4. History of Urban Planning

4.1 Town and country.

In the ancient world the town is the seat of the ruling class such as the priest-kings in Egypt, the military trading power in Mesopotamia, or the Emperor’s administrative machine in China. In the Greek city state and in the Roman Empire, the town contains the treasure house where plunder is collected.

After the collapse of the Roman Empire the town in Europe fell back into a pre-urban state and was dominated by the country. In the early medieval period, power rested with the clerical and the secular lord established in a castle within the town or on its periphery. It was built with the double purpose of defending the castle and the town against enemies from outside and of oppressing the town itself when necessary. Within the town we find a complex class structure: at the top of the officials of the feudal lords, the town councilors and representatives of the guilds, followed by the masters, journeymen and apprentices, and finally by non-citizens. In the country there were peasants in the villages or farms, serfs, villains, slaves and a number of traditional categories.

Lords, citizens and peasants, the three main classes formed various groups and alliances at different times. In the early period the town usually allied itself with the peasants against the feudal lord, and whenever the town was victorious the castle was destroyed. The result was that in the north Europe the feudal nobility was victorious; whereas in the north of Italy the towns were the victors. They forced the nobility to abandon their castles and to settle within the town, where they united with the bankers and merchants.

At a later stage the town cuts its ties with the country from which it sprang. The well-to-do citizens join hands with the despotic king and henceforth their policy is directed against the country. As a result of ever growing exploitation the peasants rise in great revolts all over Europe. The town becomes a producer of wealth, as a royal capital, clerical or governmental seat, as military camp or administrative centre; it is consuming the products of the country and despoiling it.

4.2. Transition and growth.

Before the town proper appears there is always a transitional stage, a village-town or a castle-town. We encounter this transitional type throughout history, such as the unfortified settlement of early Paris, the fishing village of Berlin, or the first stockade of New York. We meet it as a township, burgh, manor, castle, or as the first settlement or parish round the churches and monasteries.

The further growth of the town depends on the exploitation of the area it controls. Gradually the first real town emerges, small in size – a quarter or half miles wide with a population of 2000 to 5000. With the unification of larger areas the centers grow, the relative importance of each different region changes, and the center of gravity shifts.

After the first towns in the river valleys, with the development of technique, with navigation, trade and piracy, these centers shift to more favorable positions, to the eastern Mediterranean and later to Rome. Such movements decide the fate of the town, its rise and decline. It is not enough to study the growth of an isolated town. Only by comparing towns of the same period, by comparing their absolute and relative growth, the truth becomes apparent.

When Rome was the world capital, London was but a small trans-shipment point on the fringe of the then known Roman world. Paris was a Roman camp, Berlin and New York did not exist. On the other hand, when Rome, after its decline from a capital to a provincial town, acquired a million inhabitants once more, such a number was insignificant compared with the eight million inhabitants of London or New York. The status of a town is comprehensible only in relation to other towns and periods.

There are times when the economic structure is fairly stable. In such periods the town will slowly establish a distinct shape which lasts for some time; but there are other periods like the last hundred years, when the structure of the whole country changes rapidly and so do the towns within them.

It is this hectic growth which accentuates the contradictions within our present multi-million towns and produces their main problems.
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4.3. The main historical types.

The following are believed to be the most important aspects of the main historical types of towns.

- Asiatic town
- Greek and Roman city-state.
- Bourgeois town.
- Early middle ages.
- Late middle ages.
- Early capitalism.
- Developed capitalism.
- Contemporary town.

**Asiatic town**

There are four cultures dependent on irrigation: Egypt, Mesopotamia, India and China. The economic system on which towns in these areas depend is based on the river and its regular inundations. Agriculture has to harness the floods and control their devastating effect. Irrigation in agriculture is too complicated to be entrusted to slaves and slave-labour is mainly restricted to building.

The wealth accumulated in the hands of the priests or kings is extracted by taxation and labour service. Since taxation requires an organized administration, a learned ruling class arises.

The river, the highway of the country, has a unifying effect. It links isolated regions within the state which embraces them.

Another characteristic feature in cultures based on irrigation is the structure of the crafts which reflect the marked conservative character of agricultural production. Outstanding works are produced with primitive tools.

**Greek and Roman city state**

In the course of history Greece and Rome changed from a free tribal society of peasants to an aristocratic society entirely dependent on slaves. Their civilization broke down on the antagonism between the native farmer and farming carried out by slaves. The town reflects the whole process. Originating in the small strongholds of the warrior kings, the town became the strongest instrument of democracy, where the free citizen exercised his rights in the agora or forum.

Aristocracy brought temples and palaces. The Romans established the focus for the great spectacles glorifying the expeditions that plundered the world. To distract the pauperized masses theatres and circuses were built. Yet in contrast to the splendor of the public buildings, the masses were housed in a chaotic jungle of dwellings as in every ancient town.

**Bourgeois town**

Later in history reflects the rise of the bourgeois class from the lowest section of society to the ruling power. After the breakdown of the Roman Empire the conquering tribes imposed their barbaric methods of subsistence cultivation; it needed four centuries to raise production to a higher level and finally to establish the most important and far-reaching division of labour into town and country.

**Early Middle Ages**

The general production of the society was so low that even a town like Paris was unable to erect clay walls, in spite of threatening raids of wandering hordes. Many towns disappeared altogether during this period. Others needed generations to build a wall for their protection.

**Late Middle Ages**

Wealth gradually accumulated in the towns. The struggle between the citizens and the feudal overlords became more vigorous. Most of the advanced north Italian towns were victorious in this battle, whilst in the rest of Europe the towns were mostly suppressed and lost their former independence. Handicrafts were built up in the guilds. Guild houses and guild streets give evidence of their dominating position.

**Early Capitalism**

The discovery of Americas and the resulting influx of gold increased the wealth of the European courts. Wider demands were made on the markets, with corresponding expansion of production. The new standing armies produced an unprecedented demand, particularly on the textile industry. No longer could the handicraft
and the limited production of the old guild system suffice. A new form of production was introduced – the workhouse with 50-100 workers for spinning and weaving. Simultaneously a new group of masters dependent on rich producers appeared. Both methods of production formed the link with the modern factory system.

The city of renaissance with its new fortifications is the expression of this technical progress. The new representative center is the palace in the Grand manner.

**Developed capitalism**

The bourgeois class was soon powerful enough to assert itself as the ruling class. The increase of the world trade accelerated production. England, which had been an agricultural country till then, now became the industrial center of the world. Large cities, founded on the textile industry and on coal and iron, sprang up. Terrible epidemics accompanied these developments and threatened the existence of the whole towns. With the study of these conditions the first modern scientific treatment of housing conditions began. This was the forerunner of the modern town planning.

**Temporary towns**

In the present period of capitalism, which in several ways is quite different from the preceding stages, the world is divided up amongst the great powers. Government, finance, and production are closely interwoven, and modern means of transport make for the unification of the world trade; monopolies and trusts have appeared.

The capitals of the great powers are the centers of these activities. The skyscrapers of New York and Chicago and the chain of administrative headquarters along the river Thames are typical. Great populations are concentrated for administration, distribution, and production, enlarging the town to a region.

Not only few capitals but all modern cities have the same uniform features. They all represent the contemporary system and have its stamp indelibly impressed upon them. A planned town, in contrast to the growth of the past periods, will have to be based consciously on work, housing, and amenities linked by transport, expressing the spirit of human collective work.

### 4.4. Examples:

#### 1. MESOPOTAMIAN TOWNS

**TIME PERIOD:** 4th millennium B.C.

Humble villages along the valley of the Tigris and Euphrates Rivers became monumental Cities of the Kings. Each one was heavily fortified to resist the siege by enemies. The stately palace-temple dominated the city, and the shadows of slavery and superstitious religion masked their urban existence.

But housing was provided to each according to their income levels. Cities like Babylon had triumphal avenues connecting magnificent city gates. But narrow streets lined with three and four-story dwellings of the populace were other characteristics of their time in Babylon. But, the sloppy site of Ur, roads were crooked originally due to the terrain and the temple was located on the hilly site.

**LESSONS DRAWN**

- The need for a focal point in a city
- The Palace and Government buildings (Kahun and Akhenaten) and Temple (UR)
- The introduction of public activities and commercial centers
- Street definition
- Geometric organization of the cities (Babylon)
- The skill of using rivers as an urban element is one important thing to ponder upon
- The building types adoptable to climatic conditions were more significant
- Building by the edge of the street happens to be the easy way of defining it
- The importance of scale was clearly depicted
- Building height was controlled and height was a way of creating landmarks and image in the city
- Segregation of residential quarters was one way of creating zoning

#### 2. INDUS VALLEY TOWNS

**TIME PERIOD:** 2500-1700 B.C.

Concurrent with the Pyramid Period of Egypt, permanent towns of burnt bricks were built along the Indus Valley. In Mohenjo-Daro and Harappa, the streets were arranged in a regular pattern and as in Egypt, the dwelling were compactly built about interior courts. The height of buildings were established in proportion to the width of streets, one and two storeys
predominating. Sanitation was of a relatively high order, a system of underground sewers extended about the towns, and disposal lines were connected to the dwellings.

Geometrically designed, the towns had fortifications for protection against both intruders and floods, several distinct quarters, assembly halls, and manufacturing units of various types; some bigger cities had furnaces for the production of copper tools, weapons or ornaments, public baths, probably often part of temples, and private baths for most inhabitants.

Mohenjo-Daro
Region: Indus valley, in the foot-hills of the Himalayas
Periods: Indus valley civilization, 2500-1700 B.C.
Remark: Specially known for hydrology and designed drainage system

3. GREEK CITY PLANNING
TIME PERIOD: Before and after 323 B.C.
FACTORS INFLUENCING THE PLANNING OF GREEK CITIES
Geographic, climatic, social and political conditions

- Brilliant sun shine, clear air and the mountainous landscape of Greece had a natural effect on their town plans. The Mediterranean climate, too, had great influence on their town design
- Greece developed no large cities. Its ever varying landscape - its firm foundation, fostered the creation and maintenance of small states
- Wars and conquests of ancient Greek history is the reason for surrounding the cities with protective walls and hence fortified cities
- Ancient Greece was divided into major city states having their own rulers, though based on slavery, created opportunity for richness of their citizens and vigorous individual life by their government
- The rising of business community stirred the imagination of populace resulting in gradual diminishing of the king’s power, and thereby giving more rights to the common people
- Consequently Temple became a dominating feature while the palace diminished in size and importance
- Democratic pattern of cities developed, where the gap between the rich and the poor got minimized and where the citizen contributed a lot in the city administration

CHARACTERISTICS OF GREEK CITY PLANNING

- Greek Towns always had fixed boundaries by fortification or otherwise
- Except for very privileged individuals graves were located outside the city fortification
- In most of the Greek towns much of the available area was devoted to public buildings and spaces rather than private enterprise
- In most Greek cities Agora took the central position of the city - being easily accessible from all directions
- Greeks felt it a religious obligation to build the temple and as such it dominated the Greek townscape and Greeks spent much of their fortune and creative genius on their temples
- Greeks believed in the principles of balance which is omnipresent in their cities
- Greeks sought quite privacy in their dwellings and private buildings were mostly mud brick masonry, rooms arranged symmetrically respecting irregular shape of the site

LESSONS DRAWN FOR APPLICATION IN MODERN PLANNING

- Agora, the most active place with social, economical and other activities placed at the center of a town led to the concept of City center in modern city planning
- City planning within a grid iron street pattern
- Arranging buildings with asymmetrical balance creating visual continuity and respecting landscape and view
- Open air theaters and sports pavilions
- Building structures in grids - from Greek trabeated building system
- Concept of an open courtyard in the modern residential buildings
- Optical corrections in modern architecture
Olynthus
Region: Macedonia
Periods: Hellenic, 432 B.C.
Type: Fortified city, grid iron planning
Remark: Sacked and burned by Philip of Macedon in 348 B.C.

- The city was built on two flat-topped hills rising about 30-40 meters above the surrounding plain within North and South Hills
- Olynthus was laid out on a grid iron plan, the characteristic form of almost all colonial foundations. The city was conceived as a whole from the start with a chessboard plan with design of streets and regular building blocks giving the city opportunities to grow by adding similar block units of approximately the same shape and size of those existing
- Grouped public buildings and large squares are almost missing at Olynthus but, are some public buildings scatter here and there throughout the city
- The streets are oriented almost due north-south (15-21 feet) and east–west. (15 feet) and they are unpaved except for a few cobbled patches. Towards the eastern part of the city the grid plan becomes more irregular
- A kind of public area is located towards the south end of the North Hill where an open plaza is located. Three public buildings (a stoa-like building, a 'bouleuterion' and a fountain house) surround this plaza. This open space was probably the agora of the city

- Houses are mostly grouped in blocks of ten, comprised of two rows of five houses separated by a narrow alley. On the east side of the city, however, the blocks were shortened to allow the roads to follow the topography of the hill
4. ROMAN URBAN PLANNING
TIME PERIOD: Between 500B.C. and 800A.D.
FACTORS INFLUENCING THE PLANNING OF ROMAN CITIES
- The rise of Roman Empire
- The very Militant nature of the Roman administration
- The pride of showing the Roman power to their neighboring states over the others
- Giving emphasis to state buildings over small residential units

CHARACTERISTICS OF ROMAN CITY PLANNING
- Fortification around the city
- Two Major streets dividing the city into four parts
- Most of the cities are grid iron in layout
- Almost all the colonial cities were built overnight
- Excellent system of drainage and water supply by using AQUEDUCTS
- Public baths were a common element in every city
- Big market places called FORUMS, the Roman equivalent of Greek acropolis and agora, was conceived as one
- From the Greek Hellenistic town, the Romans received a pattern of aesthetic order that rested on a practical base; the Romans gave a characteristic turn to its own outdoing the original city plan in ornateness and magnificence
- The introduction of the grid iron plan in a very convincing way

Verona
Region: North Italy
Period: Roman, 69B.C.
Remark: Fortified girded layout surrounded by a river from three sides

LESSONS DRAWN FOR APPLICATION IN MODERN PLANNING
- The introduction of forum as a direct similarity with modern public spaces
- Employing scientific and technical solutions to the challenges of civic amenities, example aqueducts
- The use of major streets design in modern cities
- The zoning of functions in the city, which was adopted as back as in Roman times
- Extensive use of grid iron plan in the layout of modern cities

Aosta
Region: North Italy
Period: Roman, 25 B.C.
Remark: Fortified rectangular layout with two streets dividing the city creating four gates

5. MEDIEVAL URBAN PLANNING
TIME PERIOD: Between 900 AD and 1500A.D.
FACTORS INFLUENCING THE PLANNING OF MEDIEVAL CITIES
- The creation of medieval city states after the breakdown of Roman Empire
- Living ethics around religious affinity
- Protection of the city from barbarians
- Administration highly associated and governed with high order from the church
- The ascending of church and its importance in the life of city dwellers
- The main components which gave rise to medieval city shape revolve around four main ideas- these are:
  - Religion
  - Need for protection
  - Population growth and trade
  - The guild

COMMON CHARACTERS OF MEDIEVAL PLANNING AND DESIGN
- Heavy Fortification of the city or town
- Moat as part of city fortification
- Bridges over the protecting moat
- Most medieval cities were characterized by organic, narrow and winding arrangement of streets
- Few public buildings
4. History of Urban Planning

- Layout of the city and even the buildings were asymmetrical
- When the city grew in population, it was a custom to bring down the fortification and expand the cities by constructing another fortification and moat

COMPONENTS OF MEDIEVAL CITIES
1- Church
2- Fortification and moat later turned into ring roads
3- Winding and narrow roads
4- Public space around the church (market square)

LESSONS DRAWN FOR APPLICATION IN MODERN PLANNING
- The concept of fortification is a direct influence for having the idea for the concept of ring road in modern times
- Treatment of urban design concepts in detail and proportion
- Concepts of visual rest areas and spaces at rest in the consideration of streets and public spaces
- Creation of public space around a public building
- Picturesque arrangement of residential houses

Bagnocavallo
Region: North Italy
Period: Roman, 1050 A.D.
Remark: Fortified, irregular and narrow Street layout in radial pattern

6. RENAISSANCE URBAN PLANNING
TIME PERIOD: Between 1350 AD and 1520 A.D.

FACTORS INFLUENCING THE PLANNING OF RENAISSANCE CITIES
- Assumption of human body as a perfect geometric proportions
- Excellence in painting, sculpture, architecture and urban planning
- Enormous change in the social, intellectual, and economic framework - introduced by humanism
- Change of the concept of space as a result of the invention of perspective
- Day to day attachment and experience to the past Roman touches

- Individual ego supersedes the old team spirit of the middle ages and paved the way to the absolutism in the 17th century
- Mathematics in general and geometry – in particular were accepted as guiding principles in architecture and city planning
- Illusion of religion – symbolic significance was lost
- Illusion of reality- of the world was ascending
- Main new inventions during the Renaissance times are:
  - Perspective and painting
  - Gunpowder
  - Printing machine and duplication
  - Copy of Vitruvius’s book on architecture

COMMON CHARACTERS OF RENAISSANCE PLANNING
- Great influence of geometry
- Has a touch of artistic features
- Different building (no two buildings were alike)
- Same height principle
- Emphasis on streets and squares
- Magnificence in design
- The city was considered a monument and a work of art
- Aristocratic nature
- Streets treated as a component of design
- The grid iron plan

COMPONENTS OF RENAISSANCE CITIES
1- Primary streets
2- Fortification and moat which were turned into ring roads later
3- Garden design
4- The Palace

LESSONS DRAWN FOR APPLICATION IN MODERN TOWN PLANNING
- The concept of fortification directly influenced for having the ring roads in modern town planning
- Treatment of urban design concepts in detail and in right proportions
The use of geometry, apart from its road pattern as a partial solution to the challenges of urban planning
Knowledge of other fields accepted as a necessity in the process of planning and design of cities
Concepts of visual rest areas and spaces, at rest, in the design consideration of streets and public spaces

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THE FIVE STAGES OF INDUSTRIAL TOWN PLANNING

1. Period of urban concentration and debasement
   This period is characterized by factories built in urban centers because of readily available labor, infrastructure and market. These led to urban congestion and insanitary living conditions

2. Period of Urban Sprawl
   Degradation in the town diverted the factories to the country side thereby increasing the travel distances

3. Period of bye-law housing
   This was a time for rather remedial measures than urban solutions. Since 1840 onwards the British parliament was taking public acts and housing units were guided by public health acts of 1875

4. Period of Steam Locomotion
   This led to devastation of towns by introducing high embankments, thereby curtaining of movement and normal traffic in addition to its improper location of railway stations in city limits

5. Period of Reform
   This was a time for individual attempts by philanthropists and utopians to come up with model towns, some just proposed and some others built

LESSONS DRAWN FROM INDUSTRIAL TOWN PLANNING

Whenever individual interests rule and wherever economic aggrandizement is the governing power, the idea of building a livable city will be in danger. And this is still evident even in this age as we are living in the wounded cities and the planners, therefore, must aspire more for livability of citizens in towns than for financial passion

Reference materials given in Eduwave:
1. REF_12 Ancient Town Planning
2. REF_14 Medieval Towns - 01
3. REF_15 Medieval Towns - 02
4. REF_16 Medieval Towns - 03
5. REF_17 The GRID
6. REF_18 White paper

7. INDUSTRIAL TOWN PLANNING

TIME PERIOD:
FACTORS AFFECTING PLANNING AND URBAN DESIGN
The productivity by the machine came along with the mountains of nasty waste. Of all sectors of production - the mine, the factory and the rail road were the prominent ones. And the rise of these economic agents displaced the city tradition from the preceding periods. Aggravated by population growth, the need and flow of surplus resulted simultaneously in side by side growth of both urbanization and industrialization

CHARACTERISTICS OF INDUSTRIAL TOWN
- The unexpected growth of scale and size
- Mathematical order of city building
- Fast construction of industrial units but with destruction of life and tradition
- Destruction of attractive cities and scenic beauty for the sake of the rail road layouts
- The pace maker of the development was the investor while the state was a peace maker hence the fate of the urban environment slipped into the hands of private enterprises
- The slums, the factory, and the railroad, now made the basic elements of the town
- The factory – the prime element, commerce and domestic functions coexisted at the same site

Congested back to back housing units, with no green spaces, without plumbing, sanitation, clean water, led to diseases like cholera and typhoid