

## **B. Architecture**

### **Structure and Architecture (AR6006)**

#### **History of Structural Design in the post Industrial Period**

#### **Lecture - 17**

##### **Jean-Marie Tjibaou Cultural Centre**

The building looks something like this. Wow! Such a brilliant setting set on the pacific landscape, subtropical region of New Caledonia. This was the site that was given to Renzo Piano. It was a competition project. Look at the amazing site which was given to Renzo Piano. Site consists of lot of trees, organic shaped islands, and blue waters of the pacific, brilliant setting if you ask me. Look at the response that Renzo Piano has made to the site and to the project. Jean-Marie Tjibaou cultural centre which is situated on the narrow Tinu peninsula, approximately 8km of the north east of the historic centre of Noumea, the capital of New Caledonia that celebrates vernacular kanak culture which is present there. It was opened in June 1998 and was designed by famous Italian architect Pritzker award winner Renzo Piano and it was named after Jean-Marie Tjibaou who apparently had a vision of establishing a cultural centre which blended the linguistic and artistic heritage of the kanak people. Jean-Marie Tjibaou was also the famous person who led apart from other people, led the independence struggle of New Caledonia and he was also the first president of the nation. When he was assassinated in 1989, this building was planned to be constructed in his memory and it was completed in June 1998 and it was named after this famous personality. If you are wondering where the New Caledonia is located, it is in South Pacific Ocean and to the east of Australian continent. This is the world map of the region and you can see the Asian, African and Australian continents. New Caledonia is an island in the South Pacific Ocean, right here and Noumea is the city which is the capital of this New Caledonian country and the city is somewhere here. The subtropical climate which the

New Caledonia enjoys is evident from the picture that you have seen in the earlier slide. So let's take a look at features of the building.

Kanak is the culture of New Caledonia. It was an ancient culture which existed before the imperial age. During the imperial age, the French settlers took over New Caledonia and they started imposing their cultures and their traditions into their new Caledonian state. The kanak tradition was almost completely lost, so that is why this famous building is required to bring back the kanak building tradition and show us what kanak people traditionally valued and this building act like a showcase of their values. Here, the building traditions which were followed by the kanak people and the resources of modern international architecture were thoroughly blended by Renzo Piano. The formal curved axial layout, 250m long on the top of the ridge. It has 10 large conical cases; they call it cases which actually look like a pavilion. They are all of different dimensions patterned on the traditional kanak hut design. Each kanak settlement has a series of houses with a central axial layout and on the edge of axial layout is the grand hut which is for the kanak leader, the tribe leader or the group leader. So this conical case or pavilion is patterned based on the kanak traditional hut design. The entire buildings all the ten huts or ten houses are surrounded by beautiful landscaping which is also inspired from traditional kanak design, building elements or landscaping elements which is of great connect to the local people. This is another look at the building. You can see the beautiful pacific oceans and the islands which are formed by the nature and you can see the dense vegetation on the islands expressing beautiful of tropical weather. Such a setting is almost a blessing for any architect because nobody gets such a beautiful setting to construct a building. Very rarely architects get such compassion and Renzo Piano has done so beautifully with the very well invasion of the nature. These are the 10 cases which I was talking about earlier. They are all of very different sizes, these cases are big, and these are medium in size whereas these are pretty small compared to the bigger ones.

Marie Claude Tjibaou, the wife or widow of Jean Marie Tjibaou who is the current leader of the agency for development of kanak culture which is called the ADCK. She calls that we, the kanak see it as the culmination of long struggle for the recognition of our identity. And for the French government's part, it was the powerful gesture of restitution because the French government is the people who actually funded for this particular

building. The building plan spreads over an area of 8550sqm of the museum, were conceived to incorporate the link between the landscape and the built structure in the kanak tradition.

Let's take another look at the building. Let's take a look at the other side of the building. Here again we see the islands we see the same kind of setup. The reflection of the building on the water present in front of it is Panang greek style. Due to the consequences of the discoveries of Greek Roman architecture also what happened was certain Greek roman architecture building concepts were recently discovered and they tried to what they did and decided to reinstall those same concepts inside those building.

Sydney was made famous by the Sydney Opera house. It was designed by John Wilson. Bilbao was again made famous by the building which they redesigned from the redesigned the museum. The phenomenon by which this occurs, often dubbed as Bilbao effect. We saw the Bilbao effect from one of our earlier presentation which is in one of the earlier lectures. Bilbao effect was the transformative economic effect of any project or any city which the particular project is built on in the very idea of putting that place on the world map and also to give the place an economic boom. To the city of Noumea, the Tjibaou centre is a blessing. It has been no less dramatic than that of any opera house or any museum of greater renown. Since the centre's completion, New Caledonia has found itself in the international architecture spotlight.

Whether the new Caledonian government ever intended such to bring so much attention to the island became largely irrelevant because after they selected Piano as the winner of an invite-only international competition in 1991, everything was going to change for New Caledonia. Its objective was to solicit ideas for a centre that would celebrate the kanak architecture and culture native to New Caledonia, and in the process, smooth over ethnic tensions that had been chronically deteriorating between the kanak people and the island's other inhabitants. This ethnic tension was there and to ease out this tension, this building was built so that to showcase to the world, the famous culture, and architecture and other traditions of the New Caledonian people or the kanak.

Now here, from the backwaters of the ocean and from the reflection of the sunlight, we see this golden orange colour domes. This is the same case which we talked about earlier in the other slides. Look how beautiful it looks

and the reason why the building looks incomplete has a very deep meaning which I'll tell in the future slides. Right now let's look at more of what Piano meant to do in this building. The planning aimed at unique building that should be as the architect suggested to create a symbol, a cultural centre devoted to kanak civilization, the place that would represent them to the foreigners, a place that would pass on to the memory of their grand children. Another aspect of the kanak's building tradition was that it did not fit in with the concept of permanent building. The kanak people used to live in temporary type of buildings made with locally available material which needed to be replaced from time to time in the subtropical climate which they had.

This building again, when it looks like a temporary building, it looks like a temporary structure. It was there with the slightly connect with the local people. This involved the local architecture; I mean this involved a wood frame building built on earthen plinths and with roof covered by thatch. The form of building also varied from island to island which is generally round in plan and conical in the elevation. The kanak people made houses in groups with the headman's house at the end of an open public alley formed by other buildings clustered along on both sides. Trees lined these alleys with a shady central gathering. This same theme was adopted in the cultural centre planned by piano here we are having a closer look at the shells. Here we see the shells which are house and rooms of different sizes. An interpretative of landscape path was conceived and implemented around each building with series of vegetative cover avenues along the path that surrounded the building but separated it from the lagoon. This concept of the landscape setting appealed to the local kanak people when the centre was inaugurated. According to a critic it was very intelligent to use the landscape to introduce the building because this is the way the kanak people can understand any building at the core of the project's purpose was a long complex and often confrontational history between the kanak people and the New Caledonia's European descended rulers. There are these two different kinds of people in New Caledonia, one is local kanak people and other is a set of people who had descended from European origins. So these two people have a long complex and unresolved confrontational history between the two people. There are risk tensions that was going on between. The islands of Grand terry which was colonized by French settlers early in the 19<sup>th</sup> century had endured almost two centuries of natural resources depletion, exploitation,

cultural oppression, and long periods of enslavement. This led to the tension between the local people and the European descended people.

## **Twenty Century of Tjibaou Cultural Centre**

Here is another closer look at the building. But in the late 20<sup>th</sup> century the island underwent a protracted and varying bloody independence movement on behalf of kanak people led in part by Jean-Marie Tjibaou for whom the centre is named until his assassination in 1989. It was in this context that the project was conceived as a long overdue recognition to a marginalized culture and given funding by the French government. Politics aside. However it was easy to see what the jurist saw in the Piano's elegant design and how it became an object of his team's recognition because like I mentioned earlier in this lecture this project is an invite only competition project in which Piano's design was selected due to certain qualities in the project and because of that, they selected to build this project.

Here you can see the landscape, that was designed based on the kanak traditions where you can see this sculpture taken from kanak traditional values, people having spears in the hand, people having throwing spears with face masks and long wooden sculptures with the plantation tree and other things which represented the local climate and local vegetation. The building seems oddly in congruence with the local setting. Sensitively using traditional kanak's chieftain's houses as starting point. The architects manipulated and deconstructed their form to create a monumental sequence of rounded airy shells. Ten of such shells stretch along the hillside varying in height from 20m to 28m casting a commanding presence over the pacific shoreline. Between them, carefully choreographed procession of museum spaces takes visitors on a journey that weaves back and forth between intimate indoor enclosures and the surrounding island landscape. What Piano had done was, he had taken ten of these cases and displaced it side by side and he takes the people in and around these cases moving back and forth between indoor small intimate spaces to outdoor spaces surrounding landscapes. He takes in and out and weaves the whole path and he takes the people through the museum. This is one section of the museum where you see people go from the intimate space of the museum to the exterior of the museum where people can express, where people can move around, where people can enjoy the landscape along with the museum. Like the kanak architects before them, Piano's concept emphasizes the influence of

site and environment as determinants of design and performance. The form of the shells negotiates a blend of traditional construction methods and a tapered dematerializing profile that beautifully plays off the texture of the surrounding trees. Exterior voids worked into the plan and fenestrations in the building envelopes physically open the projects to the site and deepen the inhabitant's sense of place. Here the way in which the building was half completed, the way in which the building is mattered or the form itself, Piano says that this represents the nearby trees and landscapes so that this is made to resemble those landscape elements. At the same time he also makes sure that physical opening is open in certain places so that people can go out, enjoy the weather, look at the landscape and then come back. So the nature, the landscape built form are all in one same sentence as far as this project is concerned. Here is the closer look at some of the technical aspects of the project. Look at the solid wooden frames, look at how the frames are connected between each other, the steel frames, sections and connection details and look at the outer frame here wherein this is made to hide what is happening in between. All is one can see from the exterior is this. Let's take a look at the interior of the project. Here is what one of the displaying units looks like. You can see the traditional kanak display items that are kept over here and look at the architecture how beautifully displays the exhibits exactly in place. Light from bottom, some amount of diffused light on top makes the building looks really alive. An intelligent passive ventilation system removes the need for air conditioning, making the building's clean, natural air supply an experiential part of the centre's design. This building does not have air conditioning. Surprising but yes, the passive ventilation system which the building works on these curved spaces where the hot air escapes outside and along the horizontal channels building pulls fresh air from the nearby pacific surroundings. Just because the pacific surrounding is so naturally airy and windy, the circulation system naturally workout because of the hot air explodes out and create vacuum and the vacuum pulls out the remaining surrounding air which is cool because of the beach nearby. So this intelligent system does not require air conditioning making the building very nature friendly.

Even the interrelationship of building clusters arranged in a layout similar to that of grand allee plan of traditional kanak villages, is dependent on a continuous stream of movement between enclosed and exterior spaces. Earlier in this lecture, we were talking about grand allee and plan in which the traditional kanak village is made up of. There is a grand allee and at the

end of the allee is the chief's tent house and on both sides of the allee trees lined up and they have villages and buildings and other villages. Similar layout is followed in the building that is what is so famous and that is something people can closely relate to.

Take a look at another area of the building; here you can see the interior and exterior of the big circular case that we are talking about. You can see the interior and exterior in the same picture here. Here if you see, this is the plan of the building and you can see the section of building right below it. A slightly curving axial layout because of the traditional kanak thing and this is the grand allee which we were talking about wherein there are tree and building on either side. There is a building here and there is a building here. There are building spaces on either sides of this grand allee. These are those ten cases which we are talking about. And if we take a section across this line, this is what you see. They had earlier explained about the passive ventilation tool system in this area, wherein the hot air escapes out of this and top portion makes sure that warm portion is collected on top of this, and kind of gets out. And when the warm air is out of this building, there is a vacuum which is created here which tries to pull in the cool air from the exterior thereby maintaining a continuous circulation of wind in the area and the wind itself is relatively cool in the area because of this subtropical climate and the presence of the pacific breeze over here and look at the way, the shape of the tree has influenced the shape of the building. Its taking a direct representation from the tree surrounding the building, from the chief's house, the form of the building is arrived. The effect is really organic and eye catching. A beautifully incompleteness about the shells illicit seemingly paradoxical perceptions of a work in progress and a work in ruins that is nevertheless deeply satisfying. Idealistically, perhaps these incomplete geometries reflect the sentiments that kanak culture is continuing to grow and evolve from ancient roots, even as new conditions require it to adapt its form. This is how beautifully this whole building project can be explained. It is organic and beautiful, the shell is incomplete because it has to resemble the work in progress and at the same time a work in ruins that is nevertheless that is deeply satisfied. It is also to be understood as the kanak culture which is continuing to grow and evolve from the ancient roots because when something is continuing to grow it is not complete. It is actually incomplete and it is still growing. That is what the building idealistically explains. This is comparison between traditional kanak houses built with what Renzo Piano is designed here. Unless the same material, with

the similar construction technology, just the scale is varied here. Otherwise it's all similar technology over here. Yet, for all of the contextual sensitivities, inevitable inconsistencies pervade the design because the fundamental disconnect between the technological sophistication of the structures and the traditional craftsmanship exhibited within them illustrates a conceptual problem that undermines the centre's tenuous sense of heritage and identity. It has been said that the centre's technology acts as a mediator between conflicting cultural messages, design impulses, and systematic objectives but this is likely only an optimistic reading of an irresolvable and somewhat distracting conflict. They say that there was a conflict between technological sophisticated building that Piano has designed on one side, and the traditional craftsmanship of the local kanak. Look at the earlier structure. Critics also say that this is local kanak structure and this is the technically advanced and sophisticated modern building. How do you say, this is equal to this is what some critics claim. This is another place in which the centre of the kanak's traditional chieftain's house looks like. There is a central pole which is surrounded by a lot of elements conically placed here very similar to what Piano had done.

While the centre's form is abstractly beautiful and environmentally thoughtful, it is unavoidably alien to the local culture of New Caledonia, as are the architects and building tradition to which they belong. Even the materials from which the shells are made, intended to resemble the natural material palette of traditional kanak architecture were imported to the island of the project. They claim that this beautiful building is completely alien, it's unavoidable because the architecture of New Caledonia and the architect Renzo Piano were so very different. Because he comes from very different building background and New Caledonia has very completely different building background. Even the building materials which were supposed to look resemble local architecture were actually brought from some other countries. They actually imported, that is something which is very sad because the cultural museum, according to critics must have some building from their area because that's the only way one can represent their own traditional history. Finally, the comparison between the chieftain's house and the building which Piano had designed. Ultimately, these unresolved sociopolitical issues maybe the price of the Bilbao effect, wherein even the greatest and most celebrated foreign designs cannot completely bridge the gap between the architectural standards of international competitions and the sense of regional appropriateness so demandingly required by cultural



centers. Yet, to say that Renzo Piano's effect at Noumea is admirable would be a serious understatement, as an example of formal creativity and technological skill, the centre is no less than one of the finest and most advanced projects of its time. This is one of the sketches made by Piano himself. You can see where he gets the environmental sensibility issues; it's all right in the sketch.