

Contemporary Architecture and Design
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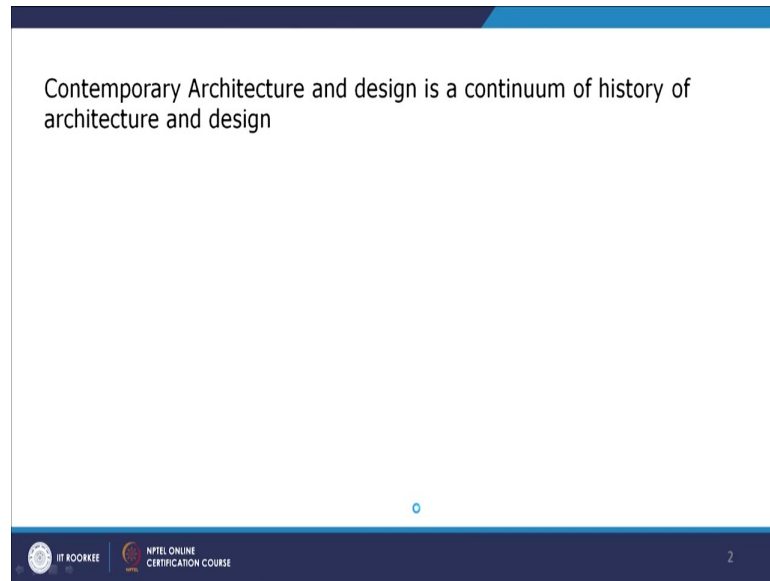
Lecture - 01
Introduction: Overview of the Course

Welcome students to the online NPTEL course Contemporary Architecture and Design. So, this is the first lecture of the contemporary architecture and design, and many of you might be from architecture background, few of you might be from design background, and few of you might be might be from arts background. So, we will discuss this contemporary art architecture and design in a holistic way. So, this course is not just focused on architecture or design and art, but here we will discuss a continuity in these three paradigms, and how these three paradigms were evolved into the contemporary era which is we are discussing from post industrial revolution; and all these three paradigms how they are connected.

So, we already know that the Bauhaus movement was connected with the De Stijl movement or the "De Stijl" movement the way you pronounce it. So, they are quite together and they were, their styles were quite similar. And there are many other movements which we will discuss in the lectures that which were parallel... parallel art movement, architecture movement and industrial design movements were there.

So, here we will focus on these three different domain, but we will... what we will not focus on is the structural part of architecture, we will talk about the visual part of these movements. So, how aesthetic principles where the key features of in all these movements, there were maybe the construction styles and techniques, construction tools, the materials were evolved into to... to generate some architecture style which will we will not focus on that. We will talk about the visual and the visual principles of all these different movements and how they were there in the different... from architecture as well as in the industrial design and the art movement.

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So, we are talking about the contemporary architecture and design which is the continuum of the history of architecture and design. So, it is not one particular time which is industrial design movement as all of everything change. Yes, it change the form and the way of thinking and there is a total paradigm shift of the previous one which is then from the classical style. And this the other movements like gothic and other movements and then renaissance and post renaissance, all these styles there was a up and down and then different styles came, different styles faded away. And but industrial design... after industrial design there was lot of drastic changes in the style that we will discuss from there.

But to connect with the style how everything changed we will to discuss in the first... the next lecture, and today we will start, and the next lecture we will talk about the history how history was there in the architecture as well as the design and different movements in history is influenced in architecture design and that time we will also talk about the art movement. And it is there so that you can connect the history with the contemporary styles, because all of a sudden everything, lot of things change, but everything is also there is a some continuity with the connection is there from the history.

So, because its continuum and connected thing will talk about it there and we will discuss this course in a way of timeline. So, throughout the time how things changed, we will not discuss this course based on the particular architect or painter or particular

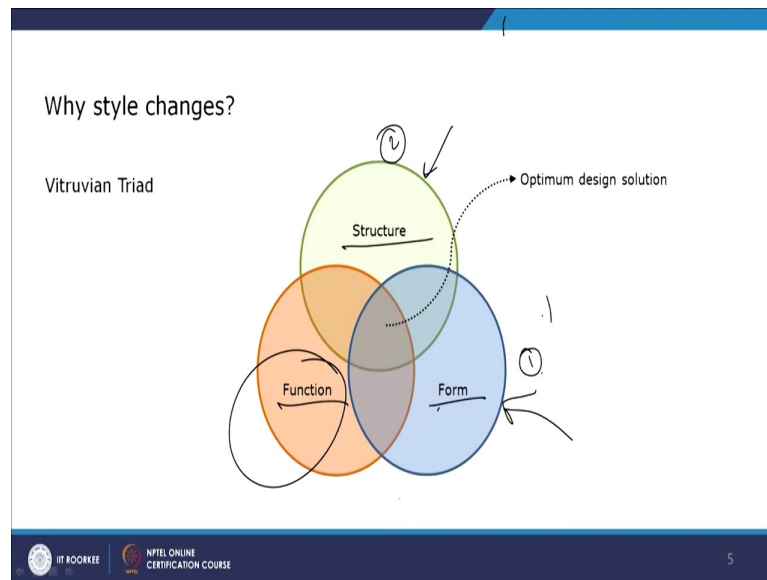
designers work and his journey, we will not discuss it like that. We will discuss it like how the social things changed and then how the style changed and throughout the time and the style holistically how and we will discuss about one style and all the architects and designers works into one style and then we will go to the next style.

And how these new style has an... relation between the previous style and whether it is a continuity of the previous style or whether it is opposing the previous style in a visual principle that will be the main focus of the discussion and so it is very important to know why style change. So, there can be many factors for changing a style from one style to another style. So, one of the very key things are like the changes of the mentality and the so behaviour of the people, how people's behaviour changes to that is that is why the need changes and that is why that affects in the style and it was the manifestation of changing a particular style.

And sometimes it might be, people might get there might, be visual fatigue or people might get bored with the particular style and then they want to do a complete opposite of the what is going on so that might also be a change of the style. So, one is the utility which is like the social structure for example, when there was World War going on, so there were a lot of influence in the architecture and design as well because the... the social cultural structure was influenced by the war so the which is also part of the during the contemporary the name some major events was like World War 1 and World War 2 which is post 1920s so 1920s onwards so World War 1 and 1940s this World War 2. So, this effected the style.

And then also the fatigue which is also the previous style has, is direction of particular thing and concept and the next style might just oppose that and so visually it might be drastically different and also the new construction technique and new tools and technique in art and design and in the new way of living. So, everything together is effect of the change of a style.

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So, we know about the architect Vitruvius. So, he made a triangle of a particular optimum design solution. So, this is called "Vitruvian Triad". So, he talked about the optimum design solution can lie in three things which he talks he says "Firmitas, Utilitas and Venustas". So, Venustas is the form or the aesthetic thing which comes from the Italian goddess Venus, the goddess of beauty. And then structure which is "Firmitas" and then "Utilitas" is the function. So, function is there, structure is there and the form. So this is the aesthetics.

So, if there is a particular style going on in the current phase, so they have a particular aesthetics; the next style generally will oppose that particular aesthetics because there will be over powering, over example of the particular style and then they will go opposite. And then it might be a different style which will come up as a reaction or the movement against the previous ones so that might be a... one condition which comes from aesthetics or the form.

The next is the structure or the Firmitas, which comes generally which is closely related with the material and new construction techniques. So, in 1920s onwards the Post Industrial Revolution, there were lot of different changes of... in the technology which started from the Renaissance and then which got accumulated with the Renaissance knowledge, and then the new style and the new a construction technique was evolved during the Industrial Revolution, so that is why... all the industries and everything was

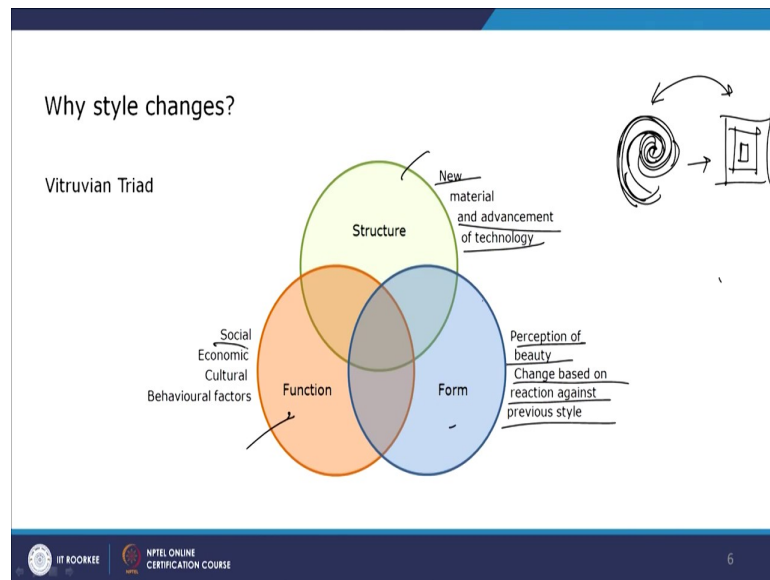
coming up and then especially from the Europe people started migrating and then colonization and started. So, all these things were there during the industrial movements. So, we know that science and technology was at the highest level in the European country.

So, there was a structural and material change which also evolved into the different shift of... style. So, we might not go deep into the structure and technology change, but with the structural and technology change there will be a clear shift in the visual. For example, we will see a lot of steel and glass cantilever structures which started coming up because of the new knowledge of the technology, shell structure, concrete shells which is there and the glass steel which gives a total different visual look into the styles, so that is what also the styles like internationalism, Bauhaus they evolved from the new material and new technology.

Now, another thing is function. So, function might be similar for different things, but there are many movements which evolved from the function and there was a... after industrial evolution there was a need for different kind of buildings for example, people started migrating from village to the city that is why tall high raised buildings started coming and in we can see in the Chicago style movement, we will discuss and Art Deco movements, they have this kind of new move style of office buildings where there even the... like railway stations and all this kind of buildings, airports started coming up later. And then the studio apartments the houses and the modular style of design all these things came from the function.

And after post war World War there was a Japanese movement of metabolism which totally was driven from the function and the shift of people's behaviour that also there in the industrial design for example, this wall cabinet started coming and one of the famous designer George Nelson started designing this. So, modular wall cabinet which we see in the kitchen and the storage walls, this all modular pre-cast thing in architecture or the modular pre-designed modules were there in the designers were. So, from all these three perspective a total.. in holistically the style might change.

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So, structure is dependent on the new material, advancement of technology. Form is dependant of the perception of beauty which changes based on the reaction against the previous style. So, if the previous style has a particular emphasis on a particular style like if there is lot of curvilinear exjyration of design is there in the previous style, next style might be a very rectilinear and clean and sleek. So, this is a, this might be a reaction against the previous to the next style which we will... which we will understand better when we start discussing the previous style.

For example, in the history also this happened. So, this is not a just a particular characteristics from a contemporary design, so this also happened in the history which we will discuss. And then in the function approach the social economic change the cultural change and the behavioural factors like the way people behave in a particular in they use the building or the furniture or they can be a pivotal... they can play a pivotal in the shift of design style.

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Why style changes?

Donald Norman's 3 levels of design

- ✓ Behavioural: Usability of design (functional)
- ✓ Visceral: Eternal, natural laws of design (aesthetics) ✓
- ✓ Reflective: Style of a contemporary time (aesthetics) ✓

The slide features hand-drawn sketches of a chair and a grid pattern, illustrating the concepts of design levels. The bottom of the slide contains logos for IIT ROORKEE and NPTEL ONLINE CERTIFICATION COURSE, along with the number 7.

Now, Donald Norman whose a contemporary designer, talked about the three level of design which also has a quite connect... a connect... pretty connected with the vitruvian triangle. So, he talked about the three aspects or three levels of design one is the behavioural factors of design which is usability and the design which is the functional characteristics.

Another is the visceral character of the design which is aesthetics, both the things are part of the form which is aesthetics. So, he is dividing as aesthetics into the two things. One is the visceral aesthetics quality; and the another is reflective quality. So, what is visceral quality he is talking about the visceral is the eternal, natural... it comes from eternal, natural laws of beauty. So, all these proportion ideal proportion and rhythm grain, balance, which we see... which we read in the visual design like a basic design principles, they create this visceral quality of a design and that can be... constant throughout a particular design. So, if we are talking about Parthenon the Greek architectural a... architectural example Parthenon. So, there has to be a proper proportion so that is the classical example.

Now, if you talk about the Mona Lisa which is a renaissance painting by Leonardo Da Vinci. There also the classical proportion is there, but it is totally different time frame. So, Mona Lisa is not definitely not a classical painting is a renaissance painting. Now, also in the Baroque style when Titian and others painting something then also there are

following particular proportion. And also in the modern style Picasso's painting... painting and everything we see a particular proportion that is why this looks beautiful.

Even in the modern building like Louis I. Kahn's building they have a particular proportion and symmetry and everything this is followed so that makes a building or the design or the painting beautiful. So, that quality is there which is aesthetic a... quality a... visceral quality of the aesthetics which is eternal and which does not change. So, all these principles of design and the visual ergonomics... so visual ergonomics you can read about a visual ergonomics which we will not discuss here.

But there are some principles I perceive are particular forms or the proportion in a particular way so that does not change. And also this eternal proportion they does not change in particular if the style change. So, they remain constant. So, these things are one particular thing does not change throughout the style, but one component of the visual aesthetic which changes when the style changes. For example, that is what is called a reflective quality of the style. So, style of a contemporary time that changes in the perception of a beauty.

For example, if we consider a classical chair or a very modern chair. So, we will clearly understand this classical chair is a which has a very ornamental... way of designing things or some exaggerated qualities with lot of philligree works or other ornamentation in the design and then it is a very clean sleek chair. So, we will already know that this chair is much more modern and it is talking about the contemporary styles. So, this is the reflective quality which is dividing the two different chairs. So, one we can understand this is in today's time and this is old fashion, but it might be the visceral quality which might tell both the chairs are has a beautiful proportion.

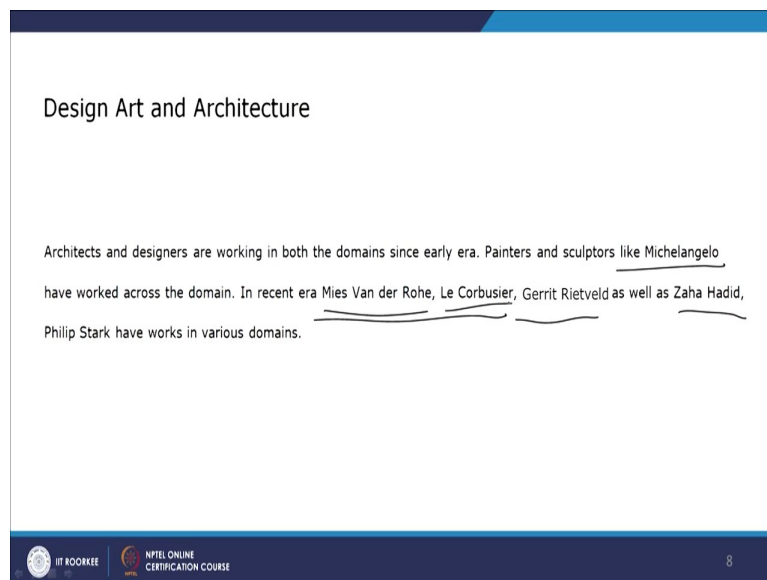
So, reflective quality changes when the style changes, but the visceral quality is eternal proportion which for that quality, we like the design and like the proportion of the style a proportion of the product or architecture, but the reflective quality tells about which is contemporary thing or which is not. So and why all these things while discussing this course, so we will discuss this particular style, and how this particular style is there in architecture or in furniture design or the product design and also in art. So, mainly during this discussion, we will focus on architecture so which will be the protagonist of the

discussion. And then we will also talk about the other, the same style how the same style was there in the other movement... other paradigms in industrial design as well as art.

So, why this is happening, because from the earlier time architects and designers are walking in a very close a setup, so they used to talk to each other so that is why this style which is there in architecture can converted into the design or the vice versa. The style which is there in the design can percolate into the architecture. And many of the cases where architects himself or herself is designing some product... product and furniture.

For example, in even in today's time we see this Mies Van Der Rohe, the Le Corbusier, Gerrit Rietveld and as well as Zaha Hadid they have designed furniture as well and which was also there in the previous time. So, we know the Da Vinci or also scientist influenced there in the science as well as the art. And Michelangelo is one of the a great example who painted the Sistine Chapel who also designed part of the Saint Peters Cathedral. So, there was lot of connection between the architects and the designers and the painters.

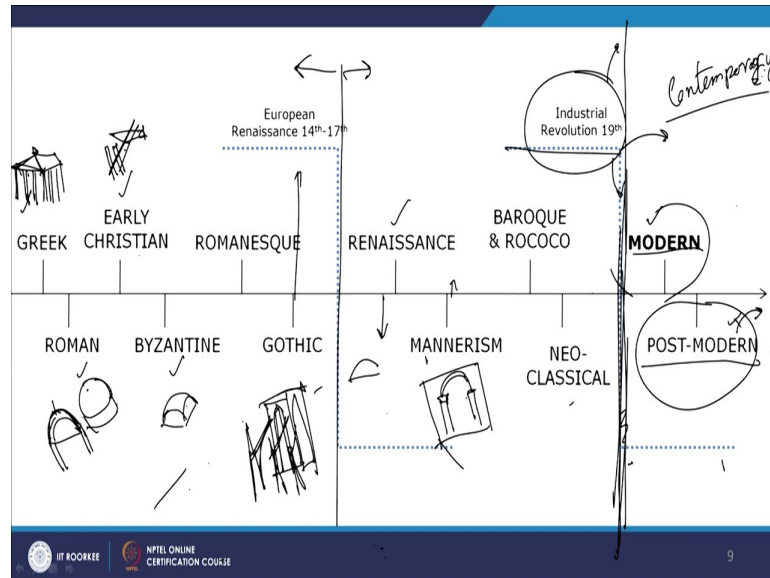
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So, here also in the contemporary time Mies Van der Rohe and Le Corbusier most evolved in the modern time and Gerrit Rietveld also the De Stijl movement or the "De Stijl" movement and Zaha Hadid was the deconstructive architect. And also Philip Stark, Phillip Stark is a predominantly most of his works are there in the industrial design, but also he was a architect. And then Karim Rashid is also there in the from industrial design

background or also was an architect; Gerrit Rietveld was also a similar example.. So, their work was there in various domains and that is why there was a connection between industrial design and or the design and art architecture movement.

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Now, this is the timeline of modern of... of the classical movement and later into the next class we will discuss in detail how this particular styles which was pre-Industrial Revolution got a changed. And we will see a similar kind of principle of shifting our different style in the contemporary style. So, after industrial revolution is 19th century a modernism and post modernism came. So, together this is contemporary, we call it a contemporary style... a contemporary style.

And so contemporary in a holistic way is a in the industrial revolution, after industrial revolution, there was two minor... two movements which is a for the machine movement and against the machine movement because of the turmoil which evolved from industrial revolution and the colonialization. So, these two movement was short period before modernist and this pre-industrial revolution there was a short two movement which was poles apart and there were a very opposite to each other. And after that the modern movement started and the post modern movement started. Together, modern post modern is called contemporary.

Sometimes within the post modern movement, there are few movements like a critical regionalism and deconstructive style there were seen outside post modern, but in a... in a generic way we can see those are also part of the post modern style.

So, before that if you look at so we start with the classical we will not discuss the previous style which were very different Egypt and other pre history architecture style. So, after that the historic movements were there so there we have Egyptian architecture, Indus valley civilization, Chinese, but we are not discussing that because this contemporary style evolved in Europe. So, we started in European class history. So, in European history this have Greek architecture, Roman architecture. Greek was mainly trabeated roman started making the arches.

And then the early Christian. So, we see lot of examples of churches and other things. And then the they started making this architecture of this church which the plan is like typically a cross like thing. And then we see the Byzantine where we see the Byzantine arch, the Pendentive arch and all this style which is there in the Hagia Sophia and Constantinople that kind of structure. So, this mainly this is a structural change and the construction techniques change. So, where a first we started with the trabeated form. So, this is Greek with a they talked about the proportion doric, ionic and all these columns.

And roman started making arches and when you rotate the arch it becomes a dome. So, they made arch and dome so which and they started making using the concrete which they have they got from the Vesuvius and that kind of those ashes from the magmas and all these. So, they made the concrete and they used the concrete first. And then this was a structural change they have bought after Greek.

And then... after byzantine this Romanesque which is similar to roman... roman, but the change is there which is like they started making a cross vault. So, there was a vault. So, then if they make a cross vault and then, this making a church becomes very easy. So, this cross vault is in plan, we will see this cross is going. Now, you can add these part ,this part and then you can have a vaulted structure, but two vaults are penetrating each other so that is what you can get a cross vault. So, here you will make the cross vault and two vault will go penetrate each other so that is what they have made and the Romansque is this cross vault word.

Then in Gothic you will see a new style of this they started making the facade very light. And these huge byzantine glasses and the gothic painted glasses were there. So, the facade of the church becomes very light that is why to support that they made buttress which is flying buttress from there and on top of that they put the pinnacles. So, you see this gothic styles which is a, with the pinnacles and buttress. And here the ornamentation becomes very high. So, it is high on ornamentation.

Roman... this Greek and roman was it is low, there are ornamentation, but if you look at the classical style. So, they were not as high as Gothic. So, Gothic goes in peak in ornamentation which is the just before the renaissance. After that 1400 up to 17th this renaissance starts, so it is pre renaissance and then after that the post renaissance, renaissance is the enlighten enlightenment movement which started in the Europe. So, they flourished in different domains of art, science and as well as literature, the painting literature science in different domains and technology. So, that change shifted the architectural spectrum as well the painting spectrum as well. So, there was a renaissance architecture.

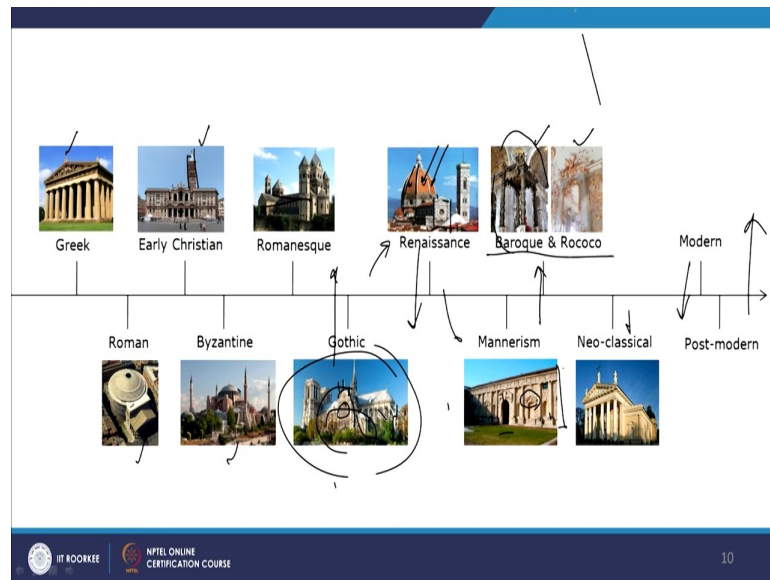
Renaissance architecture if you look at the Brunelleschi design and their designs they again become a very geometric and less in ornamentation. So, it is very geometric Brunelleschi's dome and the other designs which are domos and the renaissance domos, so they... they were very sleek and minimal in design.

Then started mannerism. So, mannerism started using the different manner style and started mimicking the style. So, we will see dome and arch; arch or columns which was just as facade treatment and it is nothing structural. So, they are started using different element which is just for visuals and then there will be key stones, which is protruding down. So, this is not taking any load. So, this kind of things will be there just for decorating the thing.

Then baroque and rococo is a very different kind of movement where they it again went very high in ornamentation. So, if you look at Baroque and Rococo painting and architecture lot of philigree works and chiaroscuro work and then change in light and shadow and the use of gold and floral patterns were very high and Baroque Rococo architecture. Then there was a new classical, again different style which is classical, but again the change of classical style which is shift from Baroque Rococo again going

down. And then totally in the modernism again it becomes a very less minimal architecture style and post modern again up in a visual style. So, there is like a minimalism and then there is exjyration again minimalism, exjyration is goes on in the history which was getting continuity and the contemporary architecture as well.

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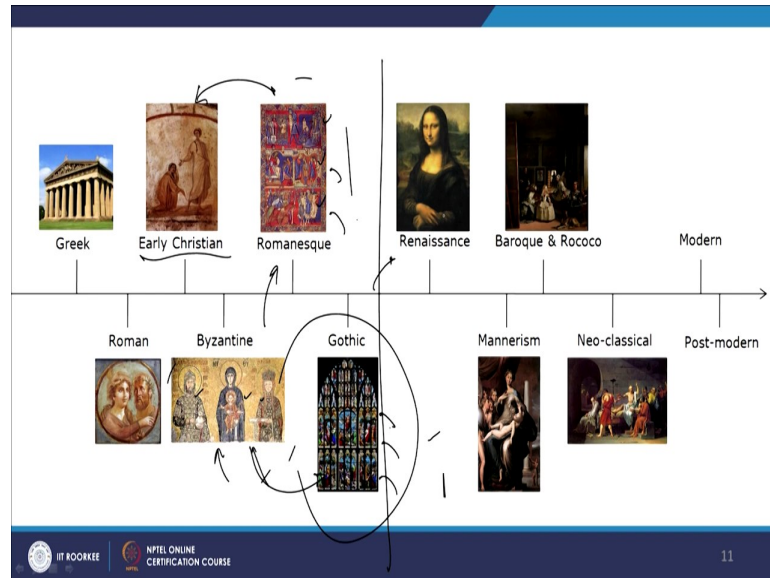


So, these are the architecture examples of Greek is trabeated. Then the dome a... which we see in the parth- Pantheon in Rome. The Early Christian when there is a this kind of architecture style was there. The Byzantine, the pendentive vault and the dome was a different kind of dome was there. The Romanesque where this cross vaults are there. The Gothic if you look at the Gothic architecture styles, this Notre Dame chapel of Paris. So, you can see lot of ornamentation the rose windows and all the flying buttress and the pinnacles are quite exgarrated. And this is the Florence Cathedral by Brunelleschi.

And this is Renaissance. And again you can see there is no ornamentation over here. So, this is the structure members are just shown, here looking if you look at the facade... this facade is very minimal in straight of a... this. And the major parts does not have any ornamentation it's like the structure is exposed. Then the Mannerism here you can see this mannerist designs were... so here trabeated with arches and everything is combined and is just for facade treatment. So, this is the load bearing wall and then the columns are added and the key stones protruding down. So, all these things are there. Then Baroque and Rococo you can clearly see how ornament... ornate this is this Baroque Rococo

styles. So, this again higher ornamentation, lower ornamentation and again.... again higher ornamentation and then new classical is the revival of the classical style. And modern again low on ornamentation post modern is higher ornamentation.

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So, now, if you look at the paintings, so this is roman paintings they have all these works on the wall. And the early Christian painting talks about the.... mostly it is the Christianity and all these a stories and fresco on wall. And the byzantine is also has a different style which changed from the early Christian style and all these work with on the wall is there. And the Romanesque style is also the paintings. So, here in together, you can see and also in the Gothic glass works are there. There are lot of there is there is this change of.... they are quite similar.

And then if you look at here, so all these human figures here and they do not have a perspective like the perspective in the sense of like the... the father point the elements which will be shorter, it is like painted on top of each other. So, as in the glass paintings all the fresco works on the wall. And only the technique of painting change in the different styles so based on the material, byzantine glasses and the wall, the mosaic. So, this is this is used by a mosaic tiles. So, they have kept different mosaic tiles on top of each other. So, this is... this is actually mosaic work so that technique change, but the concept remain quite similar. And then the thematically it is all bible and those stories.

But after renaissance there was change in the conceptual change of the styles. So, here this is Mona Lisa by Leonardo da Vinci. The proportions... by the beautiful proportions the ideal proportion was explored. And you can see a human eye perspective. So, it is not paint the animals and figures are not painted on top of each other there is a human eye perspective and how we see the painters... paintings or the or the natural elements. So, this is a natural, realistic way of a doing it. And also there is in the Renaissance and there was key feature that human become quite important and the power of pope and cathedral came down. So, the point the way humans see that was also explored with the perspectives was one of the key invention in the paintings so that real perspective was used.

In the mannerism, what happened in the painting, so there is a exgyration and elongation of the figure. So, these figures if you look at so they have... they are not in proper human proportions. So, you can see the neck is bended in a particular way and this figure is quite elongated. So, it is not a human proportion. So, it is elongated to make it beautiful the way architecture was done in the facade; facade treatment was done to beautify it. So, this beautiful proportions and then every... figure has a particular aesthetical proportion and posture was explored. So, this has a particular aesthetic posture. So, it was freeze in a particular beautiful posture it was a like that.

And then a Baroque Rococo style this is the Las Meninas. So, you can see lot of Chiaroscuro work in there. So, it's a... Chiaroscuro is a term which is used to for the juxtaposition of light and shadow. So, you can see lot of dark and all of sudden there is one particular focal... focus light is there in the painting. So, you can see in the backdrop is happening. So, here in the other paint is backdrop is almost merged and then the foreground is has a illumination, but here lot of things are happening. So, it is it is a clear illumination in this canvas where the painter himself is painting.

And then there is a King which is coming whose coming from the backdrop, but there is lot, but then light in the backdrop. And then there is a light here, but the other figures does not have the lights. So, this a interplay of light and shadow is there which was there in architecture to for the interplay of lot of works philigree works and then intricate works are there. So, here the intricacy is translated in the painting in this way. Neo-classical is also has a posture.

So particular posture has a very dramatic way of positions of each and every figures where is a particular dramatic sculpture way the classical the way the roman sculptures were there in the previous times, so in the classical time the roman marble sculptures... it looks like marble sculptures freezed in a particular position and everybody's position posture is very defined. So, similarly it was there in the mannerism and mannerism, there was a elongation and change of proportion and then the modern and post modern style came. So, we will discuss this architecture and painting styles in detail from in the next class. And then we will move onto the.. a main part which is contemporary architecture and design.