

Evolution of Human Settlements- AR6004

Unit 2

Historical Periods and Growth of Human Settlements

Lecture 3

Ancient Settlements

We will start with Ancient settlements. You have an image over here, of the caveman of a hut, hunters, animals but there is a beginning of agriculture, semblance of a lifestyle emerging with tools, someone cooking, children. So, this was the kind of nomadic life that man initially started out with, with temporary shelters and a community developing to help live a sustainable life. Now, you have a proper ancient settlement in Jordan, this is a Southern Levant where humans lived without any significant warfare from 15,000 to 5,500 years ago, according to very new archaeological excavations and survey discoveries. Here you have the Maya City of Palenque in modern day Mexico. But the excavated sites you see here are all from the Mayan city. This is Catalhoyuk, an ancient settlement in modern-day Turkey. Again over here, you can see the settlement as emerged by the river which leads to solid agriculture irrigation, you have huddled settlements for safety reasons, community developing but there is a level and play of difference in height to ensure there is lighting and ventilation. Now we will discuss a proper chronology of events that happened; in the prehistoric era, you had caves and Tents, then from tents it moved on to round houses, then from round houses, you came to straight walls with windows, then you have the stone age graves and temples. All these civilizations we will be looking into are; Mesopotamia and Egypt, Karnak and Luxor, Greece, Rome, Buddhist, Rock cut architecture, Early Christian and Islam. So, actually the most common perception is that early humans are often thought of as dwelling in caves, they did cave paintings, they hunted but all that is true though it was only for a temporary, it was considered a temporary shelter and at the simplest level, this was the beginning of something called architecture. Where the necessity of a permanent shelter was felt. The first reliable traces of human dwellings found from as early as 30,000 years ago, precisely following the same logical principle that man was looking for someplace to permanently settle down. So, this was often a circular or an oval ring of stones with evidence of whatever local material that was available there, so it could be different kinds of stones, it could be hay, thatch and then a tent-like roof structure usually done with wood. Sticks of food covered in animal skin or stick in wood

filled with leaves, so it could be any material that was available but the beginning was from a circular or oval ring of stones. Here, you have Jericho which is the round tower, the world's first earliest surviving fortified building. You can see the circular way it has developed, the circular play of stones and the way it has been made. Now, we will go back to tents to round houses. How did the transition happen around 8,000 B.C? Once human beings began to settle down into the business of agriculture, hunting and gathering takes a back seat and it is only done for pass time and not permanent occupation. So, permanent settlements were becoming a very important way of life. So, story of architecture can be said in the beginning at this point of time. The tent like structure from earlier times, now come as round houses. Jericho is usually quoted as the earliest known town. It revolves around 8,000 B.C and it covers about 10 acres. So from tents to round houses, you have the use of bricks. These bricks were not kin, burnt or shaped. They were shaped from mud and baked hard in the sun. So because of the shape and bake, it was easier to make a circular wall because it was made my hand and the bricks were made circular in way too. Here you have the beginning of straight walls with windows, this is Catal Huyuk, a Neolithic town in Turkey dating from about 6,500 BC but it was actually discovered in the past, 50 years or so. Here you can clearly see the linear lines, the used of windows, the straight walls, though even though they are cluttered and clustered together. One of the best Neolithic towns is Catal Huyuk, covering about 32 acres in current southern Turkey. Here, the houses are rectangular with windows but no doors, they adjoin each other like cells in a honeycomb and the entrance is through the roof and windows are a happy accident in a way, because the houses were built on different levels, the higher levels afforded the use of windows that could be made. The sloping site was made possible because of that, the windows were also possible. Next, we will be discussing Mesopotamia and Egypt, this was around 4th millennium B.C. The two areas which first develop civilization, Mesopotamia and Egypt, they share a natural product which is ideal for relatively small buildings in a warm climate. Bundles of reeds can be bound together to form pillars and beams. This was the first time pillars and beams came into existence. Their tops can be bent inwards and tied to form an arch or a dome and the spaces in the frame can be filled with smaller branches and mud to complete a weather-proof shelter. Then you have the Egyptian Mastabas and pyramids, this is around 3000 - 2000 B.C, from early in the 3rd millennium BC, the pharaohs and their nobles are buried in this mastabas or

tombs. These are rectangular flat roof buildings, made out of simple mud bricks and these mud bricks cover the burial chamber, they also contain the supplies of food and other items which they believe will be required in their next world. This is an example of Saqqara, the step pyramid of King Zoser, which is from 2620 BC. Here you have the Great pyramid of Khufu, this is the largest of the three pyramids at Giza, this was built around 2500 BC again. The Egyptian Mastabas and pyramids, if you look at it, it is actually an innovation of the Mastaba. The pyramid developed from the mastaba. Imhotep builds a mastaba of stone as an innovation it was built in stone and because it was in stone, he realized that it can take a little weight. So, successively, he places five more smaller mastabas. So, the final product that you get was the first pyramid, the pyramid of Sakrara or the Stepped pyramid. Now, we come on to Karnak and Luxor. This was around 1500 - 1350 BC. The temples of Karnak and Luxor, lie on the banks of Nile and Thebes. They have columns and architraves of colossal proportions, massive and monumental in personality. This is stone architecture at its biggest monumental fashion ever seen in history. Greek architecture does the same but in refined elements and it even further makes them slimmer and thinner. So, they make all these elements formal decoration, better balance and proportion as introduced by the Greeks. But definitely the Egyptians are the ones who started the columns in architraves as the pioneers. Here you have an example of Karnak and Luxor. You can see the massive size, it is actually in ruins now. You obviously know that it is not its entire length, in its entirety. You can see the structures and the figures over here. All of them are massive and monumental. Builders in greek cities, on the coast of Turkey, evolved cement in 200 BC. Invention or discovery of cement was one of the most crucial elements that happened in 200 BC, because after this, structures entirely changed because a new structural material came into being. So, in place of weaker mortars, such as gypsum plaster which was used in Egypt or bitumen which was initially used in Mesopotamia. Cement came into being, which made all buildings stronger and that we see till date, thousands of years later. The secret of this new material was lime which binds sand, water and clay. Later on, what the romans did was, they added ground volcanic lava in place of clay, which made it pozzolanic, which was strongest mortar in history till Portland cement or the cement we know of today came into being. The next important stage of history that happened here is; Vitruvius, a very important architect in late 1st Century BC. In the later part of 1st Century BC, this roman architect came about and discussed all

the principles of architecture in about 10 volumes, he discussed everything from order of architecture; columns, pillars, to stucco work, painting, aqueducts and machinery. This was written well before all the greatest achievements by Roman builders and this is considered till date, even now, a century later, thousands of years later, most influential texts in the entire history of Architecture. Since then, the proportions and theories of Greek and Roman architecture has been enshrined by Vitruvius and have remained the basis of architectural tradition till date. This is the Vitruvius man, this figure gives us the details and modules for everything that we use today; the width of a door, the width of a staircase, the width of a corridor, everything is determined by this person's discoveries. Stupas and temples, this is again from the 1st Century BC but from a different part of the world. The most significant architectural feature of south East Asia was the buddhist stupa, known in India since the first Century BC but actually there could have been stupas from earlier as well. These are descendants from the burial mound, from a tomb this has emerged, the stupa is nothing but a brick and plaster hemisphere with a pointed superstructure. You can see it in the image over here, you have the dome like structure with a small pointed structure on top. Enshrining an idol of the Buddha, it serves as the centre around which rituals occur in an open-air setting. This was a solid hemisphere, this couldn't be accessed. There would be a small opening in the ground where the relic would be placed but that's it. The worship would happen in the open and the space built around the stupa were only for ambulatory purposes where the worshippers would climb and circumambulate around the dome which enshrined Buddha's remains. Within the simple shape of the stupa, complex hindu temples emerged at a later date, which made it richer in architectural ornamentation, encrusted with severe detailing and sculptures of devils and their hindu deities. Sometimes, they were brightly painted but initially, they were obviously not. Unlike the solid stupa, these structures rise above the interior spaces and which are used for worship. So, these are what later came to be known as Vimanas or Gopuras. They are like steeples above Churches, whereas stupas are filled with bricks at the centre of a temple complex vs the gopuras being the entrance of a temple complex. This is what, the stupa emerged into this and finally into this, what we see today. Then, simultaneously in another part of the world, Basilicas which were both secular and sacred came into being during 2nd century BC to 4th Century AD. The Roman public hall also known as the Basilica is a rectangular building with side aisles, behind the rows of columns which actually

support the main walls. The focus of attention is at the end of the opposite entrance where a raised platform or sometimes said within an alcove or apse. A building of this kind is known from Pompeii from the 2nd Century BC. When Constantine establishes Christian Churches as public buildings, in the 4th Century AD, the Basilica is the natural form for any such place of gathering and the apse is ready made for the altar. So, Basilica which actually started out as a secular building, as christianity came into being, it was easily adapted to suit the needs of christianity where the apse became the place for the altar to place the Cross. This is the very first, St.Paul's which is there in Italy, this was built around 4th Century AD. Two of Constantine churches in Rome, the basilicas of St Peter's and that of St Paul's, also have the new architectural feature - the transept, which is nothing but the crossing the nave near the altar end, which provides no space for the pilgrims or clergy i.e the priests, whether this happened by accident or design, this addition makes sure the ground plan becomes that of a cross. So, you have the Nave, aisles, transept and apse, with a flat or vaulted ceiling, these became the basic ingredients of rectangular western Churches that we see till date. Now, we come to the next important phase, the Dome of Rock which was 691 AD, the Dome of Rock completed in 691 and is the earliest surviving example of Muslim architecture, borrows in its spectacular fashion, you have Byzantine mosaic and a domed roof. This is situated in the city of Jerusalem, so it has taken the Christians nearly half a century previously, it still has the crafts and skills that were initially used to develop imperial churches and it is appropriate that the Dome of Rock is the world's only historic building with 'dome' in its title, because of this, it is obvious the role the Dome is going to play in Islamic architecture. It is going to have a profound influence on all Islamic architecture that we see till date because the Dome of Rock became a very crucial element. Originally, it was the flamboyance and the dome itself that got people closer to it, then later on, it was completely gilded or covered with metallic Gold. So, both Islam and Christianity arrive at the same point but from different directions and during the 16th and 17th Century, it was the age of the dome, where domes were explored completely. Islam completely turned into the architecture of Domes and walls, whereas Christianity breaks from tradition and goes into steeples and Cathedrals, more Romanesque and Majestic in style. This is the Dome of Rock, you can see the gilded dome over here, completely covered in Golden metal. Before this, it was just a plain Dome. You can see the hexagonal building to support the dome as well.

Medieval Settlements

Now, we move on to Medieval Settlements. What were the main emerging characteristics of medieval towns? You have the wall, the marketplace and the church; these three were the new emerging points. You have this either this or the bog or the village, how it is referred to as in the U.K, again the settlement happened near the water body. You have two enclosed villages with traditional grassed village greens. So this is where the example is in U.K, Writtle in Essex with a large triangular green with pond in the corner. Then you have Milburn in Westmorland. You can see the layout is entirely different. The town developed as the natural sources and the topography was. This is Wycombe and Buckinghamshire; this is a clear example of a linear village form. So, you have a straight road and on either side, developments happen. This is a rectangular, it could be green land, it could be a pond, it could be any natural form that decides the shape and growth of a particular town. So, what was the essential characteristic of both village types is the use of back gardens. This was the concept that emerged in Medieval settlements. So, there would be a service road and then they would have a main road. So from the back of a house, it would go onto a service road or a back garden and this access lane was later on used by Cart vehicles, which are till date available, a horse driven cart or bull driven carts and all of that. During the industrial revolution, what happened was, all these main roads became more important and the service roads were used as pedestrian friendly roads. This process of organic road growth changed from riverside trading village, conveniently located by a river, then they had temporary market stalls, then because of time and travel as well as transportation developments, it became a full-fledged market town. So, that is how medieval towns grew. The next important element, the Wall, which is nothing but a defensive element, also helps the fortification of a particular town. So, the importance of staying within this wall is a massive designation that, this is my city. This is my village. So that kind of element came into being, because of that, the density within that particular town increased vs outside, you could see houses at greater distances. In the Medieval countryside people lived in a very variety of settlement types, you had individual farms, hamlets to much larger villages and these permanent places were also where temporary shelters also would be taken. For instance; this would be a place where a

carnival would happen and this is a temporary structure to house the people in the carnival vs these were permanent structures occupied by the residents. So a particular village substantiated both permanent as well as temporary kinds of shelter. This is the plan of Yarwell in Northamptonshire, this is obviously redrawn in the 1778 but this village through excavation plans has existed for a very very long time. This is an example of a Medieval settlement. This is an example of a planned village with a double row of tofts and crofts fronting the east-west road, you had housing coming up on either end; you have the church and the manor house which is the most important two elements of any village. Dating such places is obviously very difficult, like I mentioned this is a pre Norman Conquest era, so way way older than the 1700's. So, now we will come into the proper period where we can describe what actually happened in the dark ages. The Roman empire came in, the era, this time was called the Dark ages because there was no development in terms of construction or developments with respect to art or architecture. Economy was completely rooted in agriculture, the feudal system became the new order of the day. Merchants and craftsmen became stronger, they formed guilds to strengthen their social and economic position and because the feudal settlements were settled, wars between different feudal kings became very frequent. So this is a typical medieval city that developed with a castle with a manner with a protective device. So, if you look at the planning of an early Medieval town, it was dominated by a church or a monastery and a castle for the Kings. For protective measures, towns were sited in irregular terrains, occupying hill tops or islands. The towns assumed informal and irregular characteristics. The Church plaza also got converted into a marketplace, roads generally radiated from a church plaza and a market plaza with secondary lateral roadways connecting them. Castle was surrounded by wall and moat as protective elements. Irregular pattern in planning was devised to confuse enemies; as enemies were unfamiliar with the layout of town. Open spaces, streets, plazas were developed as an integral part of the site. This also ensured that people's way of life was very regulated, they had a kind of social life besides a work life and a home life. They would gather around and talk about events at the village, that is why even all old people would meet up, youngsters would play, so it was kind of a social hub that was formed. Streets were initially used for pedestrian activities and later as wheels, horse carts came into being, that was completely restricted to main roads. Now, we will discuss an example, the cities in the 12th and the 13th Centuries, which were still considered

a Medieval settlement because this was during the middle ages, within the confines of the walls, the populations were definitely smaller, the space in the town was lesser because of the fortification but no one came out of the fortification because of the protection awarded. So, because of that, what was the result? Intolerable congestion, lack of hygiene and pestilence i.e you had other kind of rats, other kind of pests that came into being because of unhygienic conditions. This for example, is the city of Naarden in Netherlands, this is a fortified French town as Carcassonne, this is a former province of Languedoc, and this is separated into the fortified part and the lower city which is the Ville Basse. This is separated into the fortified part and the lower city which is the Villa base. This is the fortified portion and here you have the portion which is outside, the lower portion. This is the original medieval town that was there, within these fortifications, like the floral pattern that you see over here. Before the Protestant Reformation, this church which was the most important element after the Romania house. It is for St. Vitus, it is one of the oldest surviving churches in Netherlands. Naardens was granted the city rights, until then it wasn't even considered to be a city, in 1300, and later in developed into a fortified garrison town with a textile industry. So, here you can see how the natural shape of the town has enabled the town to grow and protect itself, because of the natural water bodies that exist. So, what happens in Naarden is, the Northern ramparts you have, which protect the building, then in 462, the Romans officially gave up to the Theodoric II, then he built more fortifications and northern marches i.e the fortifications are still seen till date. The Romans fortified initially in 100 BC, but there were changes that happened till 453 and 462, so finally you see that the city contains a market square, it contains castle and church of St.Nazaire, irregular patterns of streets are seen to follow the irregular pattern of the city.