

## **History of Architecture and Culture – 5**

### **Lecture - 10**

#### **International Expositions**

Let us say people started inventing steam boats and trains faster means of transport after the industrial revolution.

Which is saw there in pervious episode so what happened was distance became easier to travel and the world became a smaller place. People are able to travel faster quicker furthered and what they had done earlier. So during the 19<sup>th</sup> and 20<sup>th</sup> century international expositions are exhibitions popularly called world's fair have become a common place what they do is they elaborately showcase for technological advance in cultural development happened in that particular place. And also they call for technological advance for cultural development at happen places elsewhere and they ask those people to bring those. And then present in a proper format called a fair and whole world can have look at pretty much like what modern exhibition look like. If you go trade fair you see lot of vendor and lot of people try to exhibits the product try to sell their product try to reach out wide variety of customer. So a similar thing happened and the 19<sup>th</sup> century.

So let us take look at famous exposition happen in the late 19<sup>th</sup> century because they were lot of exhibition happening around that particular point of time all over the world yes but take look at few very prominent once. The first and the most famous of all the exhibition at the crystal palace which happened in the midcentury 1851. Crystal palace is a HydePark London by the way. Second in Paris crystal palace in London. So Paris conducted a series of expositions starting from 1855 to until 1925. So the series exposition happened in Paris there is two in 1855, 1878, 1889 one event in 1867 and between 1900, 1925 lot of exhibition were happening in Paris at same time.

There was another one which is held in Chicago worlds Columbian expositions this happened in 1893. There was another famous exposition which happened in United States not in the main European continent. In 1873 Vienna exposition happened in Austria Vienna that was also one of the famous expositions and apart from these this episode will also looking at one another important exposition which happened in Barcelona Spain. Which incidentally which didn't belong to the 19<sup>th</sup> century it actually belong in 20<sup>th</sup> century. I tell you why it is important why it not include in this list in front of you before. I tell you all that when the time is come. So first let us get into crystal palace what it is looks like.

The great exhibition at the crystal palace of 1851 was held in Hyde Park which is actually in central London and specially constructed a crystal palace for this purpose alone. There was originally designed by Joseph Paxton who's actually an architect and agriculturalist whose design glass house and green houses for plants to grow in a very good condition in an environment. So in only ten days a huge iron goliath over a million feet of glass was designed by Sir Joseph Paxton. This exhibition contains a 13000 exhibits over 6 million visitors to the exhibition to came that particular point of time. When the whole building was divide into series of court yards which depicted different age of history and different age of art and architecture rise in from ancient Egyptian architecture through the renaissance to the baroque and rococo architecture. The building had everything arranged from ancient Egyptian to renaissance to rococo even in neo classicist architecture. If you wondering the building look like take a look at screen. This is how the great exhibition at the crystal palace look like. Look at the huge volume that represents international expositions back in 1850 people were able to design such huge buildings huge volumes of space and the entire space placed with fountain and water channels throughout the area. So the people will have attraction everywhere they go and even if you look at carefully in this picture see art works are lined up along the both sides of central court.

The crystal palace was the largest greenhouse was ever built. Except from the three entrances porches which happen in the front which are perfectly symmetrically disposed its glazed perimeter was completely uninterrupted. Only here was an interval for those three entrance in the front. They used prefabricated glass unit they framed the glass unit in wood and the framed wood was supported with cast iron skeleton. It was massive glass house which was about 563m long and about 138m height. The best part of the building was from planning stage to commissioning to the grand opening stage the building constructed in only in nine months to finish. From the planning stage to grand opening stage. Here you can take a look at crystal palace during its constructing with process and left hand side picture you can see the main entrance to the crystal palace in Hyde Park. Again you see the famous hall a huge hall which has lot of exhibits everywhere people can look at exhibits even from the top galleries.

The whole building was done in basic 8 feet cladding module. Each thing was 8 foot and if it done a modular manner it could be easier for manufacture to make clads. Because huge amount of glass that needs to be carried from manufacture place to sites here. So if it was in size it will be very difficult for people to construct within the nine month span given to the architect. The structural span can vary from anyway between 24 to 74 feet depending upon the location and requirement and after the exposition was over the entire setup was moved lock stockmen barrier from Hyde Park to cinnamon hill. Where it was eventually became a 200 acer Victorian theme park. The central hall of the crystal palace looks like this completely lets by alight from within. Even a night it was tree to watch. I am talking about series of fountain made the people enjoy the view.

These were series of fountains you can see lot of fountains everywhere. Even in the front of the building it was huge fountain to play huge water body and huge fountain was placed. And if we talking about three

entrance this is the three entrances and one in the other side which is not appear in picture.

## **Paris Exposition**

So let us take look at Paris exposition for a little bit we are seen that English exposition in Paris a series of international exposition were held. Like I mentioned earlier they started 1855 until 1925 each was called the Paris exposition or the world fair or the international exposition or exposition in the international. It was the same name that was given to all the fairs because the purpose of all fair were exactly the same. Just to expose the Parisian architecture art and culture and manufacturing process to the world and to bring in same from the other countries and other people. For that people can mutually benefit from invention that they had done.

On the screen the building that was the design for earlier 1855 Paris exposition right on top here it is 1855 Paris exposition and this here 1878 Paris exposition which see over here. These two photo graphs are of the Paris exposition of 1867 this was actually same building see properly. Now take look at most important of all the Paris expositions the one which happened in 1889. In 1889 the most famous of all Paris exposition happen in this exposition the best thing about the exposition was the showcase of the Eiffel tower. The Eiffel tower was built purposely built for the exposition and showcase to the world. This is the location of Paris exposition of 1889 and huge palace was designed just to accommodate all the art works and all the exhibits. The Eiffel tower was built for the international exhibition of Paris of 1889 commemorating the centenary of the French revolution. It was designed by the French engineer alexander Gustave Eiffel for the entrance to the 1899 exposition universally in the Paris champ de mars. Actually the Eiffel tower was designed as an entrance arch it was not designed as tower or it was not designed as monument or something. It was actually in simpler terms an entrance arch which for supposed to bring the visitor

from the outside to the inside of the exposition. That was the purpose of Eiffel tower the Eiffel tower is the tallest structure in Paris even now and reigned for 40 years until 1930 as the tallest structure in the world at 300 meters height. And if you including a little antenna on the top it is actually 320m and believe it or not it has 7000 tons of iron.

This is how Paris exposition look the grand entrance in the Eiffel tower right here. The entire area was Paris exposition at 1889. Few more facts about the Eiffel tower has more than 2.5 million rivets. We need a 300 steel workers and two years to complete it started in 1887 and it was completed in 1889. The overall height of the building varies up to 15cm depending on temperature because we all known that metal expand on heating and contract in cooling. So the overall height increases during the hotter months and it decrease during cold months. They require 15000 iron pieces not include the rivets because the rivets are 2.5 million number. We also need 40 tons of paint to cover it up. They are total of 1652 steps which leads to the top. The elevator was added later which can easily take you to the top. Right now there is restructing an observatory and a few point in the Eiffel tower.

We saw the sketches drawings are made by Gustave Eiffel here you can see the base of the tower and then from this point starts this area and the antenna. This the photograph of Eiffel tower during constructed when they started first floor was main by the construction of second floor were the third level end counting. This almost complete now it's complete over here. Now this is look right now without building on both side the buildings were pull down and the expo actually look like this. This was the expo one huge arena the entrance of the expo was Eiffel tower right mix to the same river and if you come through the Eiffel tower you can see buildings on either sides. Even in the further end this building called Galerie the machine take look at the in the commit lights and one end is the Eiffel tower and the other end is the galerie des machine.

What was the Galerie the machines a huge 422m long 114m wide and 47m high hall designed by Charles dutert and Victoria contamin it was actually demolished in 1910. A series of vast steel principal arches which were hinged at the base and apex braced longitudinally with steel ribs. It was very similar in volume with the crystal palace the gallery was structurally more dynamic and the first major example of the advantages of steel over iron. This how the Galerie the machine look like so the steel arches intermediate arches braced little light on both side. The inspiration probably came from Islamic architecture that have pointed arch near heads on both sides. This is how inside of the Galerie the machine look like they were able to show case the different machines and the different technology that they wanted to show case.

Take look at arches which kept repeating at the regular intervals which forms the roof of the building.

### **World's Columbian Exposition, Chicago**

Now take look at next kind of exposition which is the world's Columbian expositions Chicago. The major first exposition happened outside the Europe and it happened in Chicago the most intriguing part of the expositions is woman's building. Which exhibited over a 400 years of progress made by women. The display included objects made by 19<sup>th</sup> century women from Europe and North America as well as women's work by Native Americans. Getting the building for their own for the women symbolized the importance of women at the exposition. That was one land mark thing achieved in Chicago exposition. The center of the court the statue of the republic symbolized the strength of the country which had survived a civil war and was taking in immigrants from all over the world. This is how it look like this is the Chicago exposition this was the main rotunda and this here was the women building that we talking about earlier. And here you can see the central square with the statue of republic place it across the main building near rotunda. Now let us take look at Vienna exposition was the first

exposition to use multiple buildings instead of one main structure. We saw in the earlier slide that Vienna exposition was held in 1873. And if you remember the Paris exposition of 1889 this was also held in different buildings but it was happen in after 1873. So Vienna was the first exposition where people started to have an exhibition and multiple buildings the national exhibits remained in one big single large structure the most prominent feature is the rotunda the enclosed circular building. The rotunda was one of the part of palace industry which expanded on either side to form a horizontal strip close to 3000 feet. A series of 28 gallery that displayed an international array of industrial products were created. This exposition was huge immensely big. This is how it looked plan of the Vienna exposition you see this is the huge building with center rotunda extended on either sides close to 3000 foot long buildings and had lot of multiple building like discussed earlier. There is another large huge hall over here there are halls over here and then exhibit all over the place.

This was the central rotunda interior and exterior of rotunda. The palace was designed to be a permanent structure and was used after the exposition to hold trade shows. There were machinery hall art hall in those house 28 galleries they are all part of those things and also halls for other kinds of buildings as well as exposition. The machine hall was converted to a storage house for the great northern railway. While the art hall house the armature artists they housed famous painting into the few sculpture here and there with predominantly paintings. Now see a series of exhibition that happen in the 19<sup>th</sup> century now it time for us to take a little sneak peek at one international exposition in the 20<sup>th</sup> century.

This happen in Spain Barcelona this was designed by famous modernist Ludwig mies van der rohes. It was designed the german international pavilion for the 1929 Barcelona international exhibition. Why we looking at 19<sup>th</sup> century the position so far this building change the way in which exhibition happens. If you take a look at the building this was

one of the first modernist structure and which explain simplicity and expressed true material capability without any form of architectural detailing which involved decoration motive anything without any of that. They were able to exposition that was truly modern this was conceived to accommodate the official reception presided over by king alphonso the 8 of Spain along with the German authorities. The pavilion had a flat roof supported on chrome and the steel skeleton of pavilion walls rectangular planes of marble glass and onyx places vertically or horizontally could be freely positioned and made it possible that space seems to flow through them.

This use of the open plan achieves extreme lightness and movement. This pavilion has become a key reference point in both career of mies van der rohe and the 20<sup>th</sup> century architecture as a whole. This is the picture of international exposition of Barcelona this is how looks now. Here you can see the open planning structure can also see the famous chair that were designed by these are over here. Here you can see a module.