

## **History of Architecture and Culture III**

### **Lecture 5**

#### **Renaissance**

What is Renaissance? Renaissance which we discussed before in our previous lecture is nothing but rebirth. Why is this Renaissance different from the previous renaissance, it is because there is something called the early renaissance and the late renaissance. The early renaissance we learned about, how Roman architecture scaled down and how the Egyptians rose to power and realized that they can create something from the past and still create something new. Now, in this particular renaissance, we will see how Roman architecture was used. After merging the Gothic plans with it, wonderful creations were made. The most famous churches at present were actually constructed in the Renaissance period of architecture. Renaissance architecture is architecture of the period between the early 15th and early 17th centuries in different regions of Europe. In this particular period, you can see in this period, this shows a particular Renaissance architecture. Saint Peter's Cathedral is the most famous example of the Renaissance period from that time. This demonstrated a conscious revival and development of certain elements of Ancient Greek and Roman architecture and material culture. The reason why we constantly try to understand the revival of that particular period is because that kind of people understand the flaws and negatives of a particular period of architecture and understand another type of architecture, merge that and create something that actually helps them create marvels in the field of architecture. The invention of printing happened at that time, this aided the spread of knowledge and that created a spirit of enquiry. People started understanding that there is something happening. They started understanding what is happening on the other side of art. A kind of freedom of thoughts, a diffusion of thoughts, such kind of things happened during this era. A new intellectual movement came into picture wherein literature, art, architecture; everything was influenced and public taste was taken in, public understanding was brought into architecture, what public wanted and understood, these kind of things never existed before. The Renaissance and how the printing press was invented, that had a lot of impact on the architecture

during the renaissance era. Italian architecture was naturally the first to be affected because the Gothic style was actually an invention of the Italians. The Gothic style evolved and became famous amongst Italians because Italy was the centre of trade and everything back then. Italy was the first place where this particular kind of architecture flourished. The Renaissance of the fifteenth century in Italy, and of the sixteenth century in other parts of Western Europe, was a break in that orderly evolution of architecture. What happened previously? Back then people arrived at a particular place, saw that certain materials were available in a particular place, there were certain possibilities to architecture in a particular place, keeping in mind the easy modes of construction and procurement of raw materials back then. On the contrary, in the Renaissance period, this changed. It was a classic time when this particular understanding changed and evolved into a whole new perception of architecture. There was a total break in that orderly evolution of architecture which is based on the nature and the necessities of materials. A new intellectual movement came, in literature, architecture, drama, arts, culture; the first and foremost field that Renaissance influenced was literature than architecture. You have Dante, Petrarch and Boccaccio, these people aided the spread of a newly-discovered classic literature, which caused a revolt against mediaeval art. I discussed about Dante in my previous lecture where I told you how Dante actually helped people through his books to not demolish an existing monument of architecture and that's how important and long sighted was Dante at that point of time. Printing was really prominent at that point of time, people started reading and understanding whatever he said, the information spread really fast and that kind of affected architecture a lot.

Moving on to the main features of this particular style; the Classic orders; the Doric, Ionic and Corinthian orders were used decoratively and extensively in the architecture of that particular era. Buildings were designed for more modern wants and were clothed in the classic garb of ancient Rome. Basically, what happened was; Roman architecture was beautiful, had this extremely beautiful facade but the interiors were based on the use of the particular building. They were more about functionality within that aesthetics. Plans became modernized,

more decorative, new things came into plan but the outside, the clothing of the particular building remained similar to the previous Roman type of architecture. As I mentioned earlier, Italy was the birthplace of this particular movement. There was an endeavour to reconcile the Gothic and the Roman methods of construction. They somehow found a kind of merge between historical and magnificent kind of architecture and created the Renaissance architecture. The Renaissance architects followed the Byzantine treatment of the Dome. The Dome was of increased importance in this particular method of construction. The Dome was placed on a substructure called the drum in which windows were formed and that made a great external dominating feature of this particular architecture. They were also the first to introduce the architectural 'motif' on the wall of massive rusticated masonry. Previously, there were massive masonries but motifs weren't present on the masonry, they were there on stone but not on masonry. That was particularly executed and brought in by this particular Renaissance architects. What is Renaissance vaulting? Renaissance vaulting goes back to the beginning of the fifteenth century when the Gothic principles of ribbed vaulting were abandoned. Many of the churches we discussed in the previous lecture showed this particular vaulting in the Gothic churches. Now this period gave way to the revival of the Classic method of solid semicircular vaulting. That is the basic understanding of Renaissance vaulting. This was used in halls, passages, staircases and everywhere you can think of.

## **Humanism**

Another aspect which we will be looking into is; Humanism. Humanism was something that existed in that particular Renaissance period. Prior to this, architecture was more like art, science etc, it was beyond human understanding in scale. Humanism emphasized the abilities and accomplishments of human beings. Previously nothing of this sort was understood or used in the art side of the world. Right now, if you see in Renaissance period, Humanism had the humane side of man was emphasized. Humanists believed that people were capable of great things and placed a great value on education. Great things were considered to be only done by God, Pope or priests but people of the Renaissance era realized that people, even man is capable of great things because of which

education played an important role in that era. As a result of this, artists, architects, readers, writers, mathematicians and scientists, all those people who were one step ahead of the normal human understanding, they were respected and productive in the human society.

### **Renaissance of Italy**

Talking about Renaissance of Italy, Italy played a major role during the Renaissance era. The Renaissance of Italy varies considerably in the chief centres of the great revival. Florence, Rome and Venice, three places where Italian renaissance architecture kind of spread and all three places vary extensively in their architecture which you will see in the coming lecture. Among other causes which affected the development of the style, the bright and sunny climate rendered large openings for light. In Italy generally there was a wave of national enthusiasm that was happening. As I said, Art was spreading, literature was spreading, humanism, architecture was spreading, there was a wave of national enthusiasm involved which was never there before. Patriotic feelings of that particular country that happened before. These kind of things brought in the old Roman magnificence and art into this particular architecture style. The Athens of the Renaissance became the centre of the revival in the art and literature. There were three kinds of doors and windows in the renaissance of Italy, they were the; Arcade type, the Architrave type and the order type. Moving on to the most important person of Florence style of Italian renaissance architecture, Brunelleschi. Why are we learning about Brunelleschi? This person studied the features and the construction of Pantheon and other examples of Roman architecture kind of brought that in this particular Renaissance architecture, this person brought in a kind of extraordinary architectural features in a magnificence that cannot be explained. He did not what nobody could do before. He was born in AD 1377 and lived till AD 1446. He was Florentine by birth as I said. Many people were influenced by him in the field of Renaissance architecture. Besides his accomplishments in architecture, Brunelleschi is also credited with inventing one-point linear perspective which revolutionized painting. Right now when you learn about architecture or architectural informatics/ graphics, first thing which comes into mind is the one-point perspective that was invented by none other

than Brunelleschi. In addition, he somehow invented the urban planning. He decided what should go where to make two buildings complement each other or make one look better than the other or this will probably suit this particular place better, all this was done by Brunelleschi. That is considered to be the beginning of the urban planning. For instance; the demolitions in front of San Lorenzo were approved in 1433 in order to create a plaza facing the church. That was something revolutionary at that point of time that didn't exist before, nobody thought that way before.

### **The Dome of Florence Cathedral**

Moving onto the Dome of Florence Cathedral. This is the most famous dome of Florence. This particular Dome is one of the most famous domes in the world. Why are we talking about one particular dome and not about a particular church instead? This was constructed during AD 1420 - 1434. Brunelleschi's principal work was this particular dome. His design was accepted in a competition. This was constructed without any centering. This was the first time a dome was constructed without any centering and it covers an octagonal apartment of 138 feet and 6 inches in diameter. Santa Maria del Fiore was the new cathedral of the city at that particular time and by 1418 the dome had yet to be defined. Everything was constructed in that cathedral but the dome was yet to be defined. When the building was designed in the previous century, no one had any idea how to go about the particular dome and how that had to be built. It was to be even larger than the Pantheon's dome in Rome and that no dome of that size had been built since antiquity. That is why no one knew how to go about constructing this particular dome back then. The buttresses were forbidden by the city fathers and that made it even more difficult for the people to even consider constructing it. It was impossible to obtain rafters for scaffolding. The stresses of compression were not clearly understood, and the mortars used in the period would set only after several days, all this add to the problems in constructing this dome. In 1418, the Arte Della Lana, the wool merchant's guild, held a competition to solve this problem. Many architects from across the country participated, many well established architects participated but nobody could win this except Brunelleschi. The two main competitors were Brunelleschi and Ghiberti, leaving Brunelleschi

the winner and the one who received the commission for the project. The competition involved the participation of great architects but every architect protested against the whole competition with the theory that, "how can someone who has just entered the field be able to accomplish such a great thing?", they were answered in a single statement, "we can do this only if they see the plan of Brunelleschi, else they will not be able to construct this particular dome." That is why they were hell bent upon giving this project to Brunelleschi and he proved that by making this one of the most celebrated domes in history. This was the plan of the Florence cathedral and the dome comes on top. This is the Dome, the famous dome of the Florence Cathedral. There is a lantern on the top which is not shown, this is the Oculus and then the ribs as you can see. This is the drum which I was talking about, the dome exists above the drum where the windows were given. There are round windows which are called Oculus, there are octagonal supports, horizontal connectors and main ribs, there is an inner shell and outer shell and lantern, that is how this particular dome was made by ribs and horizontal connectors. That was the idea brought in by Brunelleschi and it worked beautifully. The dome, the lantern was built in 1446 - 1461 and the exedra was built in 1439-1445, that actually covered the whole of Brunelleschi's life. This dome took the whole of Brunelleschi's life and it was totally worth it because this is still the most celebrated dome of all times even though the construction developed so much after that. Brunelleschi used 4 million bricks in constructing this dome. He invented a new hoisting machine for raising the masonry needed for the dome which never existed before. This kind of advanced technique was anticipated, understood and done by this architect that makes him one of the most forward thinking/ futuristic architect of that particular era. The masons when tired, were not allowed to come down and he used to send things up for them, so that they don't lose their zest and energy to construct this magnificent piece of architecture. That is how passionate he was, about this particular dome. As I mentioned earlier, it is raised upon an octagonal drum in which are circular windows are present, this is the cross section of the church and this is the cross section of the dome. Its constructed with inner and outer shells and it is pointed in form. It is basically constructed on gothic principles but it became a renaissance wonder.

The next person we will be learning about is Alberti. Alberti lived from AD 1404 - 1472. He was a scholar, interested in classical literature and his works exhibit more decorative treatment and are less massive than those of Brunelleschi. Brunelleschi was more about huge and massive architecture, while Alberti was more detail oriented. He wrote the book, 'De Re Aedificatoria' which largely influenced men's minds in favour of the revived Roman style. In 1438, he began to take a serious interest in architecture. In 1447 he became the architectural advisor of the Pope back then. The Rucellai Palace in Florence is an example of an Alberti architecture. This was constructed between AD 1451 - 1455. Though there isn't much of a definite idea of when this structure was built, it is considered to have been built during this period. Palazzo Rucellai or the Rucellai Palace is a palatial 15th century townhouse in Florence. It was designed by Alberti between and executed in part by Bernardo Rossellino. Its facade was one of the first to proclaim the new ideas of Renaissance. If you see this is a particular facade of the said building. The new idea of renaissance was brought in with this particular building since this type of construction was not seen before. The pilasters and entablatures were used in proportional relationship to each other and that was never done before. That was new in this particular building. This shows a lighter and more refined character of architecture although dignity was lost compared to the previous palaces. This thing is, architecture needn't be monumental, it can be simple yet detailed, that gives a simple dignified look to this piece. The grid-like facade is achieved through the application of a scheme of trabeated articulation. You can see that trabeated articulation was used in this particular facade. The stone veneer of this facade serves as the background for the smooth-faced pilasters and entablatures which divide the facade into a series of three-story bays. It is very evidently divided into three different storeys. Tuscan order was used at the base, Ionic order at the second level and Corinthian order at the top level. It grew from the simplest to the most intricate or detailed column from the ground floor to the top floor. This shows how it gradually increased. Twin-lit, round-arched windows in the two upper storeys are set within arches with highly pronounced voussoirs. The facade is topped by a projecting cornice. In the background, you can see the interiors of the Rucellai Palace. The palace contains

an off centre court, three sides of which originally were surrounded by arcades. You can see this is the court. It was used for family celebrations, weddings and public meetings. The two buildings created from one of the most refined urban positions of the Italian Renaissance.