

BLOCK 2: PLANNING FRAMEWORK

Lesson 1: History of urban development until 20th century

I. Antiquity : from the Greek cities to the end of the Roman world.....	p. 2
II. The Middle Ages : from the end of the Roman world to the Renaissance.....	p. 9
III. The Modern period : from the Renaissance to the French Revolution.....	p. 24
IV. The Contemporary period (from the French Revolution to the Belle Epoque).....	p. 46

Literature:

- Bacon, N.E. (1967), *Design of Cities*, The Viking press, New York.
Giedion, S. (1941), *Space, time and architecture*, The Viking press, New York.
Kostof, S (1992), *The City Assembled*, Thames and Hudson Ltd, London.
Morris, A.E.J., *History of Urban Form*, Thames and Hudson Ltd, London.
Zucker, P. (1959) *Town and square*, The Viking press, New York.

I. Antiquity : **From the Greek cities to the end of the Roman world**



COBRAMAN

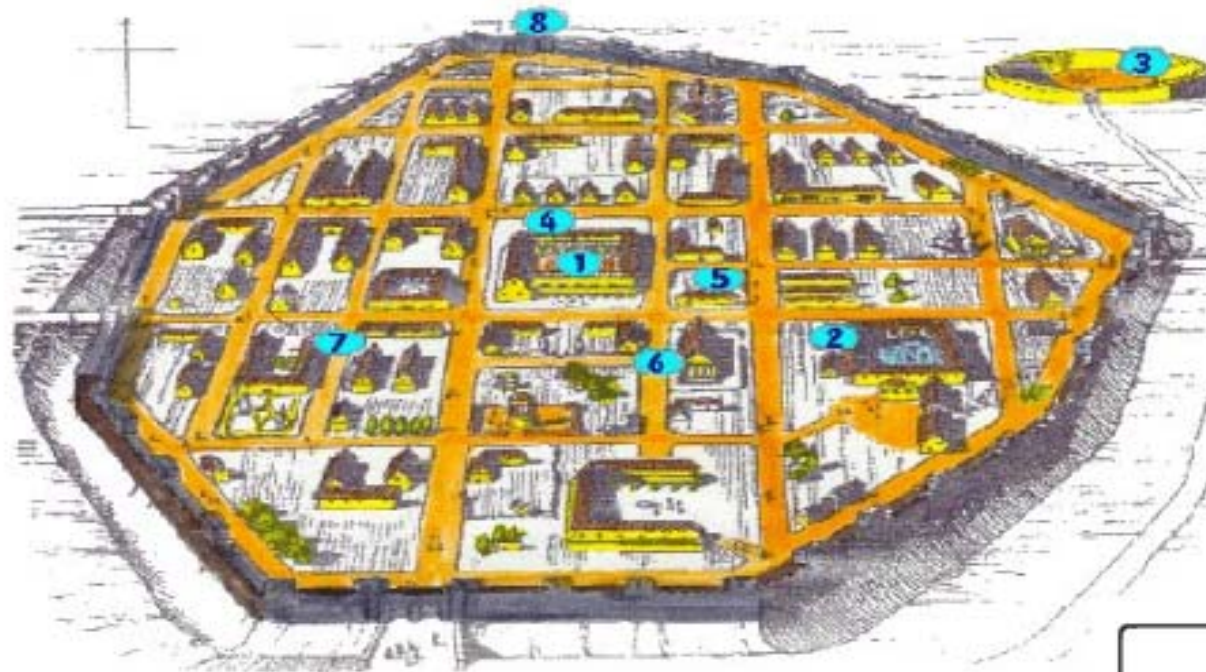


This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF

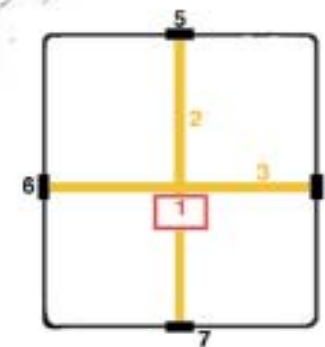
Greek and Roman town planning style

- **Hipodamus of Miletus** (498-408 BC) is an architect from Milet, in Greece, who is considered to be the “**father**” of urban planning, the namesake of *Hippodamian plan* of city layouts (**grid plan**). His plans of Greek cities were characterized by **order and regularity in contrast to the more intricacy and confusion common to cities of that period**, even Athens. He is seen as the originator of the idea that a town plan might formally **embody and clarify a rational social order**.
- The **grid plan** is defined in town planning by a type of organization in the city where the **streets are straight and intersect at right angles**, creating **islands of square or rectangular**.
- The **military expansion** of this period facilitated the grid form becoming the standard, as Romans established “**castra**” firstly as **military centers** in their territories, some of which would develop into **administrative hubs** as well. Despite being similar in form to the Greek version of a grid, the **Roman grid** was ultimately designed on the basis of **being practical**. Firstly, Roman castra were often sited on **flat land**, especially in close proximity to or **on important nodes** like river crossings or intersection trade routes.
- The dimensions of the castra were often standard as well, with each of its four walls generally having a length of 2150 feet. Familiarity was the aim of such **a standard form of town planning**. As soldiers could be stationed anywhere around the Empire, way-finding would be a non-issue within established towns as there would be no variation from square to square. All would have the **decumanus maximus** and **cardo maximus** at its heart, the intersection of which would form **the forum**. Around this intersection would be sited **important public buildings** in much the same way **a central business district** sits at the centre of modern day metropolitan areas. Indeed, such was the level of familiarity between towns that Higgins states **soldiers “would be housed at the same address as they moved from castra to castra”**.
- The **decumanus maximus** and **cardo maximus** extended **from the town gates out towards neighbouring settlements**. These were lined up to be as **straight** as possible, only deviating from their path due to natural obstacles that prevented a direct route.

The Roman city



- | | |
|---------------|---------------------|
| 1. Forum | 5. Krščanska cerkev |
| 2. Terme | 6. Tempel |
| 3. Amfiteater | 7. Mestna hiša |
| 4. Bazilika | 8. Severna vrata |

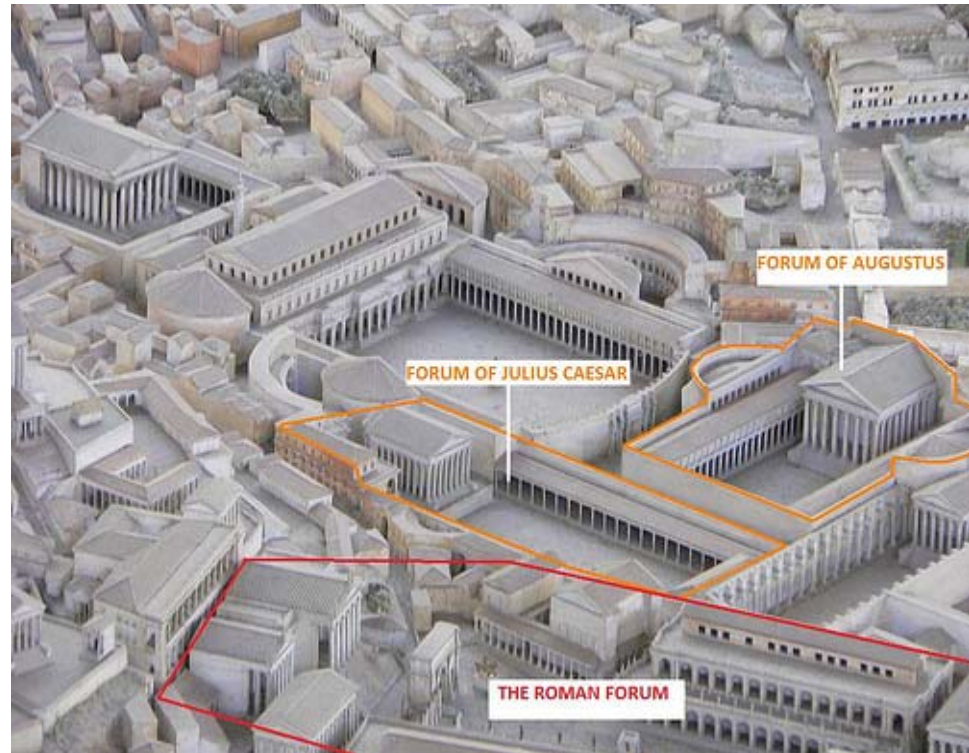


Forum

- The **forum** was for the Romans **the public square** where people **gathered to haggle, deal with political or economic matters**. The **first forum is the one of Rome**, the **Forum Boarium** ("cattle market"), from the time of the city founding. During the territorial expansion of Rome, **the colonies were created in the image of the metropolis, with the same institutions and even urban planning**. So each had its forum.
- These forums were designed as **architectural complexes for the rich**, always with **one or more temples, art galleries, buildings policy (Senate, Curia, Basilica...)** **many shops and sometimes a school or library**. So in addition to its standard function as a marketsquare, a forum was a gathering square of great social significance, and often the scene of diverse activities, including political discussions and debates, rendezvous, meetings, et cetera.
- In new Roman towns **the Forum was usually located at, or just off, the intersection of the main north-south and east-west streets** (the **Cardo and Decumanus**). All **fora would have a Temple of Jupiter at the north end**, and would also contain **other temples**, as well as **the Basilica**; a public weights and measures table, so customers at the market could ensure they were not being sold short measures; and would often have **the baths** nearby. At election times, candidates would use the steps of the temples in the forum to make their election speeches, and would expect their clients to come to support them.
- Modeled on the Roman Forum in Rome itself, several **smaller or more specialized forums appeared** throughout Rome's archaic history. By the time of the late Republic expansions and refurbishing of the forums of the city had inspired **Pompeii Magnus** to create the **Theatre of Pompey** in 55 BC. The Theatre included **a massive forum** behind the theatre arcades known as the **Porticus Pompei** (Colonnades of Pompeius). The structure was the base used for Julius Caesar's first Imperial forum and the rest to follow.
- The excavated town of **Pompeii** offers a snapshot of Roman life in the 1st century, frozen at the moment it was buried on 24 August AD 79. The forum, the baths, many houses, and some out-of-town villas like the Villa of the Mysteries remain surprisingly well preserved. The city **was not distributed on a regular plan** as we are used to seeing in Roman towns, due to the difficult terrain. But its **streets are straight and laid out in a grid**, in the purest Roman tradition; they are laid with polygonal stones, and have houses and shops on both sides of the street. **It followed its decumanus and its cardo, centered on the forum**. Besides the forum, many other services were found: the **Macellum** (great food market), the **Pistrinum** (mill), the **Thermopolium** (sort of bar that served cold and hot beverages), and **cauponae** (small restaurants).



Rome

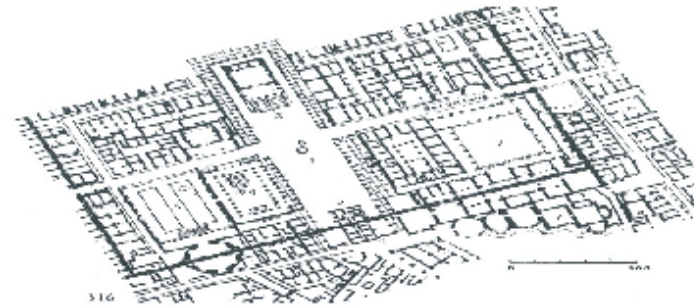


Rome

Pompei Forum



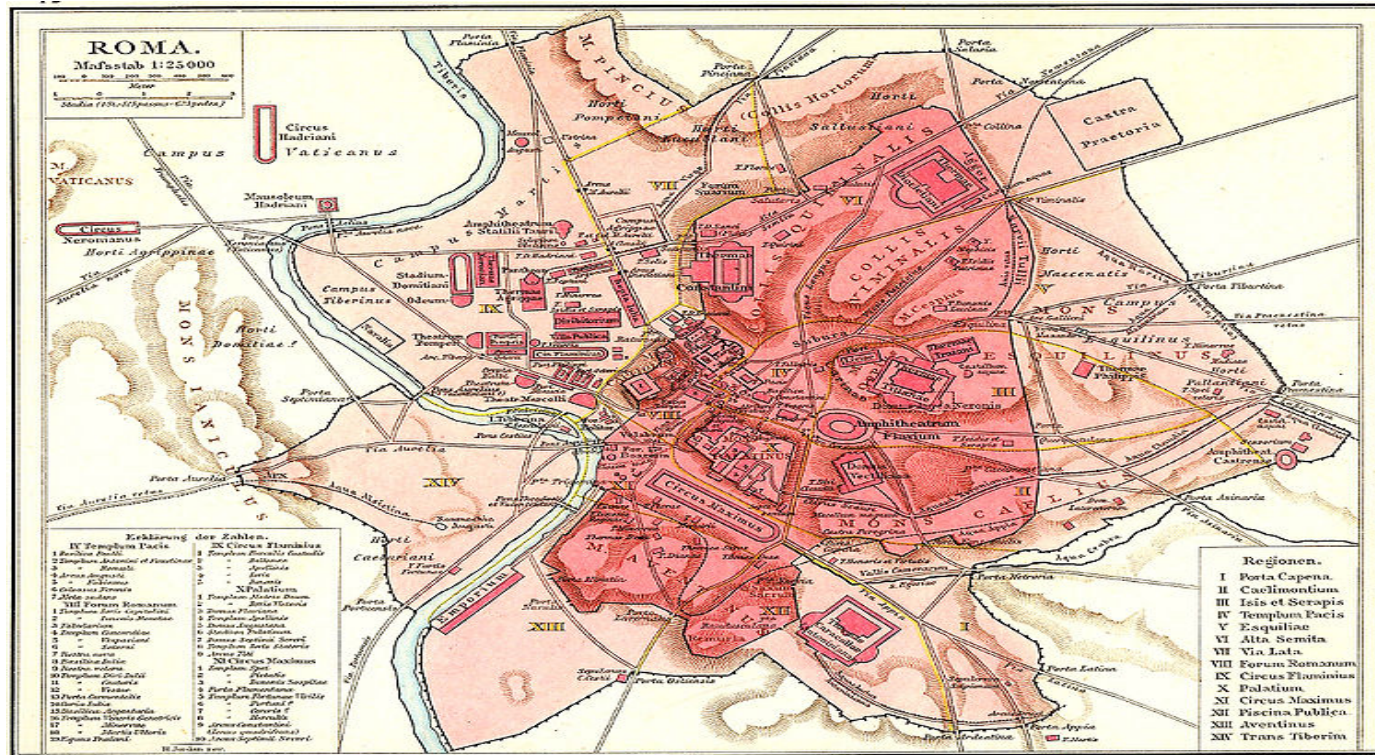
FORUM U OSTII I POMPEJIMA



2-413

Rome

Rome is the symbol of urban and architectural evolution of the Roman Empire because of its capital. One of the symbols of Rome is the Colosseum (70–80 AD), the largest amphitheatre ever built in the Roman Empire. Originally capable of seating 60,000 spectators, it was used for gladiatorial combat. A list of important monuments and sites of ancient Rome includes the Roman Forum, the Domus Aurea, the Pantheon, Trajan's Column, Trajan's Market, the Catacombs, the Circus Maximus, the Baths of Caracalla, Castel Sant'Angelo, the Mausoleum of Augustus, the Ara Pacis, the Arch of Constantine, the Pyramid of Cestius, and the Bocca della Verita.



II. The Middle Ages : **From the end of the Roman world to the Renaissance**



COBRAMAN



This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF

The Medieval town

- Between the third and fifth centuries, the **cities of the Roman Empire construct ramparts** to protect themselves **against the barbarian invasions**: in **Rome**, the **Aurelian Wall**, built around 270, reinforces the urban defense. However, this fortification does not prevent the Visigoths (in 410) to plunder the city - the date marking, for some historians, the Antiquity end and the Middle Ages beginning. The **urban population decreases** and some of the rich owners **take refuge in their fortified rural villas**. The **Germanic tribes sacked** several cities in the West as in the Eastern Empire. It was then that **the urban population is hiding** and often **ask for protection to the bishop**.
- From the year **1000**, **population and rural areas growth** and the **expansion of trade** caused **the rebirth of cities and their extension**. The visible sign of urban renewal is the **expanding of surrounding walls** and the **creation of new urban parishes**.
- **Cities are organized around the Cathedral** (church town) **or the Castle** (city mound) and **are protected by their ramparts**. During the late Middle Ages, the urban population explodes, **the fortified city** (the burg) **is becoming too small**, then **the constructions continue outside of the walls** (forsbourg, literally "out of the burg"), **protected by new surrounding walls and following a radio-concentric movement**. As cities were often located atop hills (for defensive purposes), their **outlying communities were frequently lower down**. Many **faubourgs** were located **below their towns**, and the term "**suburbs**" is derived from this tendency (*sub* = below; *urbs* = city).The **urban fabric becomes denser**, the **public space is very small and limited** to a few tracks and courts.

To summarize, we assist to the growth of four different kinds of cities:

1. City on Roman foundations
2. Feudal town and ecclesiastical city
3. Organically growth in the settlement villages, especially on the trade routes
4. The planned city in France, England, Wales



2. The Feudal town and the ecclesiastical city

The **feudal town** developed itself **under the protection of a castle** and grow in a **radioconcentric** way which come from an obsession of being the **most protected** as possible, and so closest as possible of this **center** represented by the castle.



Bamberg



Salzburg

The **ecclesiastical city** were under the protection of the **bishop**, representative of the **Church**,

and were organized like the **feudal city**, but this time with the **abbey** as a center.



St. Gallen

Magdeburg



3. Cities along the trading routes

The **importance of business** during the **Middle-Ages** lead to the **construction** and the **growing** of some **cities along the trading routes**, often around a main and large **market square**.



Krakow

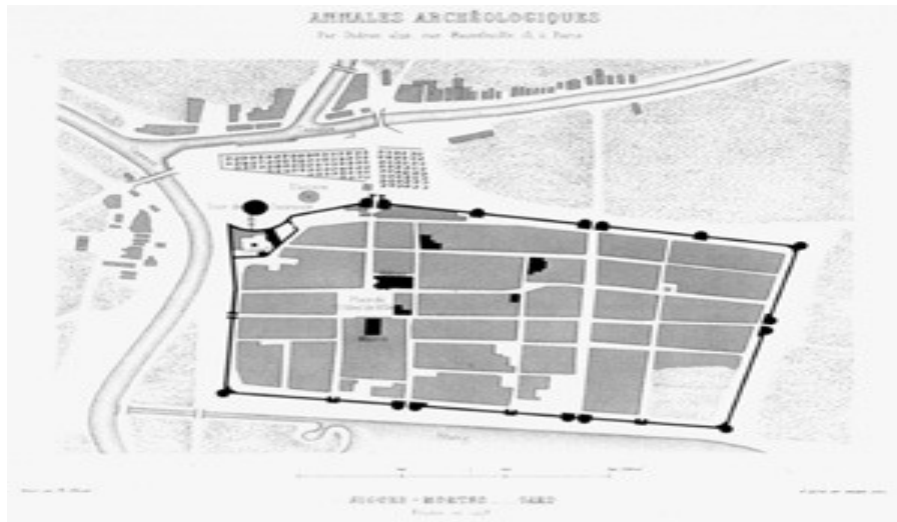
The Main **Market Square** in Krakow (Polish: *Rynek Główny w Krakowie*) is the **most important** market square of the Old Town in Krakow, Poland and a principal urban space located at the center of the city. It dates back to the **13th century**, and – at roughly 40,000 m² (430,000 ft²) – it is the **largest medieval town square in Europe**.

4. An example of the planned city : The bastides

- Bastides are **fortified new towns** built in **medieval Languedoc, Gascony and Aquitaine** during the **thirteenth and fourteenth centuries**, although some authors consider Mont-de-Marsan and Montauban, which was founded in 1144, as the first bastides. In an effort to colonize the **wilderness** especially of southwest France, almost **seven hundred new towns** were built between 1222 (Cordes sur Ciel, Tarn) and 1372 (La Bastide d'Anjou, Tarn).
- Bastides are now generally **described as any town planned and built as a single unit, by a single founder**. The majority of bastides have a **grid layout of intersecting streets, with wide thoroughfares that divide the town plan into *insulae*, or blocks, through which a narrow lane often runs, and a central market square surrounded by arcades through which the axes of thoroughfares pass, with a covered weighing and measuring area**. The market square often provides the module into which the bastide is subdivided.
- The **Roman model**, the castrum with its grid plan and central forum, was inescapable in a region where Roman planning precedents remained in medieval cities like Béziers, Narbonne, Toulouse, Orange and Arles. The region of the bastides had been one of **the last outposts** of Late Antiquity in the West. **Ease of tax collection** is another reason for the grid layout, taxable module by module, and the organized central area; the bastides' forms result from the friction engendered by **interaction, expedience, pragmatism, legal compromise, and profit**. **Rarely** these little ideal cities **have a circular plan**. **Some bastides were not so geometrically planned**: the block geometry of the bastides **was not a rigid framework** into which a town was squeezed; it resembles more closely to a **net, thrown upon the site and adapting to its nuances**.



Carcassonne



Aigues Mortes



The city shape

The **soil organization** during the **Middle Ages**, which has been more easily analyzed thanks to the setting up of **land registers** (for example, in the Holy Roman Empire from 1818 to 1828, or in France from 1802 to 1807) make appear **two main ways of urban development**:

- **Organic**, depending on the natural conditions (geography, topography)
- **Planned**, in a rectangular or square mesh plan

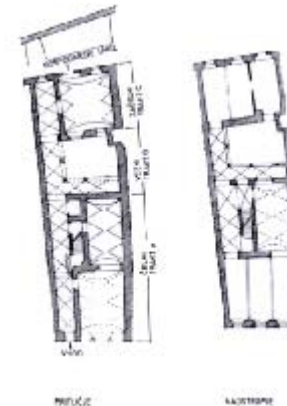
The **medieval fabric** was anyway **long and extended**, as we can see in these different patterns:



Plots along a street



Plots of a district

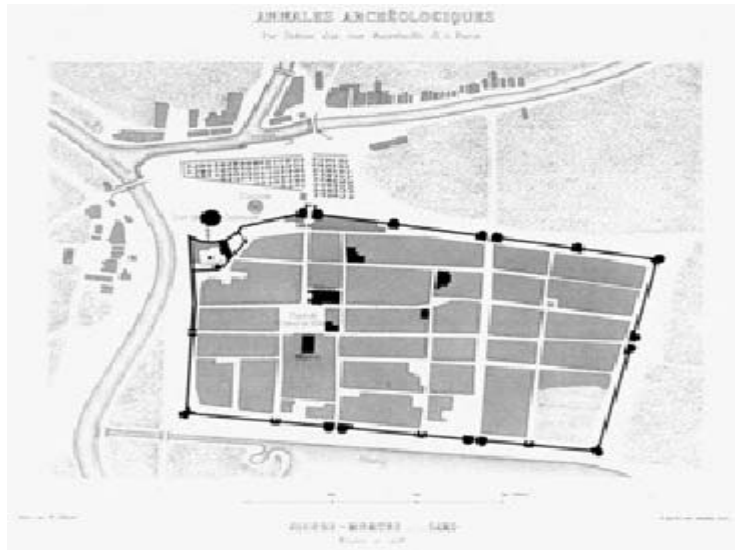


A typical house (ground floor and floor)

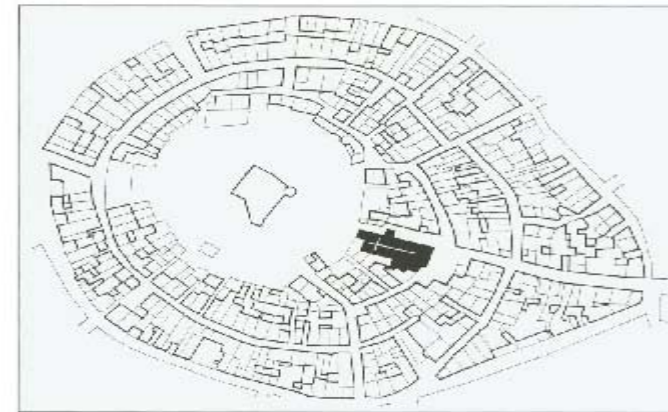
A certain number of elements of the **urban form** are fundamental to analyze and to specify **the medieval city**:

- **The walls, the towers and the city gates**
- **The streets and traffic routes**
- **The market square** and other commercial facilities
- **The church**
- **The town houses** with sometimes their gardens

Urban development during the Middle Ages



Aigues Mortes, orthogonal development



Radioconcentric development



38. Poli (Rome). Le bourg est organisé

39. Dozza (Bologne). Les 2 voies longitu-

40. Bieda (Viterbe). Un fuseau de voies

Linear Development

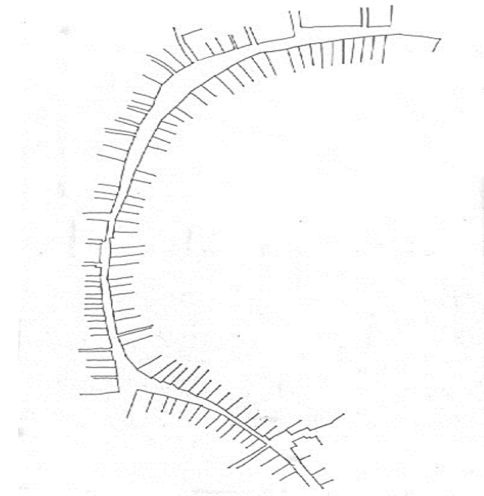
Urban design elements



Walls



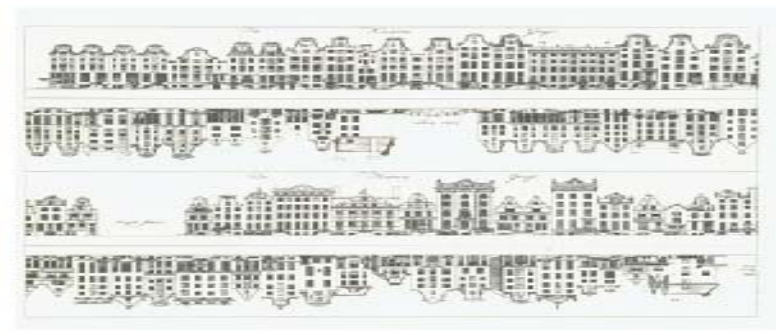
Street network



Plots



Marketsquare



Building system

III. The Modern period: From the Renaissance to the French Revolution



COBRAMAN



This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF

The Renaissance in the cities

A movement that we can observe in the urban history **from the 15th to the 19th century**, that some authors named "**The Renaissance**" for the cities, and which is a bit more longer than the Renaissance in other artistic fields, covers the period of **early, high and late Renaissance, Baroque to Neoclassicism**.

- **Renaissance architecture** is the architecture of the **period between the early 15th and early 17th centuries in different regions of Europe**, demonstrating a **conscious revival and development of certain elements of ancient Greek and Roman thought and material culture**. Stylistically, Renaissance architecture followed **Gothic architecture** and was succeeded by **Baroque architecture**. Developed first in Florence, with Filippo Brunelleschi as one of its innovators, the Renaissance style quickly spread to other Italian cities. The style was carried to France, Germany, England, Russia and other parts of Europe at different dates and with varying degrees of impact. **The Renaissance style quarees emphasis on symmetry, proportion, geometry and the regularity of parts** as they are demonstrated in the architecture of classical antiquity and in particular ancient Roman architecture, of which many examples remained. Orderly **arrangements of columns, pilasters and lintels**, as well as the use of **semicircular arches, hemispherical domes, niches and aedicules** resquared the **more complex proportional systems and irregular profiles of medieval buildings**.
- The **artillery progress** makes progressively **the defenses of the medieval castle be ineffective**. So, the **stately home** changes radically in appearance in the **fifteenth century: the walls have windows**, the **decor pervades** the facades and **arcaded galleries** are everywhere. The **palaces** are the new squares of the powerful and become squares of **pleasure and refinement**. Rooms with new functions appear, as the office, used to study and writing.
- In the XVth century, the **architectural treatises** multiply thanks to **printing**. They are inspired by the work of **Vitruvius, *De architectura***. It is in the **Florence** of this time that can be the best seen the **break with medieval traditions**. The architect becomes famous (little is known about the names of the architects of the Middle Ages) and has an unprecedented **social promotion**.
- As the new style of architecture **spread out from Italy**, most other European countries developed a sort of proto-Renaissance style, before the construction of fully formulated Renaissance buildings. Each country in turn **then grafted its own architectural traditions to the new style**, so that **Renaissance buildings across Europe are diversified** by region. Within Italy the evolution of Renaissance architecture into **Mannerism**, with widely diverging tendencies in the work of **Michelangelo** and **Andrea Palladio**, led to the **Baroque style** in which the

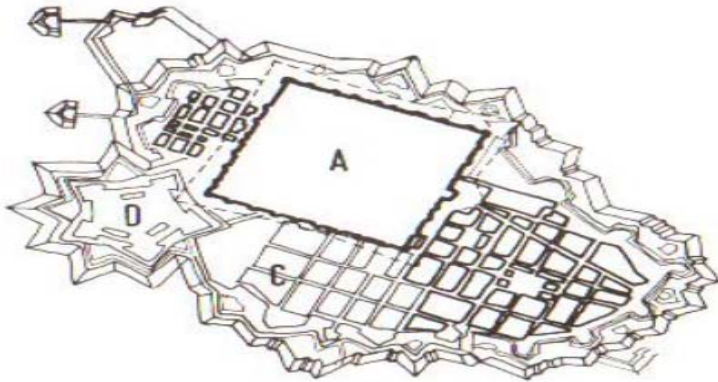
same architectural vocabulary was used for very different rhetoric. Outside Italy, Baroque architecture was more widespread and fully developed than the Renaissance style, with significant buildings as far afield as Mexico and the Philippines.

- **Baroque architecture** is a term used to describe the building style of the Baroque era, begun in late **sixteenth century Italy**, that took the humanist Roman vocabulary of Renaissance architecture and used it in a **new rhetorical and theatrical fashion**, often to **express the triumph of the Catholic Church and the absolutist state**. It was characterized by **new explorations of form, light and shadow and dramatic intensity**. Whereas the **Renaissance drew on the wealth and power of the Italian courts** and was a **blend of secular and religious forces**, the **Baroque was**, initially at least, **directly linked to the Counter-Reformation, a movement within the Catholic Church to reform itself in response to the Protestant Reformation**. Baroque architecture and its embellishments were on the one hand **more accessible to the emotions** and on the other hand, **a visible statement of the wealth and power of the Church**. The new style manifested itself in particular in the context of the new religious orders, like the Theatines and the Jesuits who aimed to improve popular piety.
- **Neoclassical architecture** was an architectural style produced by the neoclassical movement that **began in the mid-18th century**, manifested both in its details as **a reaction against the Rococo style of naturalistic ornament**, and in its **architectural formulas as an outgrowth of some classicizing features of Late Baroque**. In its **purest form** it is a style principally **derived from** the architecture of **Classical Greece** and the architecture of Italian **Andrea Palladio**. In form, **Neoclassical architecture emphasizes the wall rather than chiaroscuro and maintains separate identities to each of its parts**.

During the Modern period, the apparition of different process changes the urban fabric:

1. The construction of complex fortification systems (e.g. Vauban fortresses in France, Palmanova in Italy)
2. The renovation of old cities (sometimes fired, or earthquaked), which lead to a regulation of public spaces and associated street, and to the substitution of materials used in the city (use of the wood is reduced)
3. The expansion of the city and the construction of new urban areas, primarily residential
4. The creation of new squares representing the ambition of autocratic rulers (Versailles, Karlsruhe, St. Petersburg)

1. The construction of complex fortification systems



1674 di Giovanni Tommaso Borgogno

Turin:

A- Roman city

B- Suburbs

C- Renaissance enlargement

D- Fortress walls

Emmanuel Philibert, Duke of Savoy, made **Turin** the capital of the Duchy of Savoy in 1563. **Piazza Reale** and **Via Nuova**, today called **Piazza San Carlo** and **Via Roma** were added with **the first enlargement of the walls**, in the first half of the 17th century; in the same period the Royal palace (**Palazzo Reale**) was built. In the second half of that century, a **second enlargement of the walls** was planned and executed, with the building of the arcaded **Via Po**, connecting diagonally, through the regular street grid, **Piazza Castello** with **the bridge on the Po**. In 1706, during the Battle of Turin, the French besieged the city for **117 days** without conquering it. After the subsequent Treaty of Utrecht, the Kingdom of Sardinia was annexed to the Duchy of Savoy and the architect Filippo Juvarra began a major redesign of the city. At this time the capital of a European kingdom, Turin had about 90,000 inhabitants.

Vicenzo Scamozzi (1552-1616)
L'idea dell'architettura universale



Palmanova, 1593

- On October 7, 1593, the superintendent of the **Republic of Venice** founded a revolutionary **new kind of settlement: Palmanova**. Using all the latest **military innovations** of the 16th century, this tiny town was a **fortress in the shape of a nine-pointed star**, designed by **Vicenzo Scamozzi**. In between the points of the star, **ramparts** protruded so that the points could defend each other. A **moat** surrounded the town,

and **three large, guarded gates** allowed entry.

- **Vincenzo Scamozzi** (September 2, 1552 – August 7, 1616) was a Venetian **architect** and a writer on architecture, active mainly in Vicenza and Republic of Venice area in the second half of the 16th century. He was perhaps the **most important figure** there between **Andrea Palladio**, whose unfinished projects he inherited at Palladio's death in 1580, and **Baldassare Longhena**, Scamozzi's only pupil.
- Scamozzi's influence **spread far beyond** his Italian commissions through his **treatise, *L'Idea dell'Architettura Universale*** ("**The Idea of Universal Architecture**"), which is the **last of the Renaissance works on the theory of architecture**. It was published with woodcut illustrations at Venice in 1615. Scamozzi depended for sections of his **treatment of Vitruvius** on Daniele Barbaro's commentary, published in 1556 with illustrations by Palladio; he also discussed **issues of building practice**. Such treatises were becoming a vehicle for self-promotion. Scamozzi knew the value of publicity distributed through the established channels of the book trade and he included many of his own plans and elevations, as built, as they should have been built, and as idealized projects. His major book came out too late to influence his own success; he died the following year. Some authors called him "**the intellectual father of neo-classicism**".



2. The renovation of old cities: the example of Ljubljana

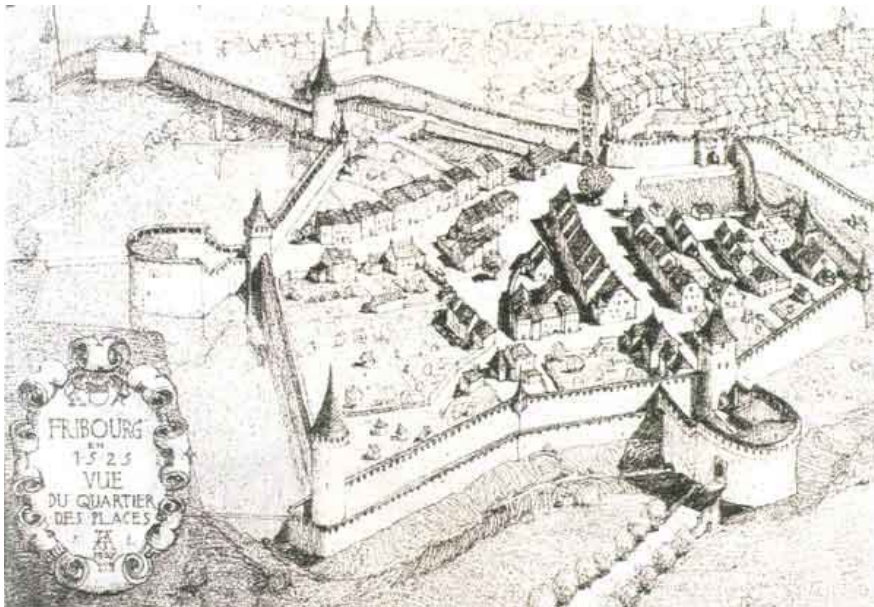
When exactly **Ljubljana** acquired its town rights is not known, but it was no later than 1220. In the **13th century**, the town was composed of **three districts**: the Old Square (*Stari trg*), the New Square (*Novi trg*) and "Town" (*Mesto*) (around the Romanesque church of Saint Nicholas). After the **1511 earthquake**, Ljubljana was **completely rebuilt in a Baroque style** following the model of a **Renaissance town**. **New materials** were used, **new squares** appeared, and an **enlargement of the city** took square. The end of the **17th century** saw the foundation of the *Academia operosorum*, a scholars' association modeled on the Italian associations of the kind, which, among other things, invited to Ljubljana a number of **foreign architects and sculptors**, who **turned the Renaissance Ljubljana into a Baroque city**. Numerous houses were given **new façades**, **additional third floors** were added to originally two-storey buildings, and the **insides of houses were embellished with arched courtyards and staircases**. Also most of the churches were either renovated or built in Baroque style.



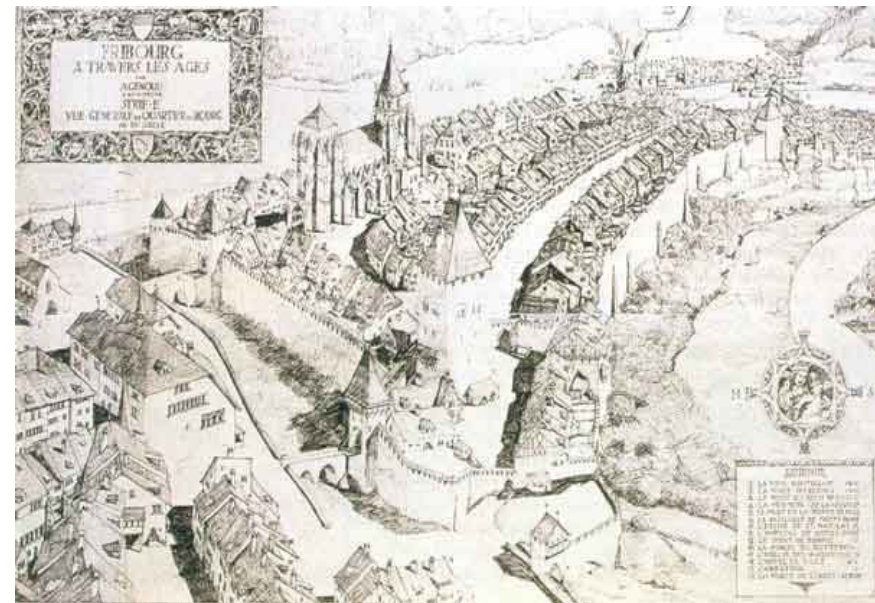
Ljubljana in the XVIIIth century

3. Expansion of the city: the example of Fribourg (Switzerland)

From the end of the fourteenth century, Fribourg is **growing** again, literally **exploding in all directions**: it is the **largest construction program** that the city has known until the nineteenth century. It includes the district boards, the Neuveville ("Newcity") on the other side of the Sarine district squares with Romont street closed to the door of the same name, St-Pierre street and Hospital street with at the top the Ponds door, hence, the surrounding walls lead to the Murten door where the city stop on the cliffs of the Sarine. Thus, in the **early fifteenth century**, the city of Fribourg is **greatly enlarged**, and remains within **its own walls for more than four centuries without experiencing new development**. If new suburbs appear alongside, the core **old city is changing slowly and deeply; houses multiply, elevate, the churches, especially the cathedral, embellished, but also green spaces are restricted.**



Squares district in the beginning of the XVth century



Burg district in the beginning of the XVth century

4. The cities of autocratic rulers: the example of St. Petersburg



- Tsar Peter The Great **founded the city** on **May 27, 1703** after reconquering the Ingrian land from Sweden in the Great Northern War. Because he has travelled a lot, and was **influenced by Versailles**, he wanted to **create his own city**, at the **new image** he wanted to give to Russia. He named the city after his patron saint, the apostle Saint Peter.
- The city was built under **adverse weather and geographical conditions**. **High mortality rate** required a constant supply of workers. Peter

ordered a yearly conscription of **40 000 serfs**, one conscript for every nine to sixteen households. Conscripts had to provide their own tools and food for the journey of hundreds of kilometers, on foot, in gangs, often escorted by military guards and shackled to prevent desertion, yet many escaped, others died from disease and exposure under the harsh conditions.

- At the same time **Peter hired a large number of engineers, architects, shipbuilders, scientists and businessmen from all countries of Europe**. Substantial immigration of educated professionals eventually **turned St. Petersburg into a much more cosmopolitan city than Moscow and the rest of Russia**. Peter's efforts to push for modernization in Moscow and the rest of Russia were completely misunderstood by the old-fashioned Russian Nobility, and eventually failed, causing him much trouble with opposition, including several attempts on the Tsar's life and the treason involving his own son.
- Peter moved the capital from Moscow to Saint Petersburg in 1712. Called the **"window to Europe"**, it was a seaport and also a base for Peter's navy, protected by the fortress of Kronstadt. Inspired by Venice and Amsterdam, Peter the Great proposed boats and coracles as means of transport in his city of canals. Initially there were only 12 permanent bridges over smaller waterways, while the Bolshaya Neva was crossed by boats in the summertime and by foot or horse carriages during winter. A pontoon bridge over Neva was built every summer. The Commission of Stone Buildings of Moscow and Saint Petersburg established in 1762 **ruled that no structure in the city be higher than the Winter Palace**, the house of the imperial family, and **prohibited spacing between buildings**.



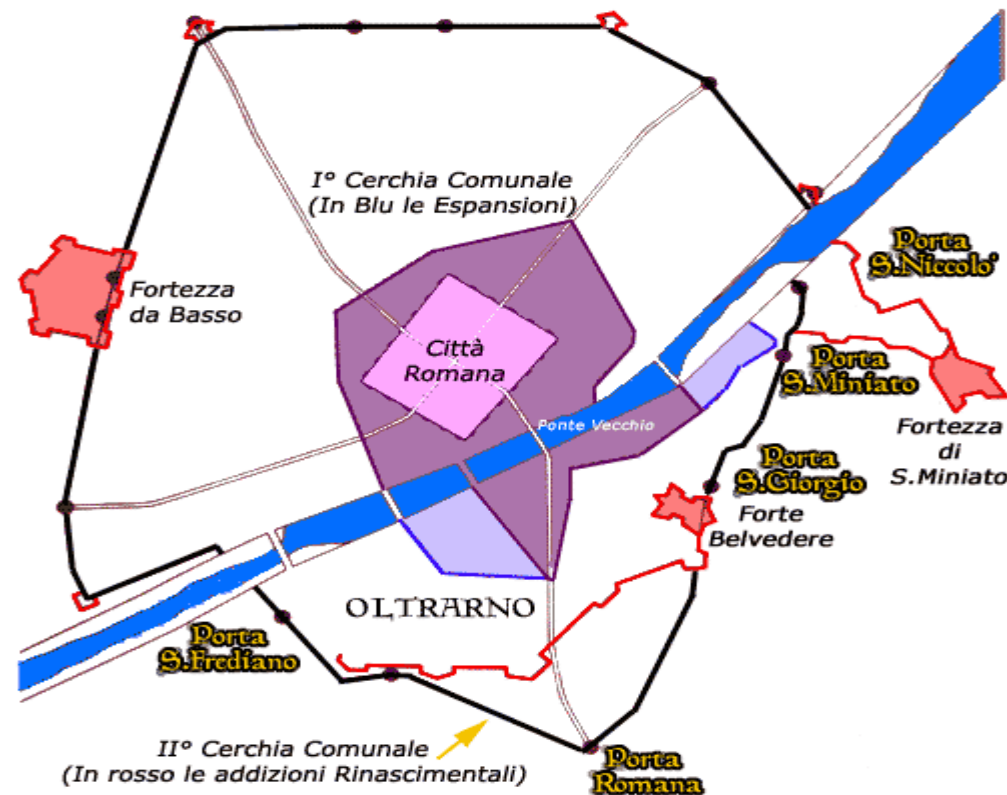
Main characteristics of Renaissance urban design

The Renaissance movement has brought his specificities into the construction of urban fabric all around Europe. The **growth of cities are planned**, and ordered according to **italian models** that glorified **the straight line, the right angle and the improvements of main squares**. This process has been incitated once again by the **rediscovery of Greek and Roman achievements**. In this way, we can observe more especially three distinct characteristics which underline the impact of Renaissance in the urban fabric:

- The **street design** is not the same than before. If it was **sinuous** during the Middle Ages, it has become **straight**, for reasons of **aesthetic, rationalization and planification**. Some of these streets, beginning from squares, offer impressing **perspectives** which are too a creation of italian Renaissance in paintings.
- In the same way, **new districts** are being built on the basis of **net plans**, which give a **deliberate form** to the city instead of a more **anarchic growing** that was happening during the Middle Ages. The **urban fabric is being organized** corresponding to a **vision of the city and of human being**, leading to some experiences like in Sabionneta, "the ideal city".
- The **market square** evolves as well, in **closed squares geometrically ordered**. This was done to give an impression of **security**, of "**public intimacy**" that protects the people from **the outside**, unknown, but anyway dangerous. This comes from the trauma of the barbarian invasions and the bellicose atmosphere that dominated during this time.

Florence

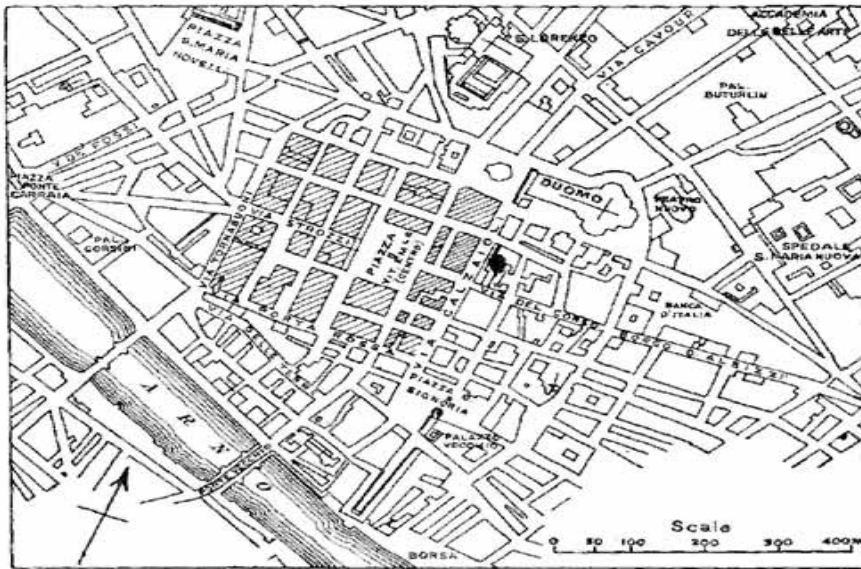
Florence was founded in 59 (BCE) as a settlement for former soldiers, being named 'Florentia', allotted by Julius Caesar to his veterans in the rich farming valley of the Arno. The city was built in the **style of a military camp** with a **castrorum in a chessboard pattern** and the main streets, **the *cardo*** and **the *decumanus***, intersecting at the present **Piazza della Repubblica**, which can still be seen in the city center. Florentia was situated at the Via Cassia, the main route between Rome and the North, which position enabled it to rapidly expand as a commercial center.



- The city was considered as a **centre of medieval European trade and finance** and **one of the wealthiest cities** of the time, Florence is

considered the **birthsquare of the Renaissance**; it has been called the "**Athens of the Middle Ages**". A turbulent political history included periods of rule by the powerful Medici family, religious and republican revolution.

- In Florence, the **Renaissance style** was introduced with a revolutionary but incomplete monument in **Rimini** by **Leone Battisti Alberti**. Some of the earliest buildings showing Renaissance characteristics are Filippo Brunelleschi's church of San Lorenzo and the Pazzi Chapel. **The interior of Santo Spirito** expresses a **new sense of light, clarity and spaciousness**, which is typical of the early Italian Renaissance. Its architecture reflects the **philosophy of Humanism, the enlightenment and clarity of mind as opposed to the darkness and spirituality of the Middle Ages**. The revival of classical antiquity can best be illustrated by the Palazzo Rucelai. Here **the pilasters follow the superposition of classical orders**, with Doric capitals on the ground floor, Ionic capitals on the piano nobile and Corinthian capitals on the uppermost floor.



City plan



Piazza del Mercato Vecchio,
painted by Giuseppe Maria Terreni in 1775



Piazza della Repubblica



Via Roma

- **Piazza della Repubblica**, first named **Piazza del Mercato Vecchio**, is a city square in Florence. It is on the site, first of the city's forum and then of the city's old ghetto. The exact present site of the *Colonna dell'Abbondanza* represents the intersection of the axes of the **cardo** (now via Roma, via degli Speciali and via degli Strozzi) and **decumanus** (now via il Corso).
- In the **early medieval period** the forum area was **densely built over**. Before the accomplishment of the fifth circle of city walls, the chroniclers record, **there was no longer a single garden or pasturage in the city; there was so little space that urban development had to be not horizontal but vertical, in the *case-torri* (tower houses) soaring skywards**. Over time, this area retained its function as a

meeting square, to accommodate the market, which was institutionalized after 1000. As in other Italian towns, Florence came **to define public space intended for commerce, with its complementary spaces nearby**, the piazza del Duomo for political affairs and a piazza del Comune, now piazza della Signoria, for political and civil affairs.

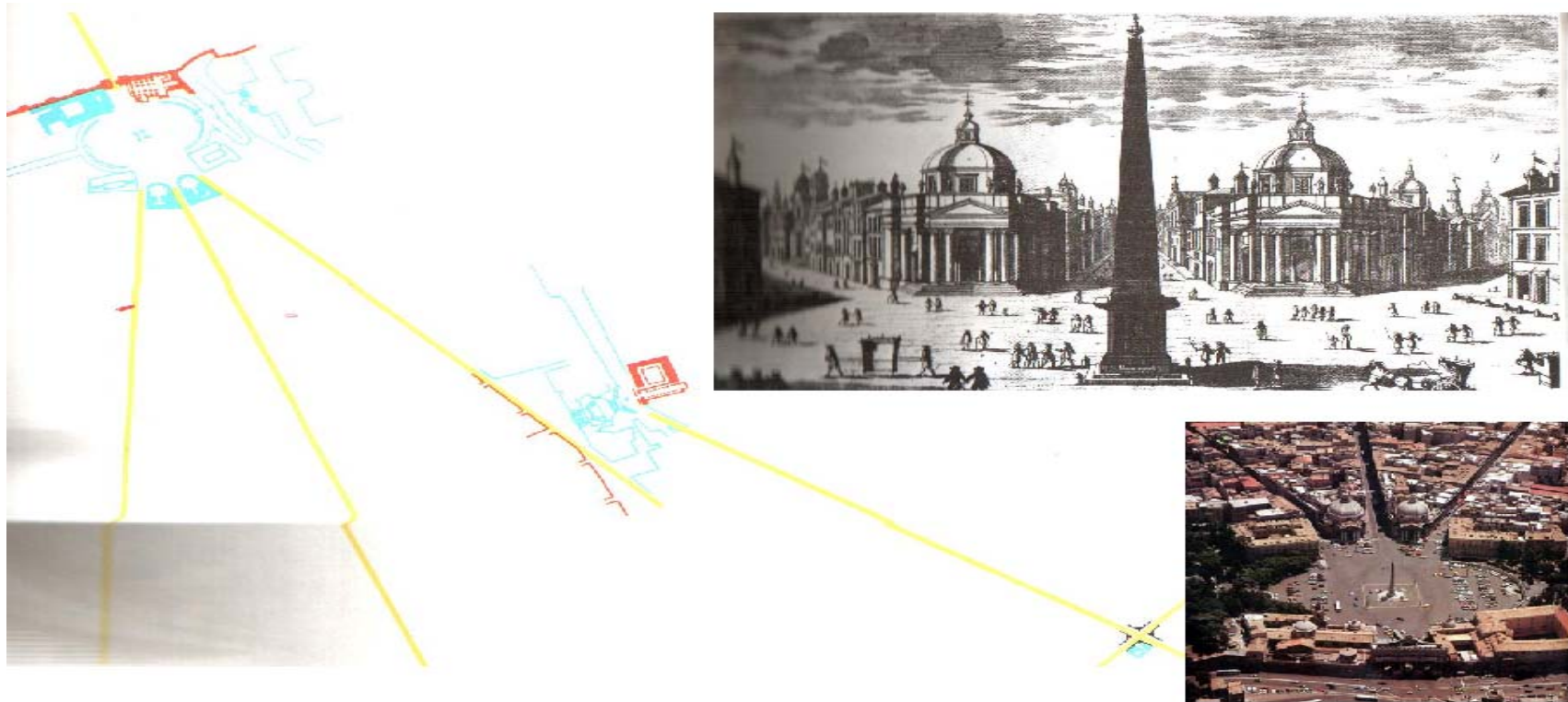
- In the 16th century, the market became the *Mercato Vecchio* on the completion of the Loggia del Mercato Nuovo near **Ponte Vecchio**. The Mercato Vecchio was a **long, low building in an oval rectilinear plan**, with an **overhanging roof to shelter the customers and the stalls squared on either side**. Other shops and stalls were located in the piazzetta. We can observe on the two pictures upper that **the streets** of the Piazza del Mercato Vecchio are **straight, long, and creating right-angle at the intersections**. The **perspective** lead the eyes to the horizons on the **Via Roma**.
- The present appearance of the square is the result of the **city planning** announced and carried out on the proclamation of Florence as the capital of Italy (1865–71), with particularly intense activity in this Piazza between 1885 and 1895. In this period, known as the *Risanamento* in the commemorative nineteenth-century terminology (or, by its detractors, the *sventramento* or **ruining**), **large parts of the city centre were demolished**. The decision to broaden the square allowed the **total destruction of buildings of great importance**: medieval towers, churches, the corporate seats of the Arti, some palaces of noble families, as well as craftsmen's shops and residences. The demolition was presented as a necessity if the **area's insanitary conditions** were to be improved, but was in reality led above all to **building speculation and to legitimization of the will of the emerging middle-class**, protagonist in the events immediately prior to unification. In 1888, **after the demolition of the hovels** in the center of the Mercato, **the old piazza del Mercato Vecchio** reappeared, with the Loggia, the Column of Plenty and the church of San Tommaso, but the shrewd restorers preferred to proceed with a more radical demolition yet. On 20 September 1890, with the building-sites still open to rebuild the palazzoni in the square, the **equestrian monument to Vittorio Emanuele II** was inaugurated in his presence. **This monument gave the piazza its original name**.



Palazzo Vecchio

- The **Palazzo Vecchio** is the town hall of Florence, Italy. This **massive, Romanesque, crenellated fortress-palace** is among the most impressive town halls of Tuscany. It is an example of the **development of palaces** which spread all around Italy and Europe, becoming **the rulers houses**, and **the symbol of power**. Overlooking the Piazza della Signoria with its copy of Michelangelo's David statue as well the gallery of statues in the adjacent Loggia del Lanzi, it is **one of the most significant public squares in Italy**.

Roma, Piazza del popolo

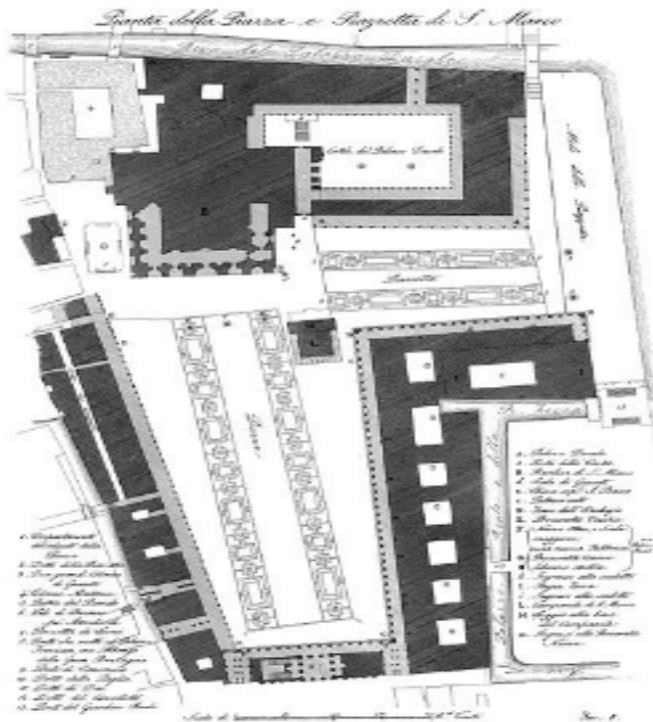


- **Piazza del Popolo** is a large urban square in Rome. The name in modern Italian literally means "People's Square", but historically it derives from the poplars (*populus* in Latin, *pioppo* in Italian) after which the church of Santa Maria del Popolo, in the northeast corner of the piazza, takes its name. The piazza lies **inside the northern gate in the Aurelian Walls**, once the Porta Flaminia of ancient Rome, and now called the Porta del Popolo. This was the starting point of the Via Flaminia, the road to *Ariminum* (modern day Rimini) and the most important route to the north. At the same time, before the age of railroads, **it was the traveler's first view of Rome upon arrival.**

- The layout of the piazza today was designed in **neoclassical style between 1811 and 1822** by the architect **Giuseppe Valadier**. He removed a modest fountain by Giacomo Della Porta, erected in 1572, and **demolished some insignificant buildings and haphazard high screening walls to form two semicircles**, reminiscent of Bernini's plan for St. Peter's Square, **replacing the original cramped trapezoidal square centred** on the Via Flaminia. Valadier's Piazza del Popolo, however, **incorporated the verdure of trees as an essential element**; he conceived his space in a **third dimension**, expressed in the building of the *viale* that leads up to the balustraded overlook from the Pincio (*above, right*). In his urbanistic project, **Valadier constructed the matching palazzi** that provide **a frame for the scenography** of the twin churches and hold down two corners of his composition. He positioned **a third palazzo** to face these and matched a low structure screening the flank of Santa Maria del Popolo, with its fine Early Renaissance façade, together holding down the two northern corners. Valadier outlined this newly-defined oval forecourt to the city of Rome with identical sweeps of wall, forming curving exedra-like spaces. Behind the western one, a screen of trees masks the unassorted fronts of buildings beyond.
- An **Egyptian obelisk** from Heliopolis, known as the *obelisco Flaminio* or the *Popolo Obelisk*, stands in the centre of the Piazza. The obelisk was brought to Rome in 10 BC by order of Augustus and originally set up in the Circus Maximus. It was **re-erected in the piazza by the architect-engineer Domenico Fontana in 1589 as part of the urban plan of Sixtus V.** The piazza also formerly contained a central fountain, which was moved to the Piazzia Nicosia in 1818, when fountains, in the form of Egyptian-style lions, were added around the base of the obelisk.
- Looking from the north, **three streets branch** out from the piazza into the city, forming the so-called "**trident**" (*il Tridente*): the **Via del Corso** in the centre; the **Via del Babuino** to the left (opened in 1525 as the Via Paolina) and the **Via di Ripetta** (opened by Leo X in 1518 as the Via Leonina) to the right. The **twin churches** (the *chiese gemelle*) of **Santa Maria dei Miracoli** (1681) and **Santa Maria in Montesanto** (1679), begun by Carlo Rainaldi and completed by Bernini and Carlo Fontana, **define the junctions of the roads**. Close scrutiny of the twin churches reveals that **they are not mere copies of one another, as they would have been in a Neoclassical project, but vary in their details, offering variety within their symmetrical balance in Baroque fashion**. The central street, now known as the **Via del Corso**, was the ancient Via Lata and to the north it links with the **ancient Roman road, the Via Flaminia**, beyond the city gate and southwards, to the **Piazza Venezia** (formerly the Piazza San Marco), **the Capitol and the forum**. The **Via di Ripetta** leads past the **Mausoleum of Augustus to the River Tiber**, where the Baroque riverside landing called the Porto di Ripetta was located until it was destroyed in the late nineteenth century. The **Via del Babuino**, linking to **Piazza di Spagna**, takes its name from a grotesque sculpture of Silenus that gained the popular name of "the Baboon".

Venice, Piazza San Marco

Piazza San Marco (often known in English as St Mark's Square), is the **principal public square of Venice**, Italy, where it is generally known just as "the Piazza". All other urban spaces in the city (except the Piazzetta and the Piazzale Roma) are called "**campi**" (fields). The Piazzetta (the 'little Piazza') is an extension of the Piazza towards the lagoon in its south east corner (see plan). The two spaces together form the **social, religious and political centre of Venice** and are commonly both considered together. This is a **typical example** of a **closed square**.



Urbanism in France from the XVI th. to the XVIII th. century

Planning operations begin to develop during **the XVI th. century in France**. The **new paths are wide** and, if possible, **straight**. The **Square des Vosges**, in Paris, built in the early seventeenth century, **is the model of this desire for order and harmony**, largely inspired by **Italian style**. **New urban rules** appear. The edict of 1607 and the order of 1667 establish the tradition of **planning regulations** in Paris by prohibiting for security reasons the apparent half-timbered, regulating the projections and limiting the height of buildings on the street. These constitute the **first will** from the rulers **to order the city development**. The **buildings** are getting in the same time **wider and wider**. **Louis XIV destroyed** at the end of the XVII th century **the fortifications on the right bank** and **built on their site wide boulevards**, changing the Paris appearance, and consolidate his position of absolute monarch from the divine law by the construction of **the Chateau de Versailles**, which become a **model of the baroque city**. There is **no global urban beautification** during the eighteenth century in Paris, it was generally **ad hoc interventions** concerning especially a monument. This period is characterized by an **accumulation of planning**. Until Louis-Philippe, no major operation comes to question the **medieval organization** of the territory. In a way to accommodate more people on the same space, are simply constructed **new buildings at the bottom of courtyards**, or **to raise the old ones of one or two floors**. The **"social mix" is then a reality**. The mansions rub shoulders with neighborhoods. In the tenements, the facade show **all levels of society overlap** from the second floor, known as "noble", which houses the bourgeois to the top floor of students and workers.

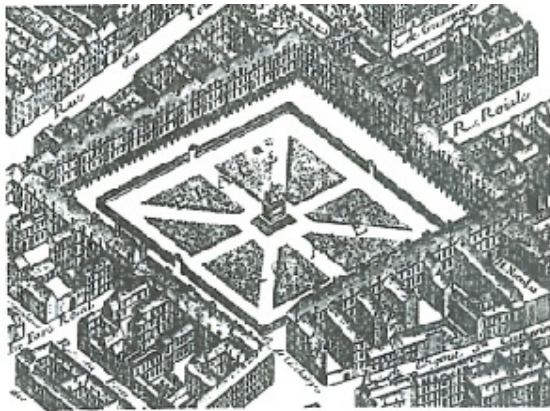
These first steps were supplemented by the setting up of different urban projects which all represent a **royal will to organize the city of Paris**:

1. The **royal squares** represent the more visible **intervention of the kings in the urban space**.
2. The **boulevards** were constructed **to open the city**, to permit its **growth** and **to create new links to the suburbs** by putting down the fences.
3. The construction of the **Chateau de Versailles** is at this time the symbol of the **greatness of the absolute monarchy**.



1. The royal squares: the example of the Square des Vosges

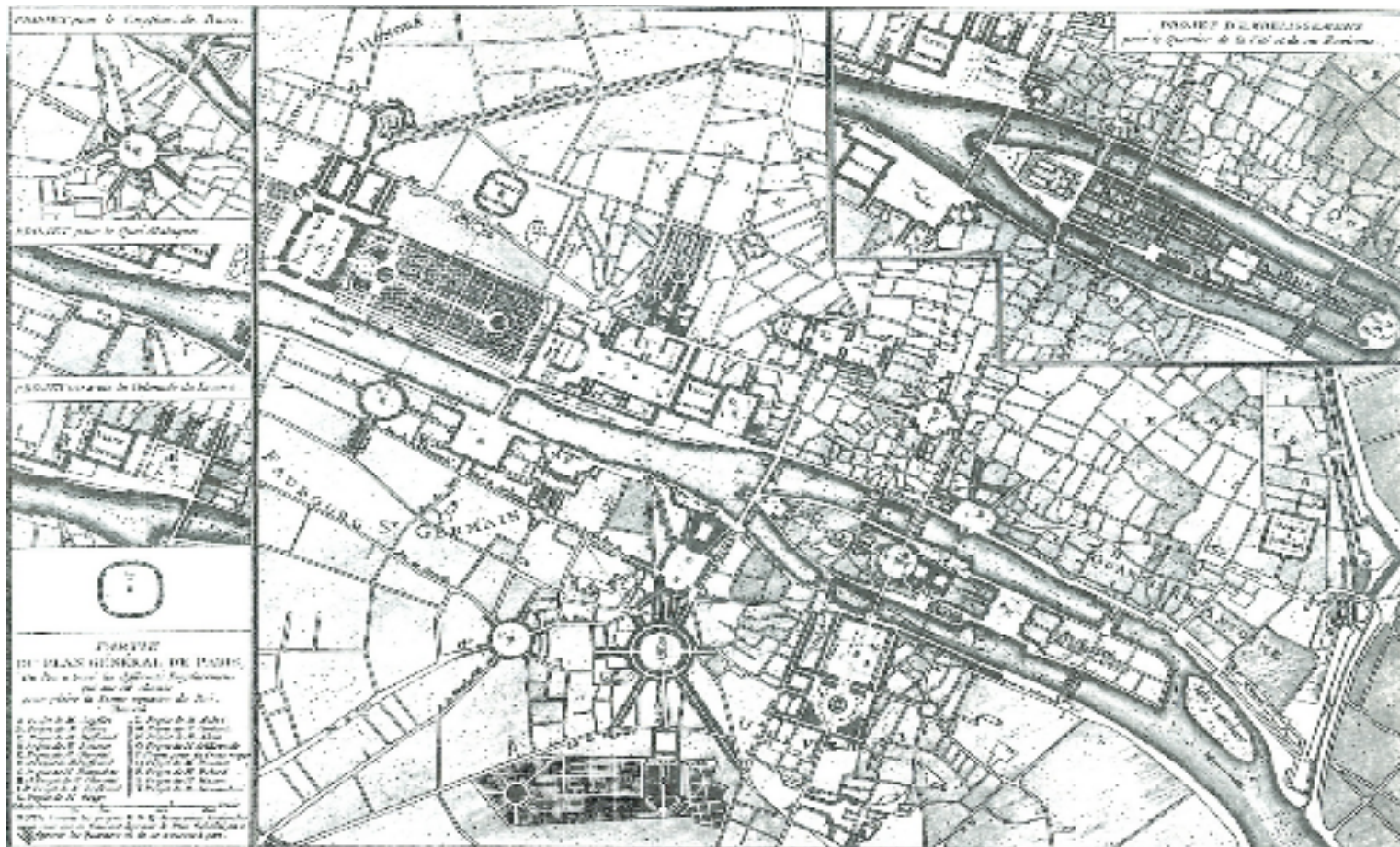
- Originally known as the *Square Royale*, the **Square des Vosges** was **built by Henri IV from 1605 to 1612**. A **true square** (140 m x 140 m), it embodied the **first European program of royal city planning**. It was built on the site of the Hôtel des Tournelles and its gardens: at a tournament at the Tournelles, a royal residence, Henri II was wounded and died. Catherine de Medicis demolished the Gothic pile, and she removed to the Louvre.
- The Square des Vosges, inaugurated in 1612 with a grand carousel to celebrate the wedding of Louis XIII and Anne of Austria, is the **prototype of all the residential squares of European cities** that were to come. What was new about the *Square Royale* in 1612 was that the **housefronts were all built to the same design**, probably by Baptiste du Cerceau, **of red brick with strips of stone quoins over vaulted arcades that stand on square pillars**. The steeply-pitched blue slate roofs are pierced with discreet small-paned dormers above the pedimented dormers that stand upon the cornices. Only the north range was built with the **vaulted ceilings** that the **"galleries"** were meant to have. **Two pavilions that rise higher than the unified roofline of the square center the north and south faces and offer access to the square through triple arches**. Though they are designated the Pavilion of the King and of the Queen, no royal personage has ever lived in the aristocratic square. **The Square des Vosges initiated subsequent developments of Paris that created a suitable urban background for the French aristocracy.**
- In the early seventeenth century, **clear and harmonious geometric divisions** are noticeable already on the royal squares. The Square des Vosges, for example, is **square, closed, forbidden to the carousels, lined with arcades**. This square is the symbol of the **emergence of reconciling the logic, utility, simplicity and pleasant** in architecture: the **rational design** is needed as the basis of the **classic**.



Place des Vosges, Paris

2. The Grands Boulevards

- The **Boulevards of Paris** are boulevards which form an important part of **the urban landscape of Paris**. The boulevards were constructed in several phases by **central government initiative** as **infrastructure improvements**, but are very much associated with **strolling and leisurely enjoyment in the minds of Parisians**. Parisian boulevards and avenues are **usually tree-lined on one or both sides**, which is rarely the case for smaller roads.
- Les **Grands Boulevards** denote perfectly the boulevards of Paris. They are located on the **right bank, instead of the old fortifications** of Charles V and Louis XIII. The **second enclosure** built around Paris was the one of Charles V, from 1370 to 1382. She went from the Porte Saint-Antoine on the current site of the Bastille at the Porte Saint-Denis and the Louvre. In the north-west, it was **resquared by the walls of Louis XIII built from 1633 to 1636** and from the Porte Saint-Denis to the Porte Saint-Honore.
- Around 1660, **these fortifications were in disrepair** and become useless after the victories of Louis XIV. The walls are demolished and the moats filled. On the **street newly created, four cars can go in the front and side alleys planted a double row of trees**. Some fortified gates are resquared by triumphal arches. It is the "Nouveau Cours" built from **1668 to 1705** under Louis XIV by the architect **Pierre Bullet**. In the **West, the nobility and finance built magnificent hotels** in the districts adjoining. By cons, in the **eastern part, popular attractions** (theaters, dances, acrobats, restaurants ...) set up. The floor is paved in 1778. Gas lighting first appeared in 1817 in the Passage des Panoramas and extends to the boulevard in 1826. The first horse omnibus "Madeleine-Bastille" is taking square January 30, 1828.
- Haussmann's renovation of Paris brought the **boulevard** to the **heart of Paris**, whereas they had hitherto been limited to **uninhabited or sparsely inhabited zones**. The boulevard, whose initial function was to go around the capital, became **structural urban thoroughfares**.

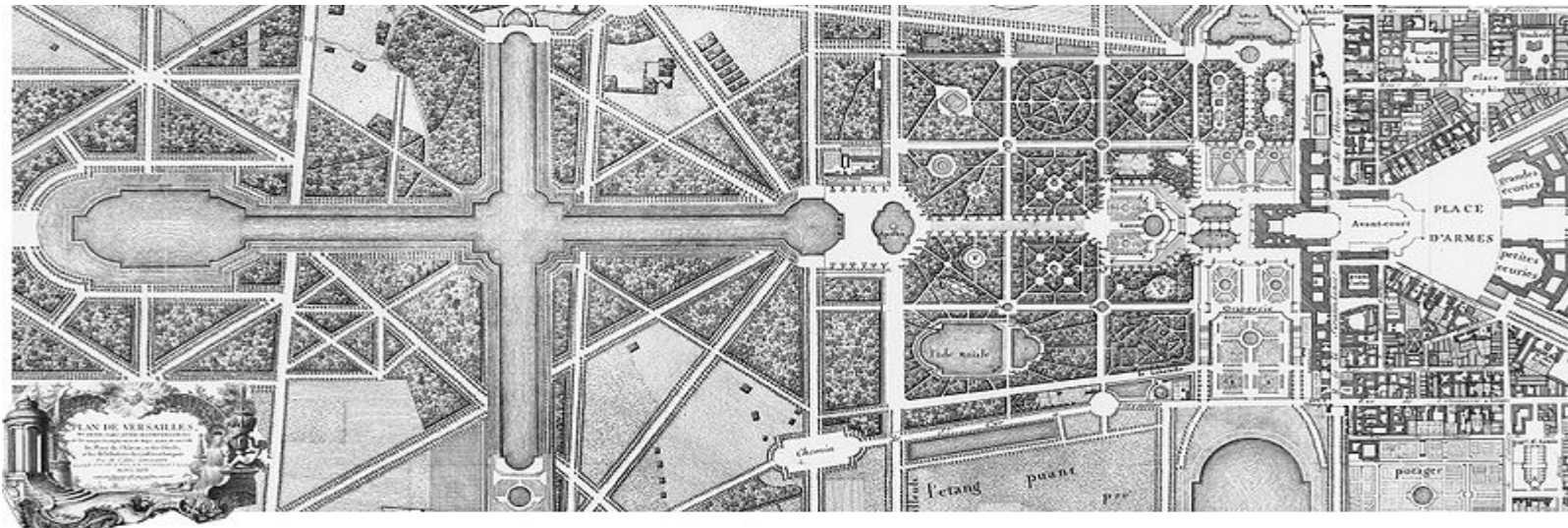


Paris, seventeenth century

3. The Chateau de Versailles

Louis XIV had played and hunted in Versailles when he was a boy. He settled on the royal hunting lodge at Versailles and over the following decades had it **expanded** into one of the **largest and known palaces in the world**, because he wanted the building **to represent the greatness of the king and of his reign**. Beginning in **1661**, the architect **Louis Le Vau**, landscape architect **André Le Nôtre**, and painter-decorator **Charles Le Brun** began a detailed renovation and expansion of the château. This was done to fulfill Louis XIV's desire to establish a new center for the royal court. The palace is the center of **two large areas** defined by differing **perspectives** that extend out of sight. The simple geometric shape is **centered around the figure of the absolutist monarch** who form the core, the **center of gravity** of the system. In one word, the Chateau de Versailles became a model of the baroque architecture.

By moving his court and government to Versailles, Louis XIV hoped **to extract more control of the government from the nobility**, and **to distance himself from the population of Paris**. **All the power of France emanated from this center**: there were government offices here, as well as the homes of thousands of courtiers, their retinues, and all the attendant functionaries of court. By requiring that nobles of a certain rank and position spend time each year at Versailles, Louis prevented them from developing their own regional power at the expense of his own and kept them from countering his efforts to **centralize the French government** in an absolute monarchy.



**A visual remind:
Medieval - Renaissance - Baroque space**



Sienne

Medieval square, organized around the city hall, closed, rejoined by sinuous streets, anarchic growth all around.



Florence

Straight lines, right angles, arcade rows, geometrically ordered, perspectives, equestrian statue representing a ruler in the middle of the square.



Versailles

Grandiosity, theatricality, opulent use of materials, centered around the figure of a power (the Church, the King).

IV. The contemporary period: From the French revolution to the Belle Epoque



COBRAMAN



**This project is implemented through the CENTRAL EUROPE
Programme co-financed by the ERDF**

Urbanism characteristics in the XIXth. century

In the developed countries of Western Europe, North America, Japan, and Australia, **planning and architecture** can be said to have gone through **various paradigms or stages of consensus** since the eighteenth century. Firstly, there was the **industrialized city** of the **19th century**, where building was largely controlled by **businesses and wealthy elites**. At this time, architecture and urban planning is an **object of domination** from the rulers, who express their **greatness** through the **Neoclassicism** and the **Baroque**. **Cities are growing, because of the industrialization, the population increase and the rural migration**. It leads to the **reconstruction of the medieval part** of the cities to permit them to expand. Even in **the colonies**, cities are being **organized**, often following the same urban plan: **the mesh plan**.

Around 1900, a movement began for providing **citizens**, especially **factory workers**, with **healthier environments**. The concept of the **garden city** arose and several model towns were built, such as Letchworth and Welwyn Garden City in Hertfordshire, UK, the world's first garden cities. This announce the **hygienist considerations** that take more and more importance in the **planning of the cities**.

To approach this long century, we will focus on four points which cover the main aspects of this period:

1. **Baroque and (Neo)classicism** model are used in **architecture** and in **urban planning** to express the **domination** and the **control of the rulers** on the city.
2. British residential model
3. The **colonial cities**, which **grow as quickly** as the European cities at this time, always used the **mesh plan** to order the urban development.
4. **Urban project** on a very **important scale** are led in big cities in Europe, to allow their **growth** and **to control social movements** by the **destruction of the medieval part** for a **wider city**.
5. **The worker colonies** and the **garden cities** reveal the consideration of **factory workers** in **housing and life conditions**.



1. Baroque and (Neo)classic samples

- The **classic architecture** is characterized by a **rational study of proportions** inherited from Antiquity and the search for **symmetrical compositions**. The **noble and simple lines** are searched, and the **balance and sobriety** of the decoration, in order that the details answer to each others. It represents an **ideal of order and reason**. The discovery and excavation of **sites of Pompeii and Herculaneum** handed up to date the ancient forms, and led to the apparition of the **neoclassical movement**, which once again **serves the rulers**. Here are two example of the neoclassical architecture, used during Napoleon the Ist and Napoleon the IIIrd reigns in France.



Rivoli street, Paris



Boulevard Haussmann, Paris

- It is in the **design of the city** that really innovates **Baroque art**. The Italian Renaissance began to rethink urban planning but did in the margins of the medieval city "closed". The Baroque him, "**opens**". He opened the city thought as a **systematic space**, it pierces **infinite perspectives**, he designed the city as **the center of forces that radiate far beyond its boundaries**. It is not unreasonable to suggest that the Copernican revolution and Newtonian necessary then, influence the minds of backers such as architects and planners. The leaders are

on stage, and **try to impress with the expressiveness of their city architecture**. As with everything that is Baroque, it all started in Rome, with the drilling of identified major routes pointing to the churches to glorify them, the stairs of the Piazza di Spagna, the place and the Trevi Fountain. Here are two examples of the use of the Baroque into the streets design.



Regent street, London



Dunajski Ring

2. British residential model

- During the 19th century, London was transformed into the world's largest city and capital of the British Empire. Its population expanded from 1 million in 1800 to 6.7 million a century later. During this period, London became a global political, financial, and trading capital. In this position, it was largely unrivalled until the later part of the century, when Paris and New York began to threaten its dominance. While the city grew wealthy as Britain's holdings expanded, 19th century London was also a city of poverty, where millions lived in overcrowded and unsanitary slums. Life for the poor was immortalized by Charles Dickens in such novels as Oliver Twist.
- In 1829 the prime minister Robert Peel established the Metropolitan Police as a police force covering the entire urban area. The force gained the nickname of "bobbies" or "peelers" named after Robert Peel. 19th century London was transformed by the coming of the railways. A new network of metropolitan railways allowed for the development of suburbs in neighboring counties from which middle-class and wealthy people could commute to the centre. While this spurred the massive outward growth of the city, the growth of greater London also exacerbated the class divide, as the wealthier classes emigrated to the suburbs, leaving the poor to inhabit the inner city areas.
- The first railway to be built in London was a line from London Bridge to Greenwich, which opened in 1836. This was soon followed by the opening of great rail termini which linked London to every corner of Britain. The urbanised area continued to grow rapidly. Towards the middle of the century, London's antiquated local government system, consisting of ancient parishes and vestries, struggled to cope with the rapid growth in population. In 1855 the Metropolitan Board of Works (MBW) was created to provide London with adequate infrastructure to cope with its growth.
- One of its first tasks was addressing London's sanitation problems. At the time, raw sewage was pumped straight into the River Thames. This culminated in The Great Stink of 1858. The polluted drinking water (sourced from the Thames) also brought disease and epidemics to London's populace. Parliament finally gave consent for the MBW to construct a massive system of sewers.
- In 1888, the new County of London was established, administered by the London County Council. This was the first elected London-wide administrative body, replacing the earlier Metropolitan Board of Works, which had been made up of appointees. The County of London covered broadly what was then the full extent of the London conurbation, although the conurbation later outgrew the boundaries of the county. In 1900, the county was sub-divided into 28 metropolitan boroughs, which formed a more local tier of administration than

the county council.



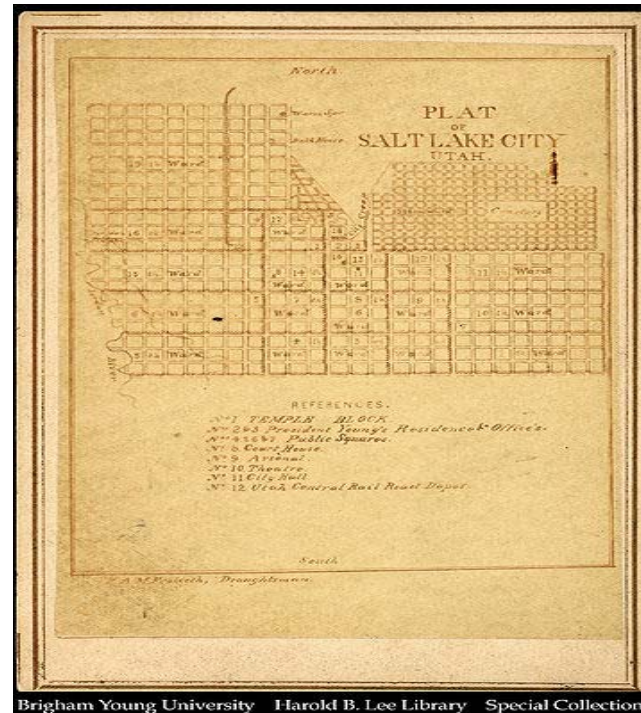
London

3. The colonial city: the mesh plan

The colonial cities usually used for urban planning what is called the **mesh plan**. For example, at the end of the XVIIIth century, the mesh plan is developed in the centers of **the american cities**, according to the *Land Ordinance Act* signed in 1785. The constitution of the cities by **blocks** permits **the reconstruction of a lone district independantly to the other one**, and even for **civil convenience** and **military defense**. The basic plan consisted of a **central square** with city services, surrounded by a compact, rectilinear grid of streets, and sometimes wrapped in a wall for defense. It happens that to reduce travel times, diagonal streets crossed the square grid, passing through the central square. A **river** usually flowed through the city, providing water, transport, and sewage disposal.



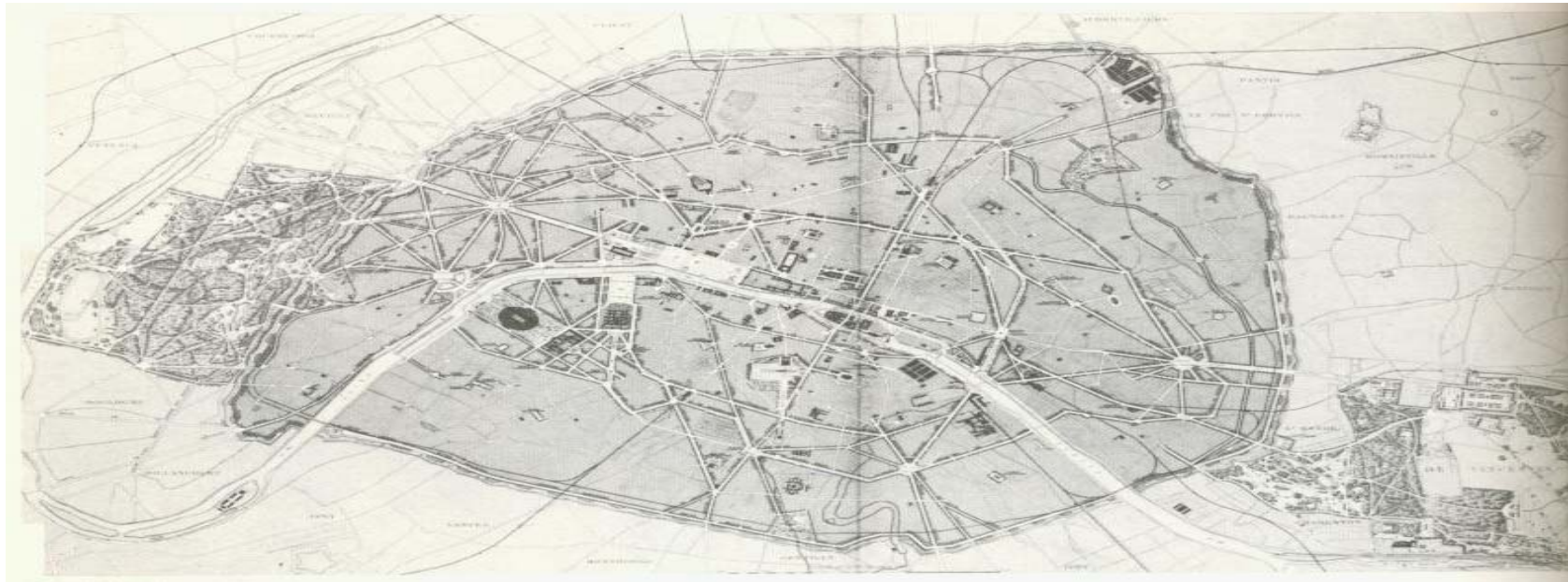
New York in 1807



Salt Lake City in the middle of the XVIII th. century

4. Reconstruction of cities in the second half of the XIXth century: The Paris of Haussmann

Between **1853 and 1870** (though work continued until the end of the 19th), the **Haussmann's renovation** of Paris gave the city its present form; its **long straight, wide boulevards** with their **cafés and shops** determined a **new type of urban scenario** and have had a profound influence on the everyday lives of Parisians. Haussmann's boulevards established the foundation of what is today **the popular representation of the French capital** around the world, **cutting through the old Paris of dense and irregular medieval alleyways into a more rationally-designed city with wide avenues and open spaces** which extended outwards far beyond the old city limits. The project encompassed all aspects of urban planning, both in the centre of Paris and in the surrounding districts: **streets and boulevards, regulations imposed on facades of buildings, public parks, sewers and water works, city facilities, and public monuments**. Beyond aesthetic and sanitary considerations, the wide thoroughfares were constructed to facilitate troop movement and prevent easy blocking of streets with barricades, and their straightness allowed artillery to fire on rioting crowds and their barricades.



4. Reconstruction of cities in the second half of the XIXth century: The Vienna of Ludwig Förster

The project of **Ludwig Förster** concerns the **Ringstrasse**, in **Vienna**. The street was built to **replace the city walls**, which had been constructed and reinforced between the 13th and 15th centuries. The fortification had been obsolete since the late 18th century, but the Revolution of 1848 was required to trigger a **significant change**. In 1850, the **Vorstädte** (today the Districts II to IX) were incorporated into the municipality, which made the city walls a simple impediment to traffic. In 1857, Emperor Franz Joseph of Austria issued his famous decree "**It is My will**" ordering the demolition of the city walls and moats. In his decree, he laid out the **exact size of the boulevard**, as well as the **geographical positions and functions of the new building**. The Ringstraße and the planned buildings were intended to be a **showcase for the grandeur and glory of the Habsburg Empire**. On the practical level, Emperor Napoleon III of France's boulevard construction in Paris had already demonstrated how enlarging the size of streets effectively made the erection of revolutionary barricades impossible.

Since the **Ringstraße** had always been meant primarily **for show**, a parallel **Lastenstraße** was built on the outside of the former glacis. It is still important for through traffic. After some disputes about competence between the government and the municipality, a "**City Extension Fund**" was created, which was administered by the government. Only the town hall was planned by the city. During the following years, a large number of opulent public and private buildings were erected. Both **the nobility and the plutocracy** rushed to **build showy mansions** along the street.



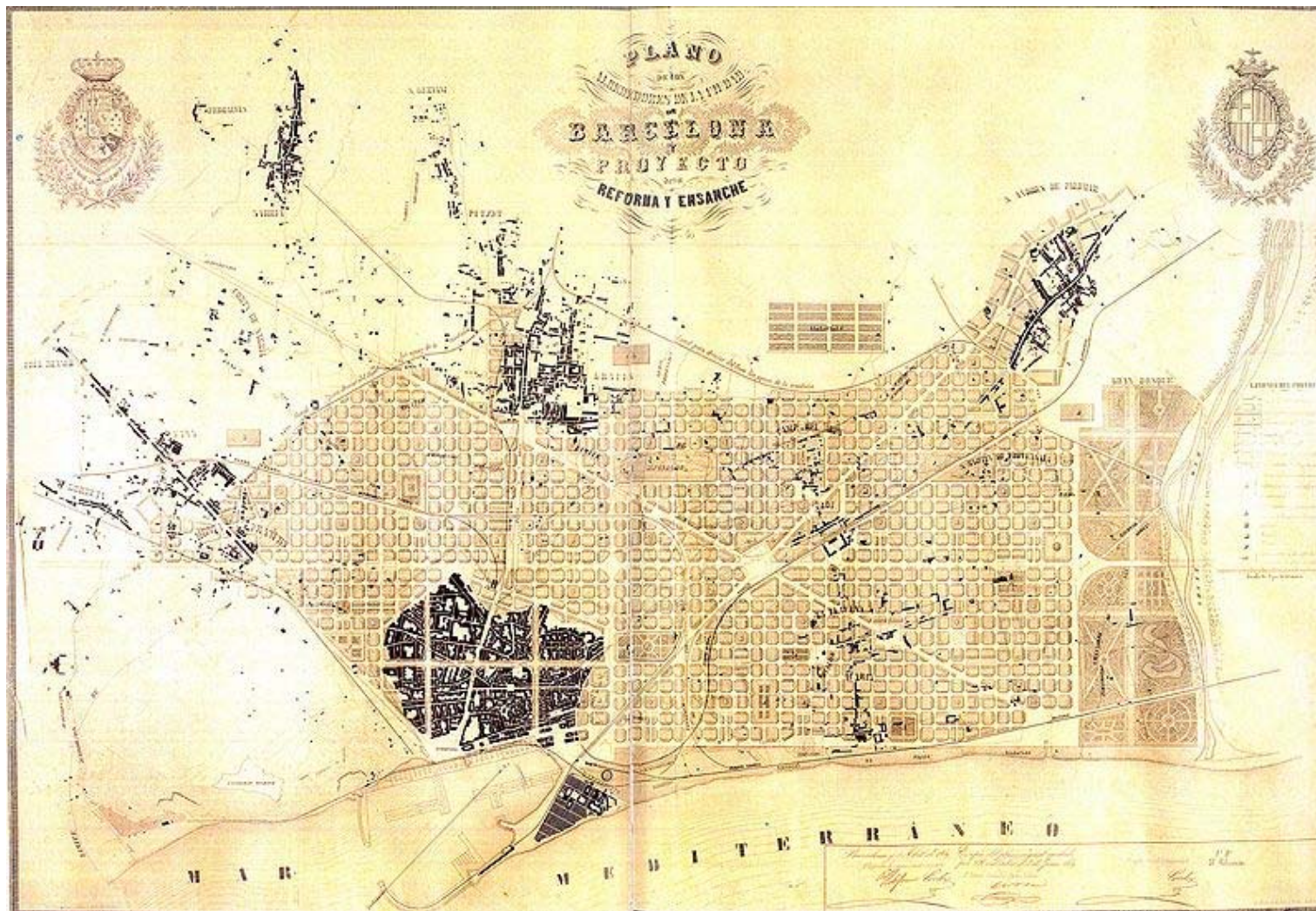
4. Reconstruction of cities in the second half of the XIXth century: The Barcelona of Ildefonso Cerda

The expansion plan of Barcelona, the *Eixample*, is considered as the main work of Cerda. In 1859, the decision to **destruct the walls** of the city opens the way for **the transformation of Barcelona**. In 1860 a commission which involved Cerda, introduces the consideration of an **extension plan**. The commission presented a draft prepared in December of that year. The main objective of the plan was **to increase the total area of the city, allowing its extension beyond the limits of the old walls, and provide an alternative more orderly streets and islands compared to the complicated fabric of the historic center of Barcelona**. The contention of the city in its limits have **greatly increased density and created problems of communication** with the outside.

The base plan is a **system of channels and islands that can stretch to infinity as the city grows**. Cerda has created a **road network** where **little streets led to bigger ones** which led also to the biggest avenues. To explain this hierarchical concept, Cerda uses an analogy of small streams flowing in larger rivers. Cerda call between-road the spaces between the road system. So the islets are the spaces contained between the ways. Cerda reinforced the notion of **streets and islets forming a single structure and inter-dependent**.

The plan now is considered mainly for its **graphical representation** with its **characteristic reticular appearance**. This however is often misunderstood and seen as a simple grid that extends from the limits of the old town. The plan outlines a complete system that **distributes parks, industries, businesses and residential areas in a balanced way**. The main avenues are structures that coordinate the expansion of islets. The blocks should ideally be open patches, allowing **the passage of pedestrians and air**, and could be filled with green space. In this regard the drawings are as important as the theoretical proposition developed by Cerda and have a memory of the original proposal.

It focuses on basic needs: first, the need for **natural light** (sunlight), **ventilation in homes** (it is strongly influenced by the hygienist movement), **green spaces close to the population, proper treatment of waste, a sewage system efficiently, and the possibility of homogeneous movement of persons, goods, energy and information**. His creations reflect a conception of the notion of network very advanced for its time. Its checkerboard street maps are designed **to facilitate the movement** of pedestrians, cars, horse-drawn trams, networks of urban railway (which is an innovation for the time), network gas, sewage large enough to prevent flooding, without neglecting the public and private gardens, and other key equipment. The **latest technical innovations** are integrated, as long as they contribute to a better functioning city. But it also uses its own innovative concepts, such as a logical system of grading necessary for the successful completion of the project. He also made a systematic statistical analysis of the working class of the day, to demonstrate the problems of urban congestion.



Eixample, from Ildefonso Cerdà

