URBAN SPACE AND URBAN FORM IN HISTORY

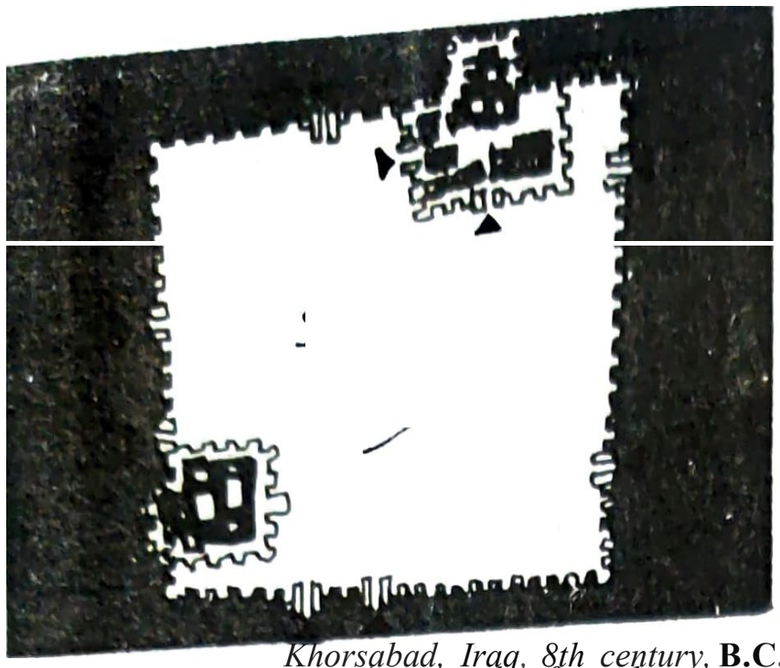
Agriculture societies needed a system of easy land division for crop planning and land ownership

a system of land plotting for redivision and re appor-tionment after a flood, an annual event on the Nile, the Tigris, and the Euphrates Rivers. Rectilinear plotting suited all these needs perfectly.

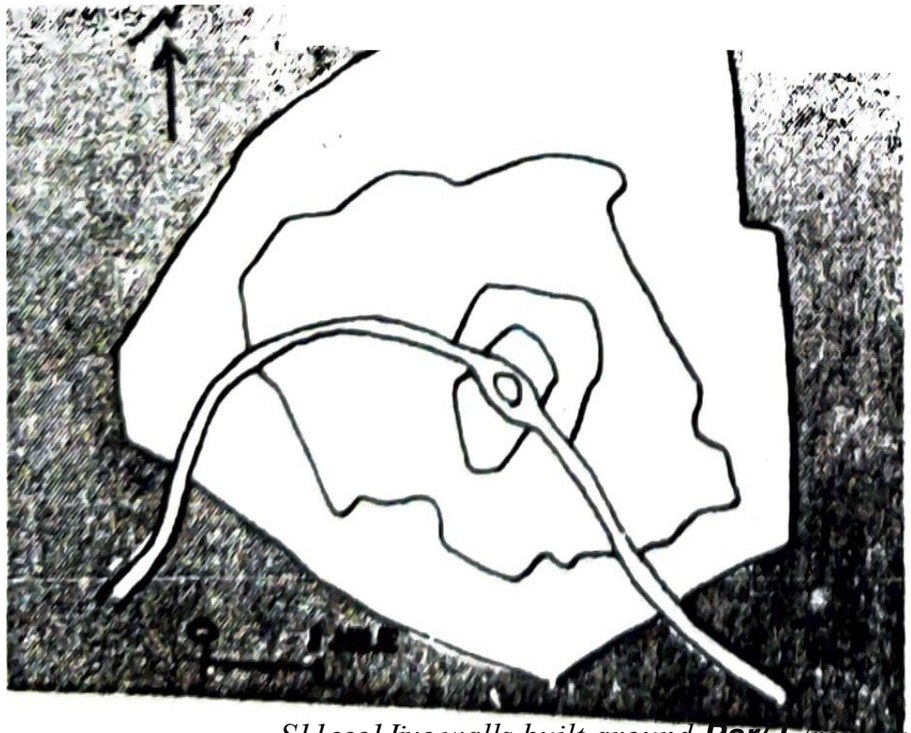
As the logic *of* the plow Jed to rectilinear plotting in the field, the geometry *of* mud-brick house construction, as well as the need for easy land division, led to rectilinear plotting in the town

Air view *of rectilinear land division in a farming area.*

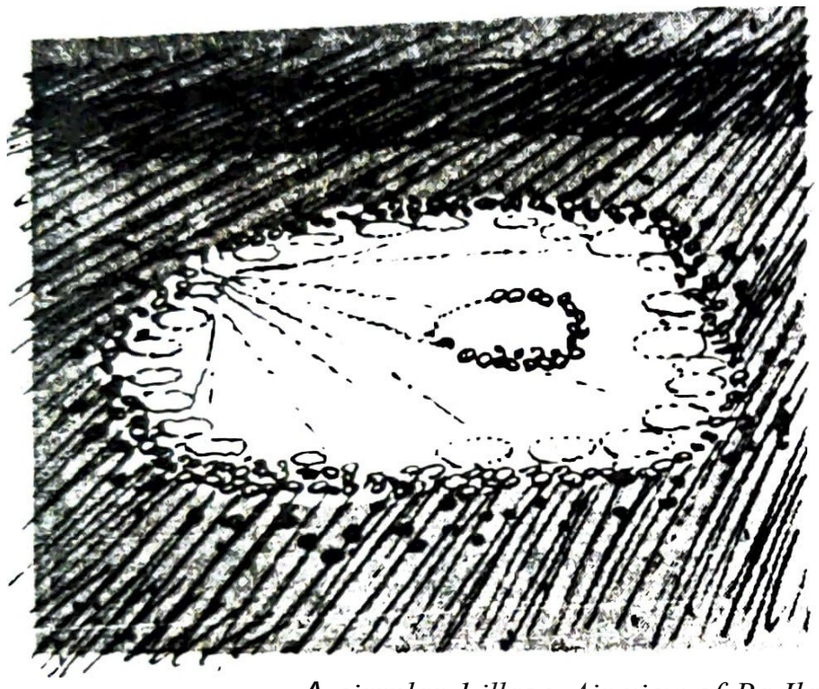
A yi/lage of rectilinear mud-br1clchouses.



Khorsabad, Iraq, 8th century, **B.C.**
An example of rectilinear town layout.



S11cce1Jive walls built around **Par/J** */rom tis founding to tire /9tlr ce11111ry.*



A cirrnlar 1·illage. Air view of Ba Ila Village_in Northern Rhodesia. Small huts form the outer circle. The chief's compound is in the center.
Ca/lie pens line the outer circle of huts.

The grid layout was accompanied an probably preceded equally important layout system

The circle was form for fencing in cattle, for 1t enclosed a maximum of Ian a minimum of fence.

The major role of the circular form of town layout was a defensive one.

Centric, the means by which circular settlements enlarge. radio centric pattern develops from the circular by outward along the radial routes;

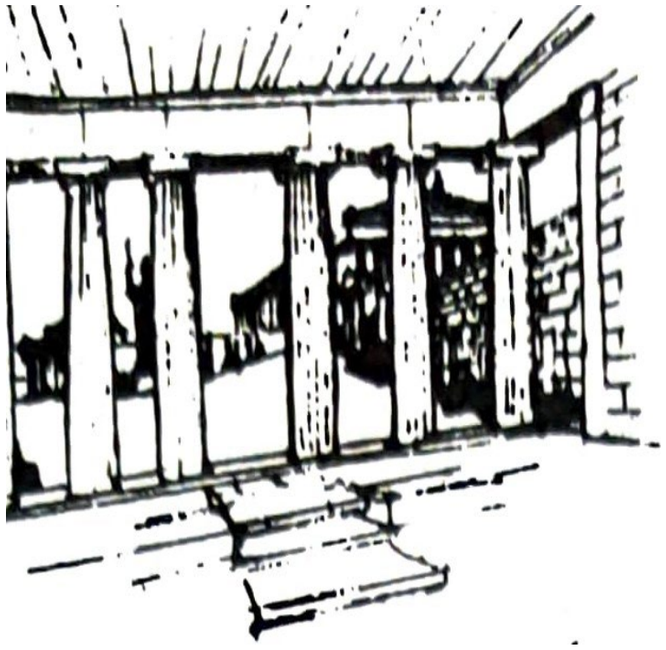
The early Greek cities were quasi-rectilinear, the houses being small cubicles

Greek buildings always gave a sense of human measure to the landscape

Such man-made objects are conveniently called "para meters." It is this sense of human measure that architects ca11 "scale."

Three examples of Greek design illustrate these qualities: the Athenian Acropolis; the Athenian agora: and the Greek colonial towns.

***The** Acropolis of A thens.*



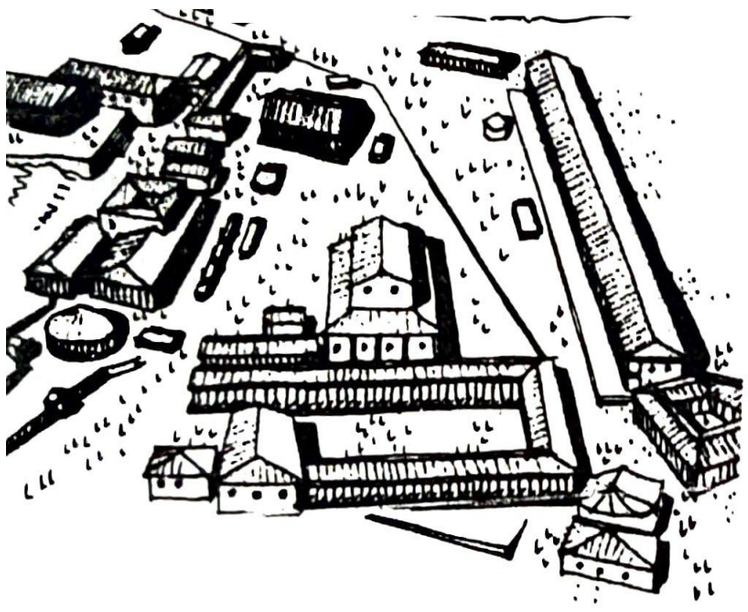
Tht Parthenon from tht Propylata.

The Athenian agora with tht Odton against a background of sloas. In the distance, tht Acropolis.

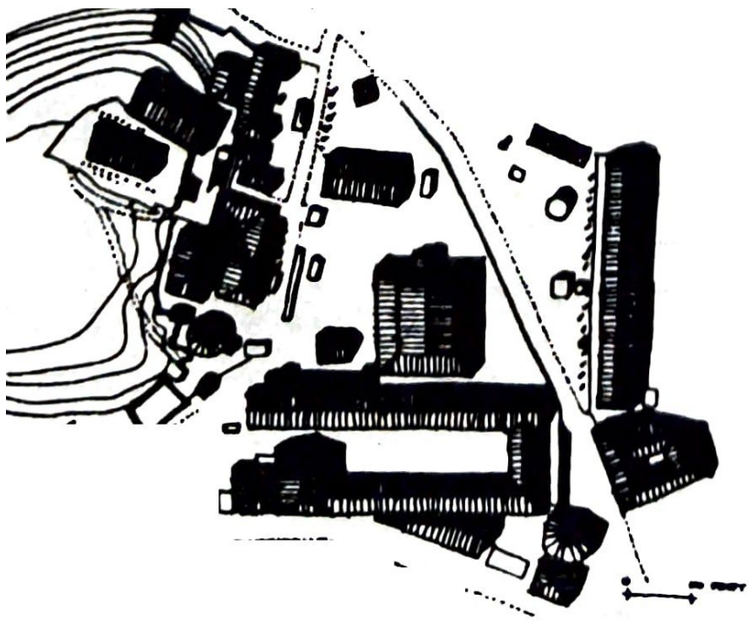
The Greeks placed their buildings to relate

Acropolis consisted of masses articulate

Buildings of the agora served as facades to form an urban space



ThAegora of Athens as seen looking down from tht Acropolis.



Plan of the Atht•nian a,:ora, 2nd century **B-C.**

Its early buildings were small and unified visually by their shapes, details, and sizes.

Grouped around a central opens Small gaps between the bulldogs sense of spatial enclosure.

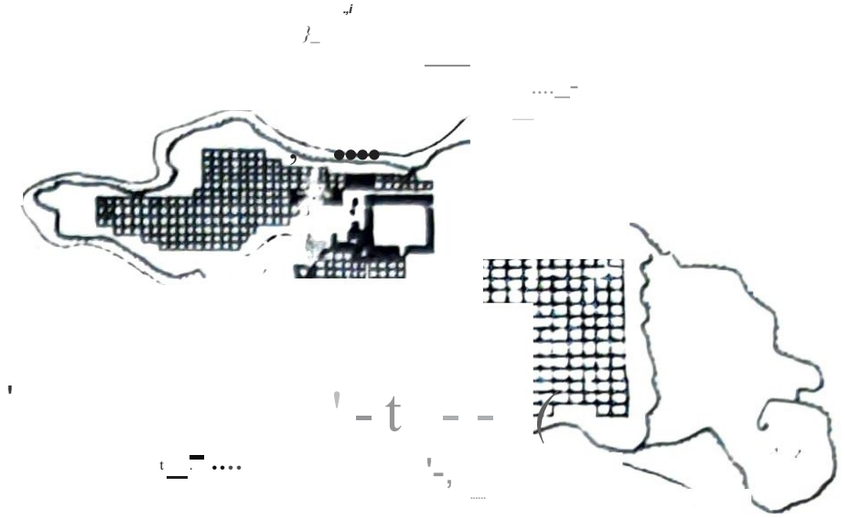
Statues and other sculptural accented the central open space here and there

Agora was, first and foremost, an urban space

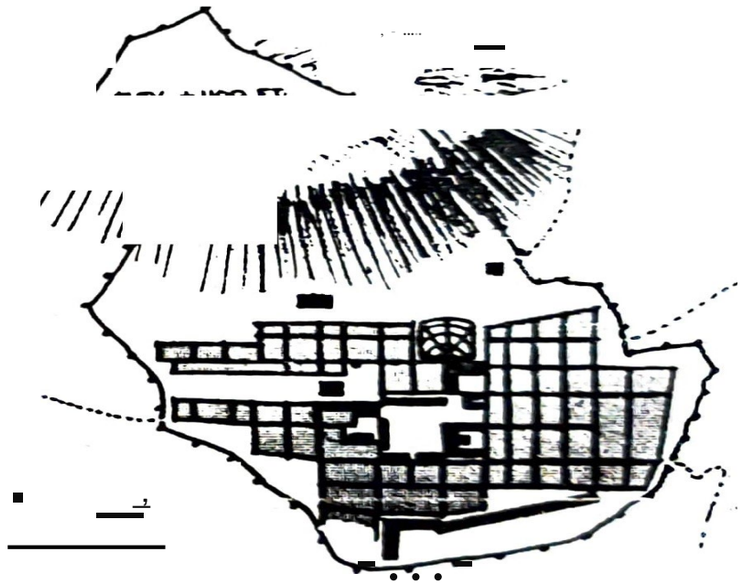
- Idea of the agora as both a *place* and as a *space* is one of the most useful concepts of urban design.

Greek Towns

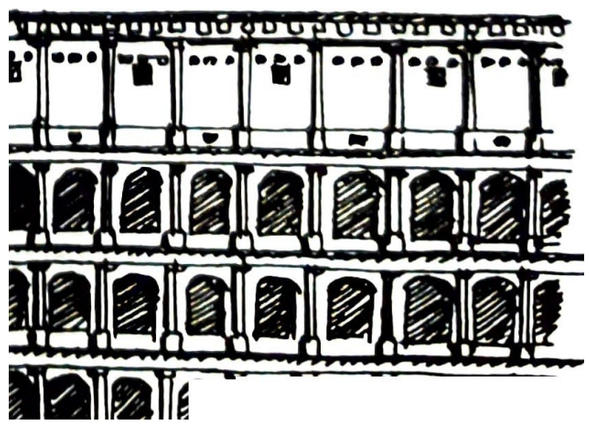
- Athens as a city was a cluster of irregular cells.
- Hippodamus. who lived in the fifth century B.C.
- street layouts along gridiron patterns.
- Probably derived from ancient Babylonia, where open plazas were interspersed throughout the grid layout.
- Athens' harbor. Piraeus, is attributed to Hippodamus
- Cities as areas of finite size, comprehensible to the eye and politically workable.
- Series of rectangular blocks or cells, all adding up to a whole town,



*The **Greek** colonial town of Milet11s. illusrrarini tire principles of Hippodamus, altlro11Klr built befnre hiJ time.*

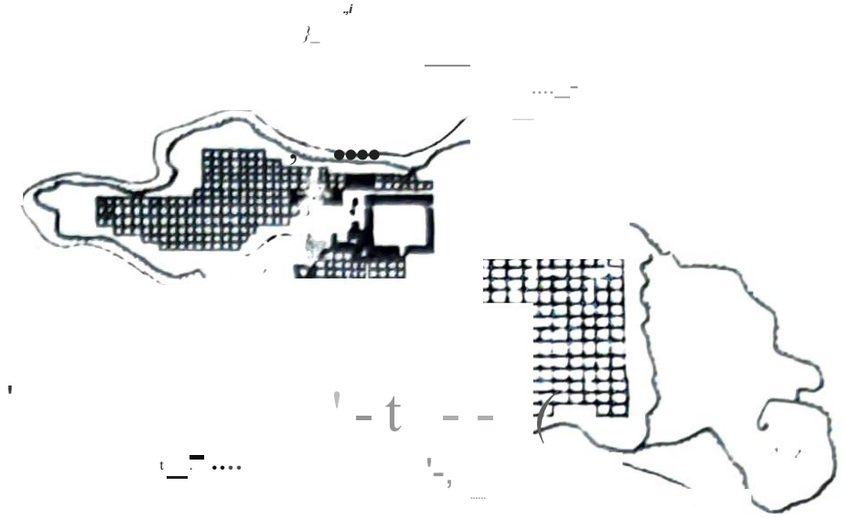


The Greek colonial town of PrieM, illustrating the principles of Hippodamus, but planned after his time.



Roman Circus Facade

- Population-growth was terminated and a new town started at another propitious site
- The new town was called a "neopolis,••
- The first neopolis was called "pukopolis" or old town.
- Milelus - seventy or more new towns.



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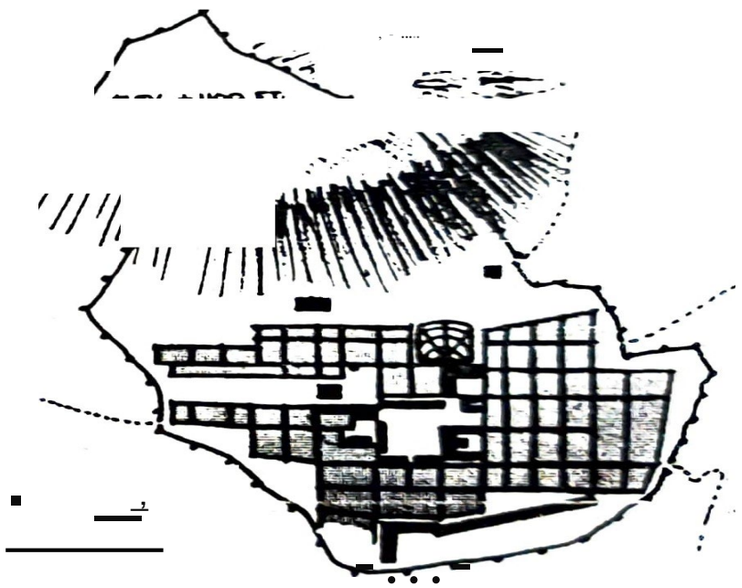
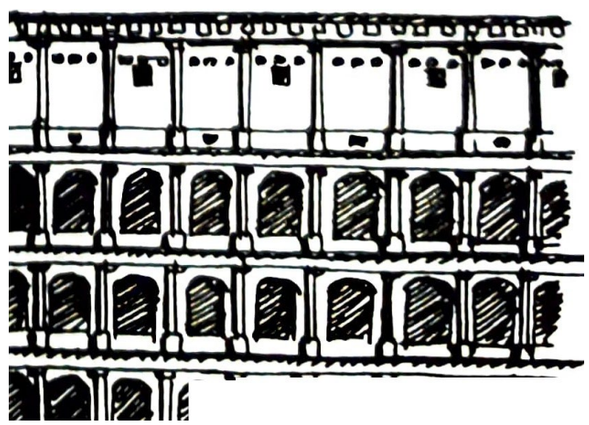


The Greek colonial town of PrieM, illustrating the principles of Hippodamus, but planned after his time.

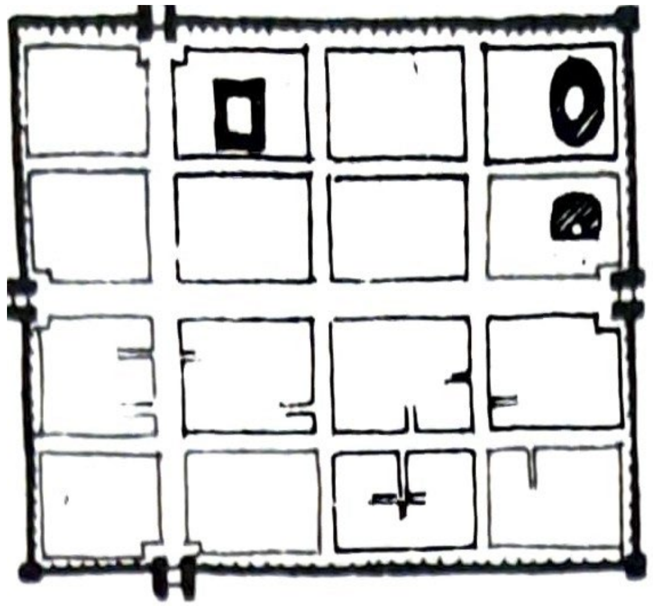
- New towns Miletus, Priene, or Alexandria.
- Romans adopted and enlarged upon the ideas of Greece and added a few of their own.

Urban Design in Ancient Rome

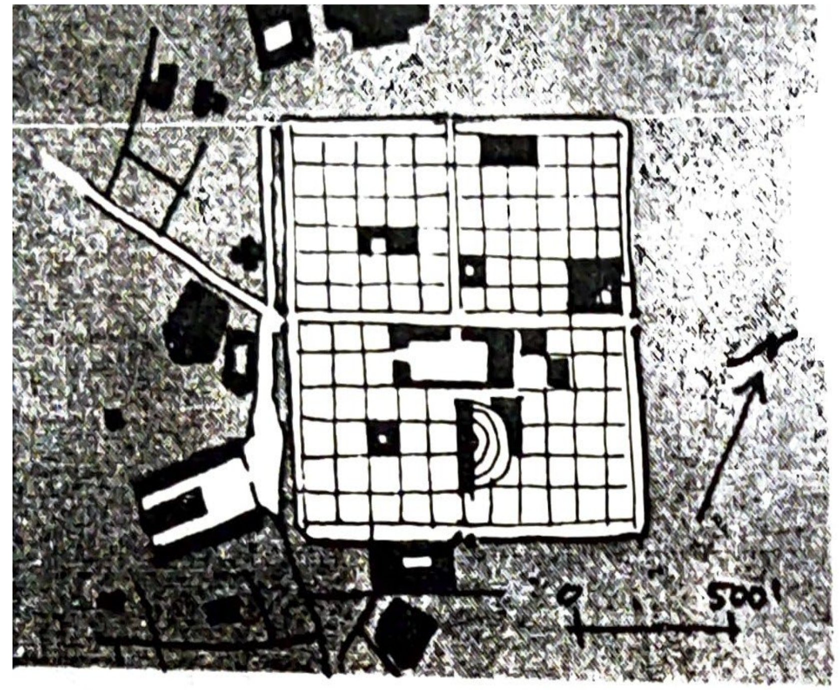
- Romans were motivated by political power and organization.
- Greek architecture-its scale-were based primarily on human mi:asuremcnts.
- Romans use grand scale. The size of a column determined scale



Roman Circus Facade



Ao.Ha, a typical Ro111a11 military tow11.

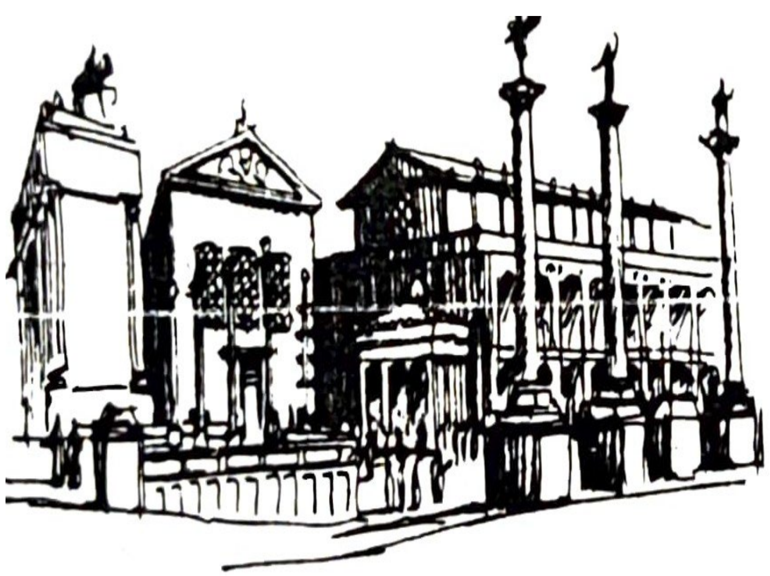


Timgad, Nortli Africa. Built A.D. J0Q-117. A Roman colonial town.

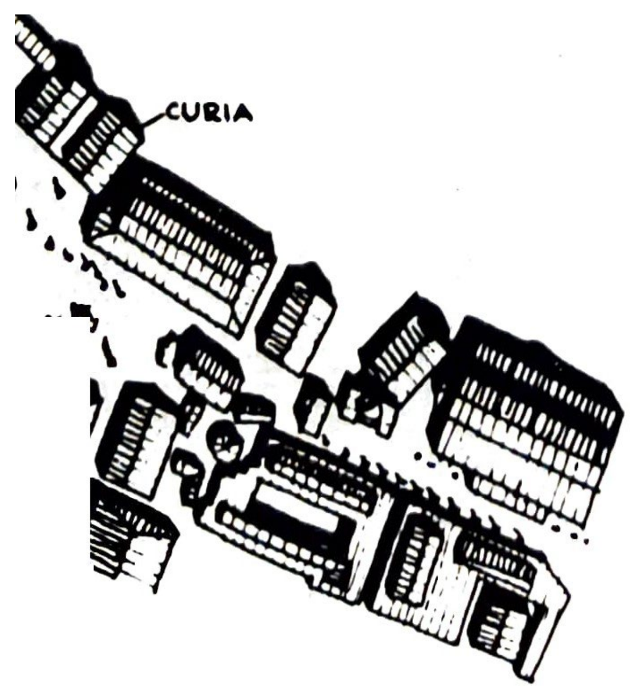
System of proportions is called a "module.,

Romans usually chose large modules

Places of assembly theater, the arena, and the market



The Rtp11blican Forum. The Curia (Assembly) is the ctnter building.



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The Republican Forum in Rome

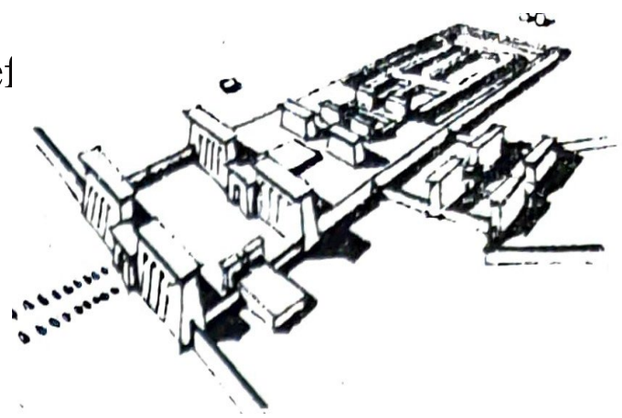
Five or more buildings were crowded close together.

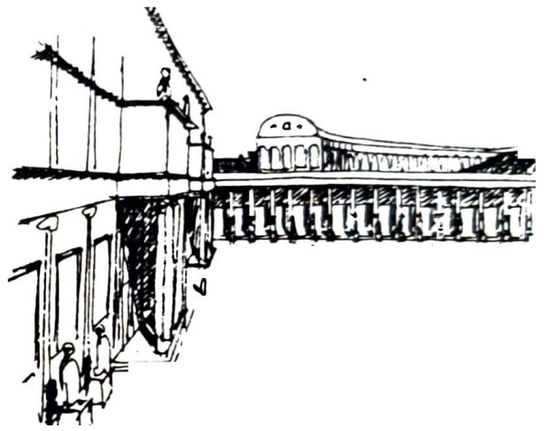
"Curia"· The Curia was a small block

Scale relationship between large buildings

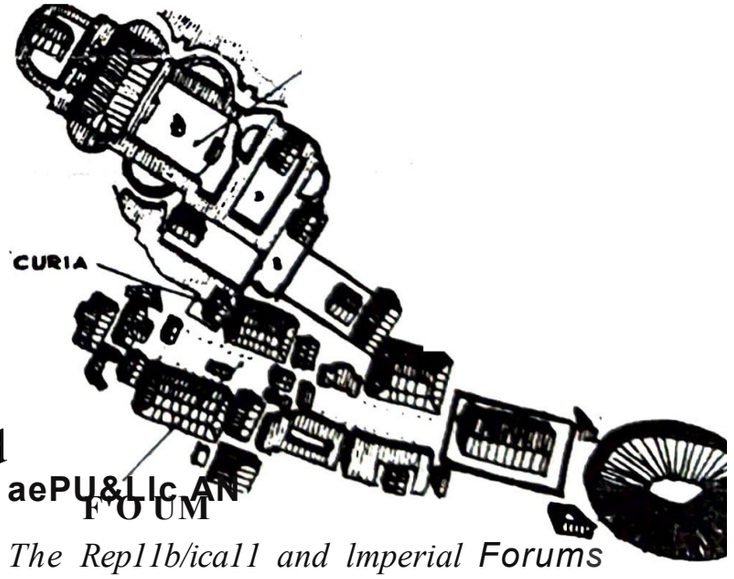
The Imperial Forum

- The extension of the Forum period of the Empire 27 BC -476 A.D.)
- Built along an axis determined by the space lef between hills in the central city.
- This axis started about midway along the Republican Forum's axis and procet!ded in a northwest direction for over a thousand feet.
- Imperial Forum was composed of square, rectilinear, and cmicircular plazas, each formed by a colonnade and acting as a setting for a key focal building
- A temple or basilica at the end of the space.
- Distinct places within a still larger place.
- Further. individual plazas connected by a colon
- nade, which acted as both transition and link.
- Imperial Forum was a work of great clarity, of immense regular spaces framed by colossal buildings.
- In contrast, the Republican Forum was a jumble of buildings. arranged incidentally along an irregular spine of space.
- Refinement of their space concepts can be seen in the large baths of
- Colonnade marked the edge of the complex and the space in which the main bath building s
- Colonnade useful purpose of having shops.

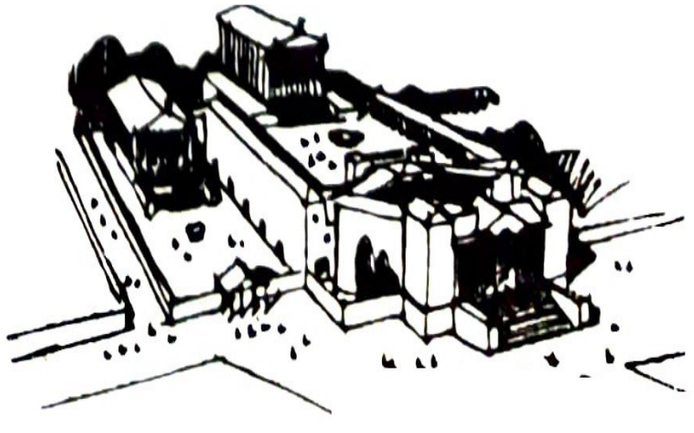




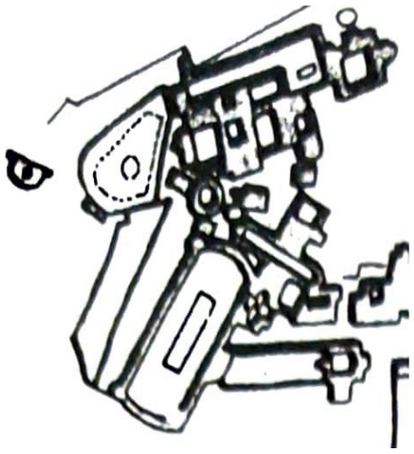
The Imperial Forum. large regular spaces.



The Rep11b/ica11 and lmperial Forums together.



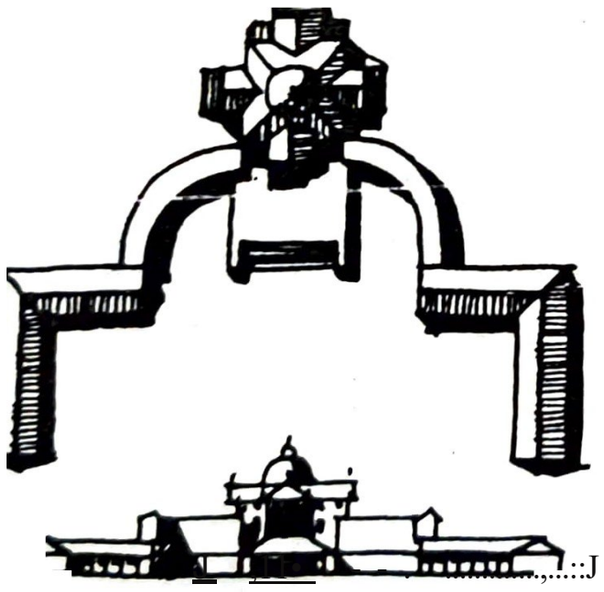
Roman forum



Hadrian villa near Rome

Hadrian villa.

- Major court spaces were located as per topography and interconnected by architectural axes
- Connected Spaces
- Observer can easily move from one space to other
- Romans found engineering solutions with large aqua ducts and sewers



A villa In M&do, Italy, by Palladio.

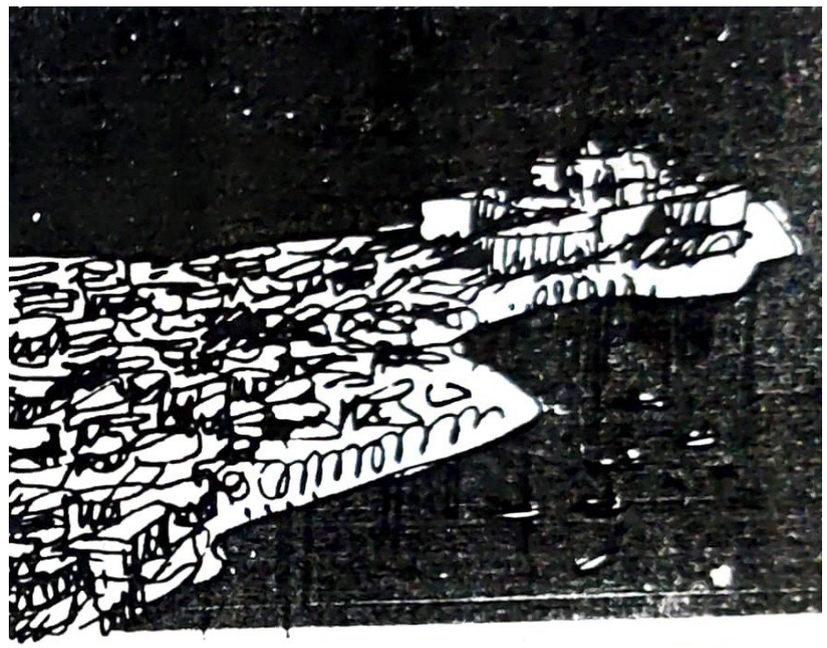
Fortified gate

- Castle towns, built atop hills, were enclosed bv circular A natural growth starting at gateways, extending along road ways and then fanning out. Aradiocentric pattern.

- Towns were dominant symbols for the people
- In early medieval illusrrations, paintings. or manuscript drawing, the castle was rortraycd as an object in the landscape-dominating and aloof.

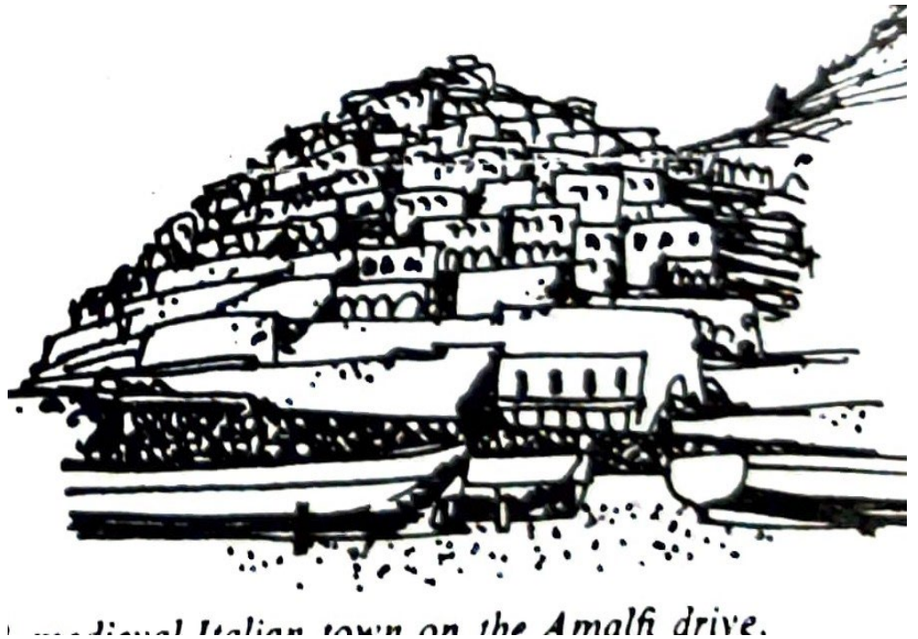
- Small house with gardens and privacy.
- Town based on Agricultural Domain
- Town Centre as nucleus

A castle in Corsica.



A fortress that grew into a city. Siracccsa, Sicily.

- Finite size and not enlarged beyond-practical limits.
- These limits largely determined by the capacity of a particul.ar land
- Accommodate an increasing population-and new walls built In encircle
- Bonds of Chris tianity welded the separate guild fraternities into a community spirit.
- The guild and burgher mentality developed in the home and was motivated by mutual materialistic interests.

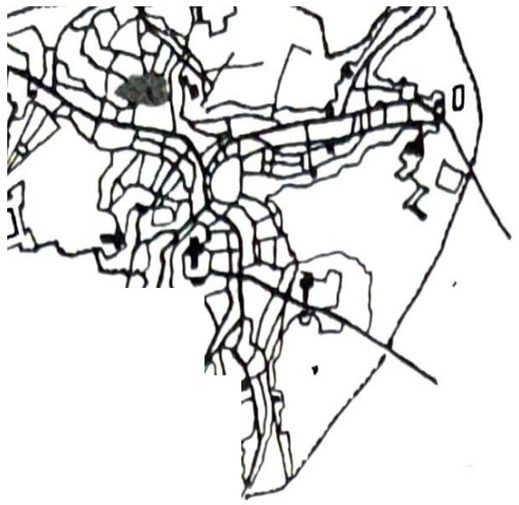


A medieval Italian town on the Amalfi drive

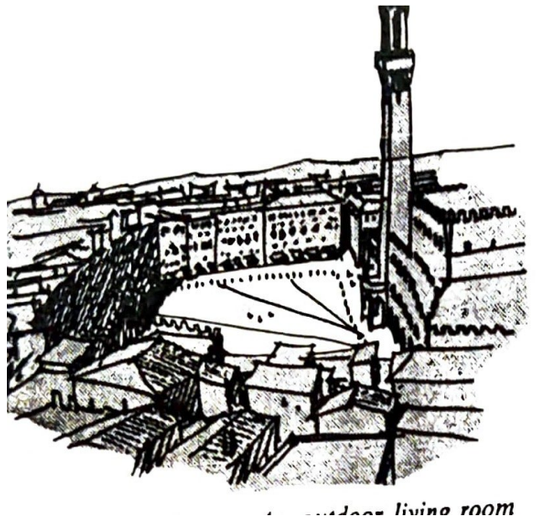
- Medieval burgher's need for reassuring surroundings resulted in a similar sense of human scale in h is towns and buildings..
- As the efficiency of this **medieval** society increased, so did its
- powers. The medieval towns became parts of larger territorial states.
- Growth in population and trade soon created the need for
- marketplaces. Marketplace of the medieval town similar to agora or forum.
- Towns were too immediate, tangible, and organi

Façade of Medieval towns

Winding streets and vistas were seen walking in medieval town (Church Towers) – Human Scale for human activities



Siena,Jraly. Th!! Piuz::a de/ Campc> is at thecenter. Thecarhedral is to its northwest.



The Piazza de/ Campo. An outdoor living room for the **entire** town.

Siena

A pattern of Streets which follow logical topographical lines

passage from them open piazza is dramatic

Campo, a large outdoor living room

Entrance . a. piazza were determinants in the placing of towers,

The Piazza del Campo.

Medieval Town Design

Architecture as an art about fortifications, churches, guild halls, and houses

Building façade seen partially

Front facade of a church only fully viewable
Exterior as per the suitability of local conditions

The main cathedral of Siena
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Vertical emphasis Gothic church facades was a result of close viewing conditions

- Design elements of medieval town were its houses and gardens, walls, plazas, church, public buildings, and, most important street

- Plan of a medieval town usually appears logical form (it lacks pure geometry)

- Layout was highly functional

- Traffic from town gate to:ccntral .Plaza sought a direct and convenient course

- Geometry of the grid layout is sometimes found in medieval towns, as colonial outposts

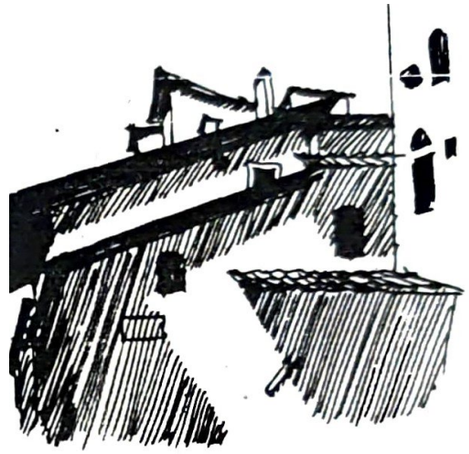
Aigues Martes, in Southern France

- Simple rectangle with defensive wall, moat, and circular stronghold tower at one corner

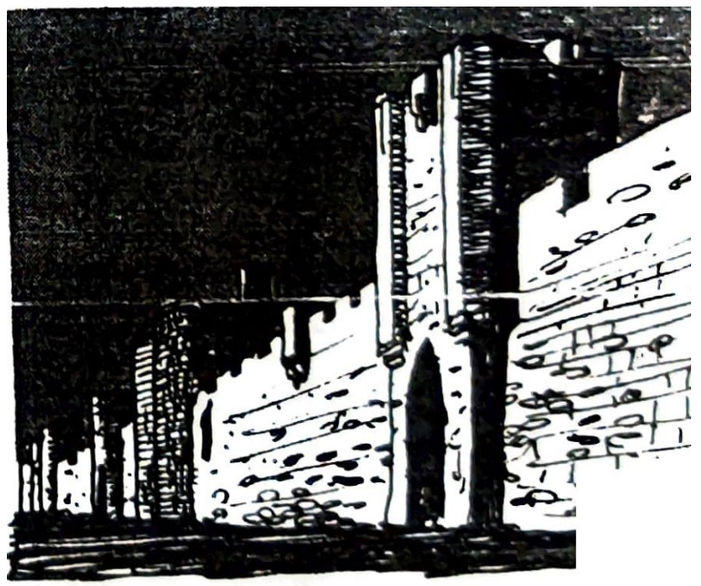
- Streets are a grid and there is a plaza at the center

- Streets do not lead directly from the gates to the plaza, probably to confuse an enemy

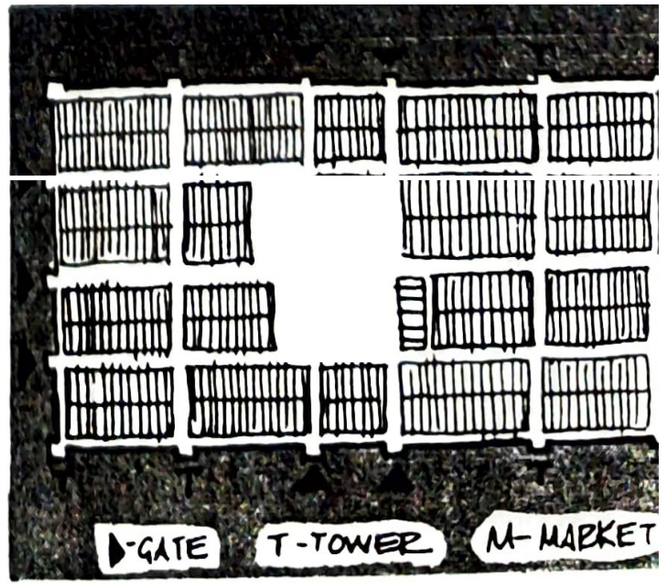
Gothic i·erticality on a church facade. Amiens Cathedral.



Typical roof overhangs and massing of buildings in a medieval Italian to.,,,.n. The house of Dante in Florence.



The wo/1.r of Aigues Morles in southern France, 13th centur)'.



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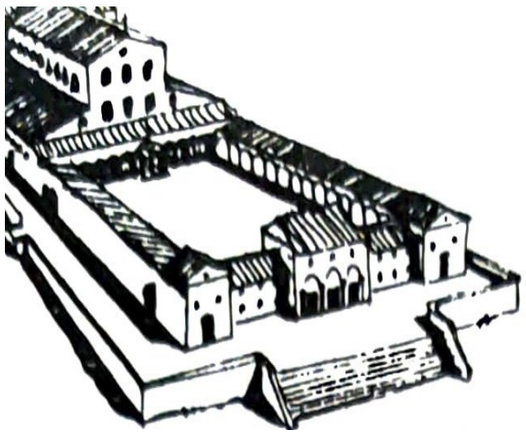
Principal nature Medieval Urban Design is humanist



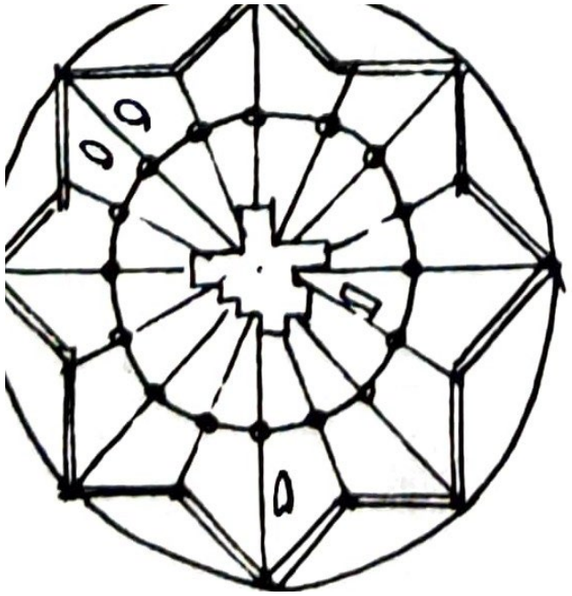
.An early Christian church. Old St. Peter's in Rome.

Urban Design Principals in the Renaissance

Ideal Cities

- Year1440 marks beginning of Rennaissance
- Leon Battista Alberti – Book De Architecture
- Vitruvius – Roman Building Design

- Alberti – Ideal Cities, Star shaped plans with streets raidiating from a central point
- Which is church, palace, or castle
- Perfect symmetrical composition
- Alberti – Ideal cities on hill side and land



Pla1n for an ideal city

the polygon was an advantageous shape for fortifications and that converging streets were a useful means of focusing on an important central building

Filarete, were preoccupied with the military corners wall could better accept the impact of cannon balls

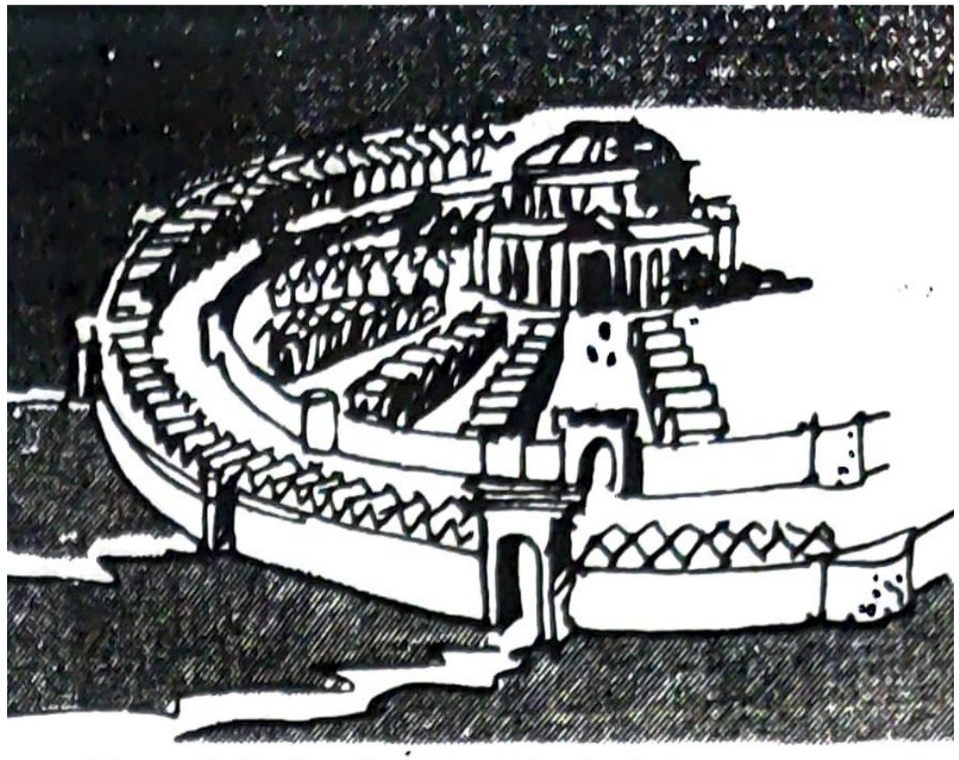
Fra Giaconda saw artistic possibilities in a central layout. T all central building whose vertical is echoed in each of its peripheral bastions.

Vincenzo Scamozzi designed an ideal city with a gridiron interior street layout

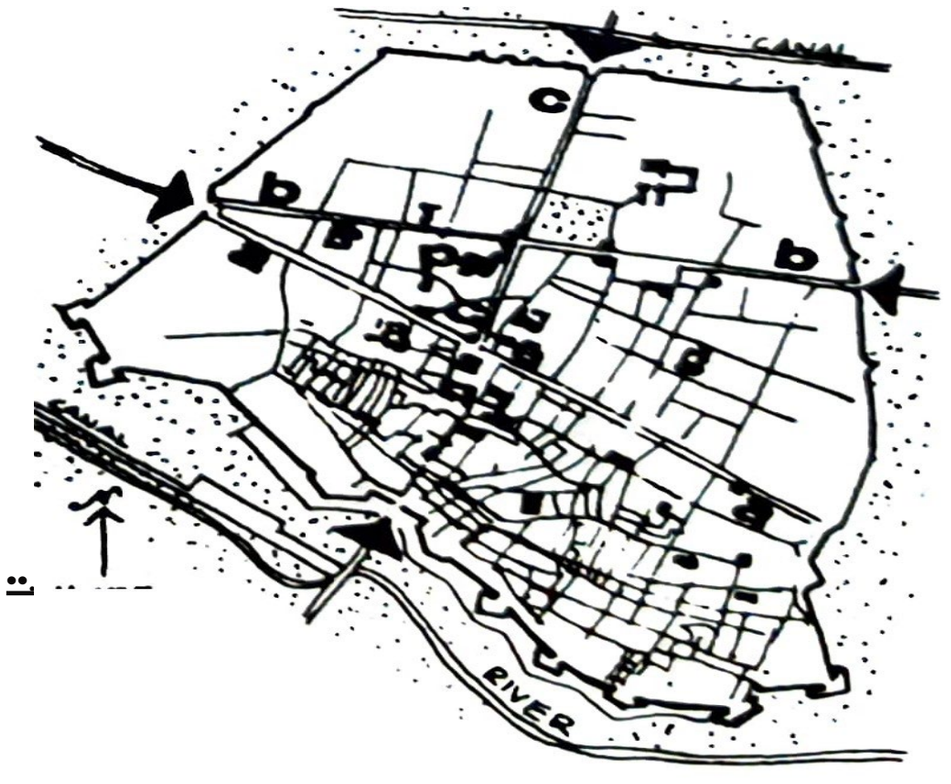
Rebuilding Ferrara

Hercules I ascended the throne of Ferrara

Biaggio Rossetti - Redevelopment of Ferrara: 1) street widenings, 2) erection of new buildings in the old town, and 3) carrying forward the major element



Fra Giacondo's sketch of an ideal city. The central church and gait towers accentuate the main terminals of the city.



Ferrara Rebuilding

Rossetti planned three new broad roads
ran east-west other devide city into four quadrants.

The Palazzo Diamenti at Ferrara

Leonardo da Vinci as a Town Planner
water and sewage

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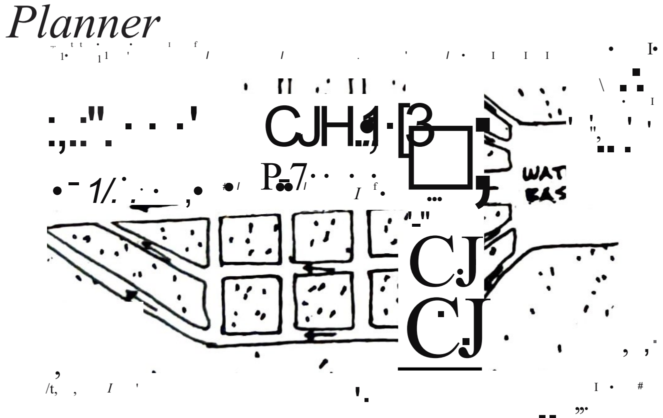
The Palazzo Diamenti at the main intersection of Ferrara.



*Leonardo's sketch of a water and **sewage** system for a spindle-shaped rfrer city.*

One of Leonardo's many ideas
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and street in Ferrara but only of those most i,nportant. He furnished the bone new ele-11c new town·s d esl·gn, around whi·ch the s p clld. Vital nts inalogical and organized way-and with Partin g flesh 0 rg

Rossetti planned three new broad strcctarnpte Vajeol Ferrara. One of these ran cast-west and s fo r the e city with the old. The other two were at ri h WouJct connec the city into four quadrants. At their intef t ngles a new palace for Hercules, the Palazzo Di'am section h anti I e d there was no assurance that a proposed str n R0s beingJUSt b eca se 1t was_ d es1gnated on a plan.A eet Would force was required-which Rossetti provided by1110rec of his plan. All main streets connected vital . the sh to each other: gates to palace; gates to old rints of plazas; and important buildings to each other ortrcss;

Rossetti may be regarded as one of the W,-J'c,-n WCild modern urban designers. He, Ukc ourselves h d eristing city and plan for its enlargement He'l'ka torc to decide where to concentrate his efforts, not be sc build either on a totally clear site or build everyth ing H 1s gem us ay rn conceiving a pan that was logical and one that concentrated on essentials and provideda f for others to build upon. Indeed. v.hen Jacob Burckh d Ferrara in 1860, he wrote: "Ferrara is the firstmod in Europe."

Leonardo da Vinci as a Town Planner

Less than a ccntun· after Rossetti's work in Ferrara,L d:1 \'inci pondered th ·same problems but from a still lar of view. pon entering Milan, Leonardo was struck byth squalor and unhealthful crowding. No doubt he had se the same symptoms of urban disease elsewhere, but he of ways to cure them and described, in his *Codex Atlan* new concept of urban planning.

Leonardo sketched a citv straddline a river. Upstream. t was diverted into six or seven branches, all parallel to stream arid rejoining it below the city. These streams.J supply water and carry away waste. The c·ity 1tself . d t three levels: the lower for water and sewage; the !DIe, gage and functional circulation; the upper for the !:er of the city. He suggested hydraulic devices to vary ngs so that the lower levels could be cleansed by movill f

Multileve]s wou]d also relieve traffic congest1on an circulation. ed

Leonardo's thinking went even further. He pro ht wooden houses for workers so that they cou ld)ive 1n time s1de d un ng the period of crop ra1s ing,a t the same t ,onctP their health. This idea anticipated the greenbe icllite on space around a cl·1,·. H e a so pr orosed sa is ol Wl)rkcrs, around Milan. Of course only t h Osc par <I's1gns wh1l·h s11tcd the needs Pl 111s tum were u c d 11,)11 and canal pl;1ns. Ll'1111;1r·fl,'s logi(fso cnl brace crricn1 1!UI 11c11hcr urban ,·nm th 11nr tu11ct1 ·H impro ng a b d srl arily an ad\'a11a l'. Enlarl,!l'llll'lll ,.:an pro 1Ong a 1,1cn b 11 1l!l 11npro,·l'llll'nl 11! tu11cl1,lll l:an allow t- sic pro her lr Cl1 0J 111 0 1\·1·d. 1.l.'1H1.1nh1's 1hinl.:i11g al,,ng_ tlwse 11 110 Ji:s,g ,, 1,,nu11 alel v. li1tk intlul.'lh.'C Tlw dw1n of ur opi:" in () lll'\t lmk n1,1 fnim 1.1·nnanlo. but frolll thc P

Rebuilding Rome

Prnbtcms of Circulation. defense. water supply

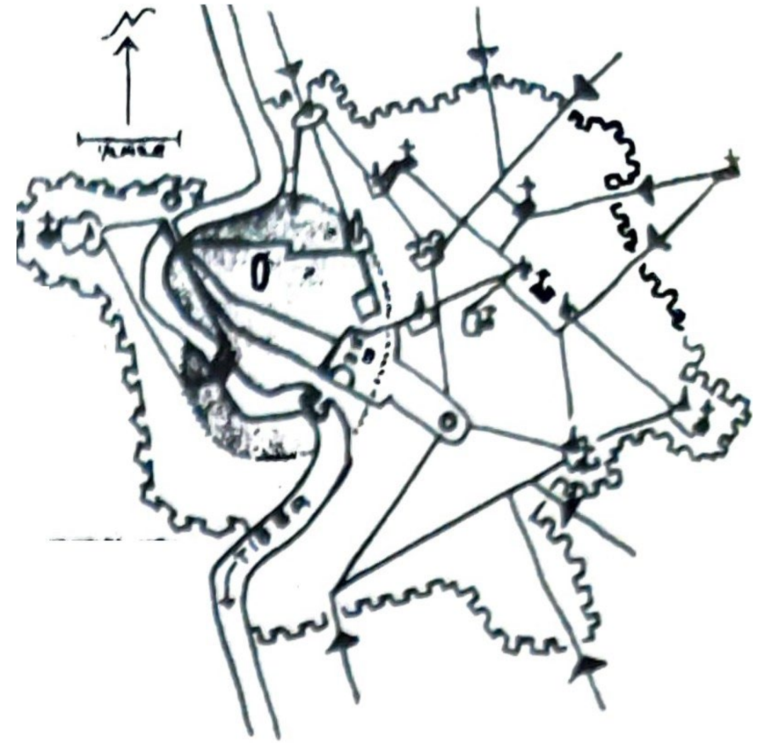
Domenico Fontana to prepare a street plan

strong visual accents to mark out the overall street design concept

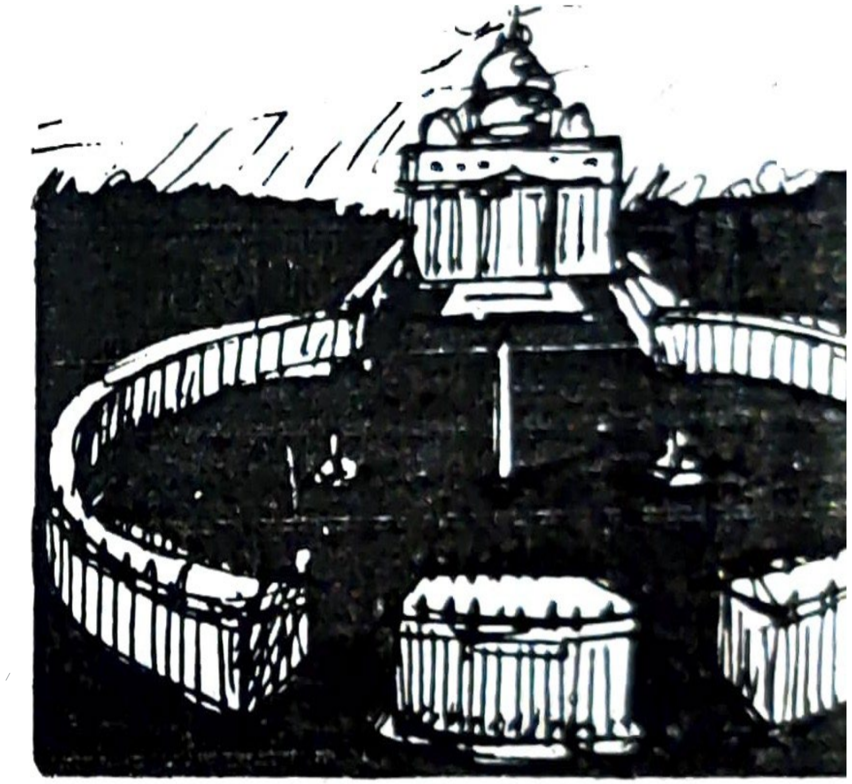
The obelisks were to act as guideposts for the whole city plan

scale reference points for successive designers

Sixtus' framework of design for the whole city and a series of design opportunities



Fontana's plnn for Rome.
His intent was to connect the shrines of Christianity and other monuments by a nnwork o fstreets. Tn so doing he established a framework for rhe city's growth.



St. Peter's Square in 1660.

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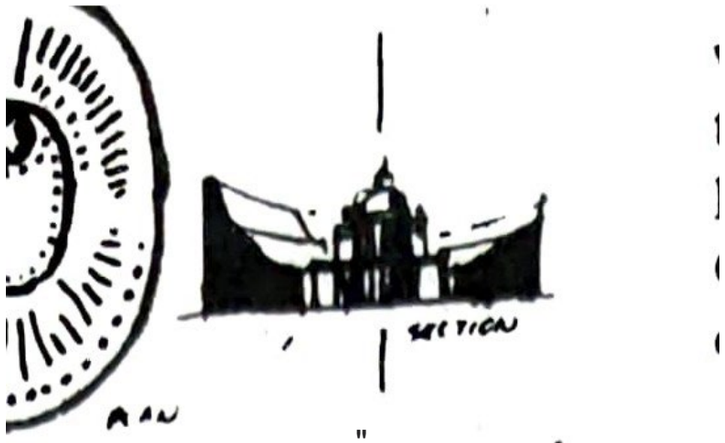
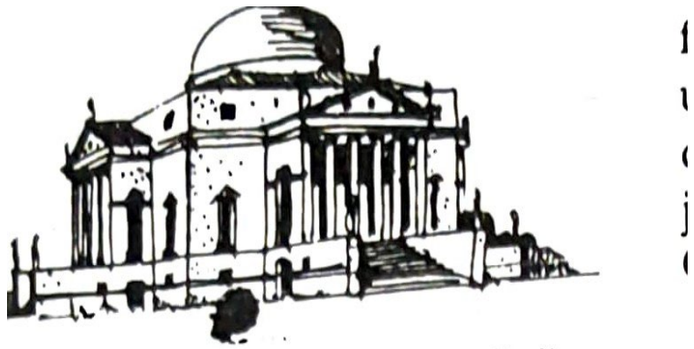


Carlo Fontana's proposal for remodelling the Colosseum.



The Villa Rotunda in Viccnza, Italy, by Palladio. The building was symmetrical about two axes. It was set on top of a rounded l,i/l and could be approached from four axial directions.

Carlo Fontana proposed that the Collcsc

but on cal setting for a great basilica within

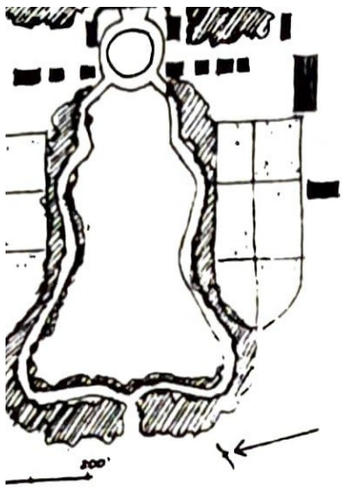
Pallodio designed were intended for refined life in basic classical themes, and developed precisean portion and module
two superb prototypes

Villa adornments of nature under man's control

one-story colonnades housing

detai˙lṁ g on bu˙ddi˙ngs

church of San Giorgio Huge engaged columns were used as parts of scale



Mount Vernon, designed by ***George*** *Washington. Palludian arrangement with an English garden entrance.*

San Giorgio Maggiore, a church in Venice by Palladio illustrating the use *of the colo.r.ral* ***or gigantic order.***

The Campidoglio in Rome

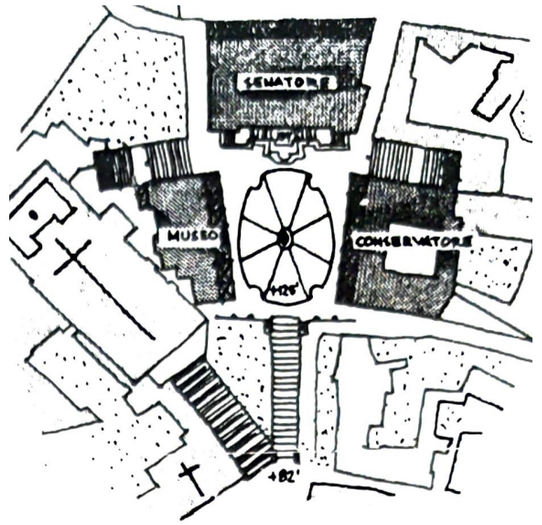
The project was a remodeling job. Two buildings sat atop the hill at a slightly acute angle to one another. Pope Paul III, a predecessor **of** Sixtus V and collector of Roman art, had placed a fine equestrian statue of Marcus Aurelius in the space formed by the **two** buildings.

Michclnngelo's design was essentially the completion and adomment of a spatial setting for the statue.

The statue was the centerpiece or guidepost for Michelangelo's remodeling work.

He designed a grand staircase behind it, which. acted as a backdrop.

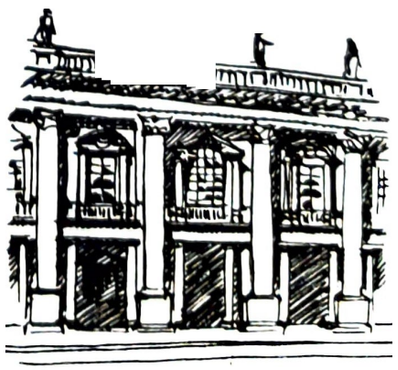
A third building was needed to form a spatial enclosure · with the statue at the center.



The Campidoglio in Rome. Michelangelo's masterpiece of urban design.

Approaching the Campidoglio vtd the ramped stair. The gigantic order unifies the facade from this viewing di5'ance.

The rusticated haument and stair elevate the Senatore building. The stair forms a backdrop for the equestrian statue. From belo,.,, these could not be sun.



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The Campidoglio in Rome

Imaginary walk toward it. At a distance, the group forms an enclosed space centered on an equestrian statue
long, ramped stair leads up to the plaza on axis with the three main buildings
facades of the buildings are unified visually

two side buildings have two stories The Palazzo de Senatore at the rear has three stories-the bottom, a strong rusticated base and the upper two stories unified by gigantic pilasters.

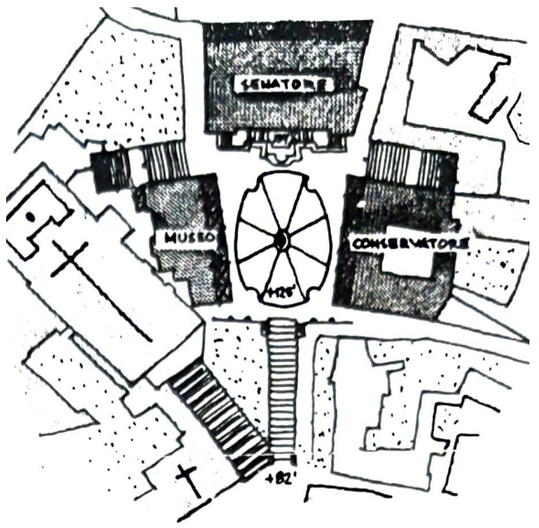
entrance ramps are not parallel but actually widen toward the. Top This divergence creates a perspective effect _stair appear shorter

two side buildings are not parallel but diverge toward the rear, creating an effect that lends more depth to the enclosed-space

As one approaches the plaza discovery of ever-finer details

Then the corners of the plaza **are** seen to be open and so beckon the visitor to views out over **the** old Roman Forum

top of the Scnatore's entrance stairway a fine panorama, framed by buildings and sculpture, presents itself-the city



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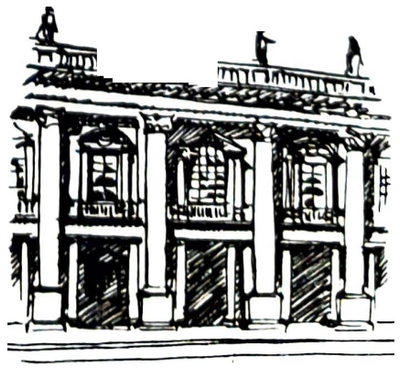

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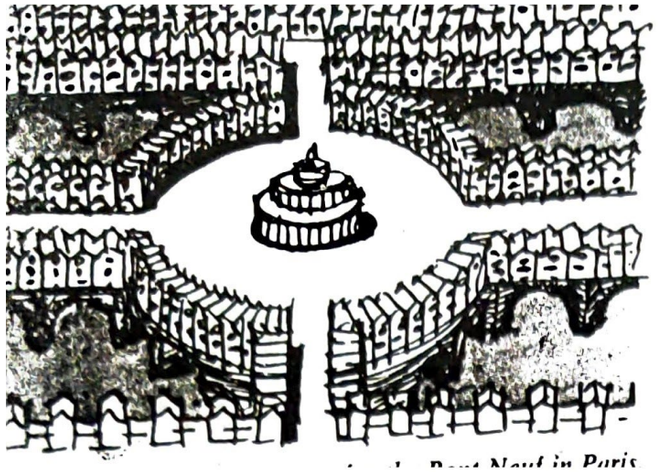
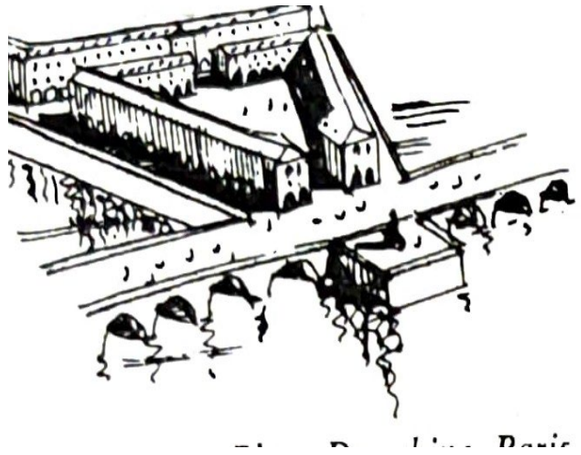


Du Cerccau's concept for the Pont Neu/ in Paris.



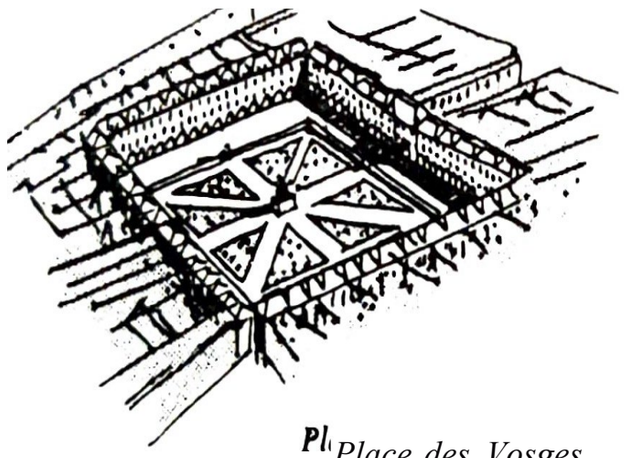
Place Dauphine, Paris.

Urban Plazas in France and England

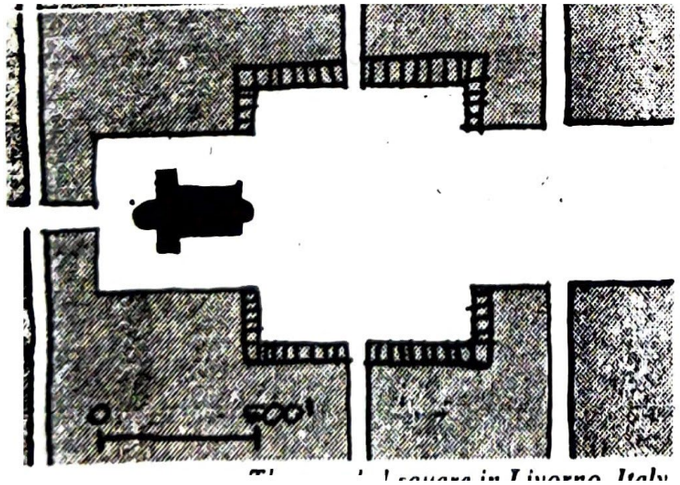
The urban design concepts developed for castle or fort;

rulers of Paris maintained a firm policy of pan growth for tax collection

Jacques Androuet du Cerceau designed in Paris many uuurban plazas



Place des Vosges, Paris.



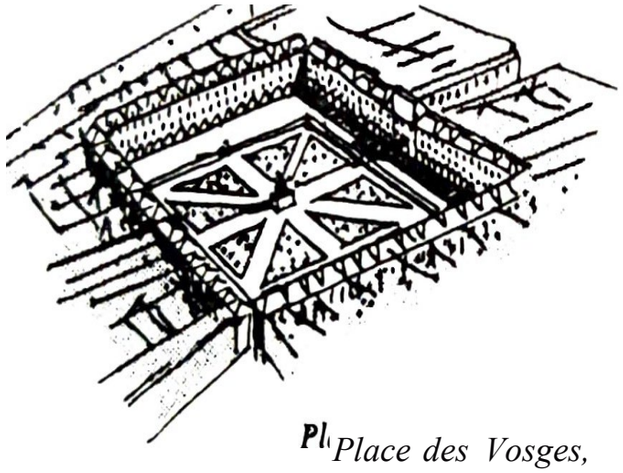
The arcaded square in Livorno, Italy.

Henry V fort to improve public Plazas and Bridges

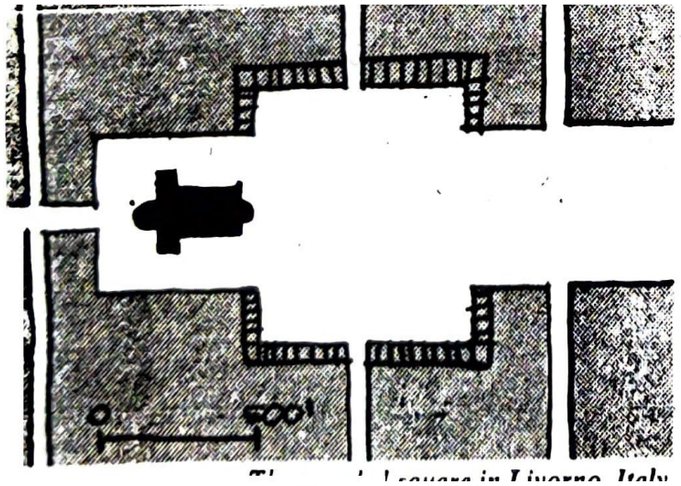
Promenading of Streets

Place Dauphine was built at apex of city Ile de Cite

Triangular in Shape with two faces facing the river



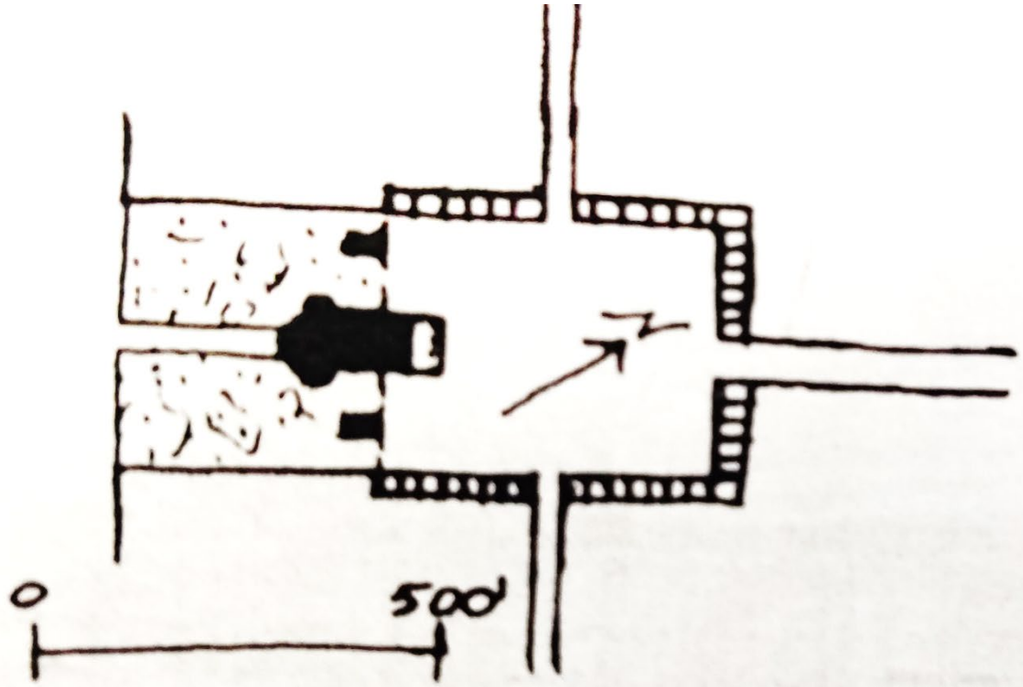
Pl *Place des Vosges, Paris.*



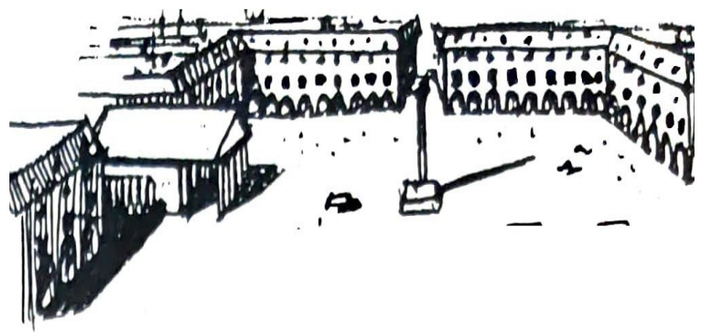
The arcaded square in Livorno, Italy.

Indigo Jones

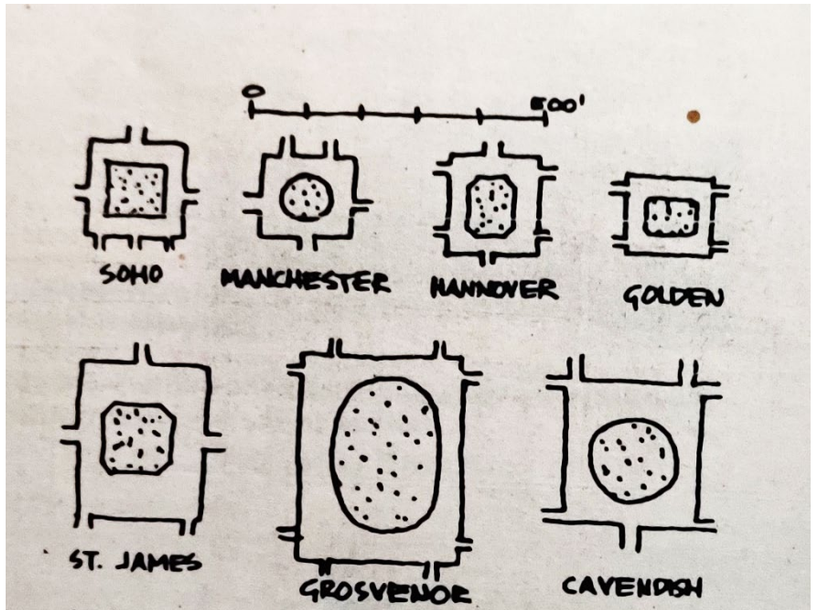
- First contemporary Plaza of Bedford Square of French Plaza in 1631
- Similar to Arcaded plaza of Livorno
- Facades were horizontally unified than individual



Covent Garden, designed by Inigo Jones and modeled after the plaza in Livorno.

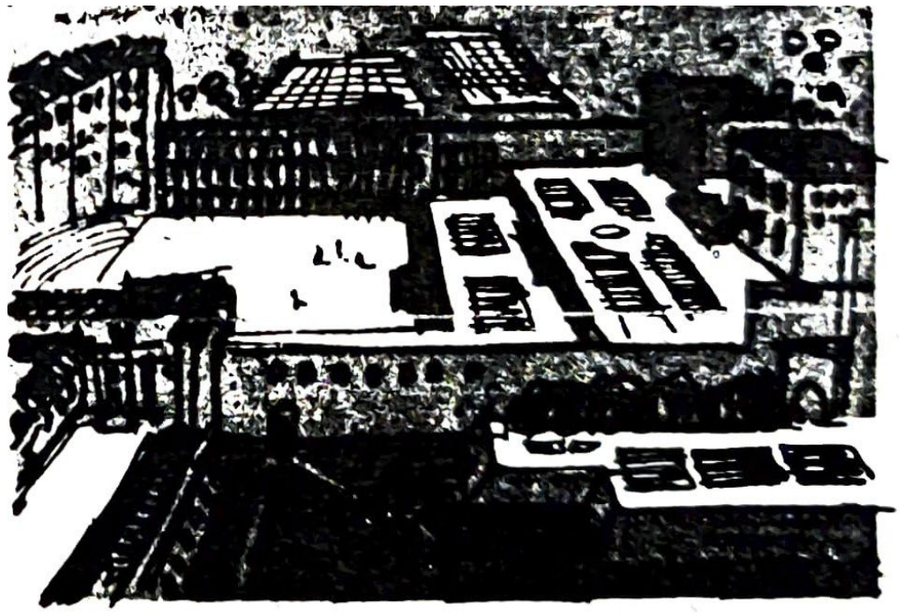


Covent Garden by Indigo Jones

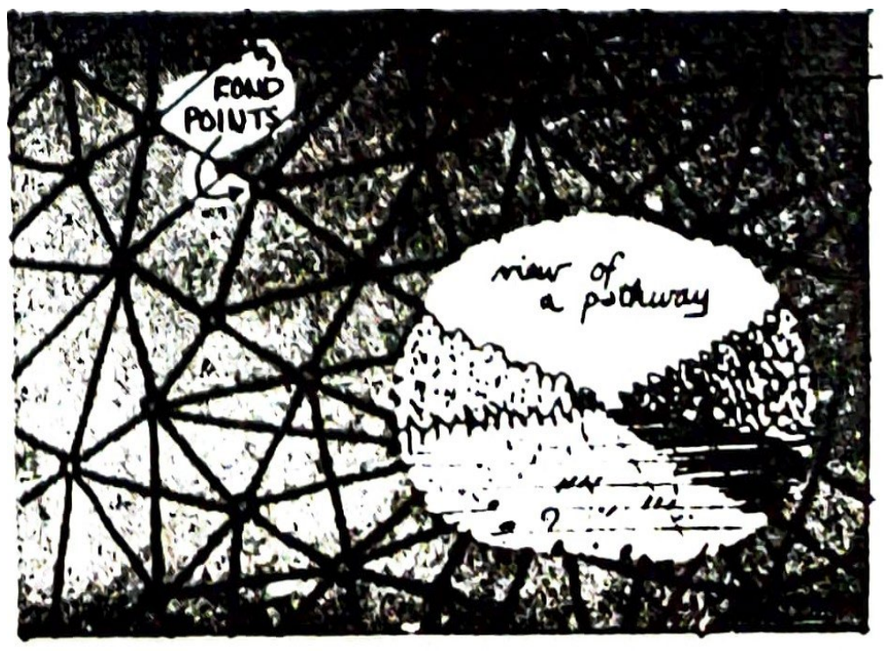


18th century squares in London. The centers were landscaped.

- A plaza not to be too long in relation with width
- Too long will result into non viewable cornices at the end in eye field vision
- A plaza could be large
- Fountains introduce to attract observer
- Plaza built as series of connected transitional devices such as narrow streets, columns screens or arches
- Plaza can be in various shapes - circles or ellipticals



Belvedere Gardens *in the Vatican. Gardens as terraces.*



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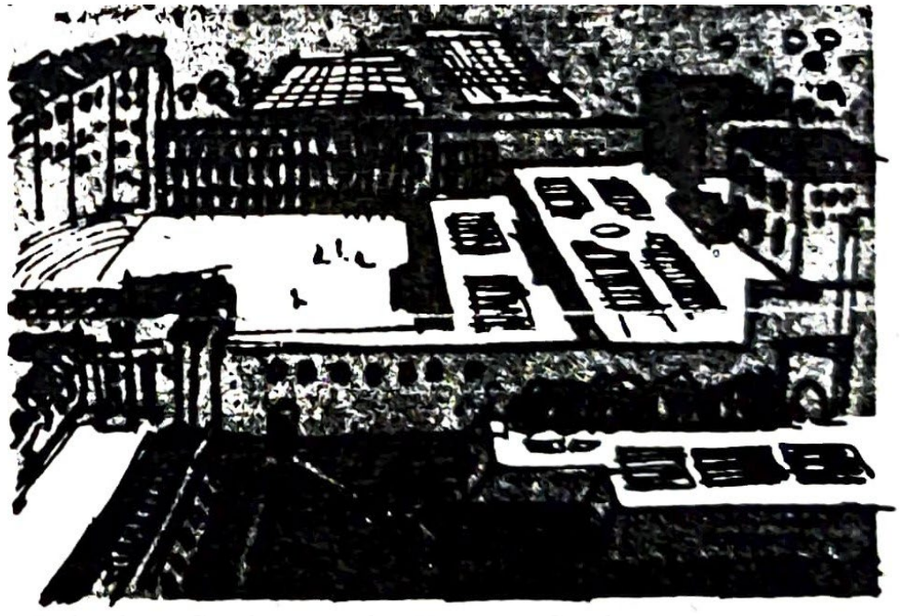
Renaissance Landscape Architecture

- Landscape as an extension to house or villa
- Landscape as rural counter part of place of piazza
- Italian garden were built as terraces
- France has more elaborate vista – resulted from hunting forest
- Hunting forest enabled a hunter standing at intersection to scan two or more pathways together
- Some intricate spider web of intersections
- Main pathway directed towards the palace of piazza
- "Rond-points" as social gathering places or focal points



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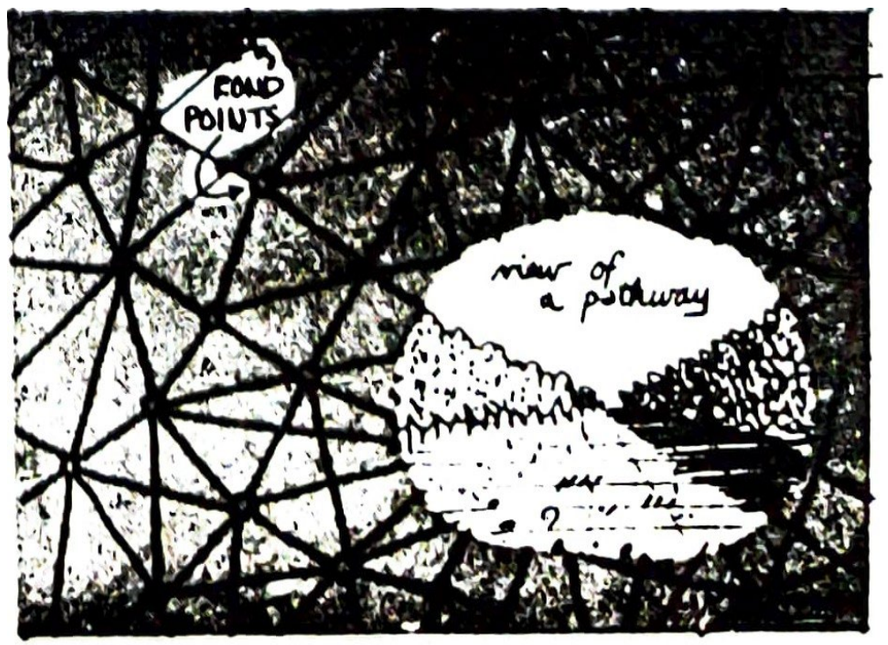

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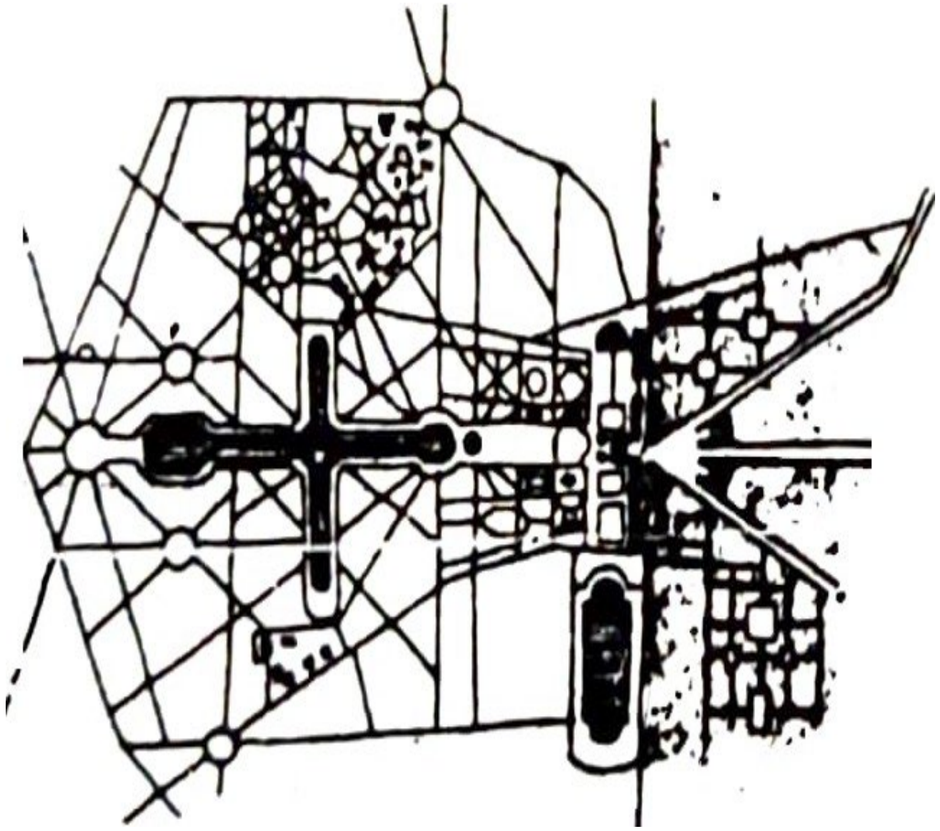
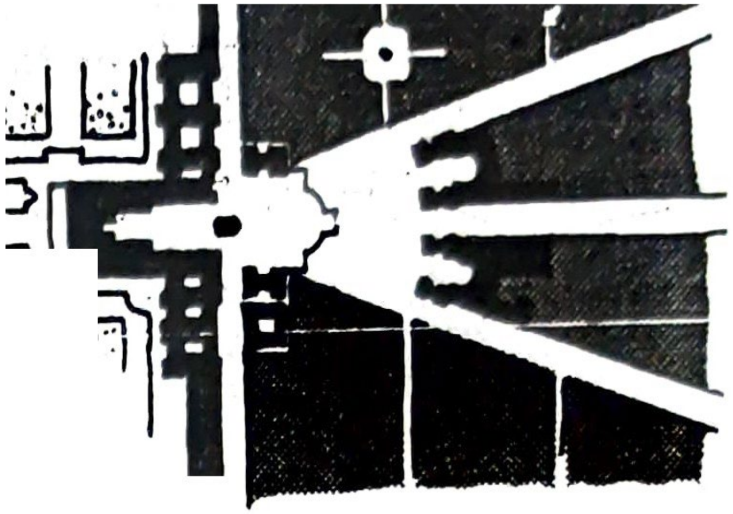
LEONTRE AND VERSAILLES

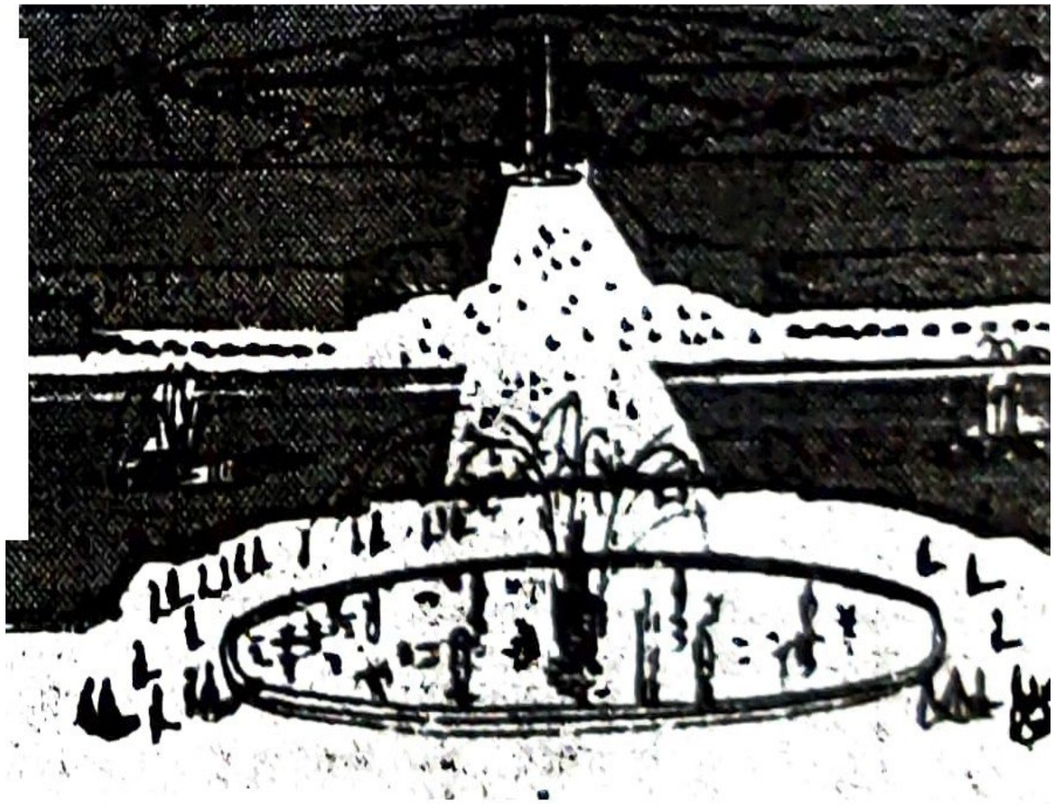
- Versailles commenced in 1670 and completed in 1710
- Palace as center of gravity of whole composition
- It is encyclopedia of vista axes – some long, some short, some single, some multiple
- The main axes is central of park
- Scans a vista from a center line of the park and scans from palace to distant horizon
- Foreground is series of terraces
- After that it continues as grassy slope
- This allows elevation to be distant send with reflecting pool
- Sky is also tied in the composition
- Art related to unlimited buildings
- It contains zoos, children's playground, small palaces, temples, villages, gardens, woods, and other features
- Lenortre system was huge visual frame work landscaped together comprehensible to the human eye and mind

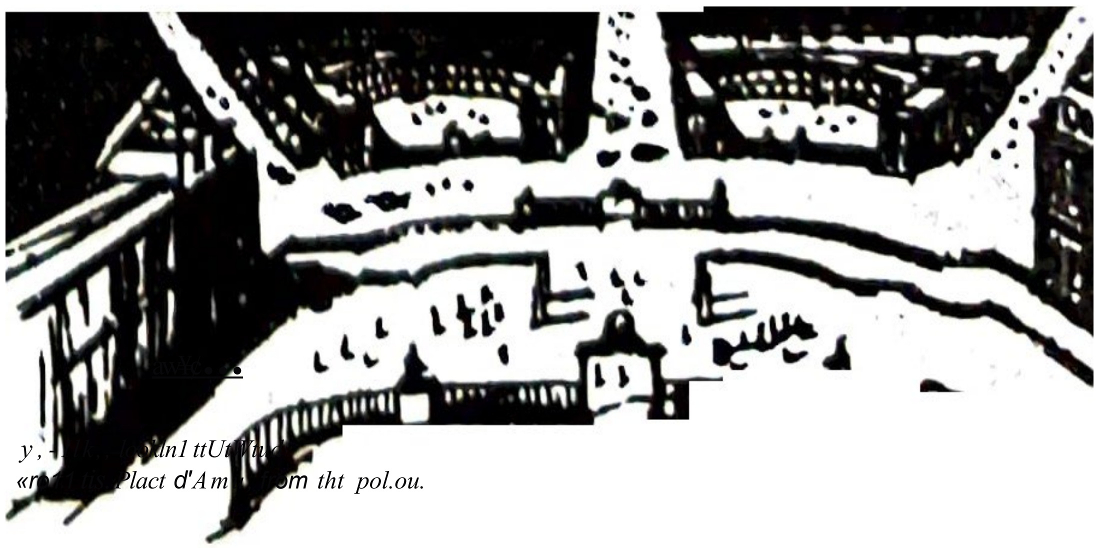


Versaillts, the park, gardens, main palace and town.



The Plau ti'Armes at Versailles.





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