

**Contemporary Architecture and Design**  
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**Lecture - 32**  
**Phases of Post Modern Architecture- High Tech**

Welcome students to the online NPTEL course Contemporary Architecture and Design, in the previous class we started discussing the post different post modern movement and in we also discussed a one of the post modern movement which is historicism. And we have seen how they have taken historic depiction into the architecture which was; which was not the style, which was followed in the high modern era; especially in the internationalist and that modern phases choose style.

Now, today we will discuss another a post modern movement we which evolved after 1980's which is high tech movements. So, there the technology started becoming the ornamentation of the building. So, we have seen a similar kind of approach where technology started becoming ornamentation in the modern.

When we have seen the construction technique started becoming the ornamentation in the tensile and shell structure. And also we have seen in metabolism services started becoming the aesthetic element, but in that this is not the way look of showing the ornamentation is not high tech. So, the services when we are seeing this Richard medical lab the services which looks does not look very futuristic or high tech, but just the services are becoming way of facade treatment.

But here in the high tech high tech the post modern movement were technology started making becoming technology and other elements are giving in the building futuristic look with the ornamentation.

So, the technology the architecture features of the technology.

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**High Tech**

ARCHITECTURAL FEATURES

- Technology as Ornamentation
- Technology can be construction technique, new material or services

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Which is ornamentation and technology can be the construction technique, the new material and services.

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**High Tech**

Pacific Design Centre 1975, Cesar Pelli

Los Angeles, California



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So, this is one example of the high tech building which is pacific design centre design in 1975 in by Cesar Pelli. So, it is design in Los Angeles, California. So, this building if you look at the buildings shape. So, these buildings are have a different shape and different colour which is there in the same complex one is blue building, one is green and one is

red. And if you look at the building this building also has the style of deconstructive approach.

So, deconstructive approach deconstructivism is another post modern movement. So, if you look at the building this building has a lot of angularity, this in this red tower red building in this the building is top heavy the bottom is smaller. And this building is also top heavy the green building and this the lines are going in different way.

So, the constructive when we have seen this structural elements are becoming aesthetics element of aesthetics in shell and tensile structure were structures are shown, but here the structures are questioned. And so the angularity dynamism and top heavy things are structurally not stable form.

So, this is not a structural stable form because it is very thin and this is lining on top, this is also on top this is heavy this is also has a deconstructive approach. So, deconstructive we will discuss in detail when we or talk about the deconstructive approach in deconstructive movement in detail. But, this design is taking an approach of deconstructivism as well as the high tech design. So, why this is high tech because the new material which is glass is overly used and totally it is scalded by the new material which is glass.

So, technology can also be the technique material and construction technique and many other things. So, here the new material is encompassing and rapping the building which is also not a simplistic building like modernist movement. So, lot of forms are this is complex form and lot of angular angularity is added into the form.

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**High Tech**  
Pacific Design Centre 1975, Cesar Pelli  
Los Angeles, California

- Blue building: Showrooms (1975)
- Green Building: Head Quarter (1988)
- Red building: office spaces and parking (2011)

Bright Red, Blue and Green tinted glass cladding:  
TECHNOLOGY as ORNAMENTATION

Strong and remarkable urban form



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So, different coloured tinted glasses are giving the look of the colour of different buildings.

So, this blue building is a showroom which is and these buildings are design in different stages, the green building is a head quarter which is design in 1980 and red building is office space of the parking which is design in 2011. So, the bright red, blue and the green tinted glass claddings are showing the technology as ornamentation. So, this is not just translucent normal glasses, this is a different coloured polished and this has a shine from outside because of the glass is reflecting has the reflection component of from the light and this gives the futuristic looks.

So, if you look at the shine of the building and with the different colours which is again the post modernism is talking about the different colours and material and also there is a different coloured basis is there. So, together it look gives a very futuristic look in the total complex of the design. It is strong and remarkable urban futuristic form is there in this high tech design.

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**High Tech**  
Lloyd Building, Richard Rogers , Mike Davies


London, 1986

- Bowellism: Inside-out architecture

Technology as ornamentation

① Services exposed as part of façade design

② Clutter-free interior space  
(metabolism & brutalism of modern architecture)



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There is another is the Lloyd building by Richard Rogers and Mike Davies. So, this is so, this Richard Rogers design in a London is will came up in 1986. So, this is technique here technology is as ornamentation. So, here the technology is the services technology so, services are exposed as part of the facade design and because the services are taken out in the exterior wall exterior wall. So, clutter free interior space is there. So, on a from inside there is no electricity line plumbing line is coming, everything is coming from outside.

So, this concept we have seen in the metabolist movement and we discuss that in the metabolist movement the concept of metabolism and brutalism also percolated in the post modern movement and. Post modern many of the post modern designs are also got inspired from the metabolism. So, metabolism one principle was the concept of servant and served. So, a servant space which is like the services are also has an aesthetics valued that was concept that was the one concept and another concept was this modularity. So, the servant and served concept is exaggerated over here and taken into different dimension and that that is creating the beauty aesthetics style of this building.

So, from outside you can see this servant space which is staircase and which is also metal gladded. So, metal is also material which gives the very futuristic and contemporary look. So, if you use or stone and brick which gives the more old look, but metal and glass this gives the more futuristic look.

So, this concept of inside out architecture is called Bowellism. So, this Bowellism which came from metabolist approach is the approach where services will be exposed as a part of facade design and that will create a clutter free interior spaces. So, all these thing it looks like this is the skin the skeleton is out and all the services are in the veins and things are outside the building and that is creating this aesthetics of this building.

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**High Tech**  
Lloyd Building, Richard Rogers , Mike Davies  
London, 1986

- Bowellism: Inside-out architecture



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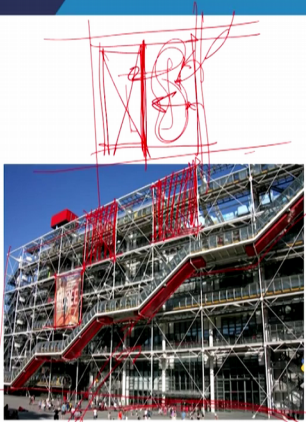
So, this Lloyd building if you look at from inside also it is like is the same principle. This is the skene of this building and from outside all the service lines and pipe lines are exposed from outside and that is creating the facade of this building that is the style. And this building the visual style of this building is Bowellism and that is giving the high tech and futuristic look and this looks like a very organic like a giant organic element which is wings and every organs are exposed from outside.

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**High Tech**  
Pompidou Centre, Richard Rogers & Renzo Piano

1977, Paris

- Centre George Pompidou (precedent of France), a building for exhibition of French Culture
- Bowellism
- Selected by Oscar Niemeyer, Philip Johnson through competition entry



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Another example of this Bowellism movement is Pompidou centre again Richard Rogers is designing this with Renzo Piano. This is in 1977 in Paris which is almost in the same similar in the in the beginning of this post modern era. So, this is centre of George Pompidou, this is an art centre and exhibition centre, this building exhibition is for exhibition of French culture again the Bowellism is used. So, from outside this is a service which is level changing device staircases used and staircases painted red from the behinds.

So, the people will see from human's eye perspective the red the red painted (Refer Time: 09:50) of this staircase will be seen and from outside this is all structural members. So, this is not just services also the structure members are exposed from outside. This is front facade when we show the back facade there is you will see more plumbing and electricity and all the services are exposed on the other 3 facade. So, here the concept of this facade was you can see the poster which is there in this facade. So, this facade does not have a particular design colour.

So, whatever is going on in the exhibition the poster will be hanged on this facade and that will create the facade and that was the concept; and so, the facade will be ever changing and that will communicate with the people and if you look at this building. So, this building was the site and the half of the site has this building and half was left empty.

So, from here this creates this becomes plaza which is again the concept of place making from outside therefore, roads will be there and people will be will come here. So, if the building was somewhere here and which is which will left few negative space from outside that this plaza could not have been created.

So, you can see the view of this plaza form here they will see this staircase and all this posters what is going on in this building. So, the building will communicate with the people which is who are there in plaza. So, gradually the people from this road will come to the plaza, because this is a open space and everybody can come there. And then the building facade will communicate whether there will be a visual communication of the building facade with the people and then gradually they will come here.


So, there is a peoples perspective and the people's behaviour and user send to (Refer Time: 11:40) approach was there in this design the concept was more used in the post modernist movement. Because, it was also used in the modernist movement in George nelsons design and other design, but this was the post modern concept of post modernity in post modernity this concept was overly used.

Now, selection this is selected by Oscar Niemeyer we have seen the Oscar Niemeyer works in the in the monolithic style in especially in Brazil. And Philip Johnson Philip Johnson who is also a modernist architect and we have discussed Philip Johnson's work and he is; how is work change it change from internationalism to the historic movement.

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**High Tech**  
Pompidou Centre, Richard Rogers & Renzo Piano  
1977, Paris

- Colour coding of external services
- Green: Plumbing
- Blue: climate control
- Yellow: electrical
- Red: Fire safety & circulation



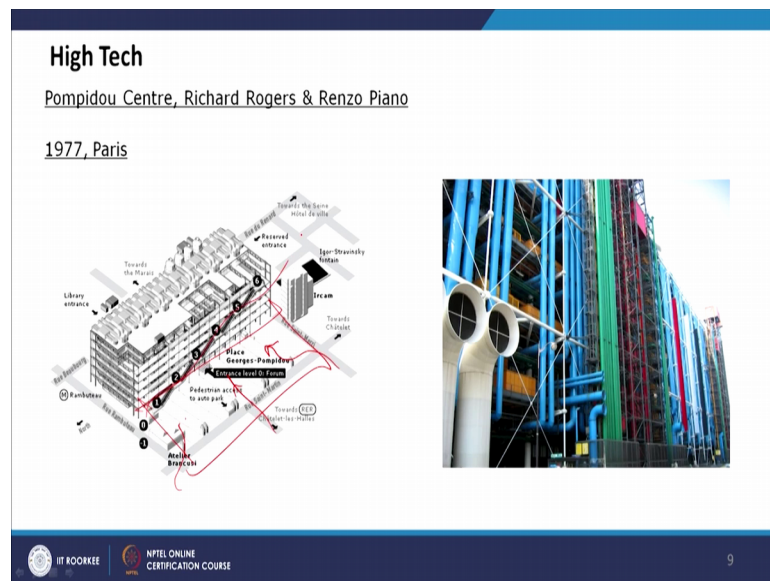
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So, this is competition entry and Richard Rogers and Renzo Piano got selected and this Pompidou centre from this is the back side of the Pompidou centre and here you can see all the services. And this is the structural element and the bracings and the steel element which is like facade going like that. And he is holding like scaffolding all this services are can be also maintain using this scaffolding and all this elements and the services are creating this facade.

So, this facade is not like not treated facade this is the treatment of the facade and that is the beauty of this building, all these buildings are all this facades services are colour coded. So, that for the functional is so, the green colour is for the plumbing. So, these are the plumbing, blue are for the climate control for HVC and others and yellow is for electric. So, there is also yellow lines which is giving the electricity supply and red is for fire safety and the circulation, we have seen this red colour in the stair. And this is for the fire safety elements.

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Now, here it is this is the plan. So, the plaza is left and from these roads people will percolate in the plaza and then gradually they will enter through this building. This is another example of a high tech building this is has Haus by Hans Hollien, this is designed in 1990's in Vienna in Austria. So, this the retail and restaurant.

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**High Tech**

Haas-Haus; Hans Hollien (Australian)

1990, Vienna

Retail & Restaurant,

Continuity with street façade & glass-curtain wall.



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Which is designed in the corner plot of this plaza and so, we can see and the perspective of this place making.

So, here this is the street facade and all these shops are there and which is very translucent. So, people will see what is going on here and this robust most solid more opaque top part is there. So, here we can see this part is glass curtain wall in this side and also there are different elements. And this is a series of cylinders are added to it and here also this glass curtain wall and different kind of cladding is added and. So, and also in the facade treatment we can see two different way of treatment in this one particular corner plot building.

So, this is also the adding to the complexity of the design of these two different way of treating the facade and also because of this facade cladding and the glass curtain wall this is giving high tech and a futuristic look.

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**High Tech**

Haas- Haus; Hans Hollien (Australian)

1990, Vienna

Retail & Restaurant,

Controversial: contrast with the historical  
cathedral in front of it.



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And this high tech and futuristic look is also in the contrast of the historical cathedral which is just in front of it.


So, this is this become little controversial because this is not responding to the visual style of the old Vienna's cathedral. And here you can see this lot of tilt and turn is also there in which is and lot of different elements are added. So, this is not a just a straight facade many elements are added into the design. And these steel claddings on in different places are also giving the futuristic look and which is visual vocabulary of the high tech design.

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**High Tech**

Shanghai Bank (HSBC); Norman Foster

1885, Hong Kong,




Prefabrication : 5 steel modules

Structural skeleton exposed outside

Natural sunlight as main source of light from central atrium

"Feng Shui "



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Now, another example of high tech design is HSBC Hong Kong shanghai bank design by Norman Foster who is one of the famous architect of post modern era in 1985 in Hong Kong. So, this is this used not just the concept of exposing the structure, this also used the concept of pre fabrication which is and modularity which is there from metabolist which is coming from the metobolist approach.

So, Nakagin Capsule tower is if you remember that was design from pre Fab living units which is constructed by a shipping container manufacturer and that was snap fitted into the into the service code and it was designed very quickly. So, here also the pre fabricated elements steel modules are used to design the structural skeleton which is exposed.

So, here the high tech technology is coming from the structural technology the construction technique. So, here from outside we can see this is the structural member which is supporting the building, which is not hidden by the facade cladding, which is instead of that the structural skeleton is outside the building and the facade covering inside.

So, you will see the structural skeleton from outside and that is creating the high tech technology. So, technology is visible from outside so, this is taking an natural sunlight as main source of light from the central atrium and this is also to cut down the cost of electricity and Feng Shui is added to do the floor planning.

As we are discussing more of the visual style we will not discuss about the floor planning and how this has been created, but here this atrium if you look at the huge atrium takes and as well as glass curtain wall from outside takes the natural light from. So, there is lot of illumination from inside and also within the inside the steel structures and pre fabricated materials it is bracings and huge columns are exposed. This column could have been merged over here, but this is has an extension and then column is going through and through.

So, that is it becomes more visible and it does not blend with the other movement elements. So, this and this the not interrupted straight line are giving much more verticality to the look and that looks most strong in the visual design otherwise if this is inside this then this element would not have been have that visibility which right now it has. So, this structural skeleton is from is visible from outside as well as from this atrium which gives the visual style of this skeleton look of this high tech building.

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Now, another example of this high tech building is a Norman Fosters again Norman Fosters design in Gherkin this is 30 is the address of this building and this design is 2001 in London. So, many of this London's photography we will see this Gherkin and Gherkin is this is the structure skeletal of this Gherkin building which is the turning and twisted columns steel columns. So, you can see this structure which is here so, all this twisted

and turned squat columns are going from bottom to the top of this building and that is creating the facade.

So, facade is not something else so, this structural member. So, this these are the steel structure members are the what you see from this white lines are the steel structural members and the cladding which is the glass curtain wall again going with the concept of the high tech is following this grid. And this is breaking the one structural grid into a smaller grid by the glass curtain wall which is going in going hand in hand. And together this form also looks like a rocket and which is also giving a futuristic high tech look of the building.

So, this is showing the construction and the technology of the facade cladding in the as a high tech the showcase of the visual concept of the high tech design.

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Now, another building which looks quite similar is Jean Nouvel's, Torre Agbar in Barcelona, which is designed just after that and 2004 which also looks like a Gherkin, but this also has a contextual connection. So, from outside this has this is not showing the structural skeleton this is showing a digital technology with this LED lights on top of this skene.

So, all these smaller facade cladding of digital facade LED lights facade cladding will create this pattern of different colours. So, this is not just red and blue so, this changes

the colour there is green and other colours are there. So, this takes an example inspiration from this concept of Gaudie's design which is there in the Barcelona where Gaudi in Casa Milla and park Guell this is the park Guells lizard which is design by Gaudi is taking the facade is of this sculpture. the skene of the this sculpture is the porcelain ceramic tiles and different colours ceramic tiles, he use to also use in the outside skeleton outside facade of this building as well.

So, this and Gaudi's work is there in throughout the Barcelona. So, Barcelona is has a impact of Gaudi's work. So, he is taking inspiration of Gaudi's lizard and that is why the skin of this is like a lizard which changes the colour. So, this green blue and other different colours and it is looks like a lizards colour changing skin which he is taking inspiration from contextual inspiration from Gaudi.

So, this is this design especially for Barcelona because Barcelona is has this park Guells lizard. So, this has a contextual connection and this is not an internationalist building. So, this cannot be placed in any other places because that that does not have the meaning because this meaning is connected with the Gherkins Gherkins skin is like a lizards colour changing skin. So, that is how the Jean Nouvel designed this with the contextual sensity contextual connection and also because of digital technology it is definitely within the high tech concept of the post modernist movement.

Thank you.