

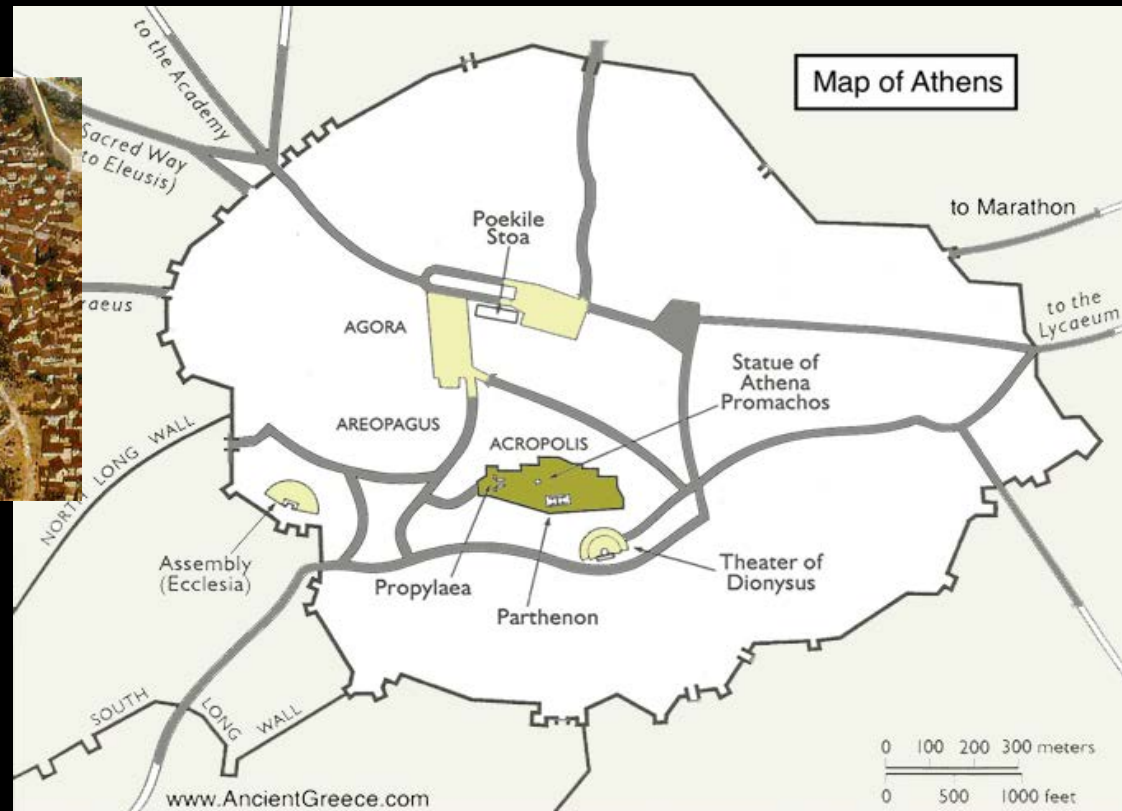
1	2	3	4	5	6
ROMAN FORUM	BASILICA MAXENTIUS	COLOSSEUM	CIRCUS MAXIMUS	TIBER RIVER	PANTHEON
Built starting c. 700 B.C.	A.D. 306	A.D. 70	Used from c. 600 B.C.		A.D. 118–125



Introduction

This lecture topic will introduce to the students the historical development of how city forms were developed. It is a brief description about the creation of ancient Greek, Roman, & Egyptian city forms and its characteristic similarities and differences.

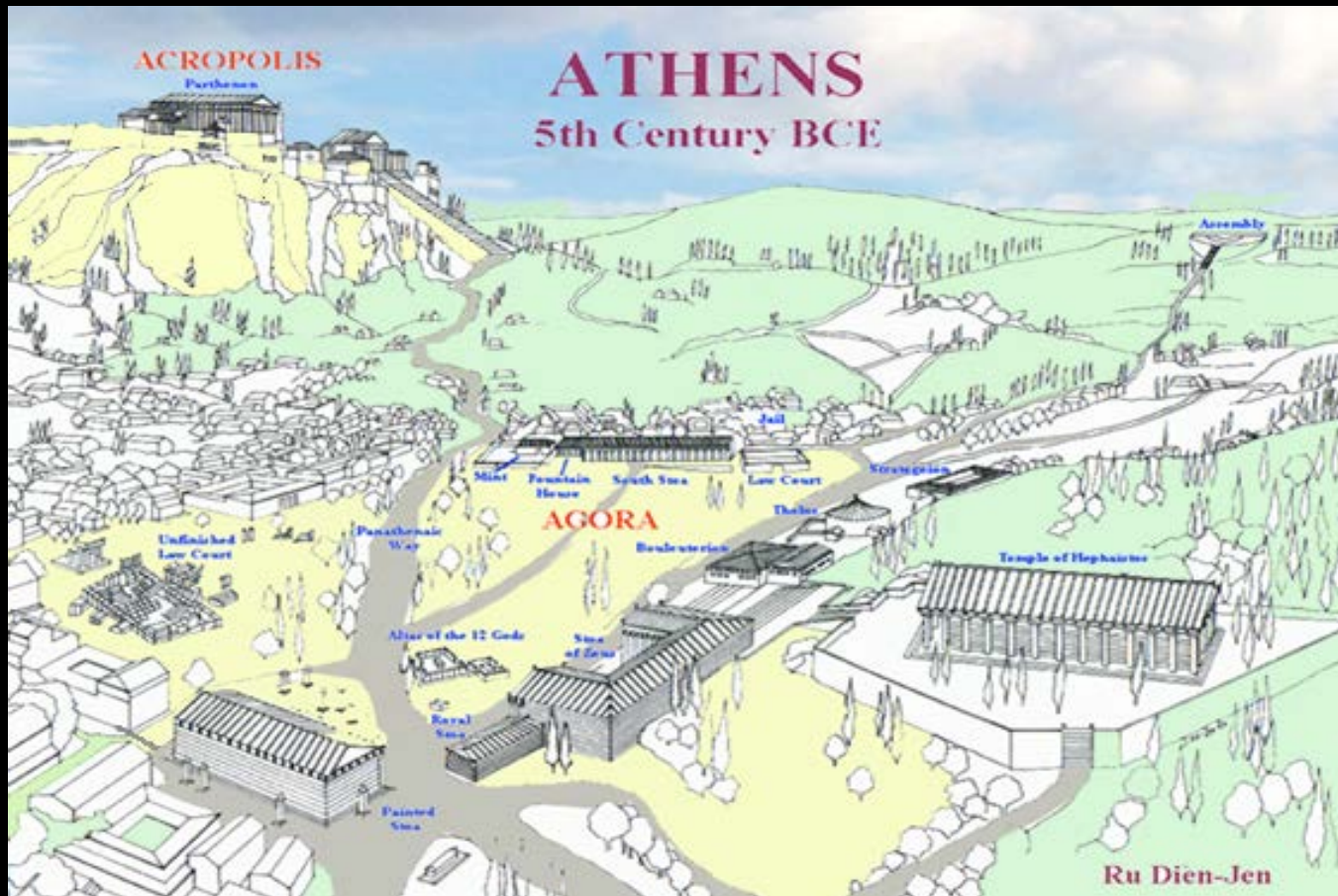
Students are also presented with a brief overview of middle-age Europe and its method of development for its city forms.



Greek Cities

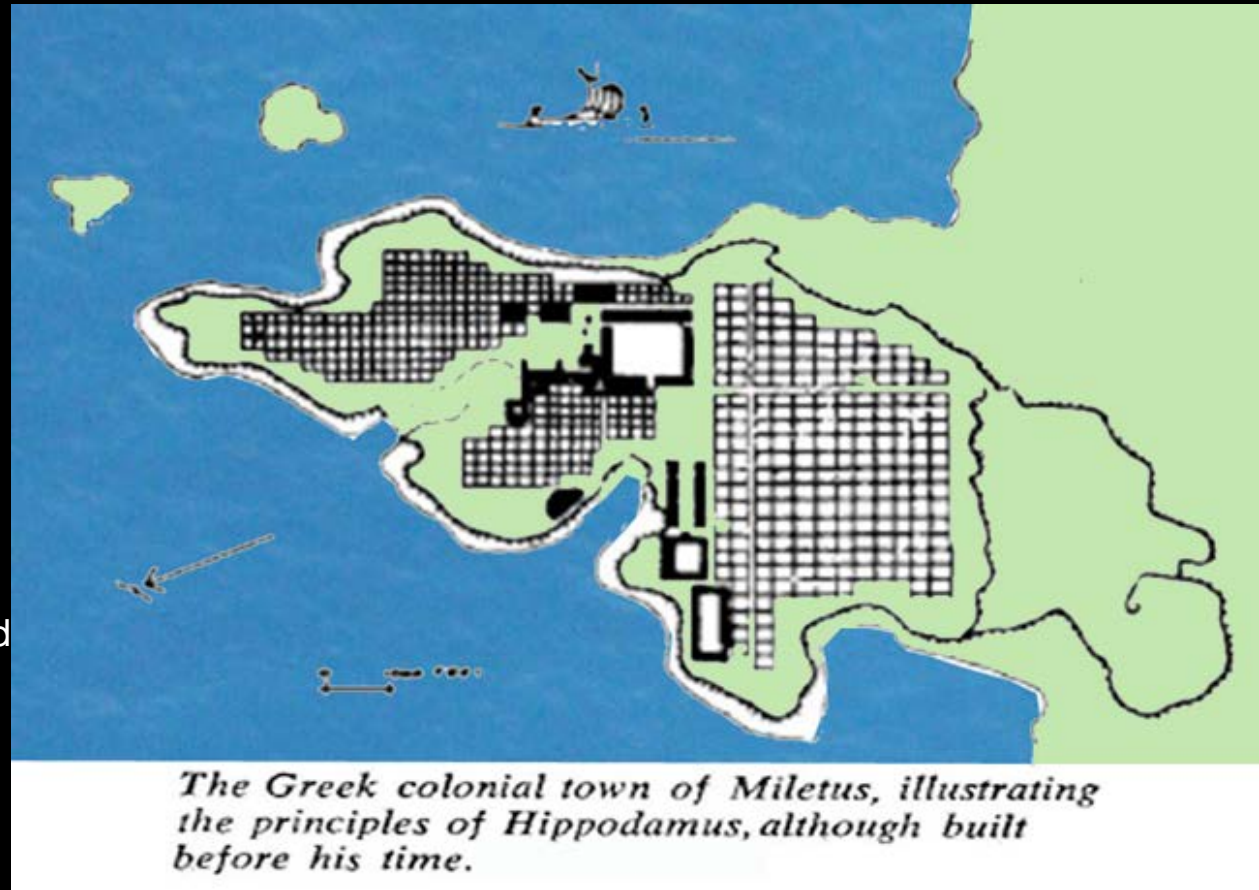
The sunlight in Greece is brilliant; the air is clear and the land form is rocky and hilly. The high places became the sacred precinct, for the temples of the gods. وأصبحت الأماكن المرتفعة حرم مقدس، لمعابد الآلهة.

The city of Athens, developed below the Acropolis, starting at the entrance to the fortress hill and expanding along the major routes as a circular concept of settlement مدينة أثينا، وضعت تحت الاكروبول، بدءاً من مدخل إلى تلة القلعة والتوسع على طول الطرق الرئيسية كمفهوم تعميم للتسوية.



The **street** was the minimal leftover space من مساحة متبقية الحد الأدنى for circulation. The meeting place مكان الاجتماع for people was neither in the house nor in the street, but in the 'agora'. The agora became the **marketplace** as well as the **place of assembly** - It is the downtown area of ancient Greek society.

Greek city designs were credited to a lawyer named **Hippodamus**, who lived in the 5th century B.C. He proposed regular street layouts along gridiron patterns.



They built city spaces from a series of **rectangular blocks** or **cells** to form a whole town, designed from the inside and extending out, and ending against a steep hillside or, along a shore بنوا المدينة ممنوع من سلسلة من كتل . مستطيلة أو الخلايا تشكل مدينة كاملة، مصممة من الداخل وتمتد خارج، وإنهاء ضد أحد التلال شديدة انحدار، أو على طول شاطئ.

Some of his inspiration **وقال الهام** were probably derived from ancient Babylonia, where open plazas were interspersed throughout the grid layout.

The ancient Greeks believe that all things should be of a definite size to be comprehensible and workable. ينبغي أن يكون كل شيء بحجم محدد لتكون مفهومة وقابلة للتطبيق

Greek *buildings* always have a sense of 'human measure' to the landscape which they called "*parameters*", that architects call "*scale*."



The temple of Sunion at the headlands of Attica as seen from the sea embodies a harmony with site

Aristotle, described the ideal size حجم مثالي of a city, or '*polis*', as a viable political entity قابلة للحياة السياسية if there are about 10,000 to 20,000 people, not more or less.

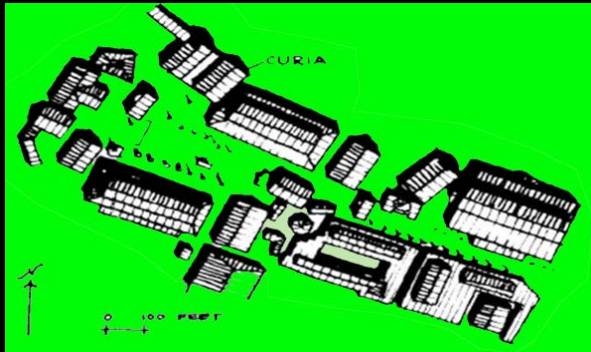
When a town "*neapolis*" reached its largest practical size (- determined by the capacity of surrounding farmland to feed the population , قدرة المحيطة بالأراضي الزراعية لتغذية السكان), growth is terminated.

A new town will be started at another preferable الأفضل site, usually not too far away. The first neapolis was then called a "*paleopolis*" or old town.

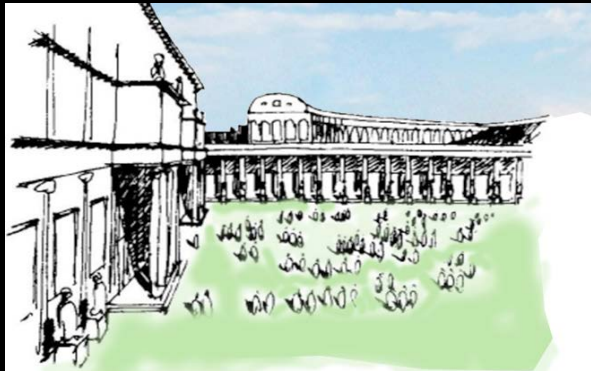
Roman Cities



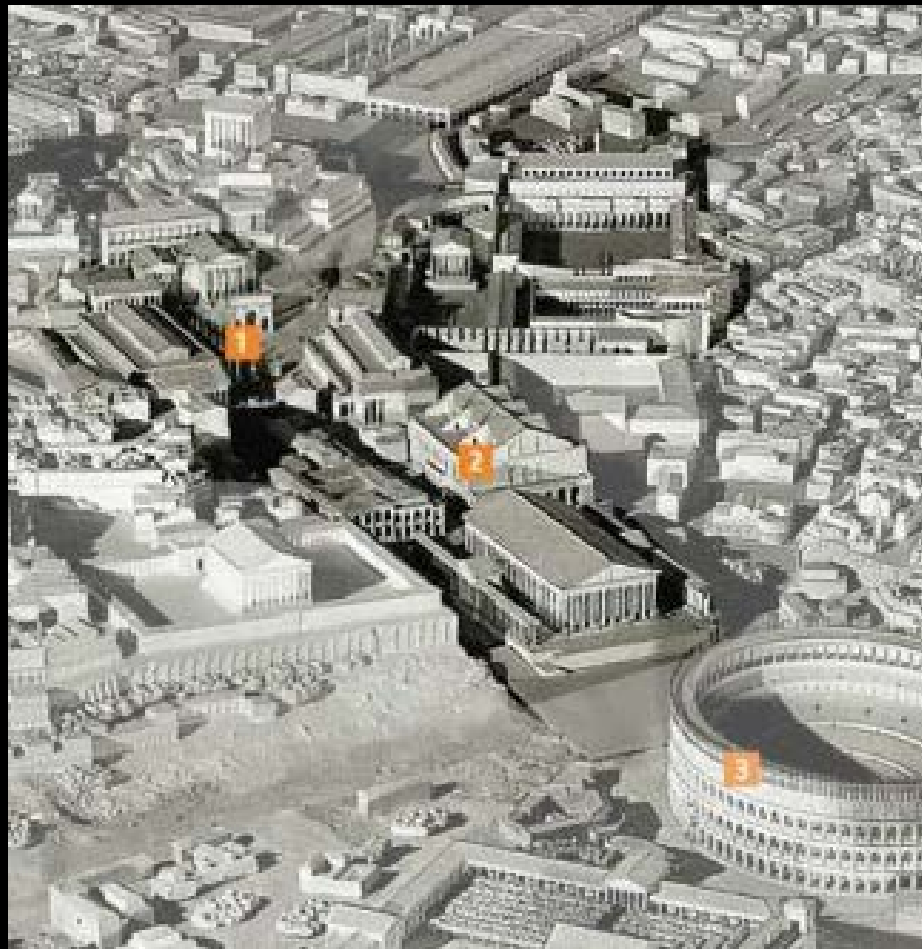
على الساحة، مسرح، the arena, and the market العامة الجمعية were the theater, the arena, and the market. Roman architects realized that 'grand buildings' or 'details', do not make them grand. However, **grouping** the buildings to form **urban spaces**, make the **architecture** grand as a whole. تجمع المباني تشكل المساحات الحضرية، وجعل البنية الكبرى ككل. The Romans used a set of proportions called a "**module**" as a scale to build their Colonial towns. الرومان تستخدم مجموعة من النسب التي تسمى "وحدة نمطية" كمقياس لبناء مدنهم المستعمرة. This modular scale would harmoniously relate the various parts of a building to each other. وتتعلق هذا مقياس معياري انسجام الأجزاء المختلفة من المبنى إلى بعضها البعض.



The Republican Forum in Rome. The buildings were erected one by one along an irregular axis.



The Imperial Forum. The buildings were designed to form large regular spaces.



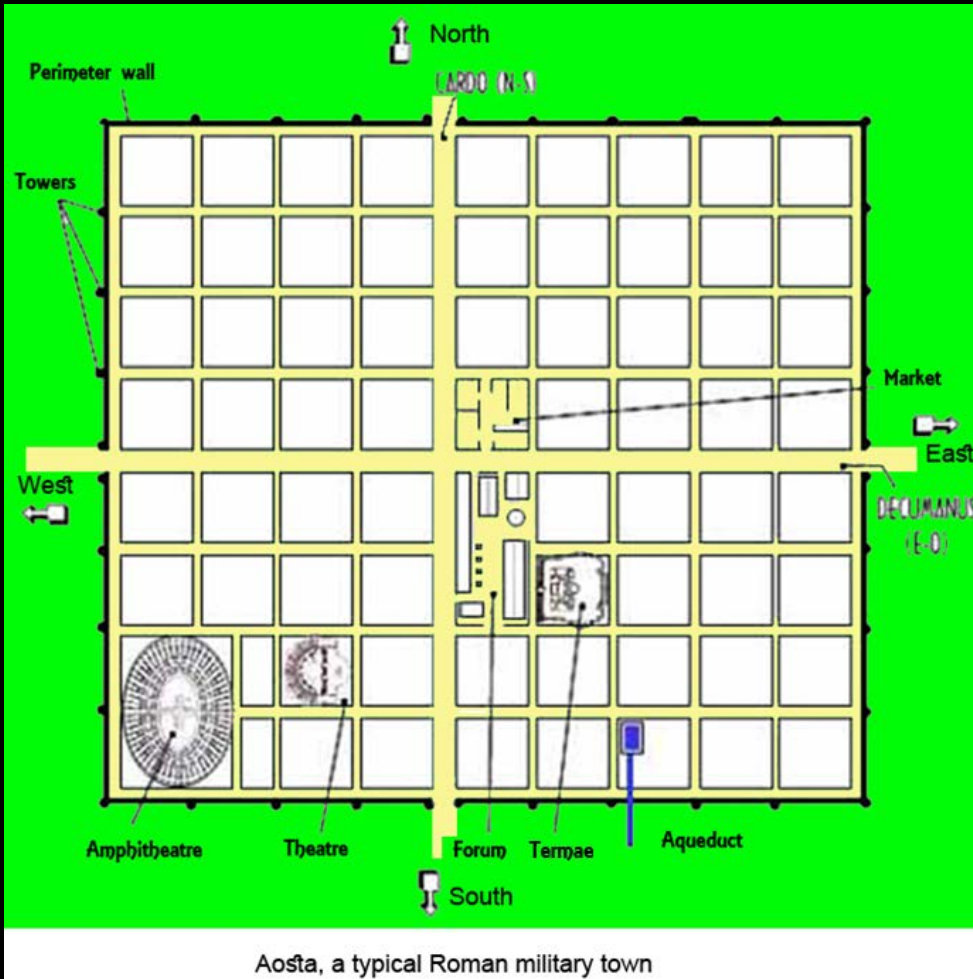
The Romans were motivated by political power and organization . They chose *large modules* in order to achieve a sense of overpowering grandeur .
تغلبوا على عظمة .
This system of town design was a simple but well organized.

Roman Colonial town

The Roman 'urban module' الوحدة النمطية was the basic street pattern of a town made for military government.

A Roman colonial town المدينة المستعمرة was a system of **gridiron streets** enclosed by a **wall**. The wall was built first; the buildings came later.

The Romans introduced the idea of **major** الرئيسية and **minor** ثانوية streets – two main streets at right angles.



Aosta, a typical Roman military town

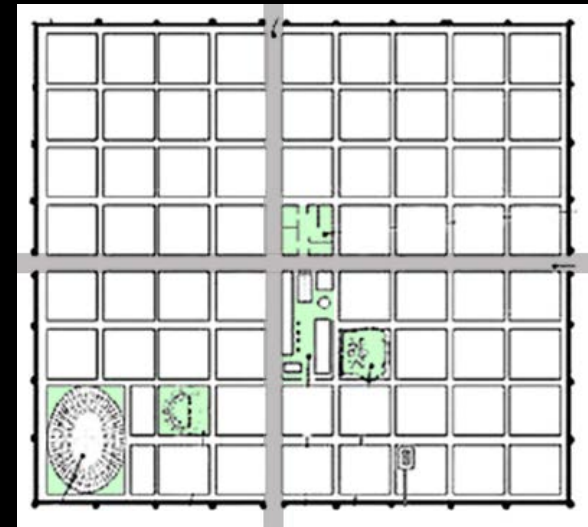
Roman Colonial town/city is basically composed of a number of identical 'modular' components, prepared and separated by - **parallel and equal-distant** - streets. The whole town, forms a unit of rectangular design surrounded by a perimeter wall with watchtowers **البلدة بأكملها، يشكل وحدة التصميم مستطيل محاط السور المحيط بأبراج المراقبة.**

All the streets are equal except for two:

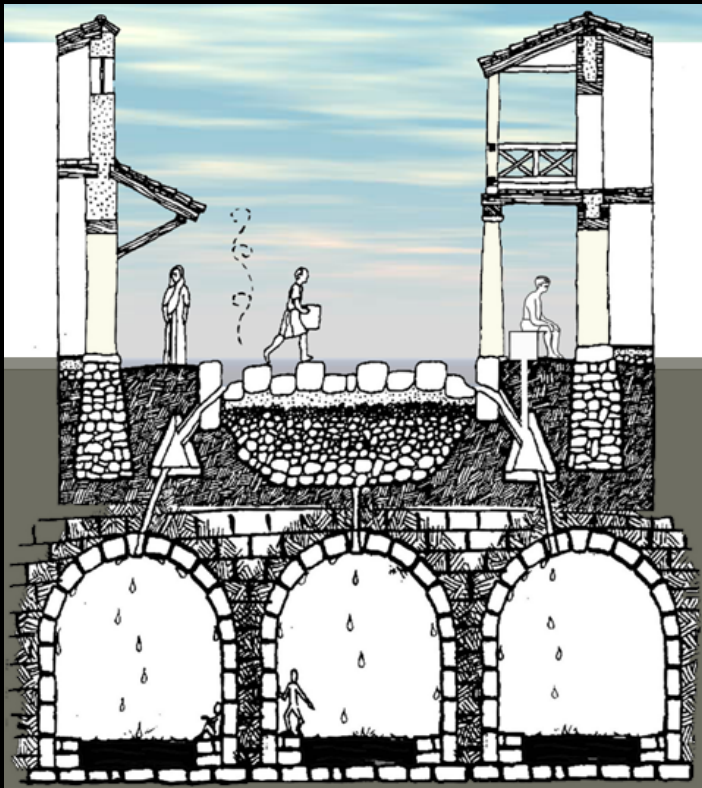
- the North-South - **kardo maximus** الرئيسية
- the East-West – **decumanus** ثانوية. Both are wider, and ends at the four doors of the exterior wall. At the cross of both streets is the city's **forum** and the **market**.

These components were necessary for the 'scale' of the spatial design for public buildings:

- **amphitheater** - two components long and one-and-a-half wide (2 x 1.5) ;
- **theatre** - one component (1 x) ;
- **market** -one component (1 x) ;
- the **whole forum** - two components (2 x) .



In these cities, kinds of housing could be divided into **house, domus, insula** and **villa**. There also were **casae** or housings for slaves and low classes. Because of their weak systems of building they have all disappeared in our days. Indeed, there were also great **community buildings** as **basilicae, termæ** and the very important **social and cultural** systems called **forums**.



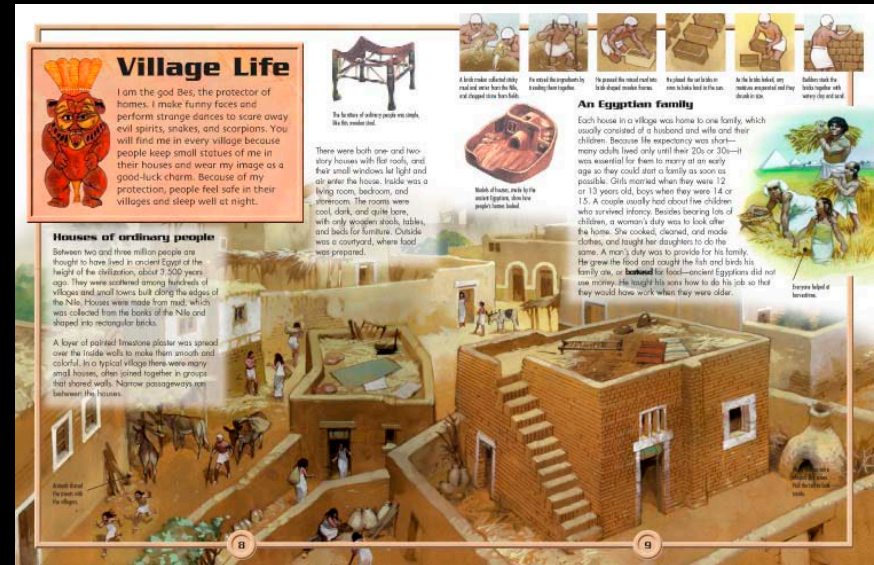
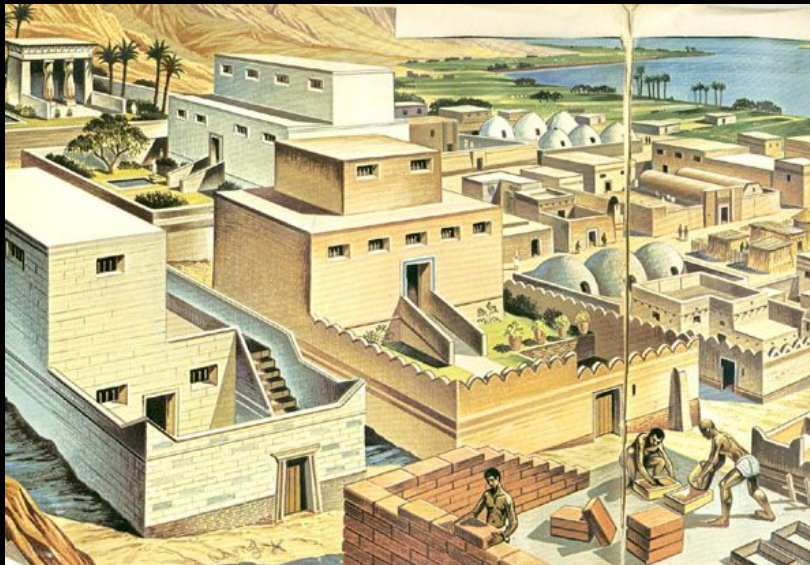
To make their cities habitable **قابلة للسكن**, the Romans built long **aqueducts** **قنوات المياه**, and a **road system** to tie **التعادل** their empire **الإمبراطورية** together. These urban rules were developed for nearly 1000 years in order to create the different cities.

They perfected **arch and dome** construction; and in Rome they built the ancient world's greatest **sewer system** **نظام الصرف الصحي**.

Egyptian Cities

The first true urban settlements **المستوطنات** appeared around 3,000 B.C. in ancient Egypt, Mesopotamia, and the Indus Valley. Ancient cities displayed both "organic" and "planned" types of urban form. These societies had elaborate **وضع** religious, political, and military hierarchies **التسلسلات الهرمية**.

Precincts **الدوائر الانتخابية** devoted **كرس** to the activities of the elite **النخبة** were often highly planned and regular in form. Cities growing slowly from old villages often had an irregular **غير النظامية**, organic form, adapting **تكيف** gradually to the topography and history. Colonial **المستعمرة** cities, however, were planned prior to settlement using the grid system.



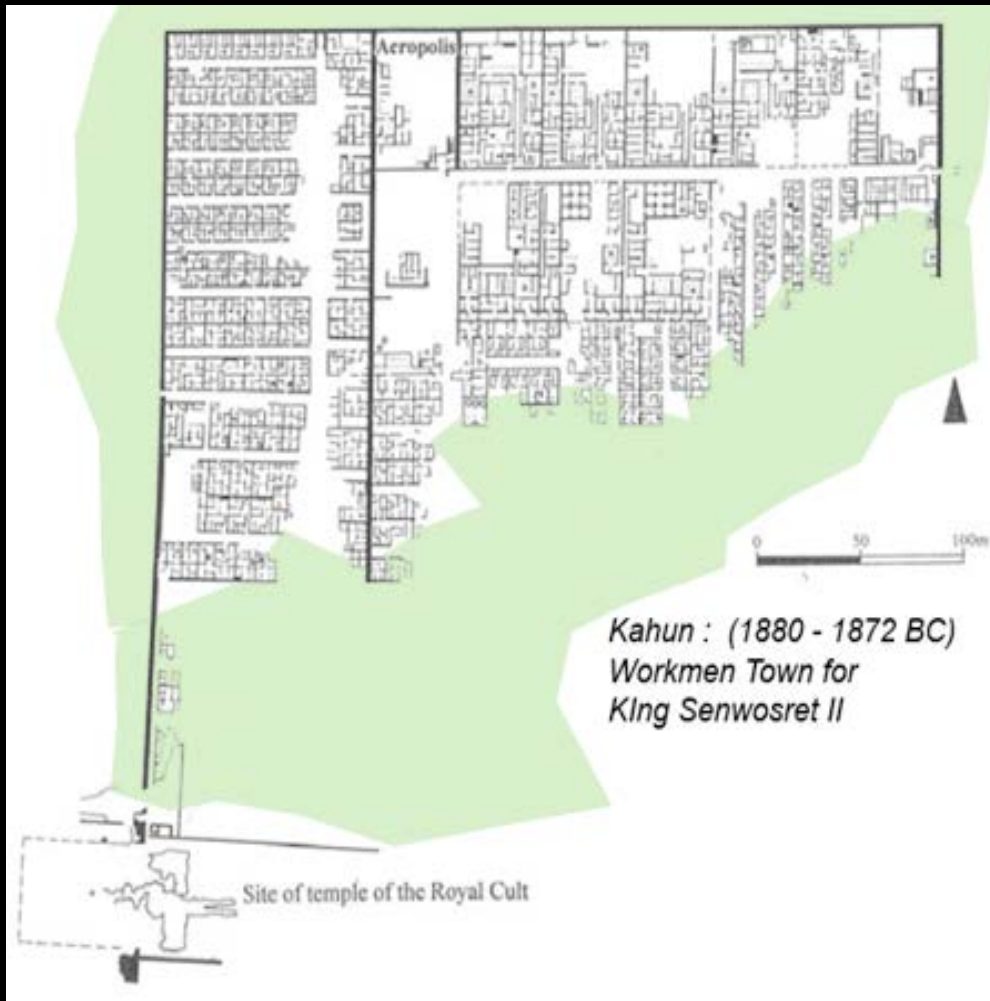
Egyptian Cities



Cities in ancient Egypt grew out from the development of **agriculture** الزراعة and the emergence of the state as the unifying **ظهور الدولة** and predominant **الغالبية** form of **political** organization. Settlements and cities were located on the **River Nile** floodplain السهول الفيضية, with a preference for proximity قرب to the river نهر, in order to **receive goods** by boat and for its **source of water**.

The earliest known pre-dynastic ما قبل الأسرات settlement التوسية is at **da-Beni Salame** at the southwest desert edge of the Nile Delta and covers about 44 acres (180,000 m²), a very large area for the pre-dynastic period.





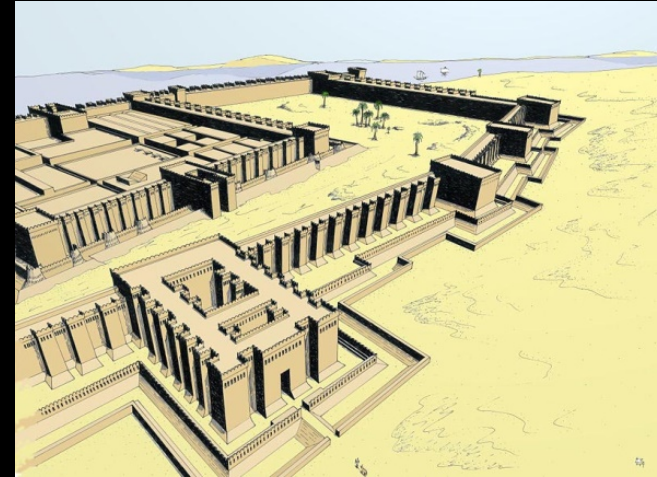
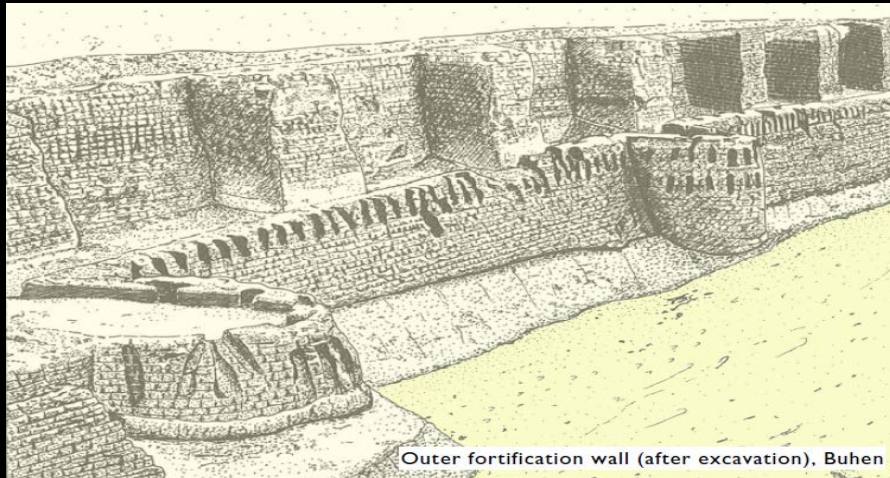
Kahun

The neatly planned Middle Kingdom town of Kahun (modern name) was built for the builders of the nearby pyramid of King Senwosret II (ruled ca. 1880–1872 BC), and the priests, soldiers, officials, and other personnel who would maintain the monument and the cult of the deceased king. Kahun is by far the largest of the “pyramid towns.”

It is an area, 384m × 335m, with straight streets crossing at right angles in an orthogonal grid.

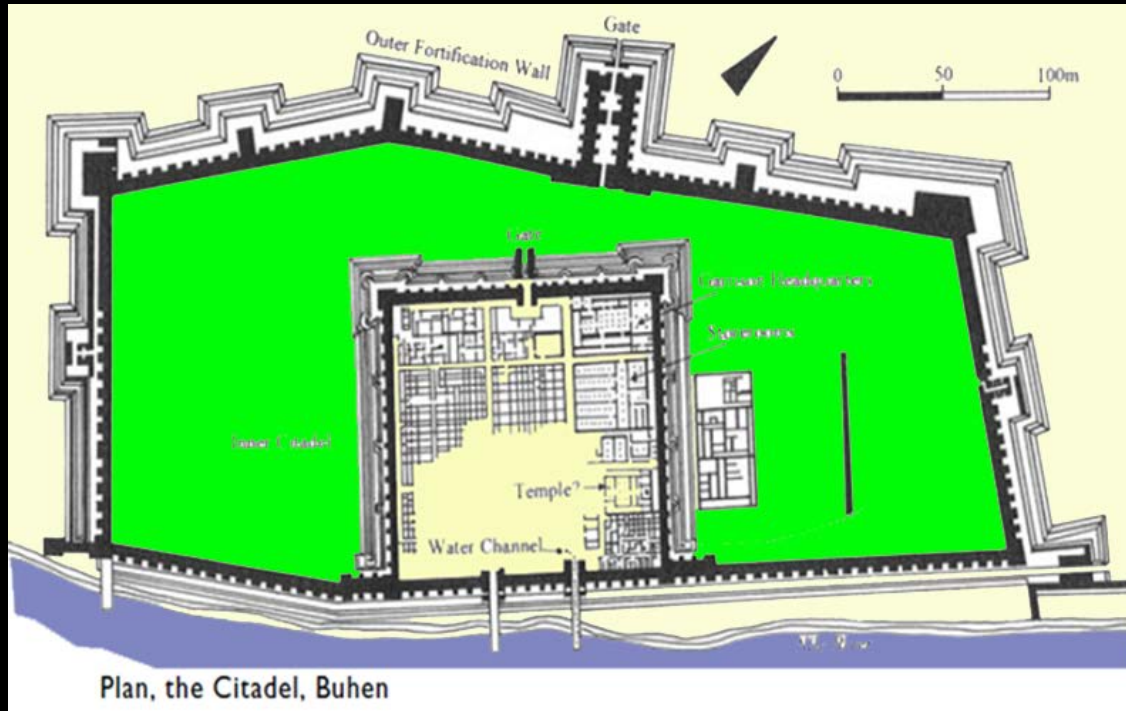
In the main north/north-east section, approximately twenty (20) large houses were identified, measuring 60m × 42m. Each house, with a plain wall and door facing the street but sharing walls with its neighbors. كل منزل، مع جدار عادي والأبواب التي تواجه الشارع لكن تقاسم الجدران مع جيرانها.

Buhen: Nile Fortress Town



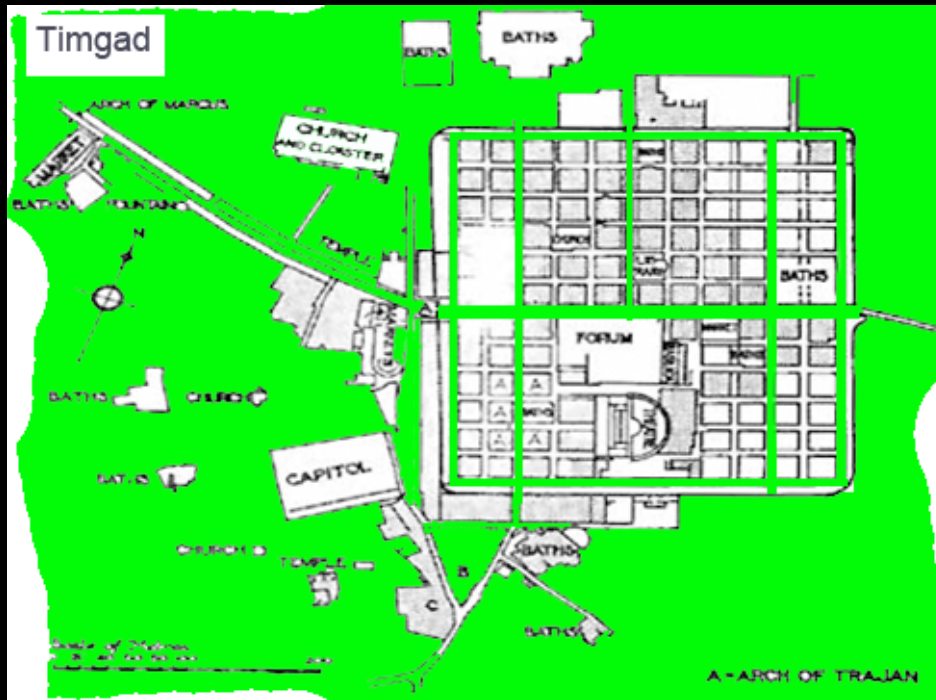
The fortress at Buhen, in Nubia (the region along the Nile from Aswan to Khartoum), is a good example of the strongholds the Egyptians of the Middle Kingdom built on their southern frontier
 القلعة في بن، في النوبة (المنطقة على طول نهر النيل من أسوان إلى الخرطوم)، هو مثال جيد معقل المصريين المملكة الأوسط مبنية على حدودهما الجنوبية.

The fort at Buhen was built about 2000 BC, one of several forts along the Nile north of the Second Cataract .



The plan consisted of an inner citadel, an open yard, and a massive outer fortification wall of mud brick, 5m thick, originally 8m–9m in height. وتألفت الخطة قلعة داخلية، وساحة مفتوحة وجدار إغناء خارجي الهائل بالطوب، 5 م سميكة، أصلاً م 8 – 9 م في الارتفاع

The inner citadel (150m × 138m), itself walled, featured buildings of mud brick, with stone and wood details neatly arranged in a grid plan, a regular layout that brings to mind Roman military camps of nearly 2,000 years later.



Common Characteristics

The common structural and physical features in the layout of cities in (most of) the great early civilizations السمات الهيكلية والمادية المشتركة في تخطيط المدن في (معظم) أوائل الحضارات العظيمة of Egypt, Mesopotamia, India, China and Mezoamerica:

- a) grid layout,
- b) straight axial street,
- c) orientation of the settlement اتجاه التسوية or its main building is to the path of the sun, and,
- d) encircling fortifications تطويق التحصينات.



Timgad, Algeria.

European Medieval Cities المدن في العصور الوسطى



In cities throughout Europe, **medieval urban spaces** in the period from around AD 500 to AD 1500 were well suited to **urban outdoor activities** by virtue of their spatial qualities and huge size. في المدن في جميع أنحاء أوروبا، المساحات الحضرية في العصور الوسطى في الفترة من حوالي 500 م إلى 1500 م مؤهلة تماماً للأنشطة في الهواء الطلق الحضرية حكم الصفات المكانية وحجم ضخم

They developed according to the needs, and shaped by the residents of the city in a direct city-building process. أنها وضعت وفقاً للاحتياجات، وتشكل من المقيمين في المدينة في عملية بناء المدينة مباشرة. In the period of medieval Europe, the urban design of towns followed a system based on **human needs**, which made the towns truly livable. التصميم الحضري للمدن يتبع نظام يستند إلى الاحتياجات البشرية، التي جعلت المدن ملائمة للعيش حقاً

The design elements of the **medieval town** were its houses and gardens, its walls, its plazas, its church, its public buildings, and, most important, its streets. كانت عناصر التصميم للمدينة في القرون الوسطى المنازل والحدائق، جدرانه، في الساحات، في الكنيسة، في المباني العامة، والأهم من ذلك، في الشوارع. The street layout was actually very functional.

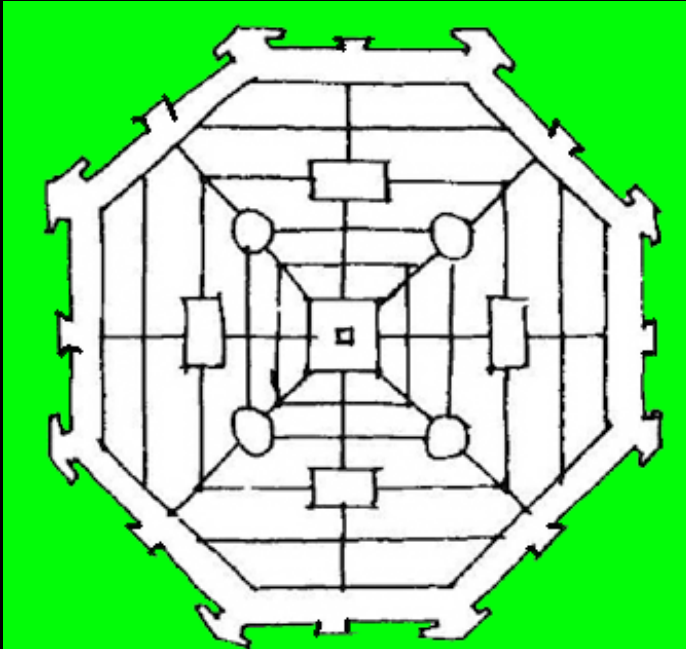


اثنين من الميزات النموذجية للمدينة القديمة 'wall' و 'citadel' هي 'الجدار' و 'القلعة' :

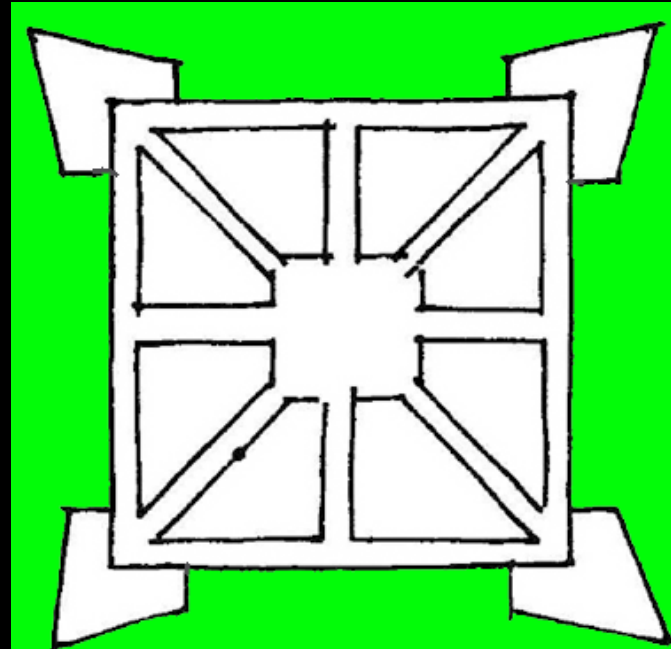
- **the wall**, for defense in regions periodically attacked by conquering armies الجدار، للدفاع في المناطق بصورة دورية تعرضت لقهر جيوش
- **the citadel**, a large, elevated precinct within the city -- devoted to religious and state functions القلعة، كبيرة ومرتفعة المخفر داخل المدينة-المكرسة للوظائف الدينية والدولة .

Renaissance Cities

المدن المثالية



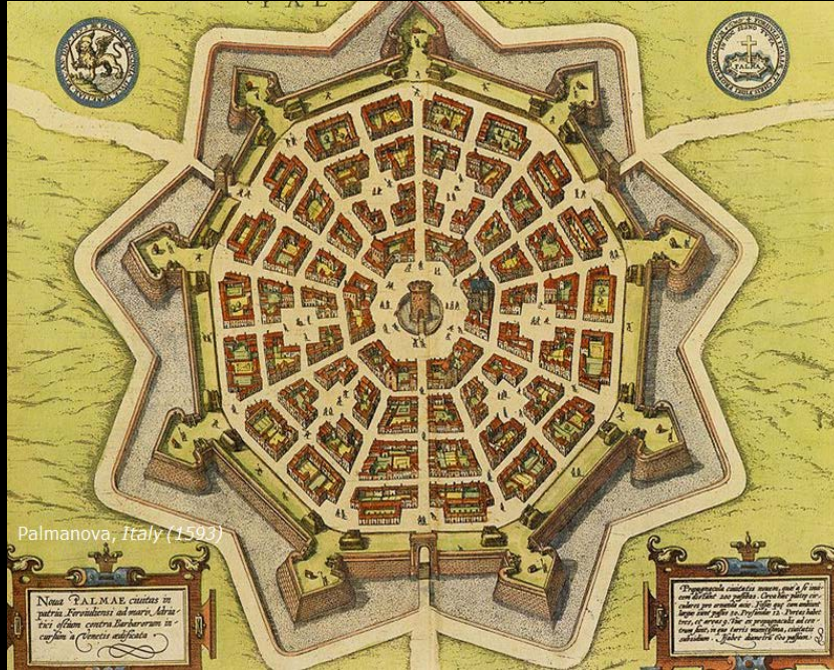
ideal city by the younger Vasari.



Plan of an ideal fortified city by G. Maggi.

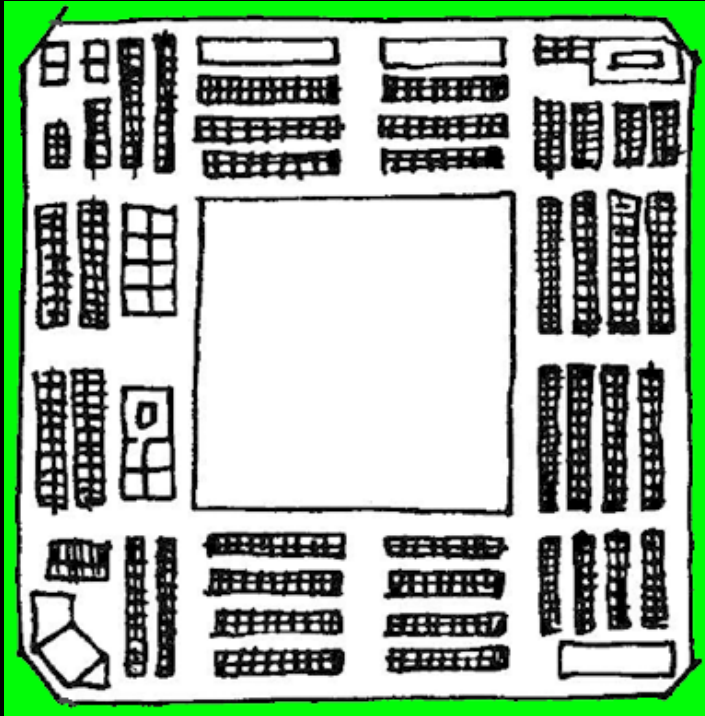
1440 AD marks the beginning of the Renaissance in Europe. The new concept of "ideal city" design was first proposed by Leon Battista Alberti, who developed the idea of **star-shaped** city plans with **streets radiating** from a central point. النقطة المركزية يشع.

Geometric shapes الأشكال الهندسية for fortification walls seemed ideal structural shape of cities for military purposes الأغراض العسكرية. The **converging street** التقاء الشارع designs for inner city were a useful means of **focusing** on an important central building.



In **Palmanova** in 1593, Scamozzi built a star-formed Renaissance city, with all the streets having the same width - 14 meters (46 ft.) in the city plan, regardless of purpose and placement . بغض النظر عن الغرض والموضع .

Another variation, was a star city whose interior was divided up into special quarters, one for each trade and craft.



Plan of an ideal city by Albrecht Dürer.

The **radiating street pattern** in star-shaped designs and the circular designs, caused great **difficulties in the design of buildings**, particularly where sharp corners occurred towards the centre
نمط الشارع يشع في التصاميم على شكل نجمة وتصاميم دائرية، تسبب صعوبات كبيرة في تصميم المباني، ولا سيما حيث حادة الزوايا وقع نحو المركز.

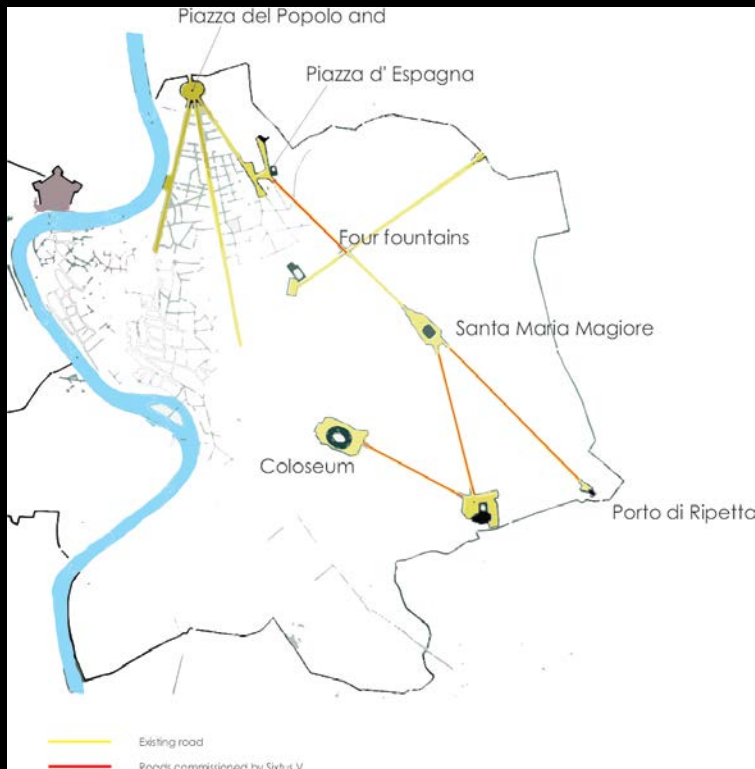
Architects begin to design their ideal cities with a **gridiron** interior street layout. A German architect *Albrecht Dürer*, started a rectangular city design with **zones** for each activity.

Grid layouts, allow better convenience for **functions** related to defense, transportation, and formalized social functions, like parades and processions.

تسمح تخطيطات الشبكة، راحة أفضل للمهام ذات الصلة بالدفاع، النقل، وإضفاء الطابع الرسمي على الوظائف الاجتماعية، مثل المسيرات والمواكب

However, European Baroque city planning was mostly influenced by Pope Sixtus V, who used **interconnected axes** of the city, to impose his **authority** on the city. الذين تستخدم محاور مترابطة من المدينة، لفرض سلطته في المدينة of Rome.

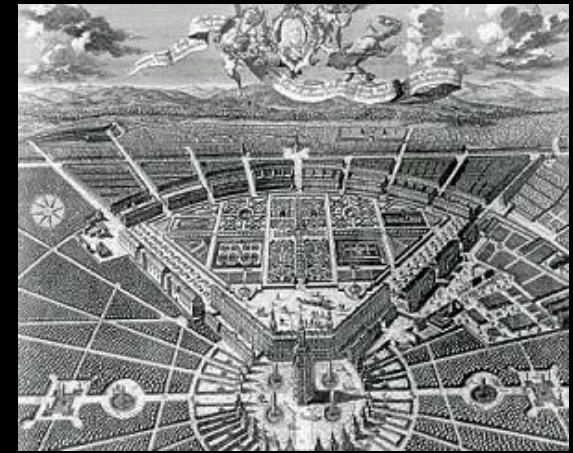
- **Interconnected axes** are used as devices to symbolize **power** and **control** وتستخدم محاور مترابطة كأجهزة لترمز إلى السلطة والسيطرة
- European states followed for example in Karlsruhe, Germany, in Paris,,



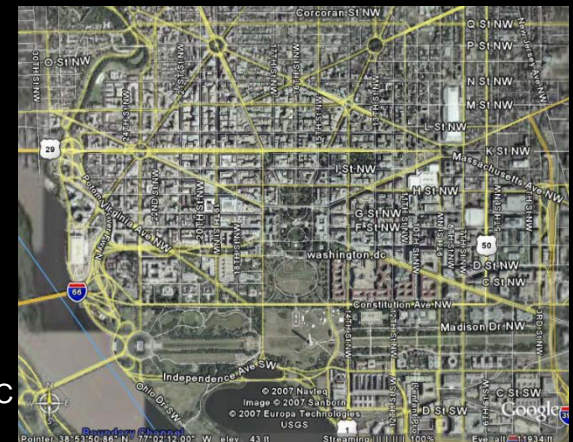
Rome



Paris



Karlsruhe



Washington DC



References

- 1). Biddulph, Mike. Introduction to Residential Layout . Elsevier, UK. 2005. ISBN 13:978-0-75-066205-5. 2).
- 2). Lewis, Sally. From Front To Back: A Design Agenda for Urban Housing. Elsevier, UK. 2005. ISBN 0 7506 5179 2 3).
- 3). Donald Watson, Alan Plattus, and Robert Shibley. Time Saver Standards for Urban Design . McGraw-Hill , 2003. ISBN 0-07-068507-X.
- 4). Lynch, Kevin. The Image of the City. Cambridge, MA: MIT Press, 1960,
- 5). Spreiregen, Paul D., AIA. Architecture of Towns & Cities. McGraw Hill Book Company, 1965.
- 6). Nico Larco, Kristin Kelsey, and Amanda West. Site Design For MultiFamily Housing. Creating Livable Connected Neighborhoods. Island Press. 2014. Library of Congress Control Number: 2013956121.
- 7). Alan J. Christensen. Dictionary of Landscape Architecture & Construction; Mc-Graw Hill; 2005
- 8). Elements of Urban Design: [www. Urbandesign.org/elements.html](http://www.Urbandesign.org/elements.html)
- 9). Florida , Palm Beach County. Transit Design Manual. August 2004.
- 10). Adam, Robert. Traditional Urban Design. Adam Architecture. February 2009.
- 11). CABE. The Councillors Guide to Urban Design. London.
- 12) https://www.lynda.com/Architecture-tutorials/Urbanized/168237-2.html?utm_medium=integrated-partnership&utm_source=slideshare
- 13) http://www.slideshare.net/paarsegeit/a-brief-history-of-urban-form?from_action=save
- 14). Dept of Arch & Civic Design of the Greater London Council. An Introduction to Housing Layout. Nichols Publ Co, NY 1980. ISBN 0 89397 037 9 (USA Edition).

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Wassallam

Leptis Magna, Libya