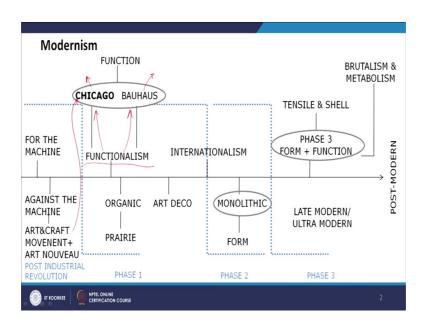
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Lecture – 12 Phase of Modern Architecture-Chicago and Prairie School

Welcome students, to the online NPTEL course Contemporary Architecture and Design. In the previous class, we have started discussing the style of Chicago school movement, which was one of the movement under the functionalist style under modernism, earlier phases of modernism. And we are started discussing the similarities and dissimilarities with Bauhaus movement and Chicago style movement. So, we will just see how where Chicago school was placed in the time frame of modernism.

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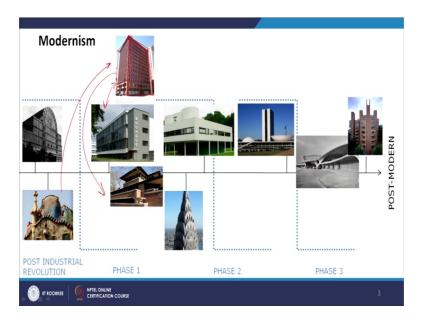


It is within functionalism Chicago school is there, which is almost parallel to Bauhaus style. In their thought process, but the visual style of Chicago is very different from Bauhaus. And Bauhaus was more closely linked with De Stijl, which started in Europe and Chicago was in USA.

So, Chicago took the inspiration from art nouveau style and they have transferred the art nouveau style into the more geometric treatment in the façade. But, Chicago schools more the main form evolved from functionalist approach. So, only the facade treatments

were taken from to ascetically beautify that. Now, we will see this Chicago school's position.

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How they are linked with Bauhaus? And how they have inspired another school of thought? Which is prairie and so, we have seen a little bit of inspiration, what they have taken from art nouveau style we have seen that in the service core in the work of the wrought iron work.

Even in the terracotta cladding work, how they have treated the building with some aesthetics though the generation of the form was from absolutely functional requirement. Just the facade treatments were for the facade treatment. They have taken inspiration from the art nouveau style and, but here also this style influenced another style, which is prairie architectural style though the prairie architectural style was very different in nature.

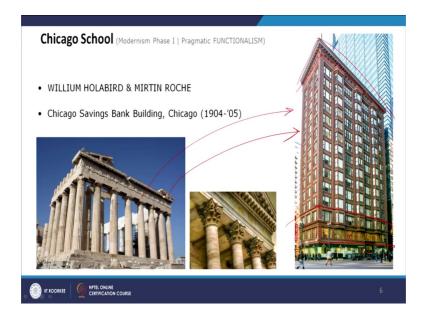
And many other things were there in their stylistic approach, but some influence was again transferred from the Chicago school movement. So, this is how movement different visual movement changes they take inspiration from the previous style. And also they oppose the previous style and then they create their own style. But the next, when the next style comes, then this the previous style again got... fades away. But, some stylistic approach remains in the next style.

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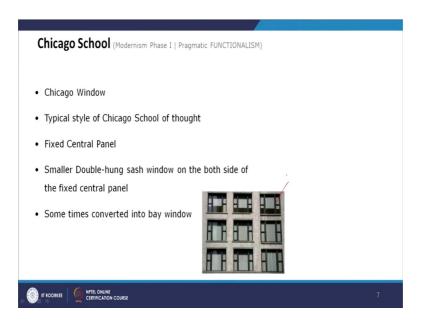
Now, again it was from in the early stage of modern and we have seen some of the architect's work. Especially, William Holabird's work and we have today we will see mostly Louis Sullivan's work who was one of the pioneering architect of Chicago school. And Louis Sullivan have worked in Chicago school architecture style but, he has some examples in prairie school as well. So, he is the architect who kind of bridges the Chicago schools architectural style and the prairie school architectural style. That is why, some of the architectural elements got transferred from Chicago school architecture style to prairie school of architecture style.

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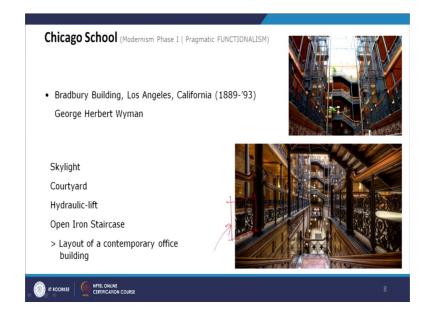
Now, again we have seen this kind of treatment and how they have treated. The building in 3 divided the building in 3 different phases. And how that inspiration they have taken inspiration from Greek classical architecture for their facade treatment. But, within the building this was absolutely functional and service core... corridor and then the functional and the main office buildings were there.

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Now, we have also seen the Chicago style window, which was predominantly a style of a there.

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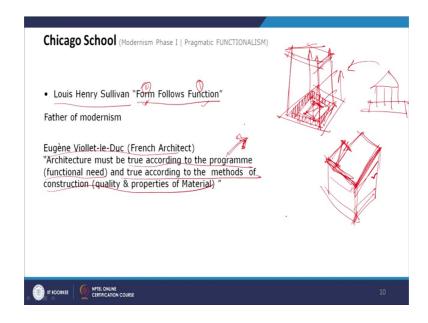
And also the use of iron filigree works which have taken inspiration from art nouveau and art and craft movement and also you have see the service core at the centre and then the corridor and then the served buildings outside and so as the new.

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Another new invention was the open floor plan, which was there in the Chicago style building.

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Now, if we look at one of the pioneering architect of Chicago school style, who was Louis Henry Sullivan. He first connoted the term form follows function. Here, if you see this, the function... form which will be followed by functions. So, function comes first and then, the form that is how the design process of Chicago school is evolved.

So, they have taken in on the rectilinear plot they started to placing the, started to place the service core in the middle. In most of the cases or it can also be shifted in some other side and then the corridor and then the functional space. The main spaces... main spaces, but the activity will go on will be on the surrounding and then they have copied this floor plan. Because, this is office building and they have extruded it. So, that becomes that gives us... that generates the form outer form of the building.

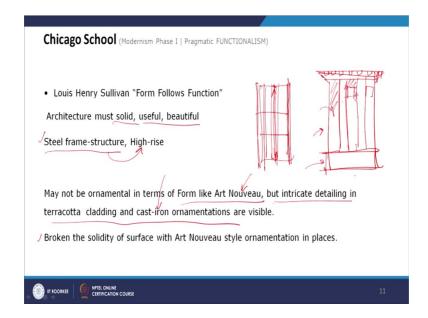
Now, when they have got a cube, cuboid. Now, they had, they started thinking the how to decorate that this from the outside and because of the previous notion that this high rise was not seen and not there on the user's mental image, mental model. They started dividing it in 3 different phases and for that they have taken inspiration of Greek architecture... architectural style.

So, this is how the function comes first. But, form is also important and which comes later in some cases also. We have seen a services are pushed on the side and then the open floor plan was there from outside so, this generates the form and, but from outside they had to create the aesthetics from outside and then they have again treated this in divided in the 3 different spaces which you will see in this in this building.

Now, there is an architect, whose French architect who told that architecture must be true according to the programme in functional need, and true according to the method of construction. So, but previously in the pre-industrial revolution era, we have not seen much example of this thought. But, he was an architect from the pre-industrial era and during the industrial era, but his thought got transpired and translated mostly in the Sullivan's work of form follows function.

Now, in his architectural style if, we see the architectural what he say is must be solid useful and then beautiful and in the material.

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We have see; we have see that Sullivan as well as the other Chicago schools architect. They have they have taken advantage of the new construction technique new material. So, steel frame structure was used and, that is why they can achieve high rise. And when they have achieved high rise, they also wanted to use the more convenient way of level change. That is why we will see use of earlier hydraulic lifts were there in the service cores.

So, may not be ornamental in terms of like art nouveau. But still, it has an intricate detailing in the terracotta cladding and cast iron ornamentation, as we have already seen that, this though it is the structure of the building will be steel structure, steel frame structure, but from outside there was a cladding.

So, that they can create some ornamentation with the, on the facade, and with the cladding terracotta. Cladding sometimes, there will be granite and stone cladding in that, stone and terracotta cladding they have imbibed some features from art nouveau. But, which has been translated in lot into their paradigm shift of new material and also similar works has been can be seen in the cast iron ornamentation.

We have seen cast iron ornamentation in art nouveau style as well and which has been used extensively by Victor Horta as well as Antoni Gaudi. So, that similar kind of work we will see here as well in Louis Sullivan's work.

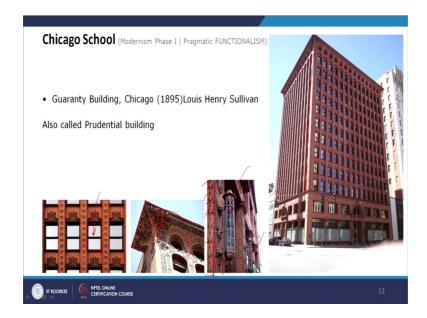
Now, broken why this kind of treatment all in within the solid façade, where there is also a treatment of Greek architectural style. So, stylobate and then stylobate or the base and then columns and the solid and void of the columns, void and solid of columns and then the cornice also there with the treatments taken from the Greek style.

And within that also they have want... they wanted to incorporate more work and within this facade with the Chicago style window they have also the treatments of art nouveau style to punctuate this solidity. Because, that time this kind of ornamentation was still less ornament... ornamental in their vocabulary. Because it is, we are discussing about the pre-modern era and modernism just started and modern abstraction was not around in the in the city. So, these kind of buildings were very less in ornamentation though it is in today's context it might see, seem to be very ornate in nature.

But during that time these kind of buildings ornamentation was very very less because that these ornamentation is being compared with just before there was art nouveau style and before that there was baroque and rococo.

During that style, there was lot of ornate decoration started evolving. Even the other styles like neoclassical and other mannerism styles were there and so, those who are very ornamental, ornamental nature. So, these kind of they wanted to ornament this building because, this looked very less ornamental during that time.

Though Bauhaus created a very drastic image that Bauhaus ornamentation was absolutely striking and the with the absolute minimalist approach by Chicago school. They did not want that drastic minimalist style in their visual vocabulary.



So, if you look at Louis Sullivan's work. One of the famous building of Louis Sullivan's work is Guaranty building in Chicago which is also called Prudential building. Here also, we will see the same kind of work and same kind of treatment over there. And this is also terracotta cladded from outside and you see a another different version of Chicago window. And here the window lines and this solid lines creates a solid and void. And so, this kind of columns and solid and void is transferred into another different way. So, this line of void and then solid creates that ambience.

Though, you can see that this there lot of linear... eye movement is happening in this part. So, you can see that this is again going a linear in nature, but in holistically if you see this; this is divided in 3 different strong horizontal line, though there is a verticality in this part. There was this is combined and this is bracketed by the horizontal, strong horizontal member from both the sides.

Again you will see the same pattern here, it is like more void and which is kind of stimulates the Stylobate and main office building spaces and the cornice, which is used as services. Now if you look at the ornamentation carefully, so it is very high on... they started to decorate the surface. Because, this surface from outside the form wise it looks it is a flat surface and within that. If you look at the light and the treatment over the terracotta tiles, it has high ornamentation within that. But here, we will see the... it is a

same terracotta styles is getting repeated, which is definitely different from the art nouveau style where in art and craft movement it was there.

But if you look at ornamentation, it is inspired from art nouveau. And again this kind of curves you will see and this biomorphic lines which has lot of flora and floral pattern within that. And ivy creepers which was also the inspiration from of art nouveau is there. And here, if you look at the similar kind of biomorphic whiplash lines you will see and even in the terracotta tiles on top of the Chicago window, which is very geometric and very modern.

So, you will see a juxtaposition of very minimalist approach of window decoration and which is punctuated by very decorative tiles. Which is which got it is inspiration from art nouveau and art and craft movement. Also it is another building by Carson Pirie Scott departmental store. This is the departmental store by the Louis Sullivan.

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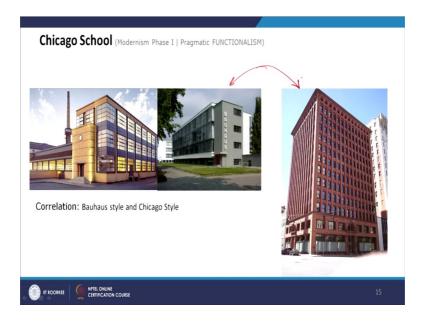
Again in this top part, you will see absolute it is a, it is a very less ornate part on top. But still, you will see the cornice, base and the main columns which is which acts as a office space. But, in the in the near the vicinity of the road level while, people will walk from here. And this part will be more visible from their eye level. So, here they have lot of intricate treatment outside there and the treatment material is iron.

Again this part they did not, Louis Sullivan did not treat it in high ornate way because, this is skyscraper and from here this treatment cannot be much visible. So, this was left, not, it was not treated as intricately as this. So, if you look at from a human's eye perspectives so these, so this kind of treatment in the irony you will see from outside, this is again the iron structures are there. So, you will see a duality in the design style.

So, here the iron structures are coming from here, and some geometric forms are also there and which continues on the top. But here, if you look at the iron work, it is totally inspired from art nouveau. And if you look at here, you will see the biomorphic line again coming from here and whiplash biomorphic lines are coming from here and lot of floral ornamentation are there. And this can be manufactured in the industry. But because, this was this was has a bilateral symmetry, which is a different style from art nouveau. In art and also you can see this has a similarity in the design from the side panel as well.

So, this was manufactured in industry. Also there is a... there is a repetition in the design, which was not there in the in the style of art nouveau, but still in the ornamentation in the style of ornamentation you will see clear... clear indication that it got inspired from art nouveau style.

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Now, in the Bauhaus style and Chicago style, if you look at as we are discussing constantly that though their philosophical thought was it came from abs.. function first

and then form. But, the while treating the building they were again came up with a cuboidal building, but while treating from the outside and also from the inside and there... they have taken a different approach. And while also evolving the form Bauhaus were move flexible to go to the asymmetry of the form. But in Chicago, we see more or less symmetry was maintained in Chicago school of thought.

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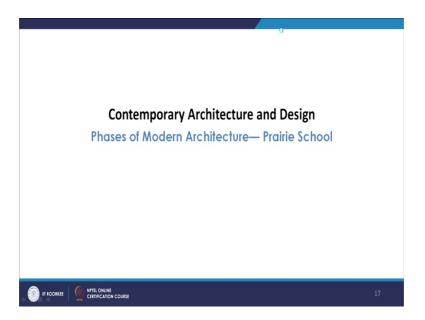
So, also in the beginning we were telling that there is a bauh... There is a school of thought which came after Chicago in USA which is prairie school of architecture style, which took it is inspiration from prairie grass grassland. Which was a natural inspiration came into the natures a context and they evolved there style from nature.

So, that is why another movement, modernist movement was closely associate. Sorry, another movement which is organic movement was closely associated with prairie style. But still, the prairie got it's inspiration from in from Chicago school of architecture style as well.

As Louis Sullivan this is another building designed by Louis Sullivan, which comes under prairie school of architecture style and this is again Louis Sullivan's Guaranty building. And so, we will see the similarity between these 2 buildings from outside. You can see the colour palette is quite similar, and then in prairie school they started coming in to the more horizontal.

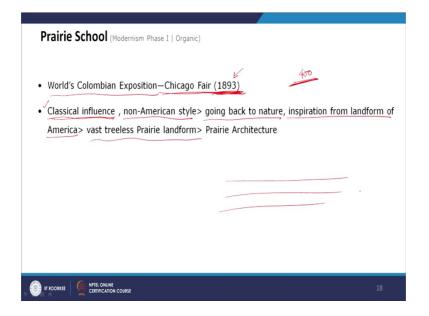
They have taken horizontality as their key stylistic feature because, these were the mostly this kind of architectures are on prairie grass land not in the city. So, they went which they wanted here in the city to go horizontal. What they could not they have achieved that in the prairie school of architecture style.

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Now, let us discuss the prairie school of architecture style.

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So the main prairie school of architecture style started in the world. World's Columbian exposition in which is in Chicago fair and we can see it is almost just before modernist movement in a... 1893.

So, during that that time the Chicago school movement is also going on. So, there is a classical influenced style in... was there in this exposition. This exposition happened because, it was a 400 years' anniversary of Christopher Columbus when Christopher Columbus came to USA. So, in 1893 Chicago fair happened and in Chicago fair, lot of different it is it is a fair we will discuss that and from the Chicago fair lot of different thoughts emerged. And one side we have seen different kind of urban design style and different style of architectural style. Lot of architects and designers got their inspiration from Chicago's fair, not it is not that Chicago fair inspired style and artistic style, which was followed in the Chicago fair followed. But, there was opposition and there was movement against the style of Chicago fair as well.

By the reaction and anti-reaction of this new kind of vocabulary of architectural style, and as well as the urban design style evolved. So in Chicago fair, what they have done is it is installation of temporary building structures. Which were not actually building, but the structures were made which were temporary building structures.

So, they had a particular visual style. Which was classical influence style then, the American architects thought that, this is not an American style, which we should follow in America. So, they went back to the nature and then took inspiration from land form of America. Because in America, there was all the classical styles were evolved in Europe.

So, they were not the native of America. So, when they have gone to the they have gone to their own motherland America for as an inspiration. They had the nature of America and the natural surroundings of America from there. They have generated their architecture style, which is prairie architecture style and from that there was organic movement started.

So, organic movement talks about taking inspiration from the nature and then, putting that in a architectural style. So, the vast treeless prairie land has the horizontality and those horizontal lines and the colour palette was the inspiration of the prairie architectural style.

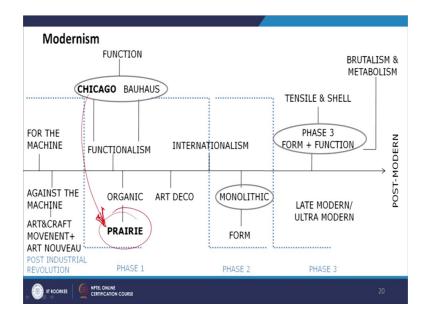
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Now, we see in the... in these buildings by Henry Louis Sullivan, who was also in the Chicago school movement as well as the Frank Lloyd Wright who was the one of the pioneering architect in the prairie school as well as modern school of architectural style.

Modern and prairie is almost similar, there is little difference in that, but the philosophically very same in philosophy and artistic style. So here, also we see the linearity and if we look at the colour palette they have similarity with the Chicago school as well Chicago schools. But here, they have seen the, they have said that it got inspiration from the grass land of prairie.

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So, here the prairie architectural style is there, which is taking inspiration now from Chicago. But right now, because they have evolved they will... they evolving their form and aesthetics more from the nature. And there will be lot of ornamentation in terms of with keeping functionality in mind, but lot of solid and void and breaking the symmetry will be there.

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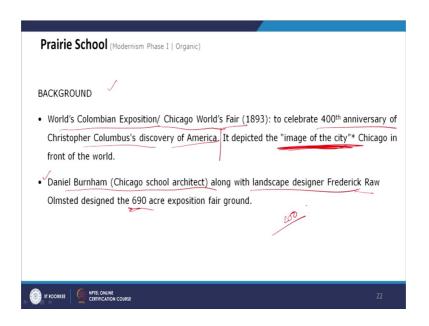


So in prairie school of architecture, if you look at the building So there is a little bit similarity. But still, it goes into the form side and then takes inspiration from

surrounding. And there are lot of treatment in the... in the aesthetics in terms of form, as well as in the facade treatment, as well as the holistic form as well.

So, if you look at the building this is Robie house by Frank Lloyd Wright. There are lot of solid and void and lot different elements are there, it is not just a cuboid. So, there this is just a position of different cuboid solidity and other elements are there.

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So, the background of the prairie school of architecture was world's Colombian exposition, which happened in Chicago, which was also as called as Chicago world's fair. This was celebrating the four... 400th anniversary of Christopher Columbus discovery of America. And from there is a image of city, which came which we will just talk about because, this is more important in urban design and urban planning, but not in architecture.

Now, Daniel Burnham was the main architect of Chicago school.. um who was also part of Chicago school's architectural style. He was the main architect to envisioned Chicago world fair even Louis Sullivan created his stall... created, designed a stall which was the transportation stall, which talks about Americas technology development in transportation. But, that stall Louis Sullivan, have designed in his architectural vocabulary.

And also, along with landscape designer Frederick Law Olmsted was there. And it was almost 690 acre and 200 building was made and most of the buildings, almost all of the buildings were temporary buildings they were designed the facade looks like a stone and, but this was designed with the stucco finish and plaster on jute fibre. But, from outside it looks like a stone and most of the buildings colour was white that is why it was called white city.

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Now, architectural style was featuring 200 temporary buildings, designed to create a imaginary city, of which reflects the Chicago school of architecture as well as the classical revival. So, if you look at so, similar kind of Chicago school architecture was there. But mostly, it was classical revival and the inspiration was taken from European classical style and the symmetrical building was there.

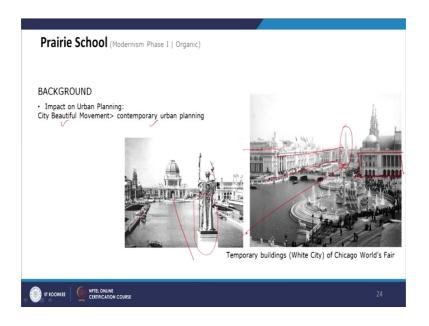
And so, neo classical which was classical revival and the new form of classical style or the classical revival, which were happened in the pre-industrial revolution was the main stylistic treatment of the Chicago school's fair.

Now, as we were talking about in what happened in the urban design. So image of a city because, they have created a imaginary city and from there some thoughts came and Kevin Lynch... you must have heard about Kevin Lynch. That he was, one of the pioneering design... pioneering urban designer in the new paradigm of modern urban design.

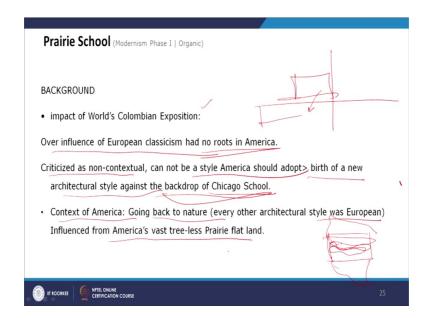
He told that image of a city is very important, and that comes into people's mind. And so, he also gave... have given 5 different elements to create. Which, what the key point of image of a city, which is pathway, node and district and landmark and the periphery which is the fringe.

So, also these things which, which is the edge and everything together creates image of a city, and which evolved from the this Chicago fair or the or it is also a city beautiful movement generated after this fair, and that is the part of urban design and urban planning and which we will not touch and we will look at what was the influence of, Chicago fair in architectural style. So, most of the buildings were city beautiful movement was also a part of it.

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But we are not discussing this, but if you look at the buildings, here in the building, it was neo classical style of building was followed. But here, in this if you look at the city planning was really well planned and then, the symmetrical and then the axis landmark and everything you can you can see in the building and the plaza and the common open places. But here, if you look at the architecture the style was neo classical and all the inspiration was from Europe.



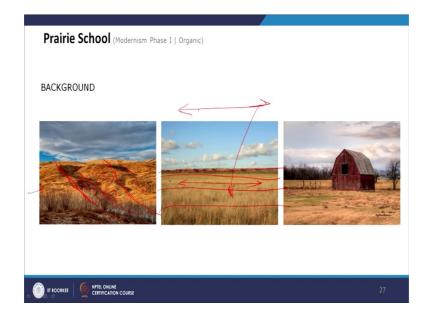
So, they thought that this symposition was over influenced by European classicism and has no root in America. Because, all the treatment was there in taken from the Europe, but the American architect thought this does not represent our own nation.

So, it got criticized that it was not contextual and it takes inspiration from other continent, which should not be followed. And then they started searching an American style which can be totally generated from an American land. And as they have not much architectural style which came from American architectural style because, there was no history which evolved in America.

Everything till now, industrial revolution, till industrial revolution everything came from Europe. So, they had to go back to non-architectural influence which is nature. So, there was a birth of new architectural style, which was against the Chicago school, which was against the Chicago movement... the Chicago world fair.

So, the context of America was going back to nature, and every other architectural style was Europe was rejected and then America going to it vast prairie land. If you look at Americas map and this part is Canada and this part is Mexico and the main... main part of the America. There is a lot of area where is a prairie grassland was there. So, this, they took the inspiration of prairie grass land as their inspiration board. So, if you look at the prairie grass land looks something like this.

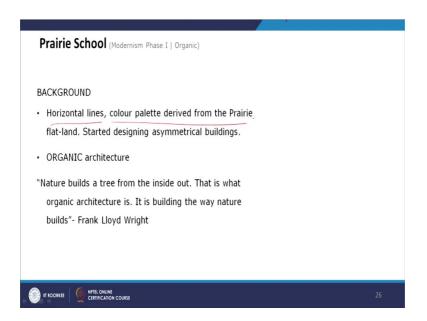
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So in prairie grass land, we will look something like brown colour tone. And this grass land does not have much tree in the grass land. So, lot of horizontal lines will be there while the different kind of crops will create a different line, even with the little bit undulation with the part if you see from this side. So, this kind of this part and then the there will be darker patch, and then again solids. So, lot of horizontal lines will evolve in the nature in the of the prairie land.

And this is if you look at. So, there is lot of horizontal lines will create a horizontality in the picture frame. And even if you look at the prairie kind of traditional houses they have this kind of pitched roof, which will also see in the prairie school of architecture style.

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So, here the stylistic features were horizontal line. The colour palette which is derived from prairie grass land which is brown and brown in colour, they have, they got represented in architecture by terracotta tiles and the brick, which has the similar kind of colour tone.

So, a lot of horizontal lines were created and also asymmetric. Because, it is evolved from nature as in Chicago school of architecture the inspiration were Greek classical architecture. That is why the symmetric is maintained, but here because it is from nature and nature is asymmetric. So, asymmetrical buildings were the main style.

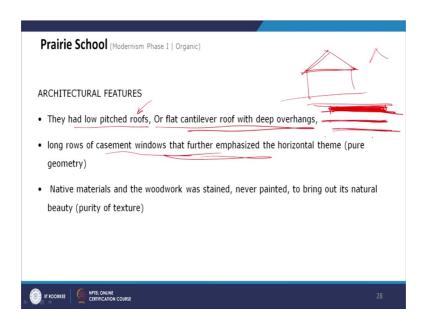
So, most of the prairie and all of the prairie architectural style and the organic architectural style, the buildings were asymmetrical in nature, which is the difference between Chicago school and prairie school. There are many other differences which we will discuss and also organic architectural style evolved from the prairie architectural style. Because prairie architectural style when they talk about it the. So, the inspiration only comes from the prairie grass land, but the process of taking nature as an inspiration was then called as organic architectural style. So, if not prairie architect... prairie grass land is situated in some other places then, how they have taken inspiration from the nature. And they have evolved the built form from the nature as an example of organic architectural style.

We will discuss organic architecture, and mostly with the example of falling water building by Frank Lloyd Wright. And we will understand how the same process of, transfer taking nature as an inspiration and creating a visual vocabulary got translated into a different context, where the nature was different. It was on a river, on a cascade and how, the cascades natural form got translated into the built form, we will in the organic architecture there.

The nature and this is a Frank Lloyd Wright's a quote nature builds a tree from the inside out and this is what organic architecture is, it is a building the way nature builds. So, they have taken inspiration of nature from their visual vocabulary as well as the philosophy. How nature creates the... how nature creates they wanted to create the building in that same fashion.

So the architectural features, if you look at the low pitched roof will be there because and here, it also has some connection with the traditional style. Which is also followed in the art and craft movement, and also the traditional building in the prairie architecture which we have seen in the previous slide.

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They have the pitched roof in the previous styles, or the flat cantilever roofs to develop a overhang. The flat cantilevers were coming from the horizontal lines of the of the prairie land. And pitched roofs were coming from the traditional architectural building. The long rows of casement windows that was one of the style of prairie architectural style. This

long rows of casement windows creates a void and on top of this casement window, which is glass which acts as void there will be a solid cantilever, that creates the solid and void in horizontal direction.

Now, native material was used and which was woodwork within the building. Mostly, within the built form of a within the, to create the interior and also the stained glasses, we will see the stained glasses which is not painted. But, stained glasses how they have taken inspiration of creating the design of stained glasses and the outside. We will also see the brick work, which creates the essence of the same colour palette of the prairie land.

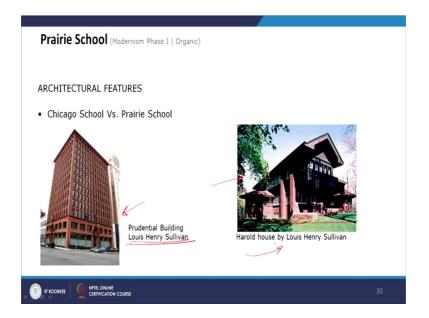
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Now if we look at the similarity, this is Walter Griffin's this is, these 2 are the buildings of prairie architectural style. And this is William Morris art and craft movement. So, here also they have taken inspiration. They have retained the traditional style of pitched roof and prairie also; they have retained traditional style of pitched roof.

This is Frank Lloyd Wright's building. But here, we will see more abstraction and more clean and more minimalist approach is there in the prairie style. And also lot of horizontal lines were added, to break the building into more horizontal features and give it a more long, longer horizontal horizontality in the visual here, also in Frank Lloyd Wright's building we will see the same features.

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Now, if we compare that style of Chicago schools and prairie school, we will see some similar horizontal line. What they wanted there, which could have achieved, which they have easily achieved in the prairie land because, this was not in the city and because also some of the architect's specially, William Henry Sullivan was also an, architect designed some buildings in Chicago school as well as in prairie school. So, design style percolated from one style to other.

In the next class, we will discuss more examples of prairie school of architectural style.