedents into architecture and urban design projects.

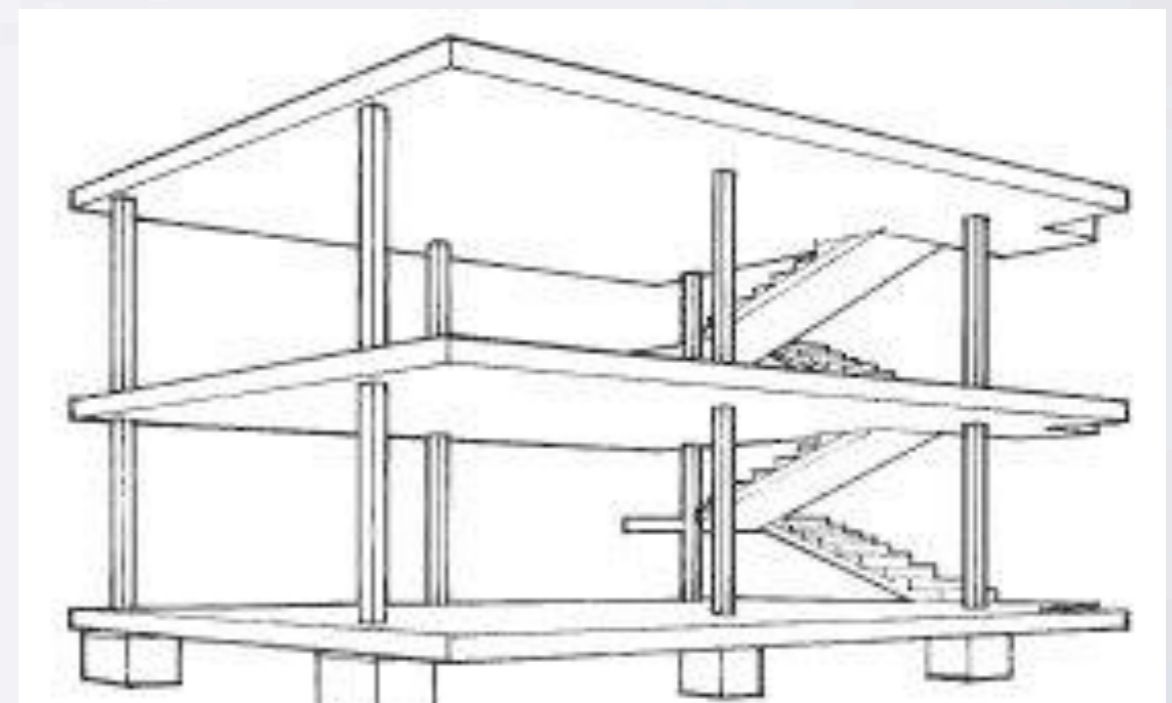
17. Site Conditions: Ability to respond to natural and built site characteristics in the development of a program and the design of a project.



Lever House, 1951, New York City, Skidmore, Owings, and Merrill



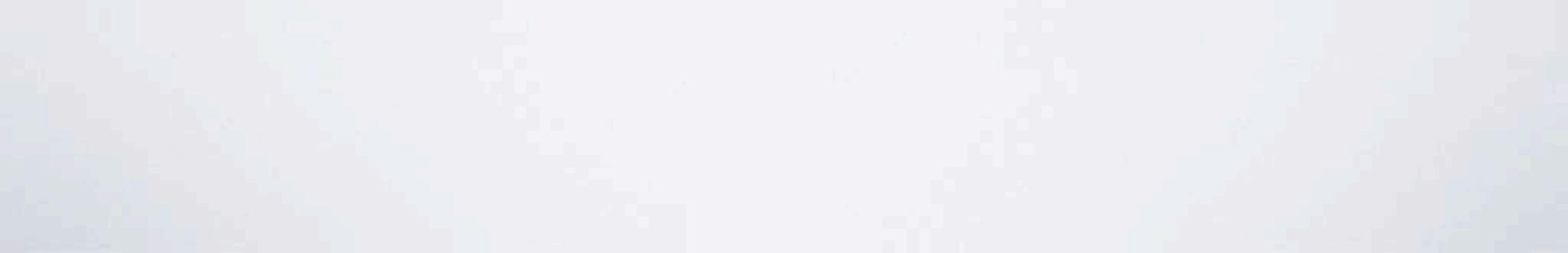
Palazzo Caprini, 1505, Rome, Bramante



Maison Domino, 1914, Corbusier







First Urban Civilizations Before the Common Era (BCE)

Phase I

Neolithic Age and the Agricultural Revolution

10,000 CE - 3,500 BCE

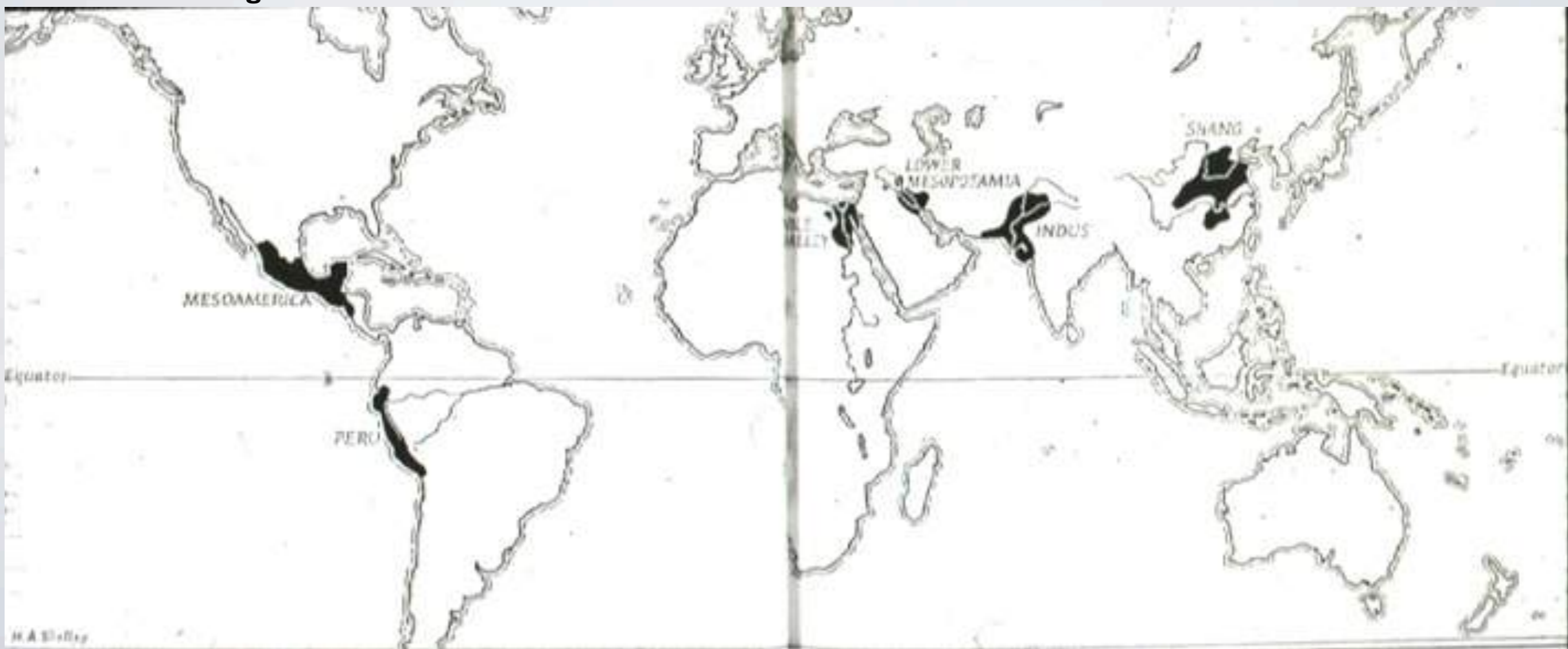
*cultivation of cereals, such as wheat, and
domestication of animals

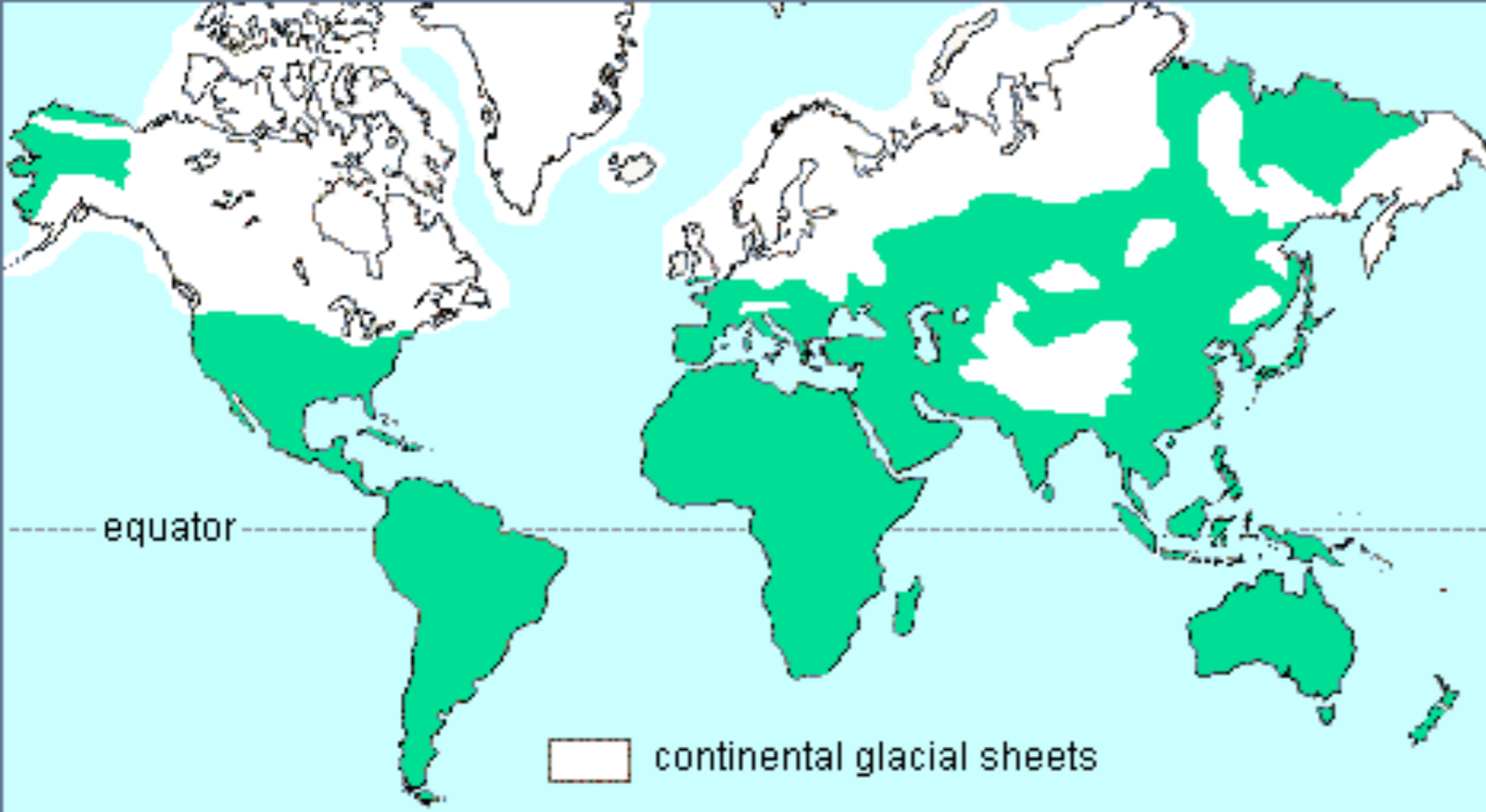
* first civilizations emerge during this period:

1. Mesopotamia
2. Egypt
3. Indus Valley
4. Yellow River in China
5. Valley of Mexico
6. Coasts and highlands of Peru

Some Theories for the Agricultural Revolution

1. Oasis theory
2. Hilly Flanks theory
3. Feasting theory
4. Demographic theories
5. Evolutionary / Intentionality Theory

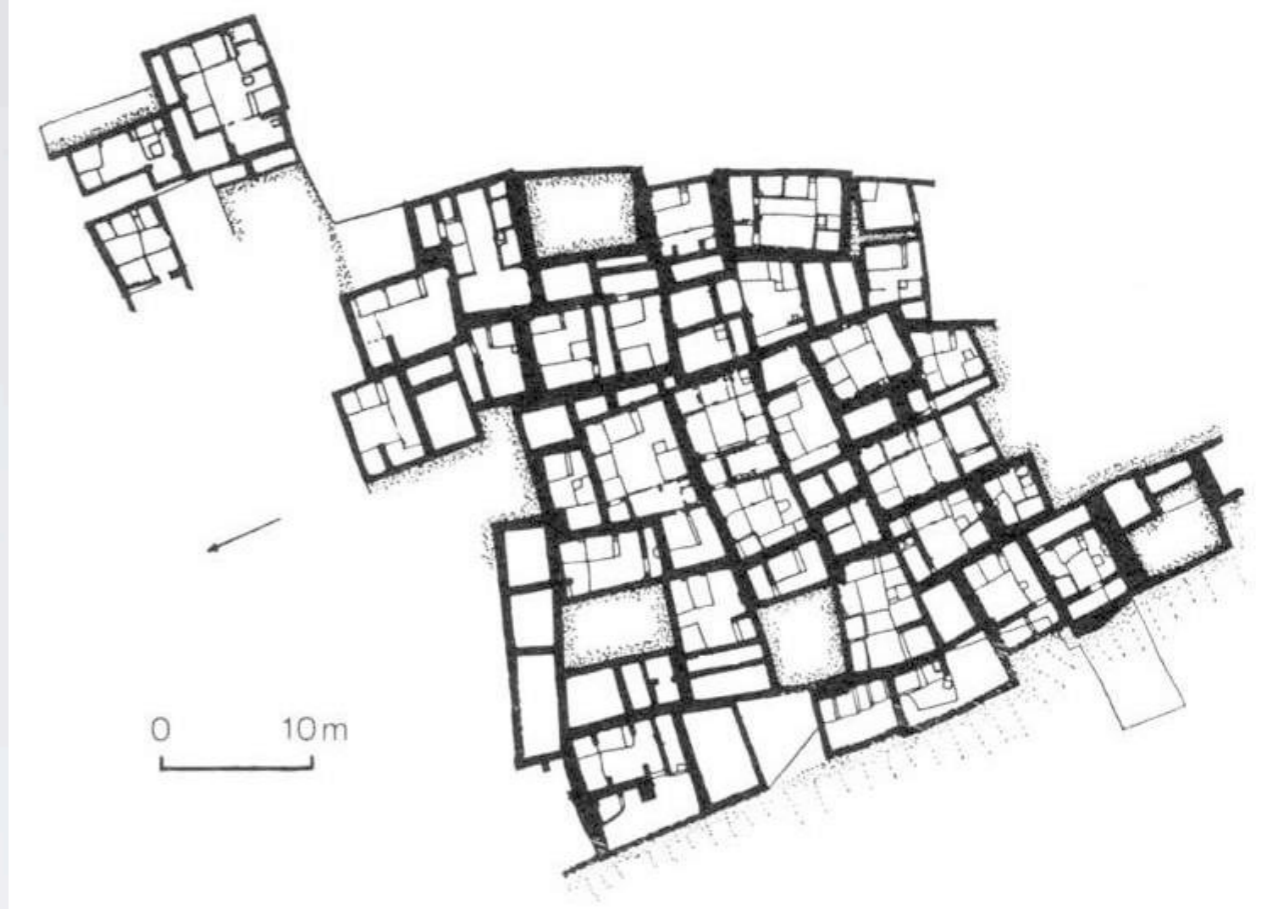




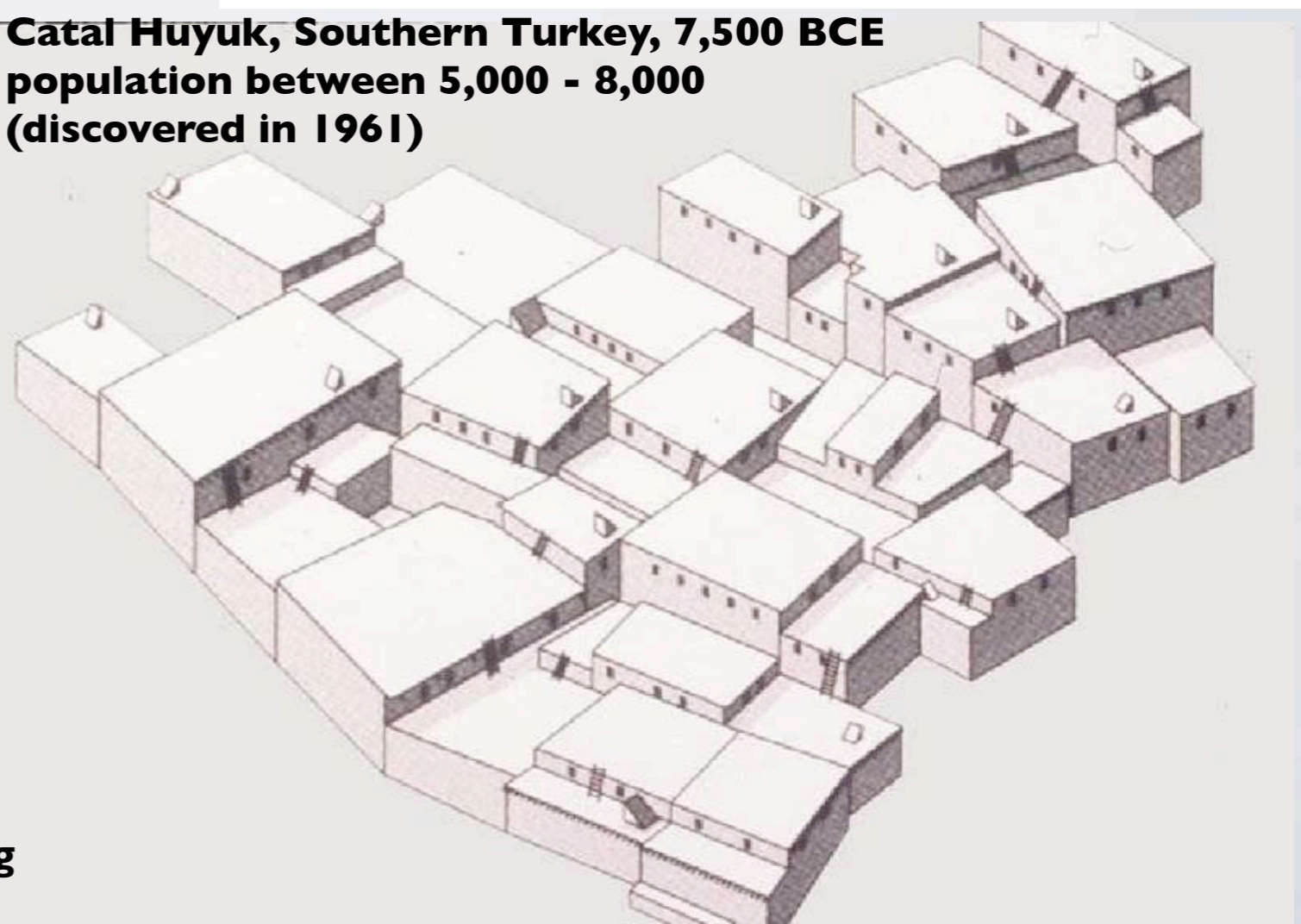
The Pleistocene glaciation, our current ice age, began 2.5 million years ago
Map shows the largest extent of Pleistocene glaciers, which began melting 20,000 years ago



The Fertile Crescent, which includes present day Iraq, Syria, Lebanon, Israel, Kuwait, Jordan, and Turkey



**Catal Huyuk, Southern Turkey, 7,500 BCE
population between 5,000 - 8,000
(discovered in 1961)**



- * egalitarian society; no evidence of royal or religious hierarchies; no evidence of gender distinctions in status
- * all buildings were domestic; no public buildings
- * rectilinear, but no discernible intent for planning
- * above findings apparently explain lack of hierarchy in urban form

Phase 4:

Bronze Age

3,500 CE - 1,500 BCE

* advanced metalworking skills that produced bronze, through the smelting of copper and tin from ores

* advanced trade networks between cities and kingdoms

* well-known Bronze Age cities:

Babylon, Mesopotamia

Troy, Turkey

Knossos, Isle of Crete

Thebes, Egypt

first urban civilizations firmly established

Requirements for a civilization with urban centers:

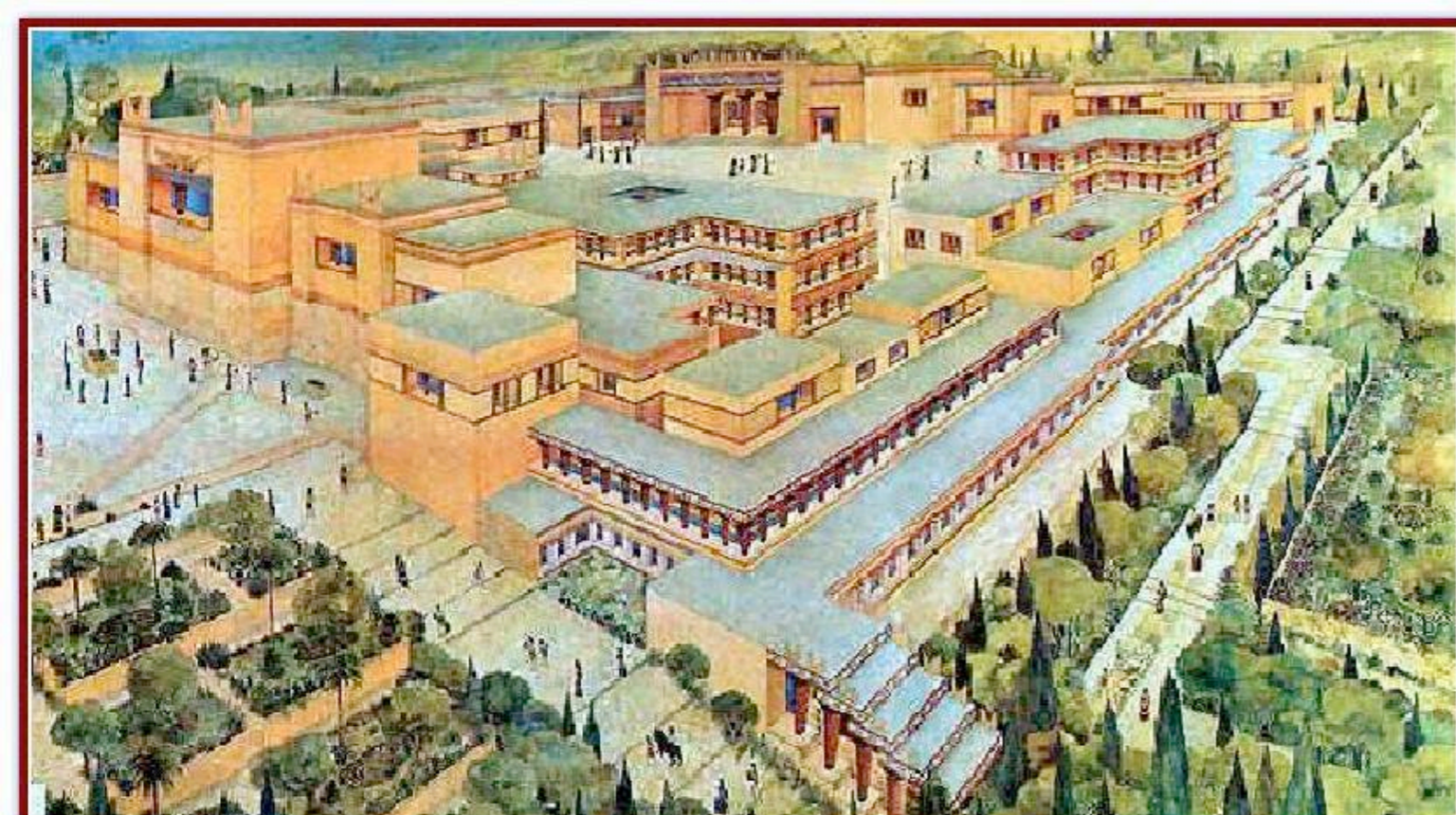
1. A written language
2. An extensive agricultural base outside the city
3. An interrelated set of social institutions, including:
 - a. Class stratification marked by those who own resources and those who work for the owners
 - b. Political and religious hierarchies that together control the administration of territorial states
 - c. Complex division of labor with full-time craftspeople, servants, soldiers and officials alongside the great mass of primary workers

Tools (adze)

Utilitarian items (plate)

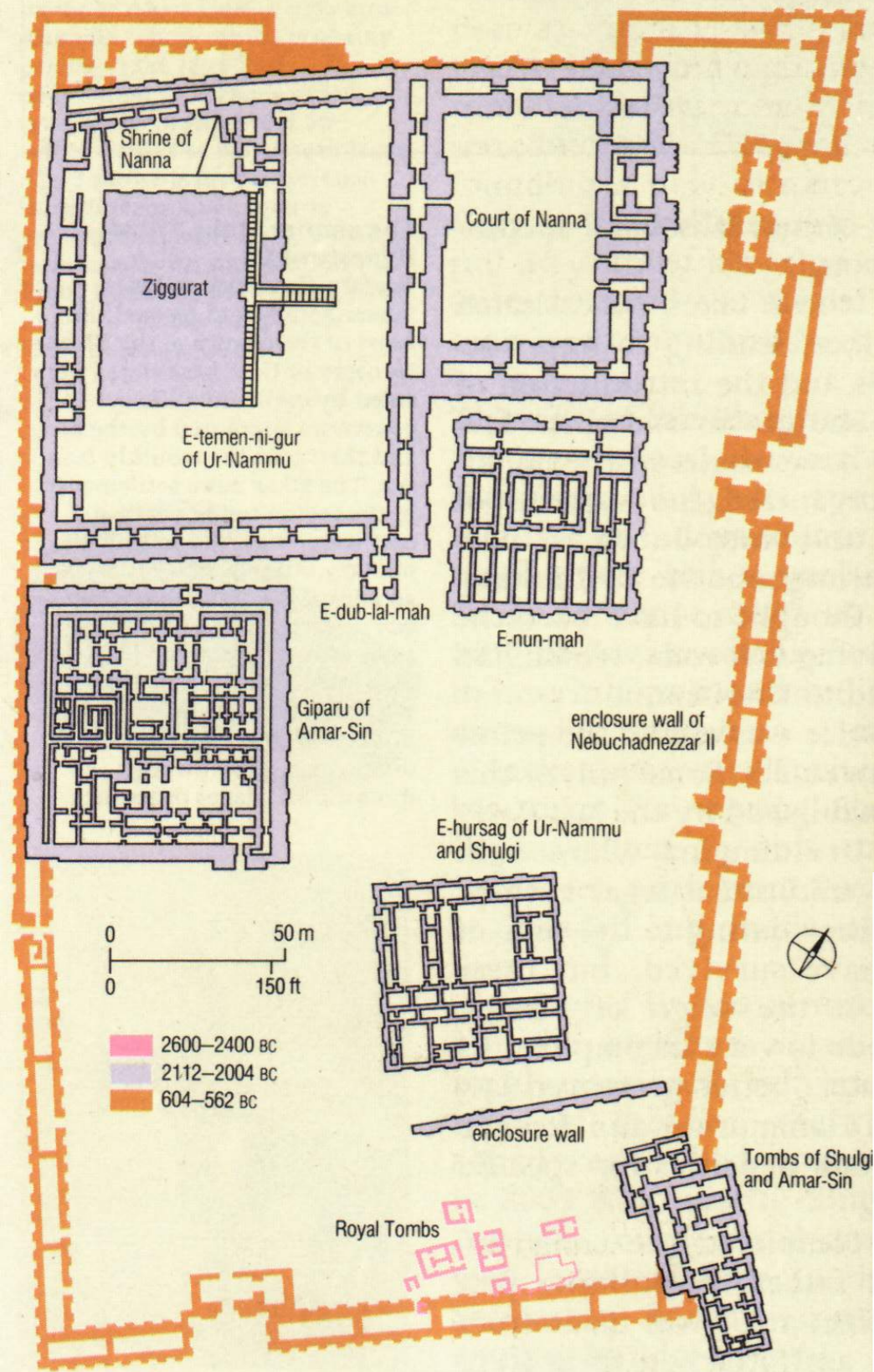
Weapons (dagger and shield)





**Palace of Knossos
Isle of Crete
1700 BCE**

- * **planned complex, plazas, courts**
- * **1,300 rooms**
- * **extensive work rooms for artisans**
- * **extensive store rooms**
- * **ceremonial rooms**
- * **theatre**
- * **aqueducts**
- * **sewers**



**Ur, Iraq
2600 BCE**

- * **Planned palace area**
- * **Organic city beyond palace**

Two types of Urban Form:

- 1. Organic**
- 2. Planned**

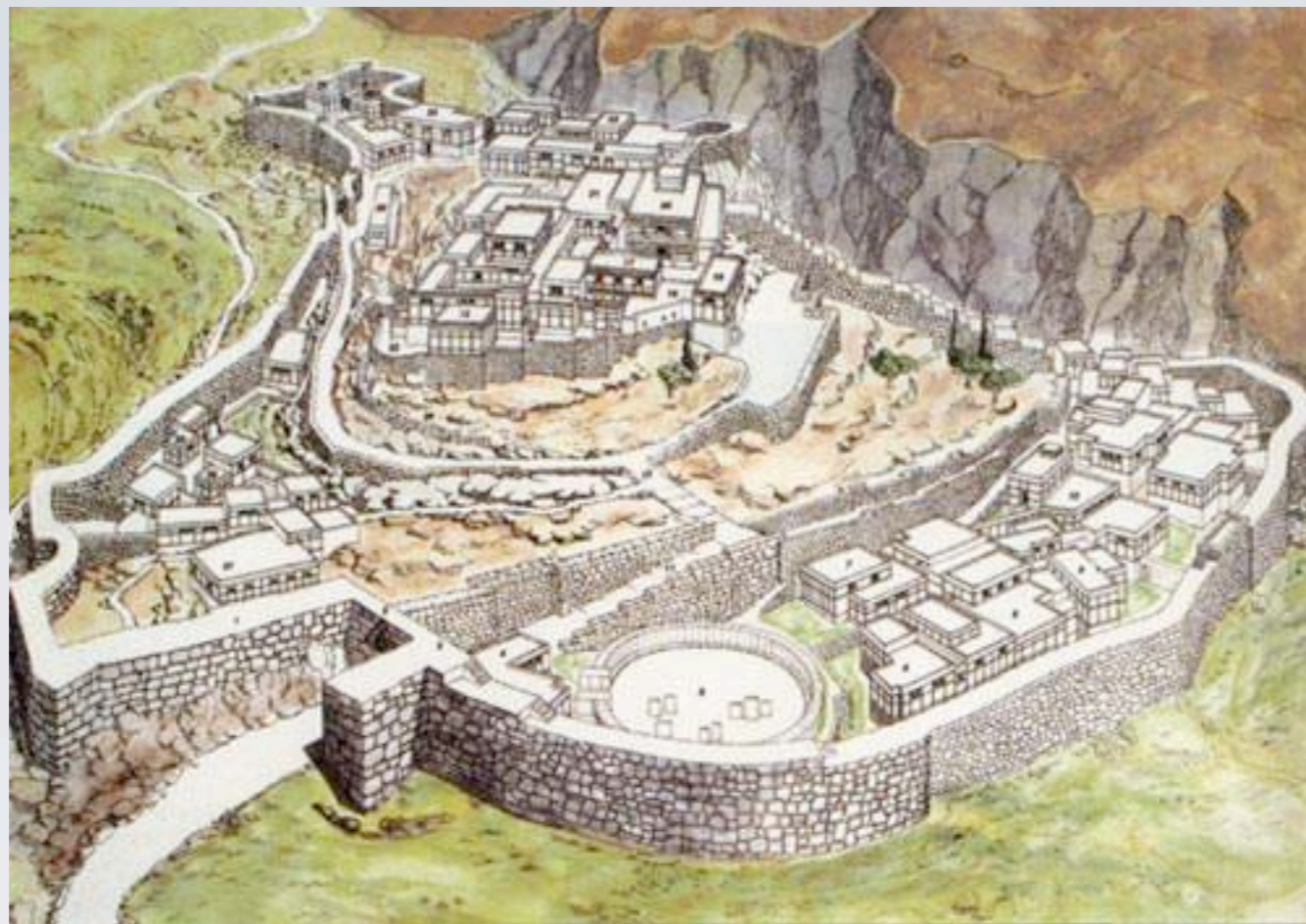
Determinants of Urban Form

Natural World:

- 1. Topography**
- 2. Climate**
- 3. Water supply**
- 4. Building materials and technology**

Human-made determinants of Urban Form:

- 1. Economic**
- 2. Political**
- 3. Religious**
- 4. Defense**
- 5. Aesthetics**
- 6. Leisure**



**Mycenae
Greece
2000 BCE**



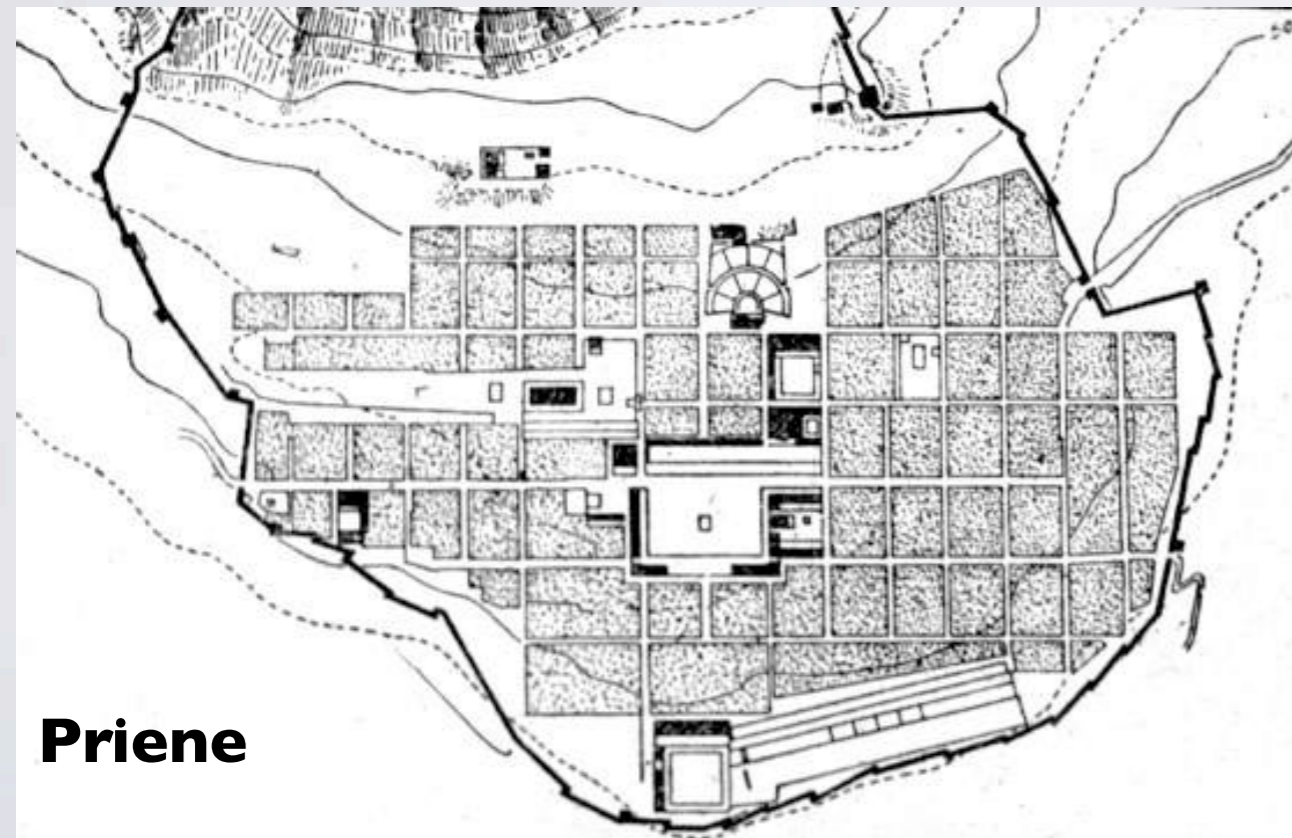
Cities of the Ancient World: Classical Greece

Priene and Miletus, 500 BCE

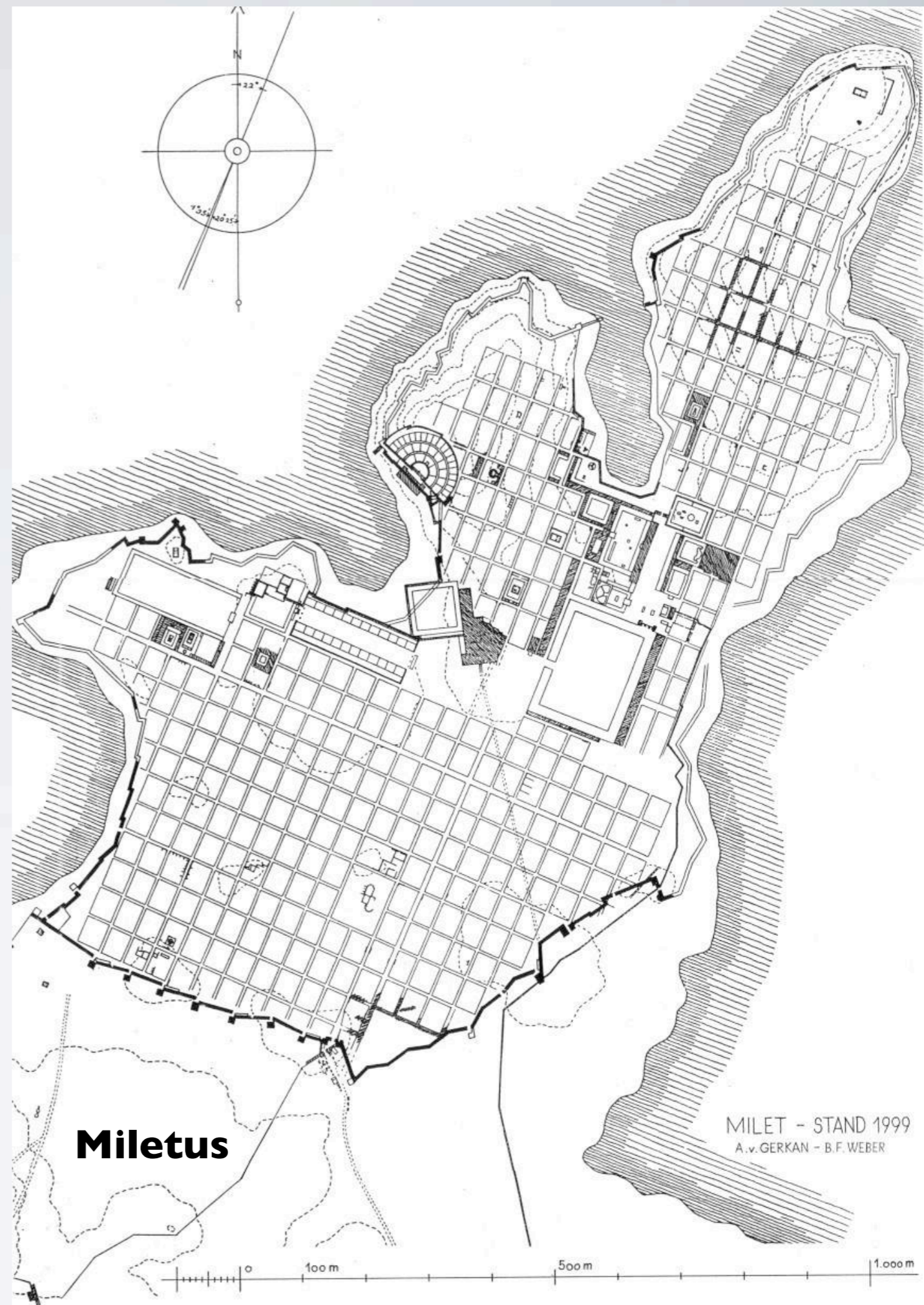
- * planned around precincts and zones
- * hierarchy in the city form
- * public buildings
- * religious buildings
- * leisure activity buildings
- * development of insulae, blocks of dwellings

Greek Contributions of Urban Form:

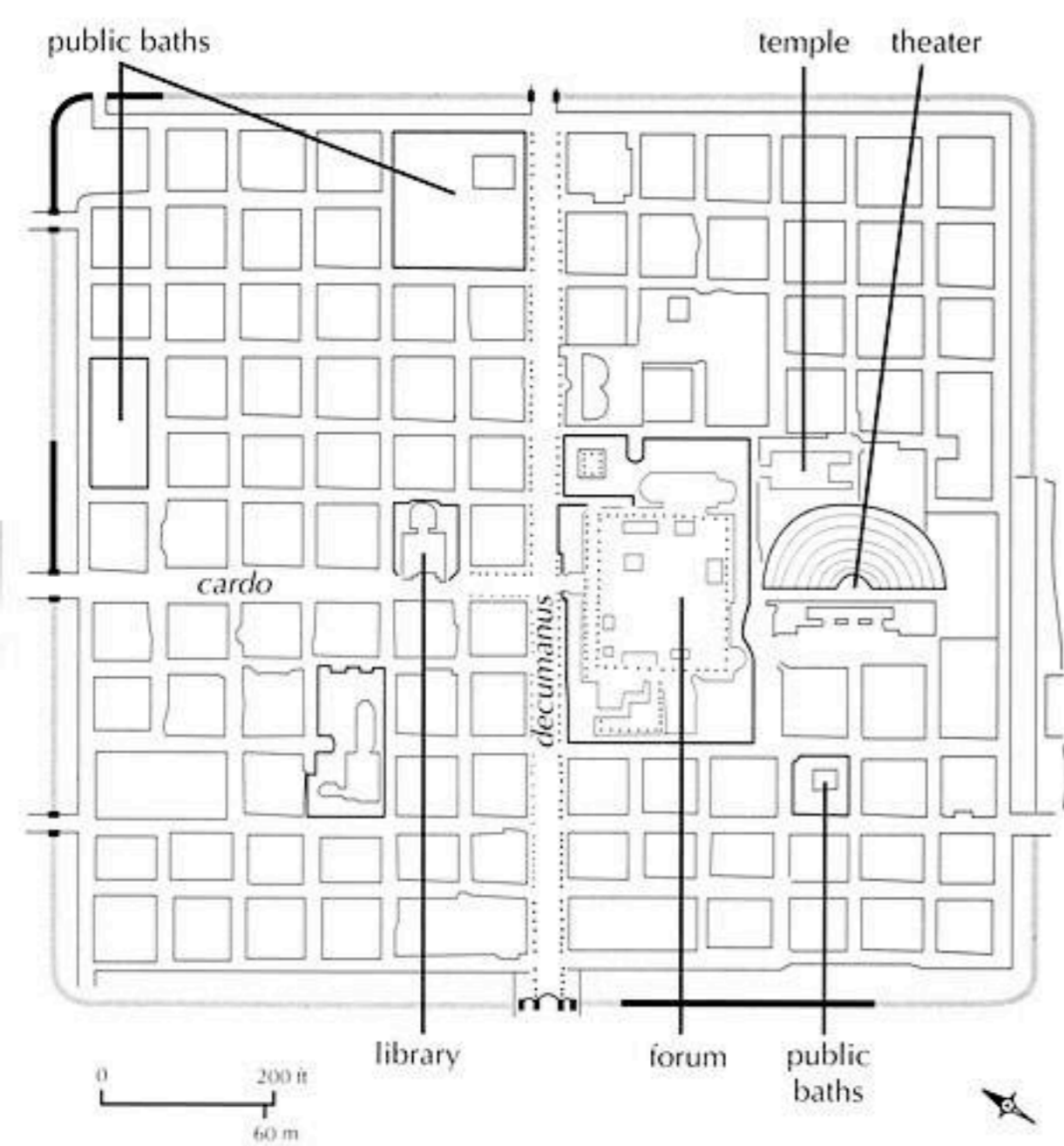
1. Colonization movement
2. Development of two foci in urban fabric:
 - A. Acropolis as religious precinct
 - B. Stoa as center of daily life, such as commerce
 - C. Gridiron pattern as a means of organizing urban form



Priene



Miletus

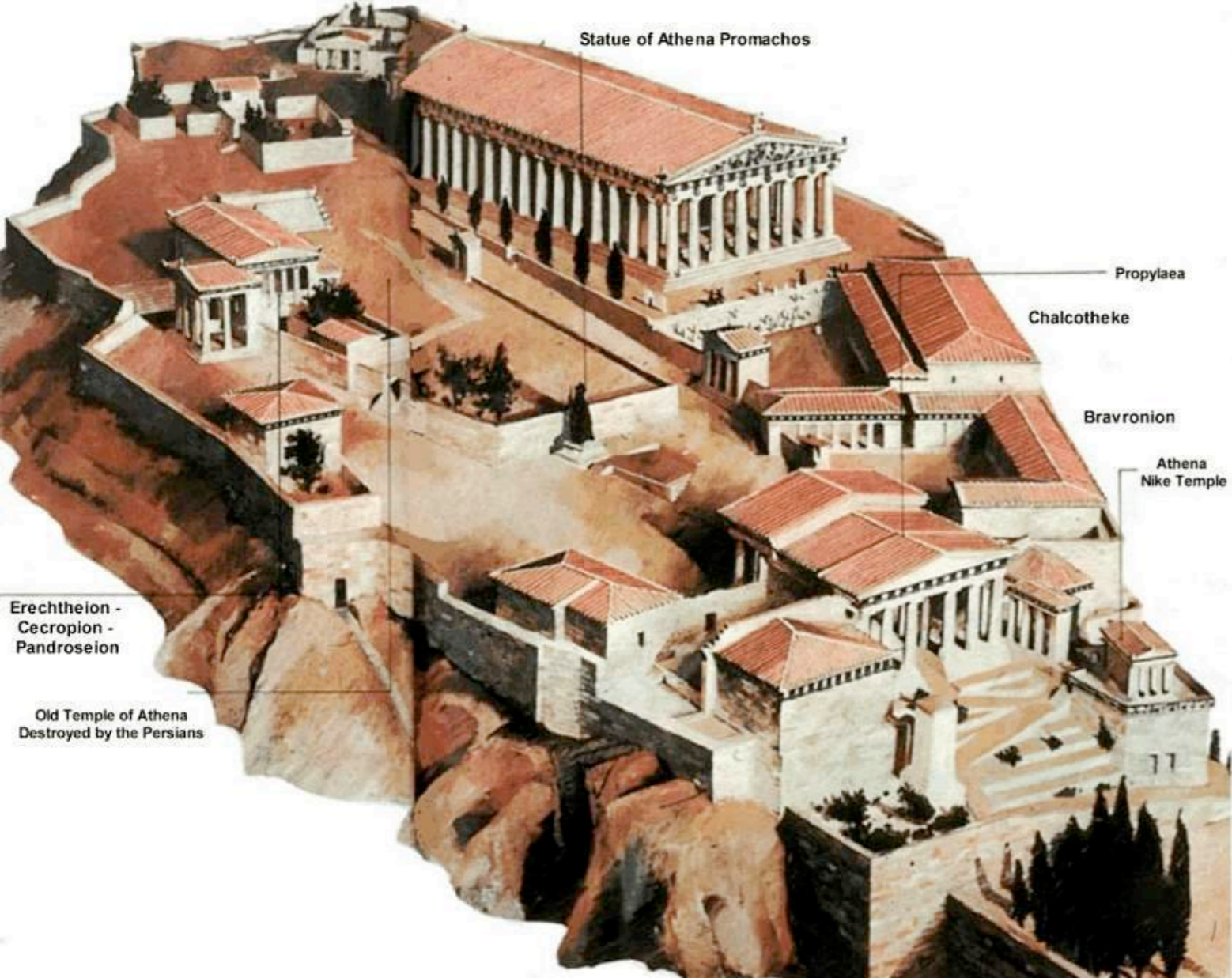


Roman Imperial Planning

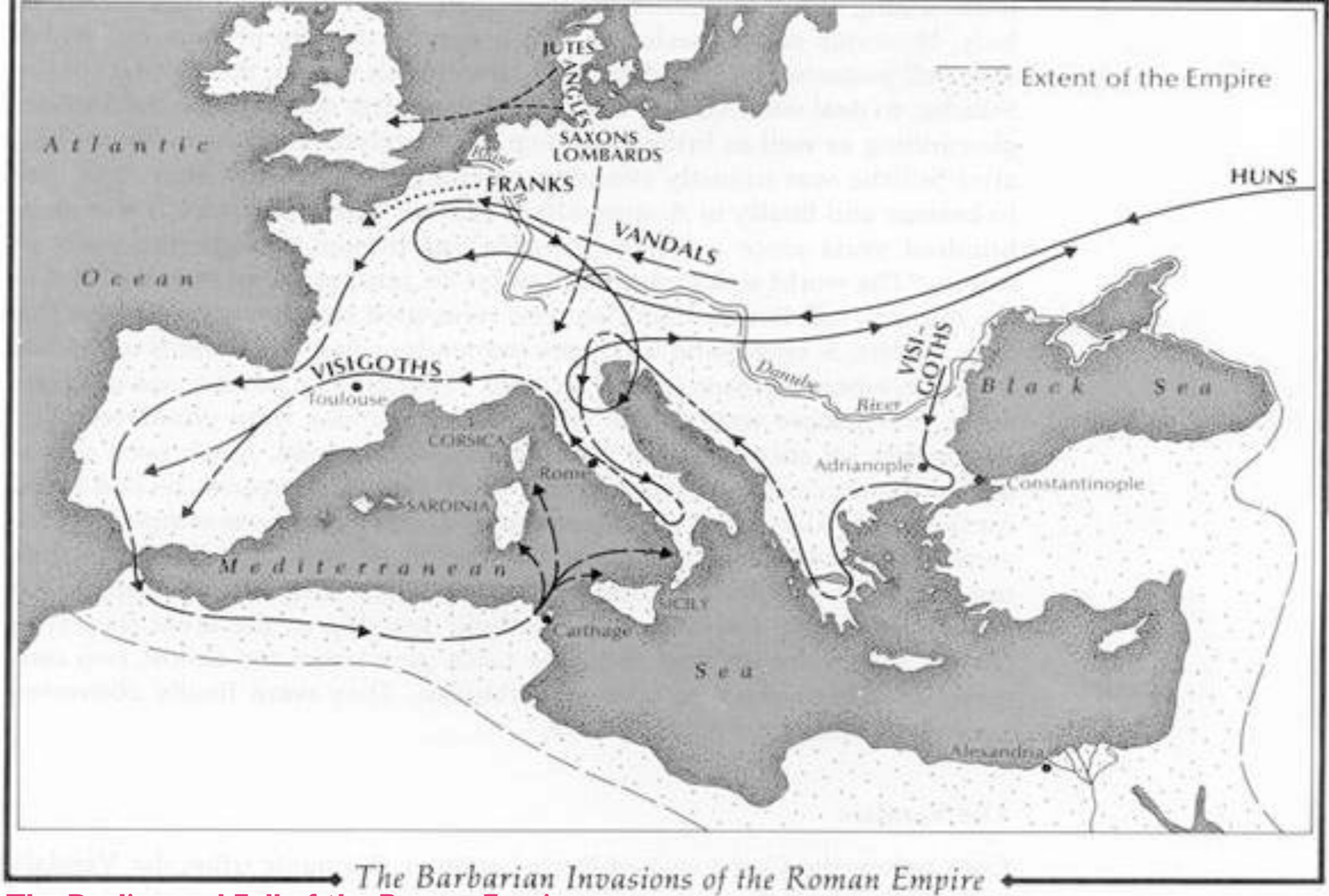
Timgad, Algeria, 100 CE

Characteristics of Legionary Towns:

1. Grid
2. **Cardo** - north/south commercial street
3. **Decumanus** - east/west commercial street
4. **Forum, Theater, Baths, Library**
5. **Visual unity, note Decumanus, right**



Athens and Rome still developed organically during their Imperial phases, responding to topographical restrictions and to ancient sacred traditions.



The Decline and Fall of the Roman Empire


410 City of Rome sacked by the Visigoths

476 City of Rome sacked by the Vandals

Results:

1. The slow collapse of military and civil authority across the empire. Rise of Manorial System.
2. The slow decline, but not collapse, of economic system from 400 - 900. From 900 - Market System based on trade and currency, became a "Closed Domestic Economy," i.e., a "No Market System." Revival of Market System based on trade begins around 900 and flourishes by 1100.

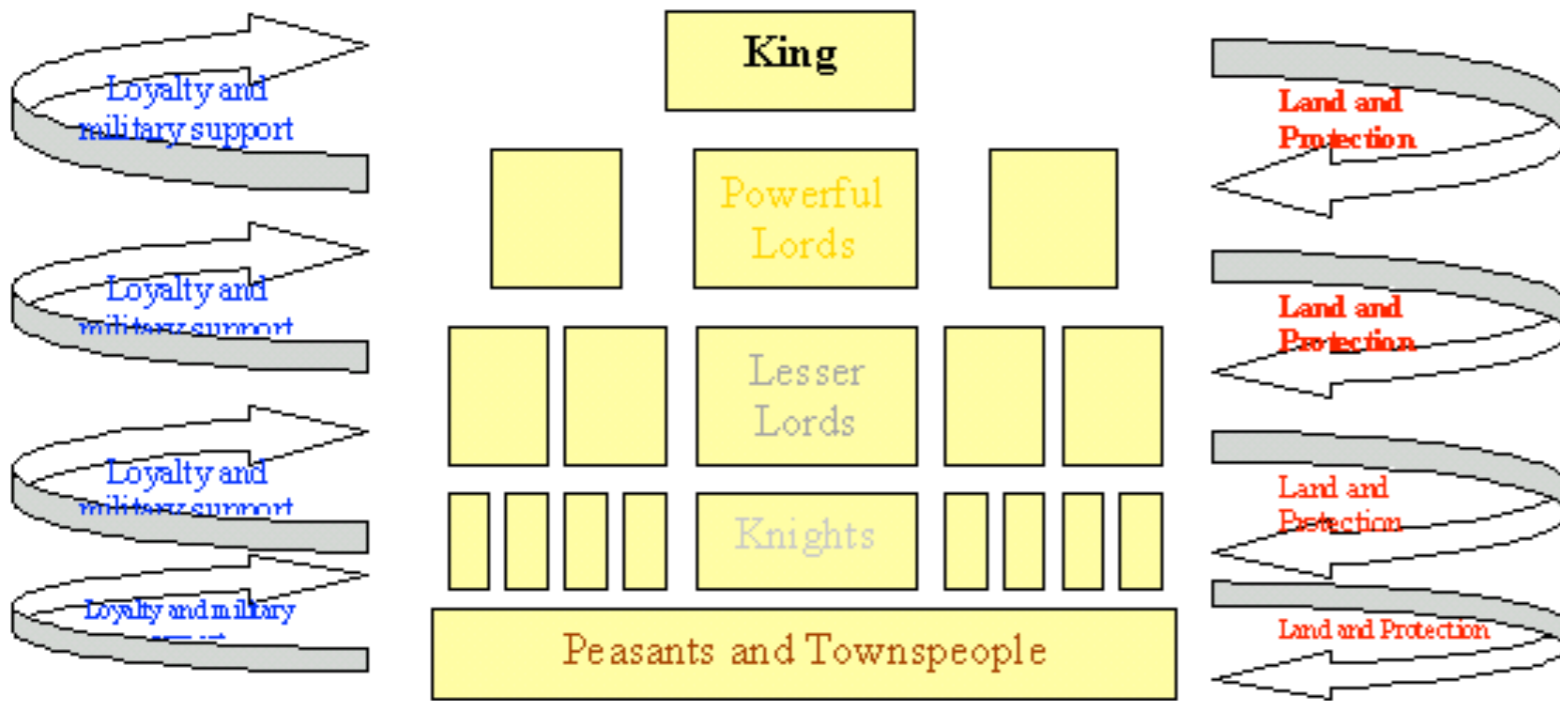


 *The Division of Charlemagne's Empire. Internal tensions, dynastic competition, and external pressures led to the disintegration of Charlemagne's empire and the emergence of what would become France and Germany.*

Fall of Roman Empire and the Rise of Feudalism

- 476 - Rome falls**
- 800 - Charlemagne reunites Western Europe as Holy Roman Emperor**
- 846 - Charlemagne's Empire divided among his 3 sons**
- 846 to 1450s - Development of Kingdoms and City States throughout Western Europe**
- Development of Feudalism and Medieval trade and cities**

Feudal Hierarchy & Obligations

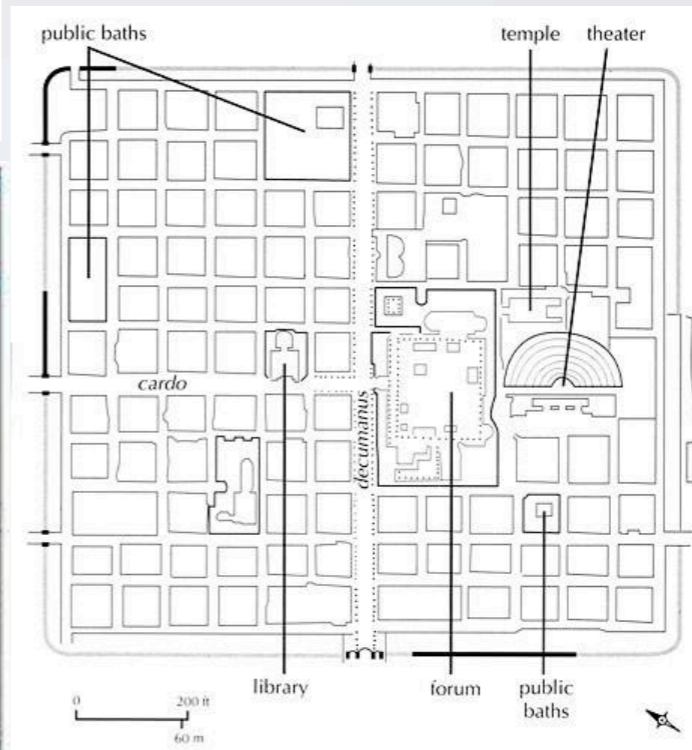
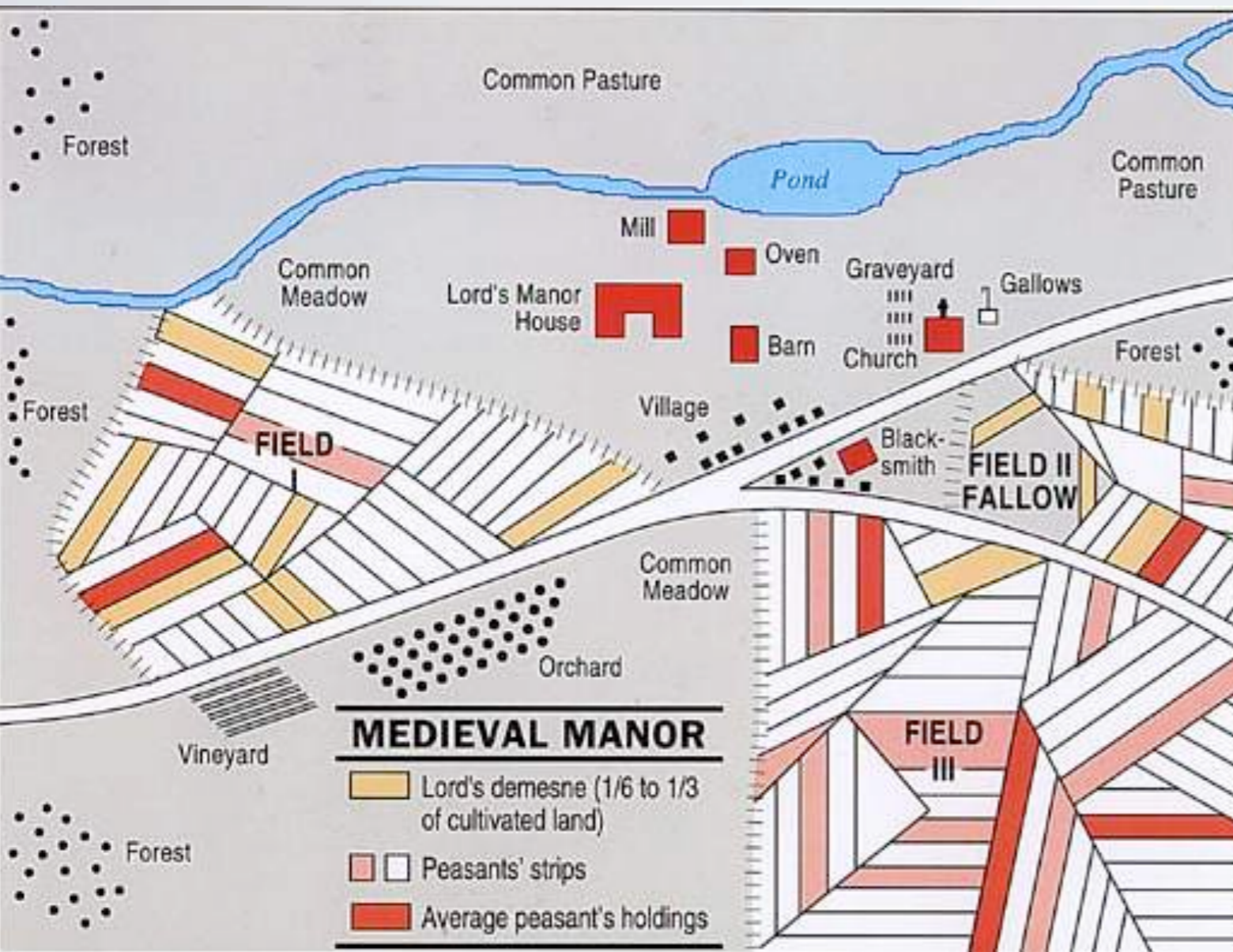


Political, Social, and Economic Organization of Society under Feudalism

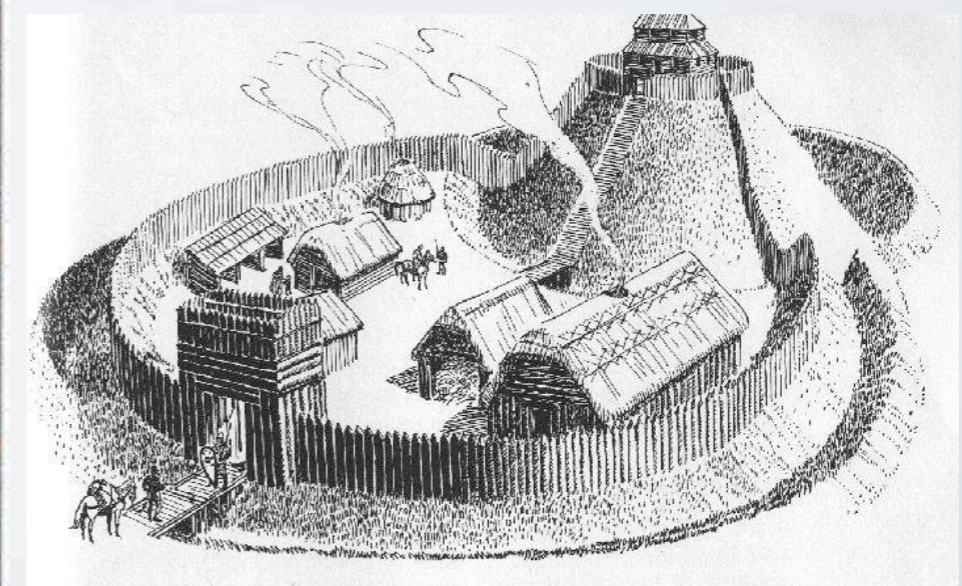
Unified Roman Empire produced an organized, planned landscape

Fragmenting of Roman Empire produces a fragmented, organic landscape

Society is largely rural, agricultural during Middle Ages



Imperial Timgad compared to a Medieval Mott, an early defensive enclosure pre-dating the castle





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Form of the Medieval Town and City: The origins and basis of growth

Every street in a medieval town, even the bridges, was a “market street”





View of Paris toward the Bastille, c. 1500

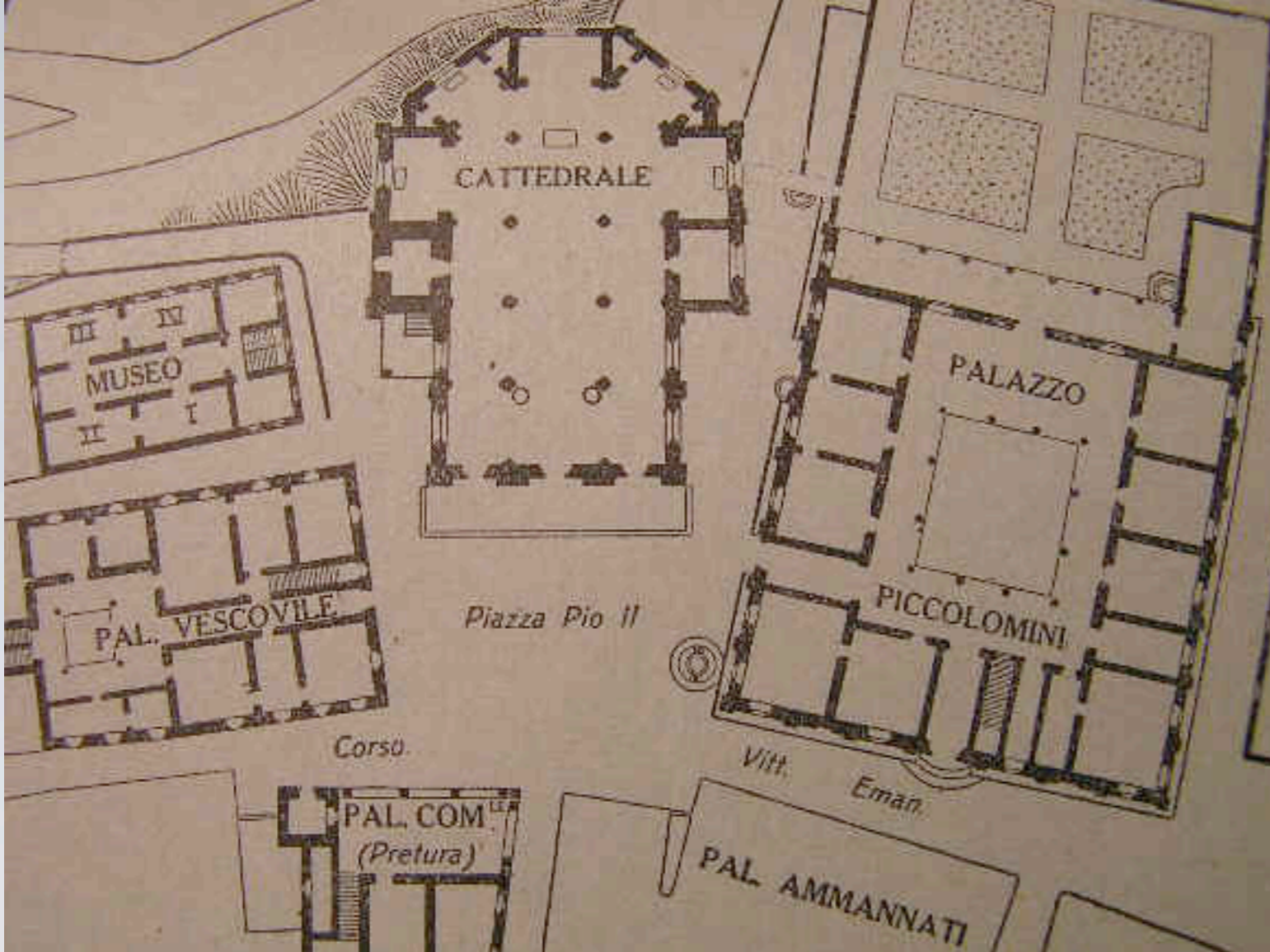
Although the streets of medieval cities were very narrow - 8 to 12 feet wide - there was considerable green space in the deep lots behind the streetscape. Historians of urban history are now reconsidering what this condition might mean to life in the medieval city.



Pienza, Italy

Rebuilt by Pope Pius II beginning in 1459. Florentine architect Bernardo Gambarelli, who worked with Alberti, designed the new square, the church, and the Palazzo Piccolomini, the papal residence, and the Palazzo Borgia as a residence for the cardinals and bishops who would attend the Pope on his visits to his ancestral home.





Note the medieval street pattern of the town, and how Pius II's new piazza and buildings (in orange) began to imbed an order within an organic pattern.

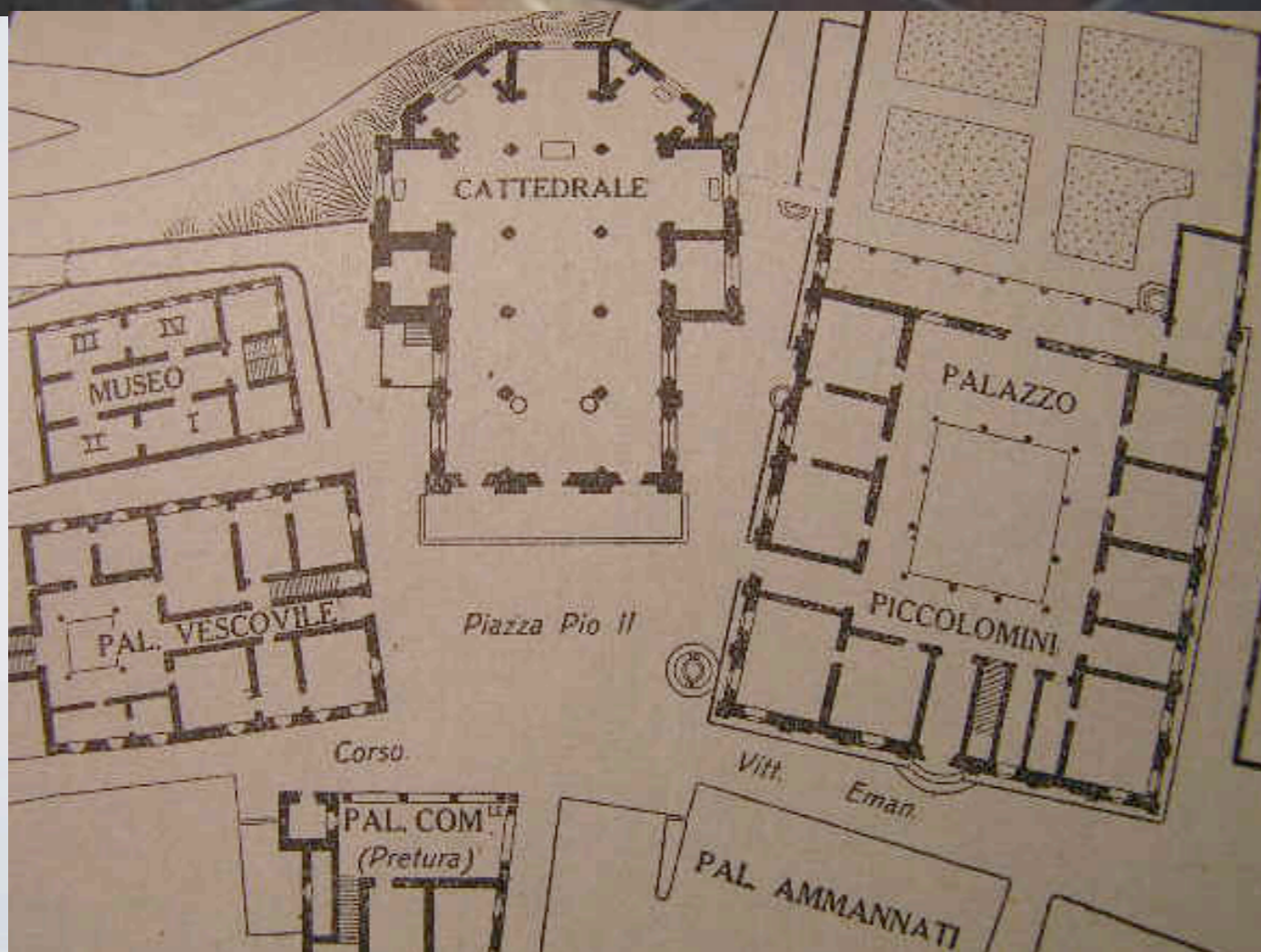
The organic pattern remains, and Gambarelli took advantage of existing site lines and streets that would achieve his goal of order.

Note the "sequential views" that Gambarelli created.

The piazza is defined by four buildings.

The trapezoidal shape of the piazza creates a forced perspective, focusing on the Church, the hierarchical element in the urban assemblage.





View to the Church (1459)

View to the Palazzo Comunale (town hall, 1462).

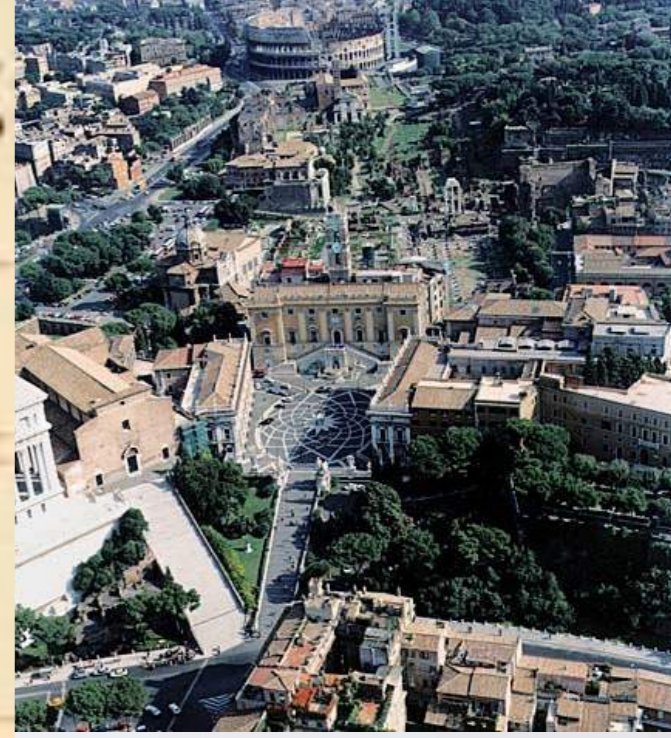
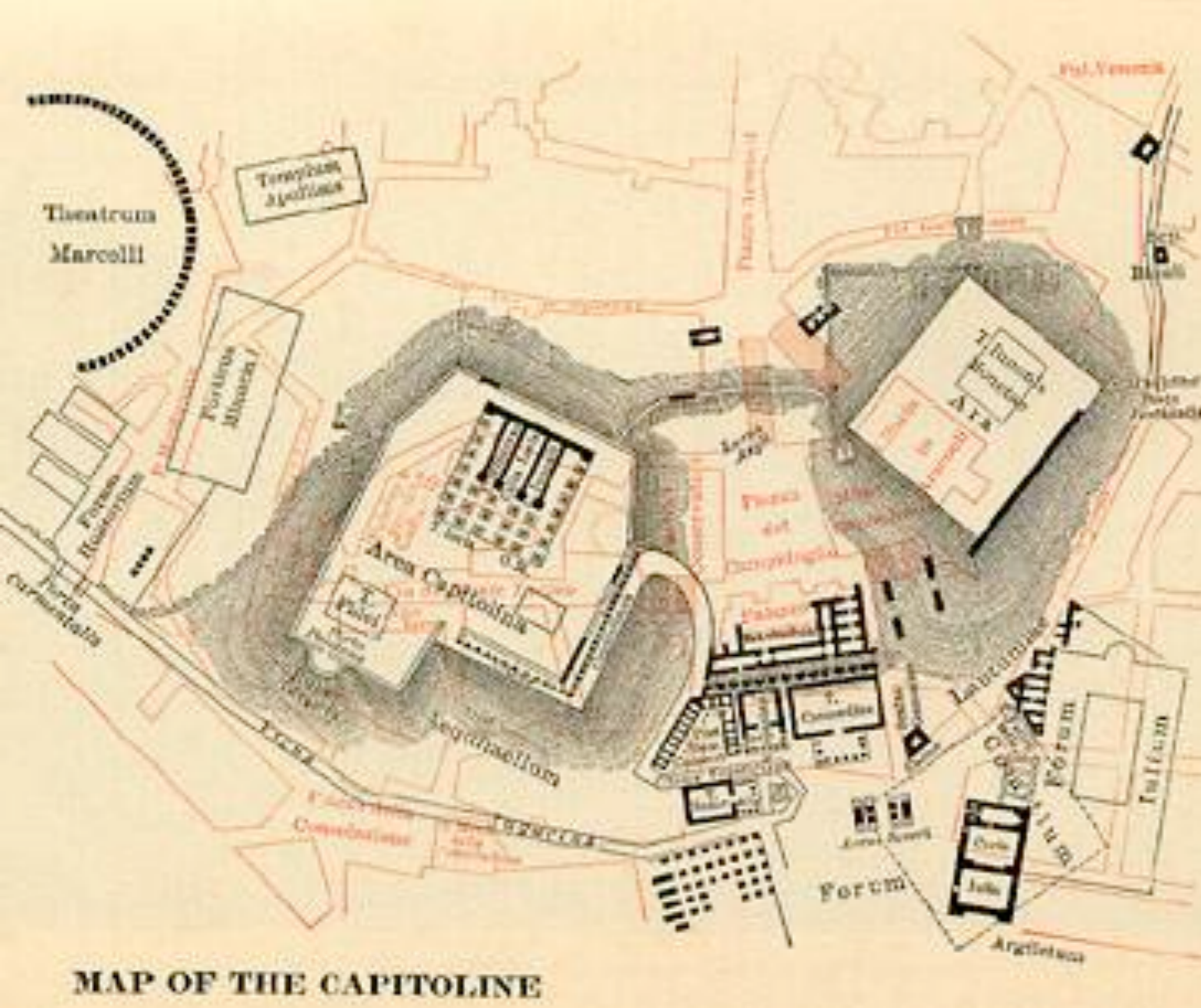
The bell tower of the Comunale is not as tall as that of the Church, thus maintaining the hierarchy of the urban assemblage.

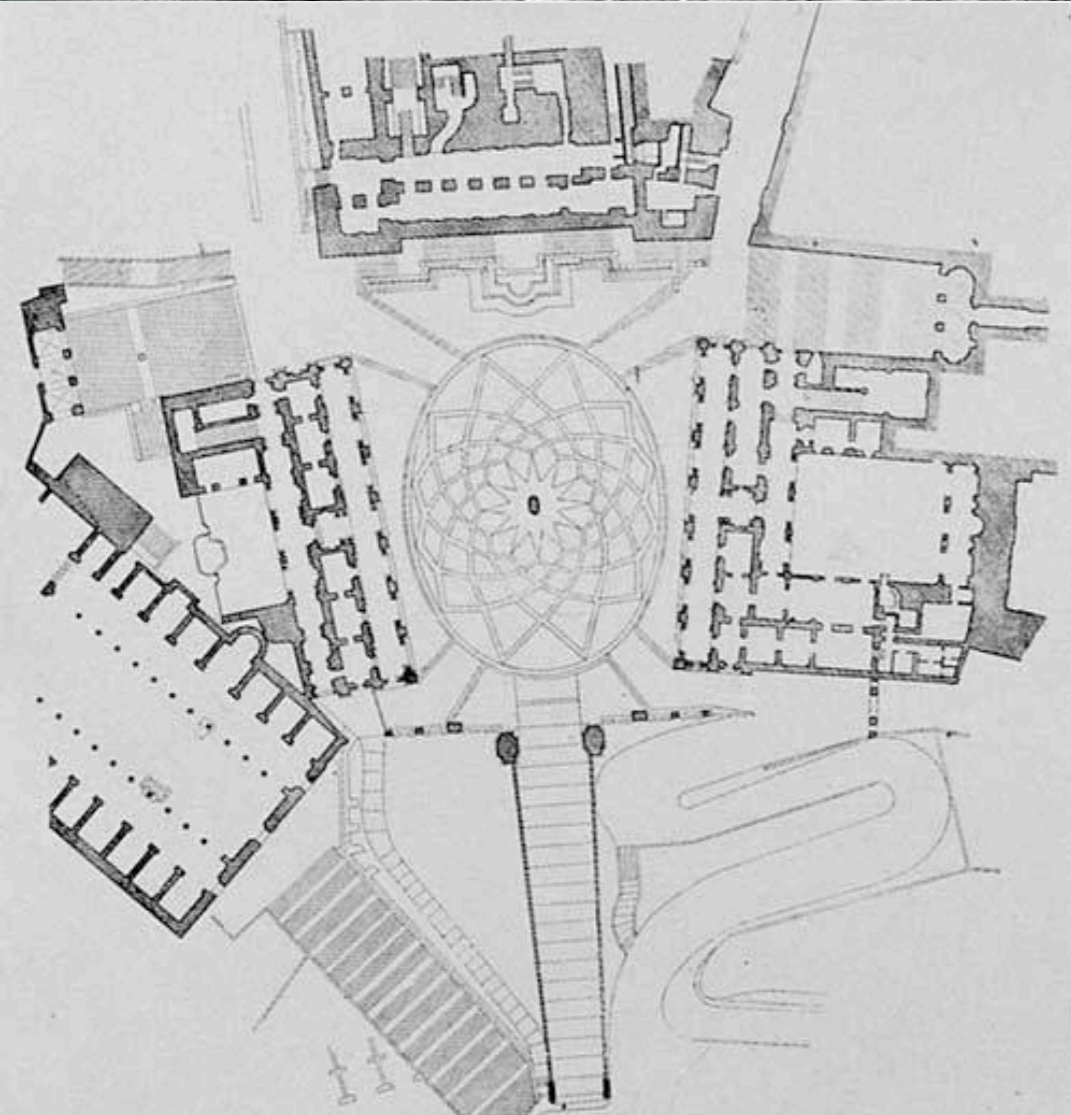
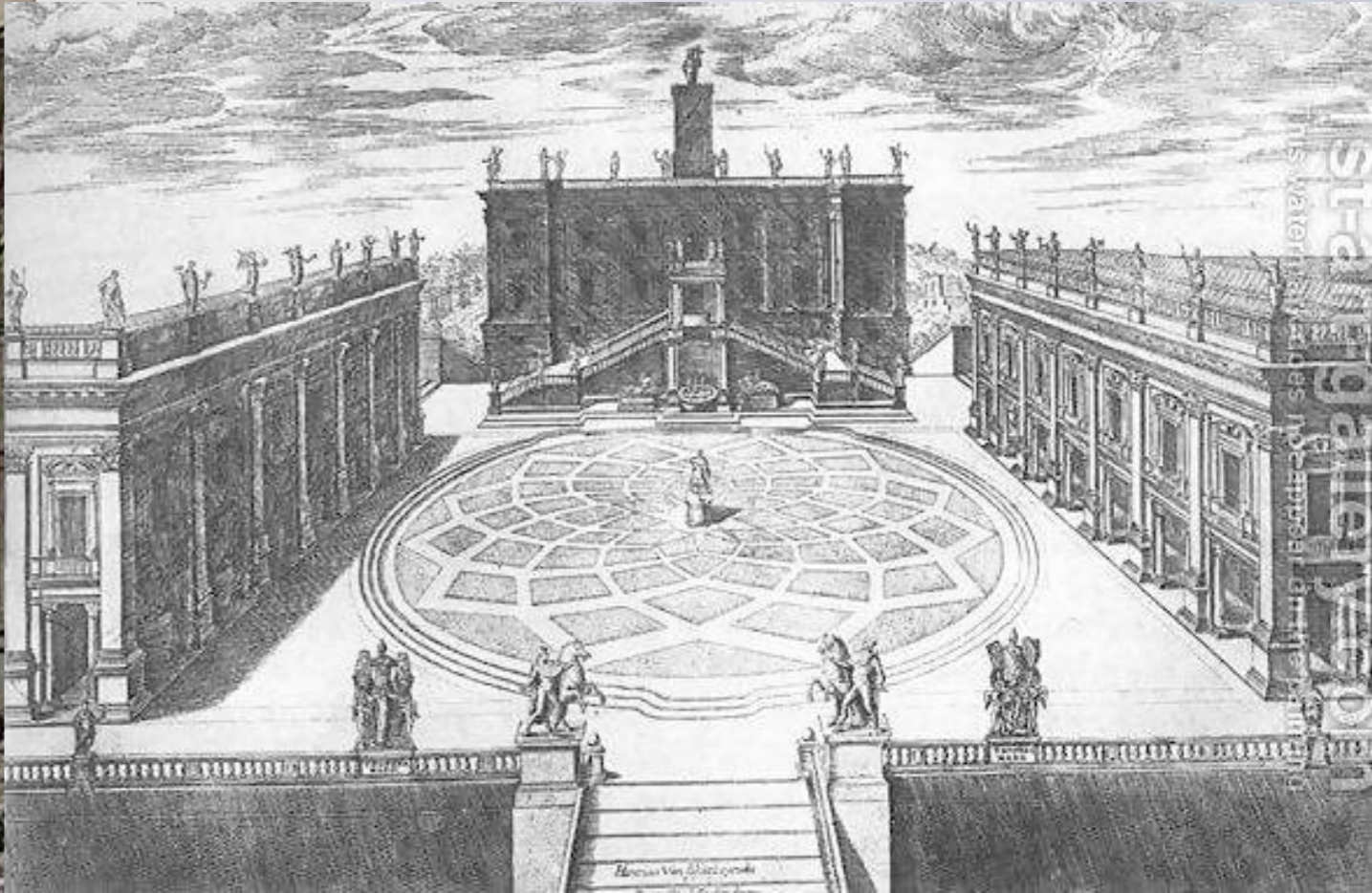


**Campidoglio, Rome,
Michelangelo
1536 - 46**



**Capitoline Hill, site of ancient Rome's sacred temple to Jupiter.
Santa Maria Aracoeli, site of the medieval citadel occupies the higher ground.
During the middle ages, the Capitoline becomes the center of civic life, obscuring
the role it once held as a sacred site in ancient Rome.**





Ordering the Capitoline:

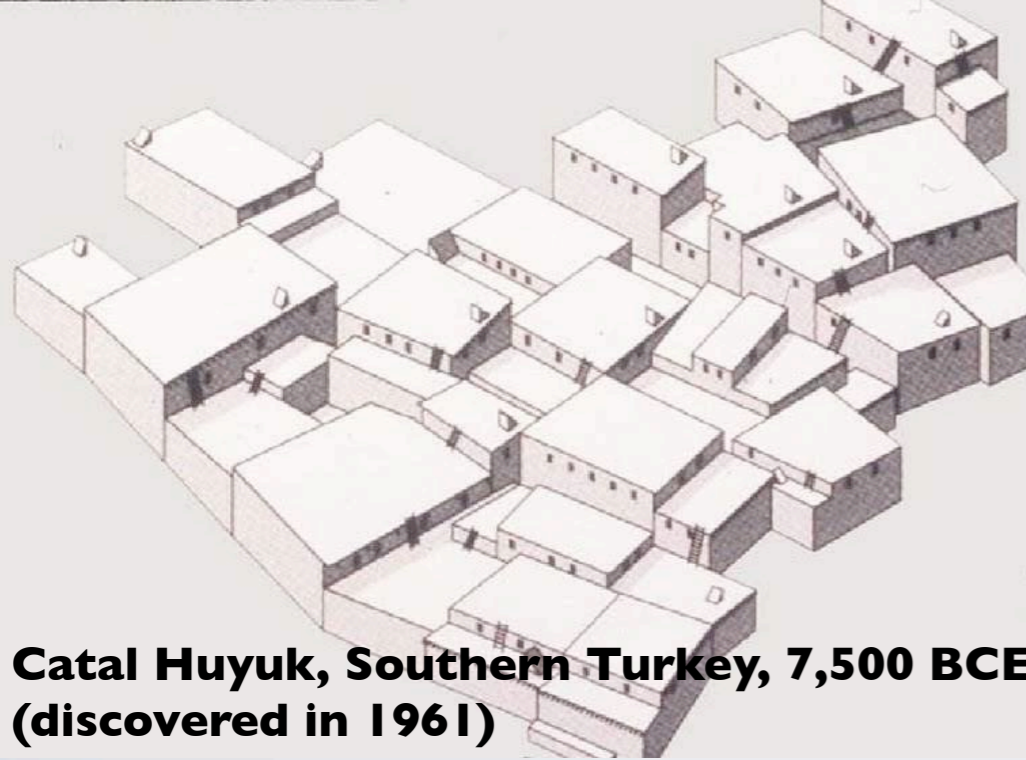
Michelangelo creates two axes, one to the Capitoline, one to Santa Maria Aracoeli.

The geometries of the plan:

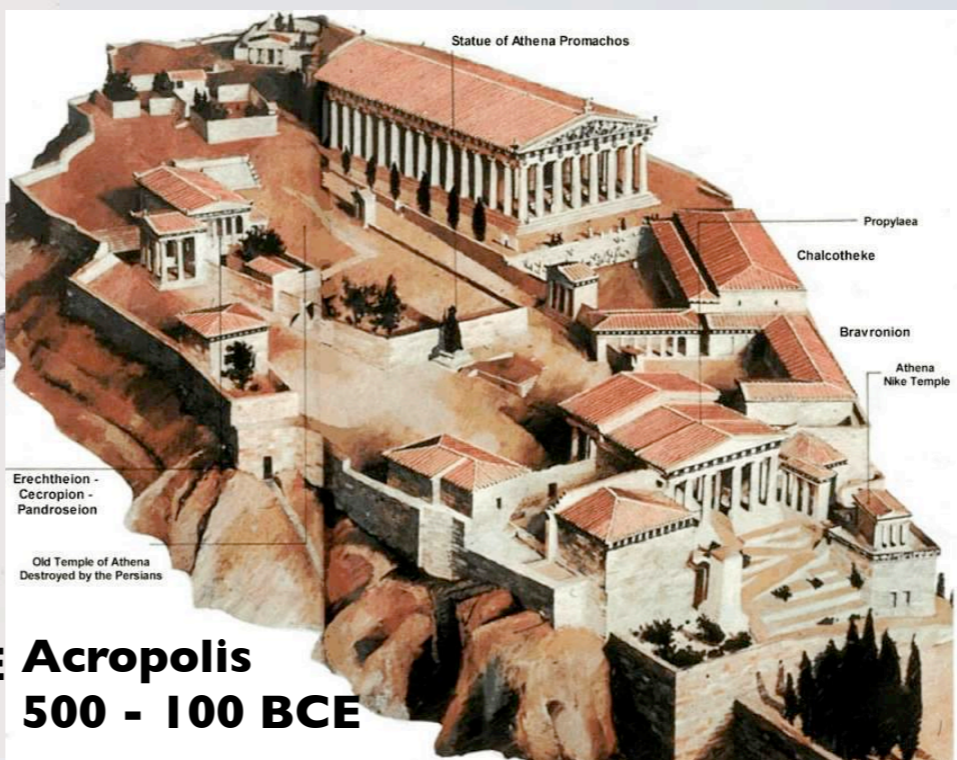
The trapezoid piazza creates a forced perspective to the hierarchical element of the composition. The oval, unlike the circle, is directional and axial, reinforcing and further defining the piazza. Cross axes open at either end of the piazza, allowing space to flow into and out of the piazza, opening it further to the civic life of the city.



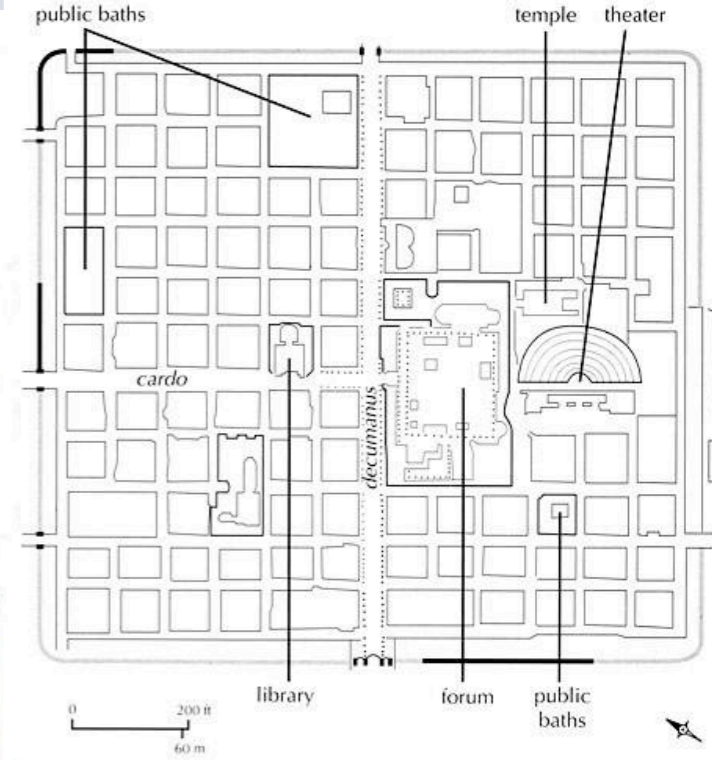
Reciprocal View: A device that reinforces the hierarchy within the composition.



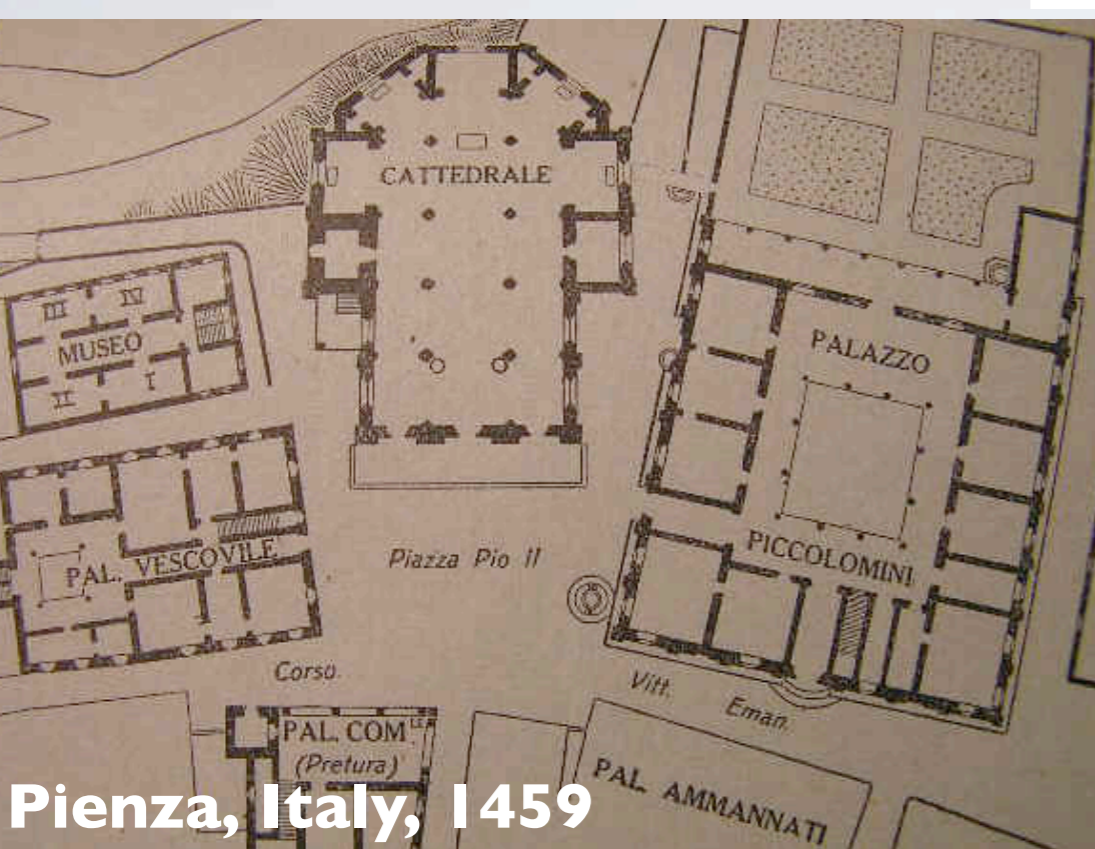
Catal Huyuk, Southern Turkey, 7,500 BCE (discovered in 1961)



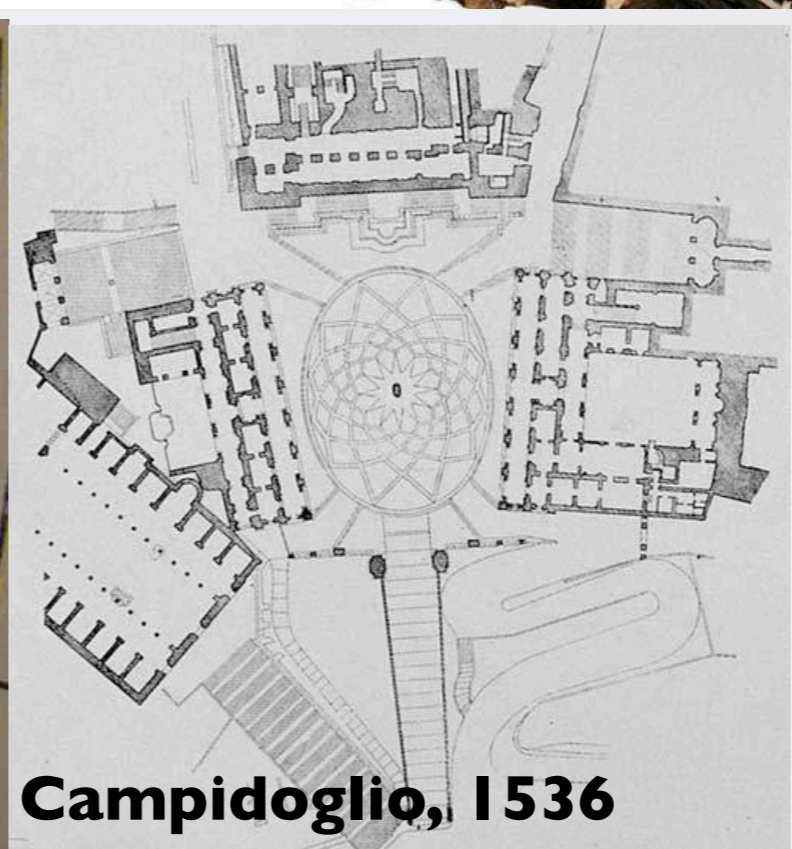
Acropolis 500 - 100 BCE



Timgad, Algeria, 100 CE



Pienza, Italy, 1459



Campidoglio, 1536

**Catal Huyuk, non-hierarchical
 Acropolis, organic hierarchy
 Timgad, ancient central planning
 Pienza and Campidoglio, ordering the medieval city**