

B. ARCHITECTURE

URBAN DESIGN (AR6711)

HISTORIC URBAN FORM

Lecture – 3

Ancient Cities:

What was our first city?

It does anyone know which is the first city evolved in hundreds of hundreds year ago or thousands of years ago in what civilization which means that all cities attest to the imposition of geometrically ordered streets. So even before we don't know the names of the city which have been evolved before we known that all human all are prehistoric and implied or imposed simple geometric shapes and patterns in the formation of cities. Let us take series of look on how the cities have been facially evolved from prehistoric industrial evolution one of the fertile ceresin otherwise known as the Babylonian or the Sumerian civilization.

Let to the growth of one of the ancient cities called UR. This city of UR is otherwise in modern day Middle Eastern countries city of UR. Which has a compound which has a fortification around which is a series of modes as a protective measure and there are bastions on either side if which mark in key to the particular area. And there is also an artificial harbor for the entire city. So which means that the city has been organized into two different land forms. One having bigger or large land mark and the other having smaller land marks which means that the ancient should cities should followed a particular measure of huge cities. It state to have political and administrative authorities in the center followed by a group of residential commercial and market places on the other side. To support this market places and trades there is a small harbor which ledge or drains down at the end of this political and residential quarters and this harbor eventually drinks of the local streams or the river Euphrates in regress. The first cities show evidence of Straight Street in an ordered and pattern manner. And there also been series of hierarchy followed in the street pattern which means that there were also segregation of vehicle roads and as well as Pedestrian Street.

In this image you could look at the domination of an urban square which has the ziggurat in the city state of UR which is dominant religion institution followed by series of political and administrative buildings surrounding it. These building are made of locally made materials and these monoliths dominating the cities kept. And eventually this outside fortification has a series of residential quarters as well. The plan of morphology of the city state has been evolved organically and the simple representation of city of core are the Babylonian city express more growth towards north western part of it. Which means the fortification has been followed in the north western province having ziggurat at the center. The political and administrative quarters in an around the fortification outside the fortification the city has organically grown and you can see parts and traces of residential area outside the fortification. So simply cities are exhibited in two different morphology one which smaller scale of growth which represent residential quarters and one with the larger growth which represent the fortification are the political quarters. Looking at the layout of dholavira which means that we were talking about prehistoric in ancient civilization in different countries in different state following similar pattern for geometric of growth. So we look in Middle Eastern civilization now looking our own civilization in India close to Harappa and mohenjodaro civilization. The layout of dholavira this simple geometric layout which just opposed on a contour land. So you could see the topography which more over less like a contour and this geometrically driven layout just imposed on top of it.

So the city is basically composed into two towns one would be the lower town which more over towards the north eastern quarter and one towards the middle town so which has the citadel the balley and castle towards and there is also a ceremonial ground for celebration and pared everything. So in this case the entire domain of middle town which includes the political and administrative quarters whole a gallery and all the administrative related buildings and this closes this to stream has more of the residential quarters and also it has several gates which enters the city in different forms and also you could see the layout of streets follows a morphology gradient pattern. This is one of the images taken as excavation at mohenjodaro which again simply implies geometrical pattern or a shape which has been exhibited and the existence of orthogonal grid like structure is also seen in the cases and you could see larger figure ground which might be castle or balley may be the great path and these could be local building I mean administrative building supporting these quarters and more we move towards eastern corner you

could see traces of smaller residential quarters which could have been there.

Moving into the context of Greek so now when cities grow the civilization improve there is a sense of individuality and communism coming into the sense of factor. So the sense of community and the group of people and public gathering or democracy started with ages of Greek. Where they started the constructing or leaving the space for community called Agora. Agora in another word called open space as you could see these are the series of buildings which are end cluster around single open space and this panathenaic way connects. So in modern day Greek the exact agora is down south are in exactly below the acropolis hill. So from the acropolis hill is you just take a panathenaic way which cut across the Greek agora and move into the dipylon. So you have all the coat buildings including the stoa and lot of religious building are in composing it. With this central forum which became eventually the most civic center or most happening place in the city. So this is the place Greeks were gathered this is the place mass gathering or mass communal activity protests and all kinds of people come in around these places.

Now this in turn has been exhibited in the forum romanum as well. So forum of the Rome is again and other open space which is cluster around group of buildings. So this is excavated image which is now present so you could see a series of buildings around cluster court yard and you can see a series of walk way are in circled around it. So this again a common space for gathering so forum romanum again was a place of spiritual religious and civic centers you could see people around like including criminals to public to gather around these places for public. So any mass gathering activity would take around these places. So more than being a common or public place this also involved lot of temple or religious structure so this is one at western which is the temple of Jupiter optimus maximus and you could also see lot of meeting places in crima and commotium. So these are assembly buildings so the meeting places doesn't encompass only meeting of public which around an open courtyard right and front of the commotium. It also encompass the meeting for legislative assembly to happen so there are also a hierarchy of open and close meeting. And open meeting around the courtyard around these places and some of the internal meeting of the private meeting happen within the buildings. This is the reconstructed image of west end of roman forum so which includes temples of Vespasian, Concordia and temple of Saturn and series of administrative building and arch ways. So could look at the scale of roman forum which includes of

human so it mentions a scale which means that for a public and individual sense of identity could not be felt in open space or gathering spaces. And also come to a fact that people built I mean cities are composed people and all the people gather to gather form a space in a city.

Moving down to medieval city's looking at these civilization through the medieval towns of ancient renaissance growth. There was a simple characteristics of identification of medieval towns which includes the center of the town dominated by a central church. And this central church let to different series of street that move organically or spread organically into different hierarchy of roads. The church plaza became the important market plaza that become most happening in the city and you could see the cross sections of the buildings a lot of cluster of activity happening inside the building as well as lot of cluster of activity outside the building. So there is a in and out experience in all the buildings all the political and religious buildings are organized around the church plaza and for protective measures this was the entire settlement of medieval town organized in the landscape which was in a mountain or retrain in terms of defensive measures. The hilly area could protect them in terms of on certain issues. You could also see a castle another dominant feature of medieval was a castle that is surrounded by a moat. So this entire castle outside the castle was a moat once again proved as protective measure and churches, hospitals, cathedral, market housing also followed in and around the city fortification one.

Now these were mostly Irregular Street you can see a sense of scale the entire grandeur open space for market area which drains down in a narrow street following which means that hierarchy of pedestrian as well as vehicular circulation was followed in such cities. You could see a hierarchy of vehicle moving along larger streets and Narrow Street entertaining only a pedestrian roots. More over any enemy to invite to the medieval towns this irregularity of uncertainty of these streets let to more safer and protective neighbourhoods.

Aspect of Growth of Cities:

Aspect of growth of town after the 18th century was industrialization everyone knows. So we have seen the composition of cities how it had been followed in the past year in the pre civilizations.

Now the major city in urban design contest it would be looking at how cities have been grown. So boom of the city started after the boom of the industrialization so industrialization in urbanization had let in the growth of cities as immigration exploded the urban population surged around

from 6 million in 1860 to 42 million in 1910. Which means that it has almost six times the growth of a particular population in just 5 decades. In late 19th centuries industry invaded the entire cities which means that predominant architecture of prehistoric civilization were space for the public and administration and religious buildings. Now after the industry invaded the cities morphology took different shape come let take a look at some of the cities which have been evolved post industrialization. Now this is the graphic image of what the cities were post world war in post industrialization now you could see lot of chimney going up like skyline. So what dominated the skyline was these factories and ware house now you could see the narrow and widening up to accommodate lot of heavy loading vehicles like cars trucks and everything. So motorization started coming to existence the urban blocks shifted in a bigger character the large character of urban grains followed these entire cities morphology and eventually smoke pollution in term of the city. This is an interesting image of Dubai by before and after so what you see as the image before a 2 decades back were a growth was in more over like a desert where you can see landscape of the city which smaller desert form dominating the skyline rather than the couple of buildings. Now in just 2 decades the advent industrialization the advent of motorization and globalization factors in incorporated city to build or add density which in form of sky scrapers. So which means that what dominate the city is more of public space rather than what dominate the city be this skylines as well as roads. So now the question become where is space for public to even breathe. Another ideal city concept was during the earlier renaissance period by philosopher and sociologist. So this is the earliest city of Palmyra which again was a conceptual city where there is a central organization of an open space which is cluster around dominant political building and religious building now the street radiate in several direction forming different urban blocks that lead into the passions and these passion are externally protected through a mode which is water body in terms of defensive measures and also a fortification wall which form a kind of star shapes. So in this the advantage of cities.

It is literally organize into a radial manner and this concentric rings of road support different users around the first courtyard could become most of the administrative buildings and breathing spaces and the remaining surrounding fortification wall would be the residence. So which means that the ideal city would have a safe walking neighborhood in advent of this. Now looking into what the ideal city concept was it is again following similar pattern of roman forum I mean the forum romanum way you exhibit space similar for the public the scale of the space with respect to

scale of human being so huge immense but it follows a sense of order hierarchy harmony and the city is built or composed for many public spaces in the central courtyard rather than the building dominating this skyline. So any space in this sort involves public participation and most of the ideal city concepts includes or incorporate the concepts of moral spiritual religious cultural and technological growth of all the cities. Now this plan of the ideal cities followed the grid iron pattern in as. Now grid iron this eventually evolve from the ancient concept plan of Piraeus the otherwise called as hippodamus plan. So hippodamus a Greek philosopher invented this grid iron pattern in Piraeus for coastal cities in Greek. So this is the cost which includes the Piraeus harbor and this is the shore line. Now city eventually develop which is the coastal city so here clearly or cleverly corporate the grid iron land with A B and C. these are temple religiously important building marking the same urban block were other urban block are equally or partially divided in to grid iron pattern. So these intersect orthogonally at right angle it has a plus kind of formation and this is been exhibited throughout the neighborhood. Now 2000 years later after the plan of Piraeus came up in William Penn in 1682 in the formation of Philadelphia again a grid iron pattern. So you could see a centrally dominated building but the question over here was every plot of his land essentially equal to every other. So the sense of equality formed in terms of formation of towns and cities and eventually a natural resource like water body supports the same. So cities could grow in every sector. So sector or parts of land was equally divided so lot happen in the next 2000 years William Penn started designing these plans. Now this grid iron pattern exhibited in more over other cities of America including Manhattan. Now the basic concept with started of the grid iron plan was be sure to settle the figure to town so as street here after may be uniform down to the water from the country. Which means that he says from a country side to town make it equal. Equality places a very important role everything should be same a rural area and urban area should not be distinguished in terms of size and shape of the sectors. This may be order when come only the house let build be in a line or upon line as much as may be. Which means that build beyond don't build beyond the boundaries certain series of regulation should be followed within this countries development. So eventually led to formation of grid iron pattern or orthogonally intersecting streets and indexical pattern are organizing streets in numbers. So in today's modern worlds we call street number in street what like street number 1 or main road 1 all these are been the indexical pattern which exhibited in the modern plans of Philadelphia and Manhattan. So William Penn attributed sectors with giving plot number to

every street and sector no to every plot of area. And that has been index quality one seven in number so this made easy for everyone to understand the sense of place and you could see in the image of lands are equally subdivided and within the parts of the land there are again subdivision of plan which could subdivide into residential commodities. So what you see below is a master plan of Manhattan which eventually develop which series of open spaces here and there dominating the skyline but the remaining have a grid iron pattern when it come close to this become dense figure ground.

City Industrial:

City industrial which is again city state were tony garnier invented this concept of city industrial basically subdividing the zoning into four phases so here given work lesser business commercial should be separated. So he has given a set of series of health care centers in and around surrounding suburban areas were residential development has to happen and segregate old town and which is close to the station. So this railway station transfer the people helps them move or have an interact connectivity between other cities and lot of electric power station and services has been ordered across the north eastern corner of the city state and industries have been cleverly demarcating. So you could see a rail edge which splits the zoning into an industrial part into a residential category into health care category and old down and for more convince this old town has been subdivide into three phases which includes the public phases and including assembly legislation furniture's.

So the region of station is center of the city and it includes most of the important central business district or it has all the public facilities dominated by a skyline which becomes a landmark for the entire city scape and all these buildings from the commercial aspects as the city square and this tony garnier plan and even though it just conceptualize not realize but it became it lot of other major planners or philosophical planners including le Corbusier the plan of Ville radiuses. Moving to Ville radiuses which is again other concept the plan revelled by architecture le Corbusier where he design the entire city into equal it derived from tabularrasa where all the buildings are divided into Cartesian grid form. So the entire morphology of this dominated by the skyline of center of the buildings which are around 200m high elevated around podium. And supporting surrounding amenities of residential commercial residential district box following similar pattern leading or pouring down into the central area. For us convince the plant was formulated from tabular rasa and it followed a Cartesian grid like arrangement so you could see the

formation of grid exhibited in and everywhere in the plan. So the center of the mostly concentrated on the central area which central business district or it houses 200m height tower which slowly come in commercial district. So eventually the central plaza became the house for more civic buildings public building and legislative building and slowly moving down south and north has more residential quarter where the capital complex were followed by a central park is dominating the northern part and residential lead down to the corner of the side where the exist of this mostly dominated by industrial sky line. So even though the city was conceptual term of grid iron pattern it had a lot of critics and eventually the Ville radius or the radian city was not exhibited as such in real. But the entire plan of this was demolish vermiculate the European city and clear the grid and the new plan could be exhibited even though this is unrealized plan but certain concept was criticize and things could be taken forward. Moving to traditional planning strategies in India and just for look on the modern city Chandigarh which was again planned by architect Le Corbusier based on different concept of the modular man tabular rasa. So now India was spread Punjab needed our state capital this state capital was ask to be designed by great architecture urban planners. So out of which was the Le Corbusier plan but before which he concepts of Le Corbusier includes well intended utopian vision for the city and the city has a whole.

Now the two major reason of this existence of the city was trust in terms of technology and this technology could exhibit mass production or mass scaling of the city. Now even though the city was ideally design it was uncompromise the ideas of modernist rules and Principle that had to be exhibited that is what capital state needed. So the modernist utopian ideas are exhibited in the city state. So even before Le Corbusier design was a fan like design was exhibited by a Albert Meyer as a competition project where the capital complex high code in the legislative buildings up in the north which eventually flows down in the series of fan like radiating the roads where the cities are dominated by super blocks which are exhibited yellow lines and the central green park flow in an around sides and central building dominating sector most of the commercial building align around and the residential buildings downs out. So it is again complimented by a city center government facilities surrounding it residence and industry going around south along the corridor. The Chandigarh plan of Le Corbusier exhibited same in term of sectoring it followed a grid iron pattern where it started with capital complex legislative assembly and the rocket garden in sector no 1 2 and 3 eventually flow down to capital complex legislative buildings and some of

these are into government buildings. Now other have been formed in terms of a sector size of 800 * 1200m and every street has corner round about to regulate the traffic and other important le Corbusier plan was hierarch lying roads so they were different government facilities they were residence and industry around it. And industry are push towards south along the arterial roads now the hierarchy of the street followed includes the major arterial road V1 road which is in the highway v2 are major boulevards in and around the sectors v3 other sector definers we could see over here the borders of sectors are v3 road once you enter the major shopping street around the sector the across axial line is a v4 v5 are neighbourhood street around this particular neighbourhoods v6 and v7 are pedestrian path of which are in the internal street v8 are cycle tracks around the sectors which are followed which means that he cleverly organize the hierarchy of the street according to the vehicles moving till the pedestrian so major trucks and lorries could work in v1 roads were could car work on v3 or v4 roads and cyclist much narrow over lanes and pedestrian on narrow a path. More than this the secretariat and legislative assembly were design which exhibits the brutal plan of Corbusier which mean exclusively in terms of architecture. This also help one person understand that urban design not about designing cities but also includes every smaller detail in with respect into the entire proportion of the city. Sum of the ancient traditional city of Madurai so ancient concepts in India were again temple towns so again the temple town of Madurai the vaigai river down south which has the focal point as the temple in the center and it develop around concentric rings of roads and ancient fortification split the town from the vaigai river and it has series of canals. So city around the temple developed to talking as focal point and the major roads are concentrated as the concentric ring road around the temple the red ones and the secondary important roads are cross axial of the perpendicular roads that drive you into the entrance of the temple as you could see beyond the black line or the boundary line the whole city of Madurai the historic boundary close and the unorganized residential neighbourhood in modern days all these street are cleverly organized beyond these patterns of growth aren't exhibited and the width of the street increase or decreases proportion as you move out of major town center and there are even much narrow street are like walking alleys which exhibit the width of 0.60m.

The city of Mughals well planned in city are exhibited in a north India were it has predominantly locally available material and taking as the climatic consideration as well so now everything was brought down by a single fort by the Mughals where all these complex's government officials

residence political quarters and religious were designed as one single entity with lot of public place following by temple and private gardens. Mughal garden are another important aspects or important part of the planning of Mughals architecture. Now also again follow the basic concepts of simple shapes of buildings organized or around central open spaces again the climate play a very important role and within these grid could see the smaller scale, bigger scale are open courtyard are which accommodate its public gathering and close private place includes the building.

Colonialism:

Colonialism were it could be clearly explained colonialism is the establishment exploitation maintenance acquisition and expansion of colony in one territory by a political power from another territory. One early example was the establishment of the east India which started growth of cities in around India and east India Company expanded all around India creating a rail road's and one such establishment was city of madras which is again divide along the adyar river in the canal and you could around the island part of it you could see the black town and the white town which cleverly segregate in modern days in Chennai with Walt ax road. So these people while planning orthodoxally created a plan which had a white town which had the people or settlers colony of the British and non-European or Christian part of it segregate in the black town which is otherwise called as madras. So the planning organizing started itself radial manner the city center start from the Bay of Bengal from port as and radiated north south and radiated east west as well and lot of segment vepery, egmore, nugampakkam, triplican, mylapore started organizing itself taking predominant important and after 1900 city came into a dominant aspect people started building and residence more and more industry came into exploitation of all these spaces creating madras an historic town in the case of east Indian company. Slowly railway started exploiting itself growth of railways mass of industrialization more job opportunity in madras grow into different dimension and quality and lot of landscape in madras surround entire town. Now looking at these all example from the ancient to modern civilization.