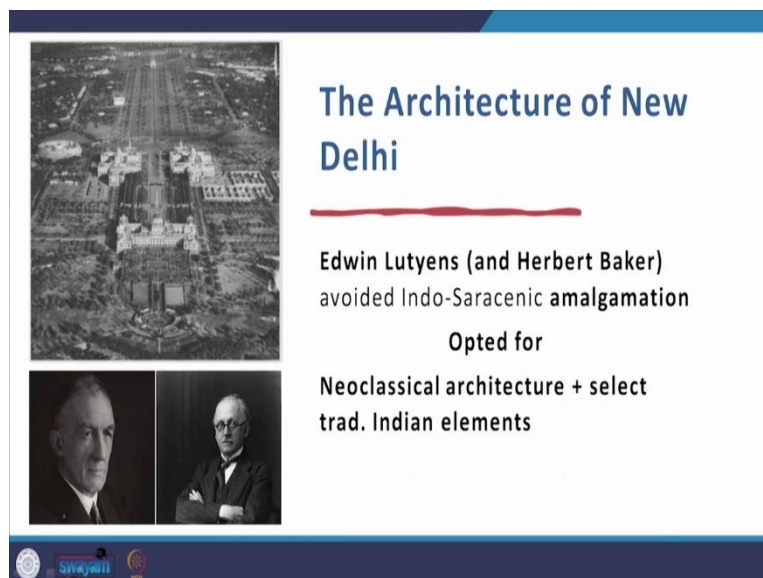


**Modern Indian Architecture**  
**Professor P.S. Chani**  
**Department of Architecture & Planning**  
**Indian Institute of Technology Roorkee**  
**Lecture: 5**  
**Pre-independence to Independence – Part 1**

Hello students, as you know that we have been looking at modern Indian architecture's development pre-independence, and we have looked at Indo-Saracenic architecture, we have looked at the impact of colonial architecture and as we move on today there are two very critical dates that have impacted architecture tremendously, where there has been a massive change over and that is 1947, when partition took place and India became an independent country, and we got took charge of our own destiny as an independent nation. And then in 1991, when liberalization took place in India and then also a tremendous impact was felt and global architecture stepped to India in a big way.

So, keeping this in mind today, we look at the first one 1947 and the crossover from pre-independence to independence. So, we will be looking at a patch from somewhere around 1920 to 1950 and maybe we will try to cover this in two sessions. So, going back to what I was talking last time, Delhi became the new capital of British India at the coronation of King George V at the coronation Darbar in 1911, and capital shifted to Delhi from Kolkata.

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**The Architecture of New Delhi**

Edwin Lutyens (and Herbert Baker)  
avoided Indo-Saracenic amalgamation

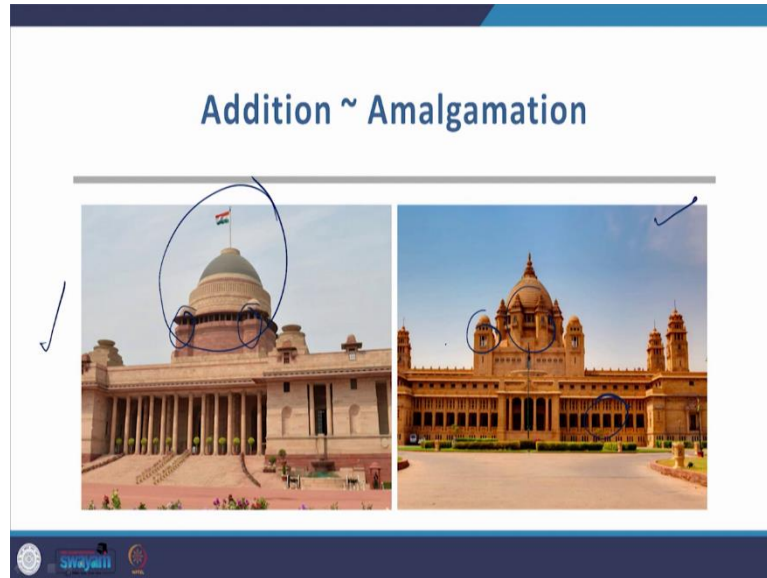
Opted for  
Neoclassical architecture + select  
trad. Indian elements

The slide contains an aerial photograph of New Delhi's layout, showing the central axis and the government buildings. Below the photograph are two small black and white portraits of Edwin Lutyens and Herbert Baker. The slide has a blue header and footer with logos.

And the architecture of New Delhi, the design was entrusted to Edwin Lutyens and Herbert Baker, who avoided the Indo-Saracenic amalgamation that had been going on with the works of Swinton Jacob, etc, and they opted for a neoclassical architecture with select traditional

Indian elements which were merged with those buildings. So, I showed you this slide last time the difference between addition and amalgamation.

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As you can see this Rashtrapati Bhavan, clearly you can see this is a neoclassical building, the columns are also neoclassical order and then above you find the Buddhist Sanchi Stupa as the dome of the Rashtrapati Bhavan, but this is also in the form of the Pancharatna because there are these chhatris which are homogenized with the dome at the top.

Now, when we look at the Umaid Bhawan Palace which is in Indo-Saracenic architecture, you find that this is an amalgamation that means every part of the building has been fused with the texture of Indo-Saracenic architecture, traditional Indian elements even in the columns, the domes, the chhatris, etc.

But the overall planning is western as it is in the Rashtrapati Bhavan or I can even say that the overall planning of the Umaid Bhawan Palace is neo-classical and the appearance of the building in its facade is a traditional Indian element amalgamated into it.

But there has been some criticism of Swinton Jacobs work of Indo-Saracenic architecture and that is that he concentrated only on the facade of the building. Whereas, the heart of the building, the plan of the building was not impacted, which to certain extent is really true.

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**Neoclassical**

**Traditional Indian Elements**

**Colonial**

**Residential Assistants**  
Henry Medd, Walter George, A.G. Shoosmith

- Modest but important individual works – college buildings, travellers' hostels, multi-unit housing, church buildings...
- Monumental architecture of New Delhi + standardising building types for assembly, work & dwelling

Now, going, when we look again at colonial architecture, I told you that this is a coming together addition of neoclassical with traditional Indian elements in this case the Sanchi Stupa, and thus we get colonial architecture.

Now, besides the, and then we had looked at the works of Swinton Jacob and Herbert baker in the secretariat buildings, the parliament building, the development of cannot place, the overall layout of New Delhi that was proposed by Edwin Lutyens, and the coming in of the Lutyens Bungalow Zone, all those aspects we looked at last time.

Now, there were three more architects I believe there were more, but three prominent ones who also played a role along with these two in building up New Delhi and they were called residential assistant because they were assisting Lutyens and Baker. So three, that we have in

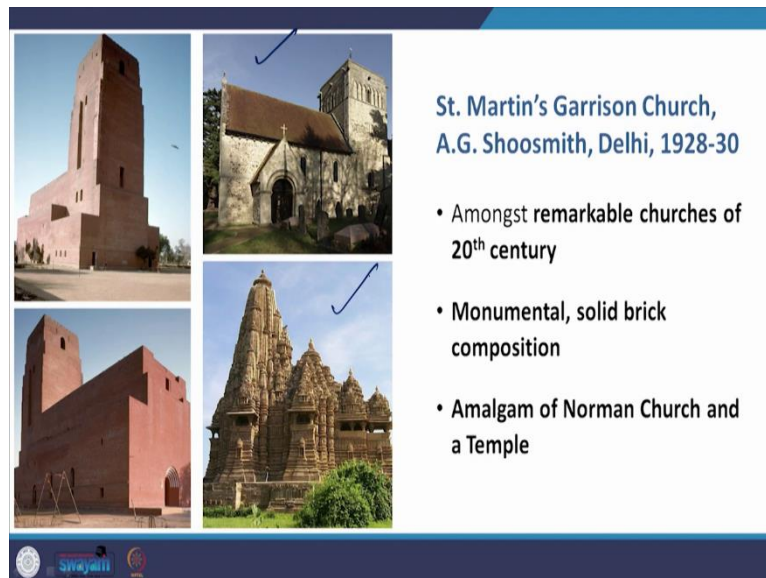
front of us is Henry Medd, we have Walter George or Walter Sykes George, and we have A.G. Shoosmith.

Now, they did modest works in comparison to the monumental works of Lutyens and Baker, but they were important individual works. There were college buildings, they were travellers hostels one in multi-unit housing, church buildings, etc.

And, so one hand was the monumental architecture of New Delhi by Lutyens and Baker and on the other hand but the standardizing building types given by these residential assistants for assembly for work and dwelling, and they developed their own architectural vocabulary for this, there was a very clear shift from the strong neoclassical content of Lutyens and baker to a more modernist touch, we look at that today and use of exposed bricks evens exposed stone and concrete was there in their works.

So, there is a clear-cut division between what would be called as the inverted commas, capital complex of Delhi, that is the Raisina hills, Rashtrapati Bhavan, and secretary buildings all the way to India gate, and the general architectural body of work around it by people like the three residential assistants.

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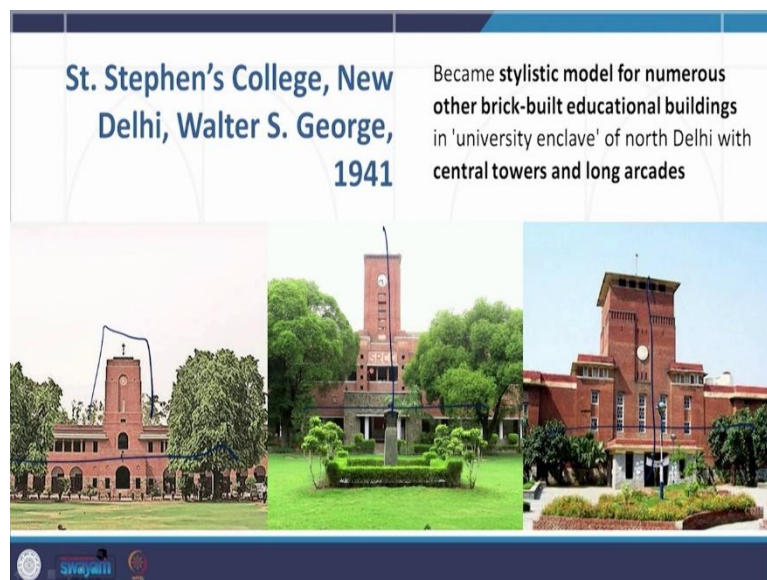
So, if we take one example of St. Martin's Garrison Church by A.G. Shoosmith in Delhi from 1928 to 30, it was amongst the most remarkable church buildings of the 20th century, because it was monumental and it is a solid brick composition.

When we look at the building, there can be some looking back to the works of du pont in Europe. You can look it up, the kind of massing is a reflection of his work, but this particular

church is also considered to be an amalgam of a normal church building and a Hindu temple. The overall form of the building, the way it has been put together is an amalgam of the two, but what you really find is that, in this building there is no ornamentation.

It is completely unadorned, the surface is completely plain and it is just defined by a very rich brick composition which is also exposed and not covered up, the material is seen as it is. The other example, which was a contribution of Walter Sykes George is the St. Stephen's college in New Delhi and this was in 1941, just very close to our independence, and it became a stylistic model for numerous other such brick, lit brick, built educational buildings in the north campus of Delhi university, in the university enclave of north Delhi.

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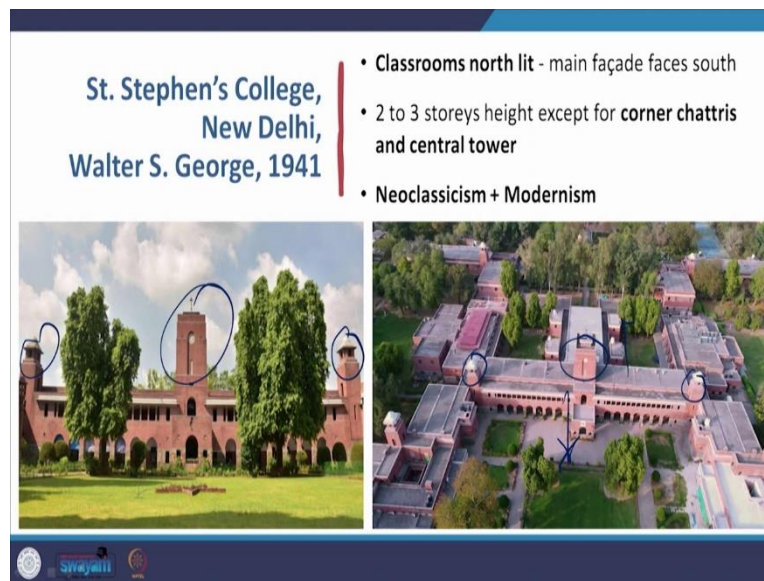


Which is having central towers, you can see this in the Stephens, St. Stephens, this is a central tower and there are these long arcades, so you see the same thing in the SRCC and in this college. And other colleges also had exposed brick and similar profiles, for example, the Hindu college is also another example.

Now, coming back to Stephen itself, it had four open courts in the Oxbridge fashion, now what is the Oxbridge fashion? Oxbridge fashion basically refers to the plan of the Oxford university and that of the Cambridge university. So, both the plans were, like the plan of Stephens was close conceptually to the plans of Oxford and Cambridge.

So, this is Cambridge, this is Oxford, as you can see there are these courts here, there are these courts here, and then there are the build forms around it, and this also has four courts, two big ones, and two small ones. This is where we enter the college, so what you see here in this image, this is where we entered the college.

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And now, the classrooms themselves are north lit. The main facade is facing south the classrooms are facing north, and that is a very important thing that Walter George does by bringing in diffused light for studying into the classroom. The building itself is two to three stories high except for these corner chhatris that you see here, and the central tower here. So, chhatris are in play because Walter George was deeply influenced by Lutyens and he did bring in these chhatris from Lutyens work.

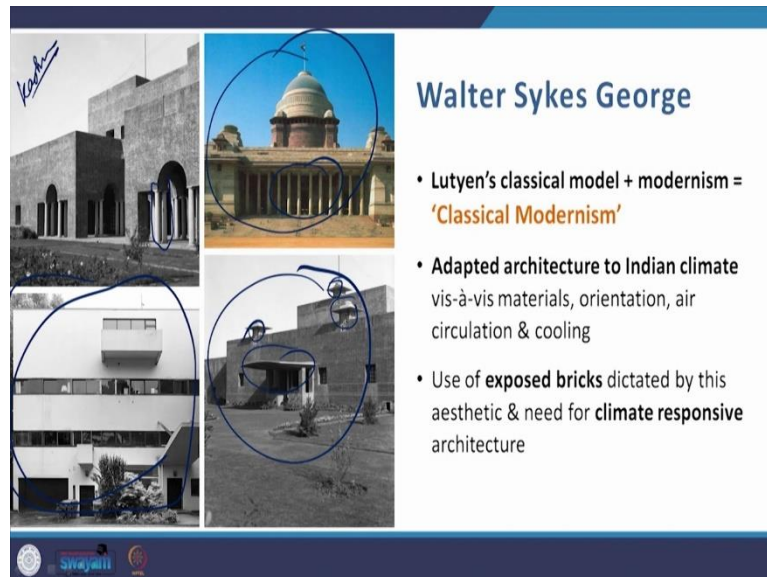
But what is important to see here is the building itself is modernist in its derivation. Now, I am not saying it is modernist as the work being done in Europe at the time by Corbusier, Walter Gropius Mies van der Rohe, etcetera, because that was on a different level altogether in terms of functionalism and other things that they were doing.

Now, there are several reasons why Walter George could not do it that way, he himself states one of the very important reasons is location, the materials available here, and the climatic conditions of India did not allow for extensive use of glass. This he understood way back in the 1930s and the 1940s.

So, the built form here is derived very strongly from the climatic conditions of the region, but when you look at the form itself, if you look at the form itself, you find it is unadorned plain and simple in brickwork. So, the fundamental concepts of modernism are here, then again this is also said to be the elemental mode of Lutyens work, that means all these so-called neoclassical elements like the neoclassical columns, and other such features have been taken out, the principle of neoclassicism remains that it has a strong symmetry, it has a fine balance, so that continues in this building along with the modernist concept.

Therefore, we can say that by putting together Lutyens classical or neoclassical model along with modernism Walter Sykes George came up with what I have termed or rather which others have also closely related as classical modernism. Now, this is a modernism.

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For example, when you look at this house designed by him called the Kashmir house, this is the Kashmir house, and this is the rear of the house, you find this is exposed brick fine, exposed brick totally on adorned there are no brackets there are no cornices, etcetera and these columns that he has given are very very simple, they are not your classical order columns as you would find for example, in the Rashtrapati Bhavan and many other features you would find.

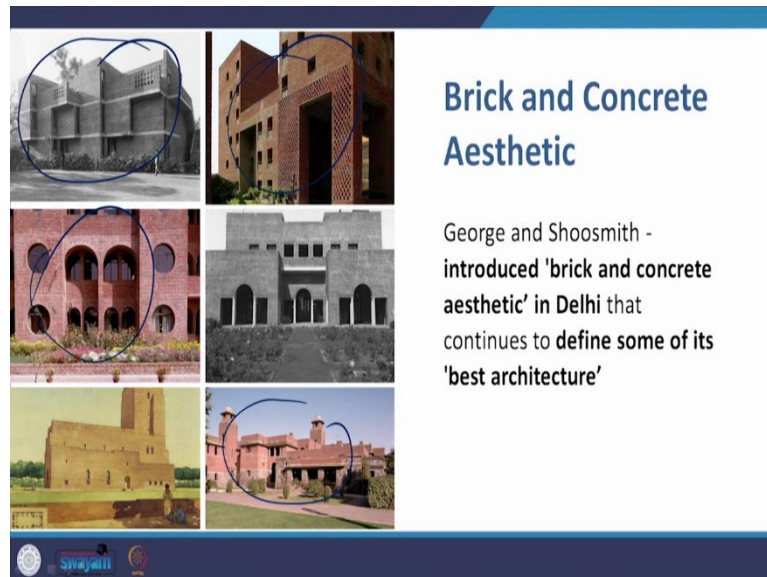
When you look at the front of the Kashmir house, you find he has even provided a cantilever in RCC, because RCC had started fascinating him at the time, and he used that in the Kashmir house. The overall facade again is simple and unadorned and bland as it would be in modernist, in a modernist building, but he does pay due diligence to Lutyens by providing these chhatris.

Also, he does not go in for large fenestrations rather he goes in for thick brick walls, that is a climatic response. The fundamental reason, the fundamental principles that he was gathering from modernism is more in terms of the concept, that what rationally works for Indian conditions, that is why he adapted his architecture to Indian climate vis-a-vis materials, orientation, air circulation, and cooling, and he used exposed bricks, which was dictate, which was the aesthetic that he brought in and the need for a climate responsive architecture.



So, this is again a merger of the modernism or international style, for example in the Villa Stein by Corbusier in Europe and also the neoclassical form of the Rashtrapati Bhavan by Lutyens, merges it for example in the Kashmir house.

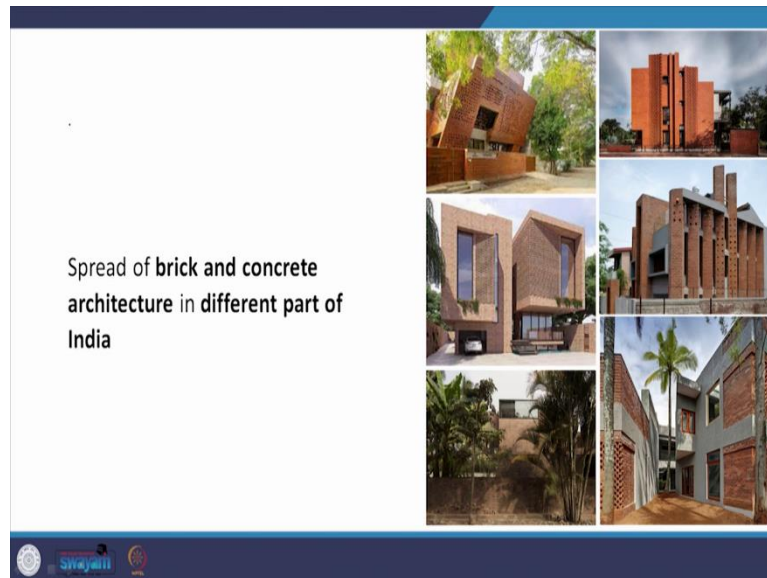
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Now, the brick and concrete aesthetic brought to India by George and Shoosmith introduced this, when it was introduced by them in Delhi, it continued to become the defining feature of some of the best architecture that evolved later.

Now, that architecture we will study in a different we look at it in many different ways, but predominantly, for example, if you look at the modern school or we look at this building by morphogenesis or even the this is his own work, the St. Stephens, or we look at this brick and concrete building by Raj Rewal, the same language of brick and concrete stone that they brought in, continued to define some of the best architecture of Delhi.

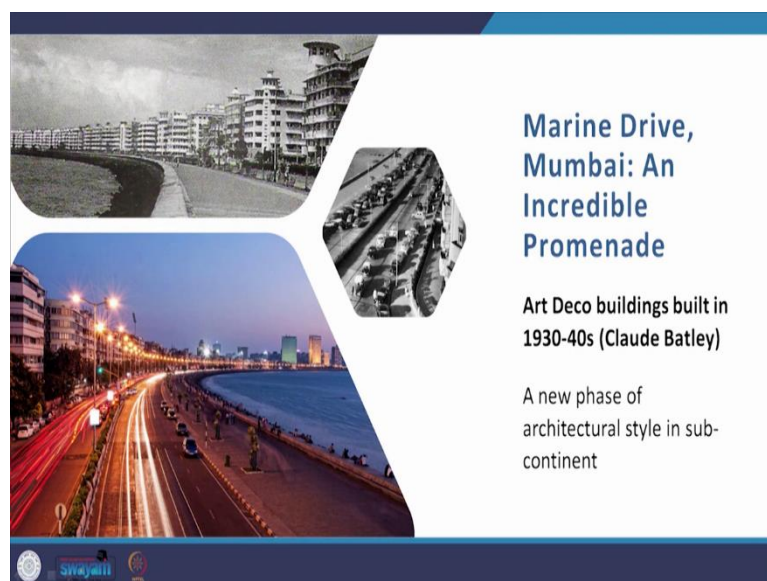
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Now, this concept of brick and concrete buildings or brick and concrete architecture expanded from here to other parts of the country. In the works of Charles Correa, in the works of B.V Doshi, etc, and even now in the 21st century these are some of the houses which are from the 21st century, this kind of aesthetic still continues.

Now, were they the only ones to define a brick and concrete aesthetic in India? No, not the only ones, because Louis Kahn also defined it by using extensive brickwork in IIM Ahmedabad, so we, but this seems to me to be one of the dominating influences on this brick and concrete architecture appearing in modern Indian architecture.

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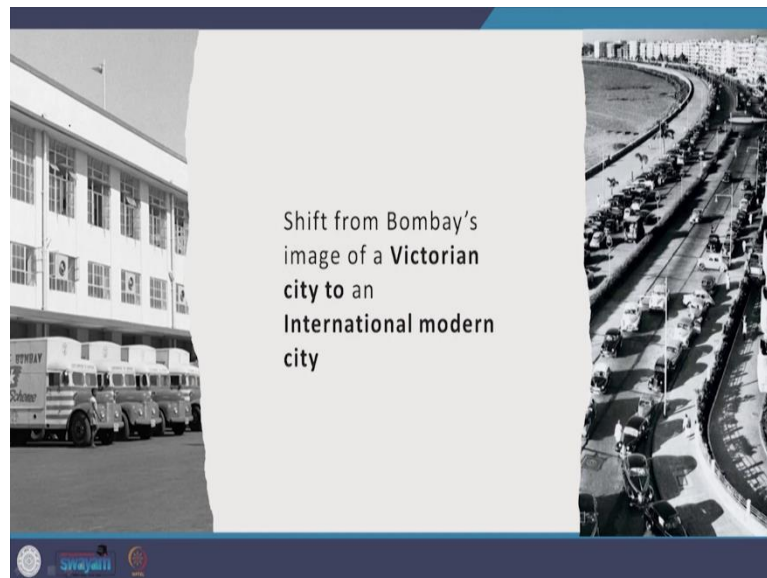


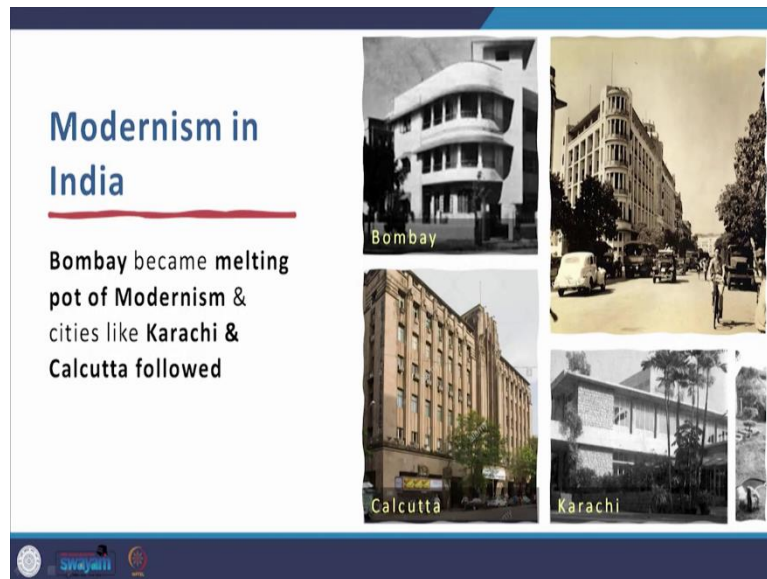
Now, moving on to one city that played a very key role in the development of modern Indian architecture that is Mumbai. At that time during in at the time of independence they were around 300 architects in India and most of them were concentrated in Mumbai.

Now, one of the most iconic developments that took place during that time was that of the marine drive, which was an incredible promenade, and art deco buildings began to be built there from 1930 to 1940s, and Claude Batley, who was both the principal of JJ school of architecture, which had been set up during that time, and a firm that he was running.

So, Claude Batley played a very important role in the formative years of modern architecture, just before and after independence. So, this was a new phase of architectural style in the subcontinent.

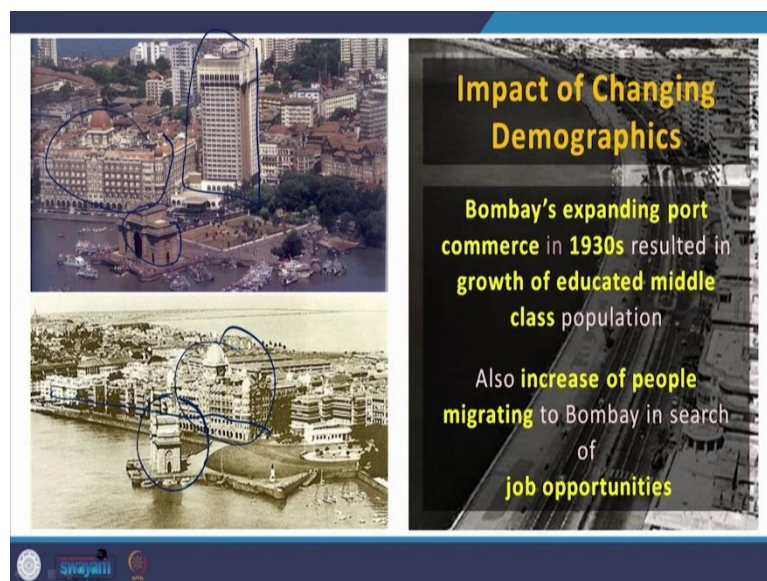
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There was a shift from Bombay's image of a Victorian city to an international modern city. And, talking about modernism in India Bombay, which we now call Mumbai, became the melting pot of modernism, and cities like Karachi and Kolkata followed because they were part of the British raj at the time.

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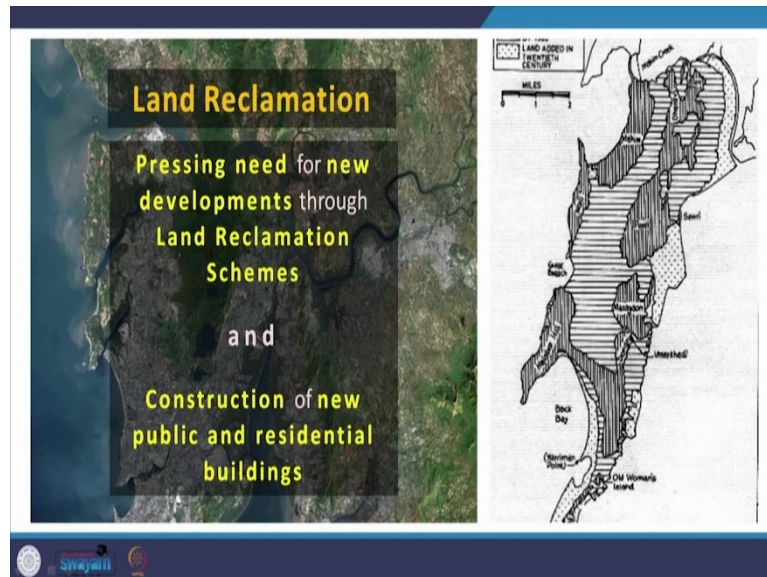


Now, there was also the impact of changing demographics that we feel in a massive way in Mumbai. Because Bombay is expanding port commerce in the 1930s, resulted in the growth of an educated middle-class population, coming and settling down in Mumbai, also increasing number of people were migrating to Bombay in search of job opportunities.

This image shows how Bombay has changed, this is the India, this is the gateway of India and along the seashore we have the Taj Mahal Hotel, and now we see the gateway of India,

this is the Taj Mahal Hotel original, and the new block that was added later, so how Bombay has grown.

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And, one of the very important things happened in Mumbai or Bombay was land reclamation. Collecting this whole land and making it into one landmass because there was a pressing need for new developments which were fulfilled through the land reclamation schemes and the construction of public and residential buildings was made possible because of this.

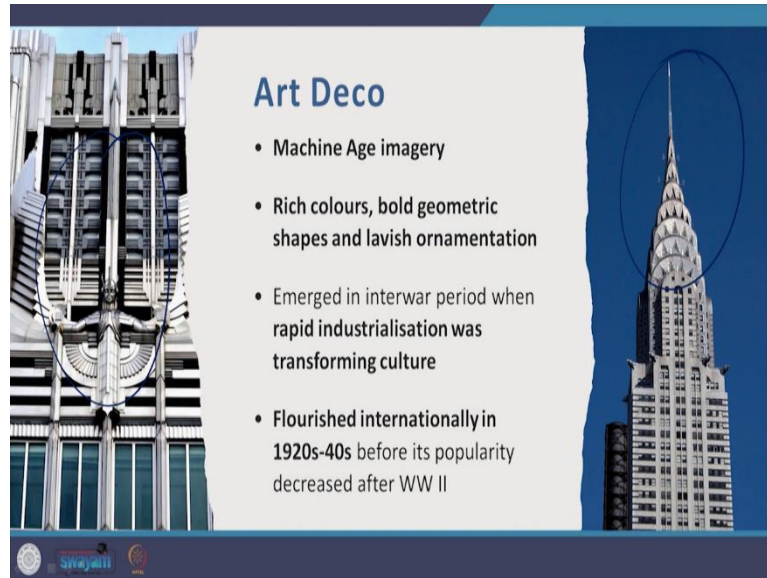
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Now, one of the important things that happened as a style in Mumbai at the time was art deco. Parallely, with the changing political climate in India at the time and the aspirational

quality of art deco aesthetics led to a wholehearted acceptance of this art deco style in the development of Mumbai.

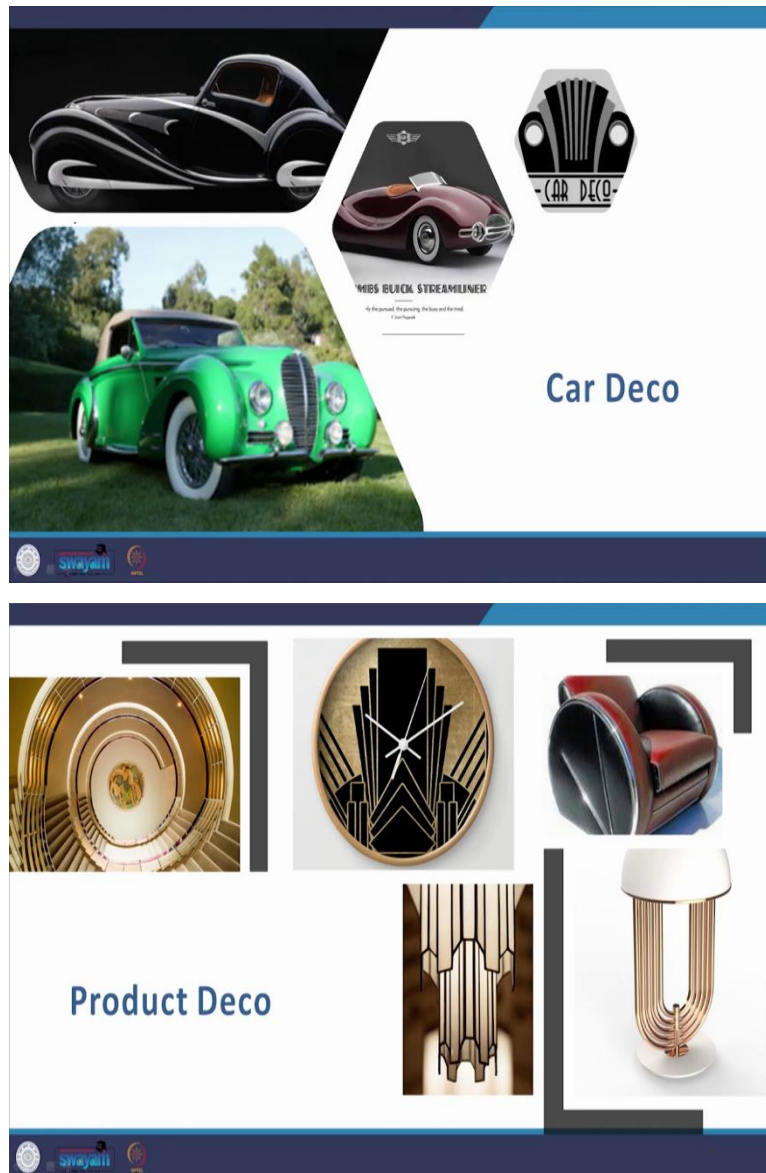
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Now, what is art deco? Art Deco is a machine age imagery that is having rich colours, it is got these bold geometric shapes, as you can see here in the Chrysler building, and it has got lavish ornamentation as you see in this building. It emerged between World War I and World War II, when rapid industrialization was transforming culture. And lot of industrial products like cars, and machines, etc were defining the new aesthetic of the society.

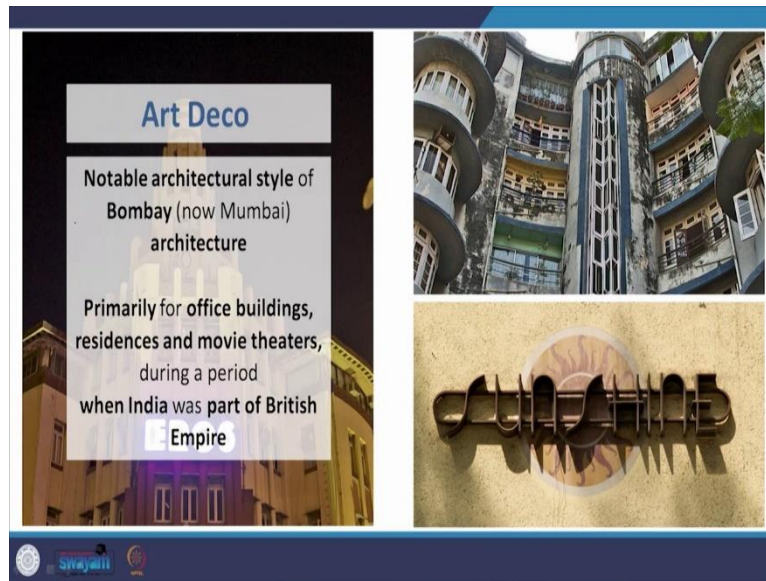
And, as a result of that architects were also deeply influenced by that, and they wanted to bring that kind of machine aesthetic into their buildings. This kind of style in architecture flourished from 1920s to 1940s before its popularity decreased after World War II.

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So, let us take one example, a car deco. Cars influenced by the art deco style, the use of colour and flamboyant lines, bold geometric shapes, curves, etcetera, coming in, or even in daily product whether it was the staircase landing, or a clock or a sofa or a lamp or a lampshade, all of them having product deco.

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**Art Deco**

Notable architectural style of Bombay (now Mumbai) architecture

Primarily for office buildings, residences and movie theaters, during a period when India was part of British Empire

The slide features a central text box with a background image of a building facade. To the right, there are two images: the top one shows a modern building with curved balconies and a central tower, and the bottom one shows a close-up of a decorative metal railing with a circular sunburst motif.



**Art Deco in Mumbai**

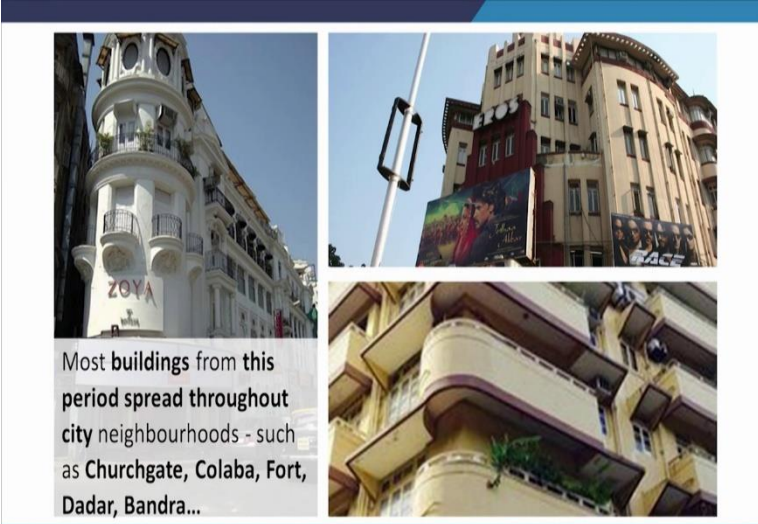
Max. no. of Art Deco buildings in Mumbai after Miami

The slide features a grid of six images showing various Art Deco buildings in Mumbai. The buildings exhibit characteristic features like rounded corners, vertical lines, and decorative elements. The text is positioned to the right of the grid.

Or art deco in products. And then, we have art deco in buildings in Mumbai, so the notable architectural style of Mumbai architecture which was primarily for office buildings, residences, movie theatres, during a period when India was still a part of the British empire. Now, maximum number of art deco buildings are in Mumbai today after Miami.



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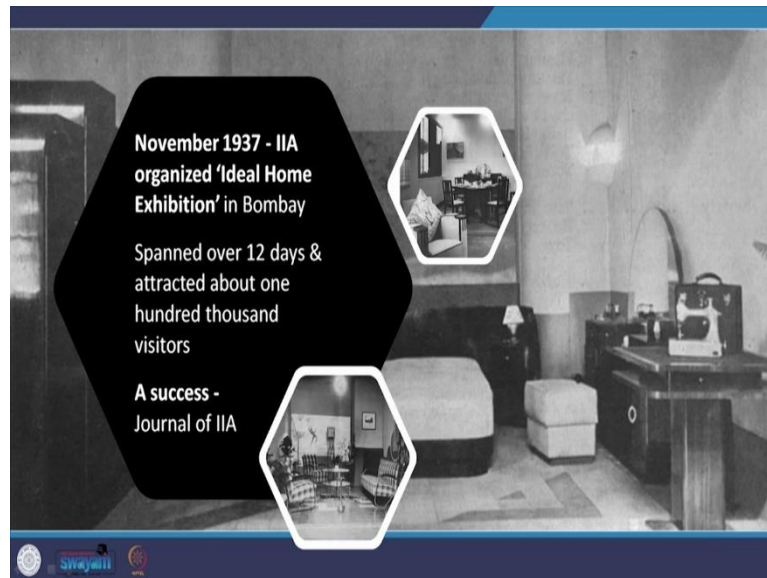
Most buildings from this period spread throughout city neighbourhoods - such as Churchgate, Colaba, Fort, Dadar, Bandra...

**Art Deco in Mumbai**

Indian Institute of Architects, (founded in Bombay - 1929)  
- played a prominent role in propagating the Art Deco movement

And most of these buildings from this period have spread throughout the city neighbourhoods to find them in Churchgate, in Colaba, Fort, in Dadar, and Bandra, etc. Now IIA, Indian Institute of Architects was founded in Mumbai in 1929, and they played a prominent role in propagating the art deco movement.

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In November 1937, IIA, organized an ideal home exhibition, in which, which is spanned around 12 days and about one hundred thousand people, a 1 lakh people came to see the exhibition, which is why it was marked as a success in the journal of IIA. So, you can see in these pictures, the layout of a living room or a dining room or the picture behind that of a bedroom is all in the art deco style.

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And not only the space itself, but also it was focused on various elements of the home. Furniture, elements of interior decoration, radios, and refrigerators, because all of them were being produced with the art deco style in mind. So, Indian architects were fascinated by the industrial modernity that art deco offered.

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### Art Deco – Design Impact

- Rounded corners & streamlined designs influenced by :
- Design of airplanes, ships, trains, and automobiles in early 20th century
- Made buildings appear **aerodynamic, fast, futuristic and sleek**
- Intention - to make Art Deco buildings appear **modern and sophisticated**

Now, the impact, with rounded corners and streamlined designs that we find in art deco buildings was influenced by the design of airplanes, ships, trains, automobiles in early 20th century. Because though these, those trains had already become came into existence since the industrial revolution, but the others like, and ships are also there, but advancement in their technology as well as the coming in of airplanes, and automobiles, added to the fascination with machines in society all over the world.

This made these buildings designed keeping this machine aesthetic in mind. The buildings appeared aerodynamic, they appeared fast, and futuristic, and sleek and the intention was, that so you find that aerodynamism, for example, you find that a streamline that kind of this shape for example is borrowed from the train itself or this aerodynamic shape, a futuristic shape is also borrowed from art deco. The intention was to make art deco buildings appear both modern and sophisticated.

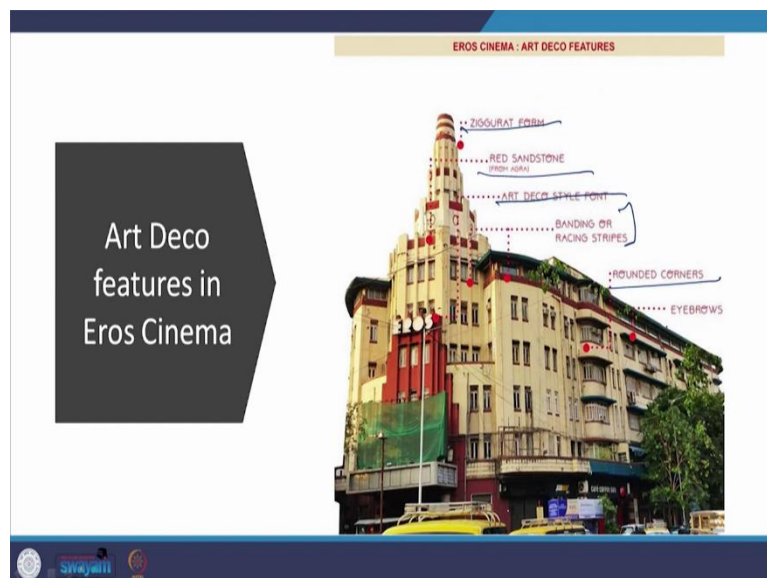
So, it was a move away from the prevailing endosarcinism or the colonialism in the architectural styles of India to a modern style called art deco. Now, please also understand, that though we will be looking at the modernist architectural thought in India after this, this does not mean that they were happening one after the other. They were happening parallely more or less, on one hand architects were working with art deco and parallely, there were some, not many but some who were also impacted by modernism per se. So, we will also be looking at that.

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Now, the other thing that is coming from art deco are the nautical features. Bombay being a port city it was influenced by the coming in of ocean liners, the luxury and the grandeur of these ocean liners, so the buildings had nautical features. There were these porthole windows that you see, there were other ship deck style railings in this building that you see there is this ship deck style observatory tower, there are porthole windows, so all these were derived from the nautical features of ships.


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Or for example, if you just take one building, one very famous cinema hall in Mumbai, the eros cinema and the art deco features, the cigarette like form, the use of red sandstone which came from Agra, the art deco font, art deco was a typical font that we have not been able to

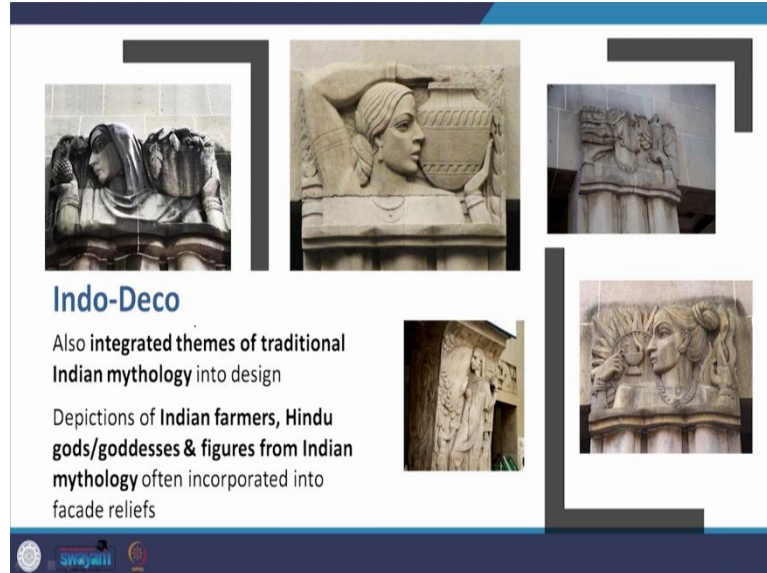
show you here. Then the banding or the racing stripes, the rounded corners, the eyebrows, all of them highlighting or accentuating the idea of art deco in the cinema.

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**Classical Elements**  
Classical Greek and Roman features also seen in buildings

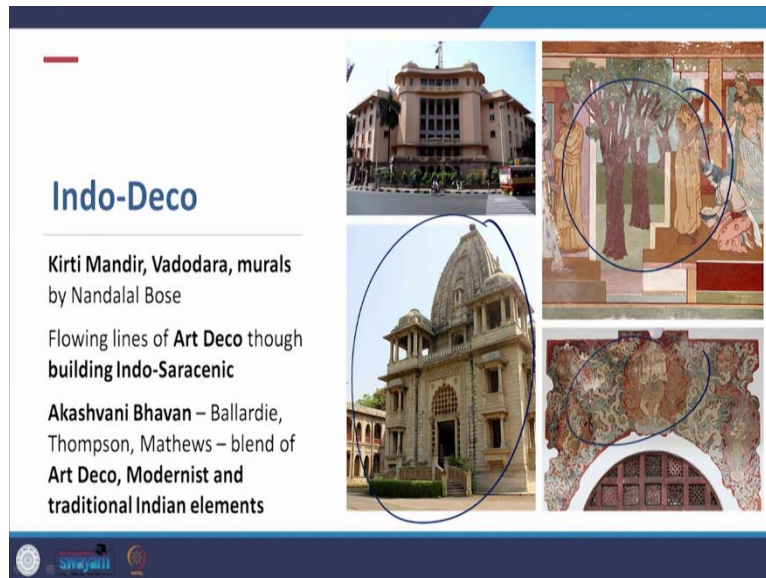
www.theheritageclub.in  
**ART DECO MUMBAI**  
UNESCO World Heritage Site



**Indo-Deco**  
Also integrated themes of traditional Indian mythology into design  
Depictions of Indian farmers, Hindu gods/goddesses & figures from Indian mythology often incorporated into facade reliefs

Then there were the classical elements in these art deco buildings in terms of the decorative feature. The classical Greek and roman features were seen in these buildings, as you can see here, in this ornamentation. But there is something called Indo-deco also, Indian architects while working with art deco brought in their own Indian specimens of artwork as a part of the deco, art deco building, and they also integrated themes of traditional Indian mythology into design. Where there were depictions of Indian farmers, Hindu gods and goddesses, and figures from Indian mythology which was made a part of the facade relief.

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Indo-deco continued for example in the Kirti mandir in Vadodara, where there were murals in this building by Nandalal Bose. The only thing is the building itself is in Indo-Saracenic style, but the murals that you see that he made here are a part of Indo-deco.

Similarly, the Akashvani Bhavan, but Akashvani Bhavan was somewhat different done by Ballardie, Thompson and Mathews, it was a blend of art deco, modernism, and traditional Indian elements, jalis, for example, and the columns being of I believe taken from traditional Indian architecture, so the column element was there, so this is a part of Indo-deco.

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Now, the modernist architectural thought globally, of course there is so much more for me to say about it, but if I just put it together what was at play in Europe, in the US, and India. In

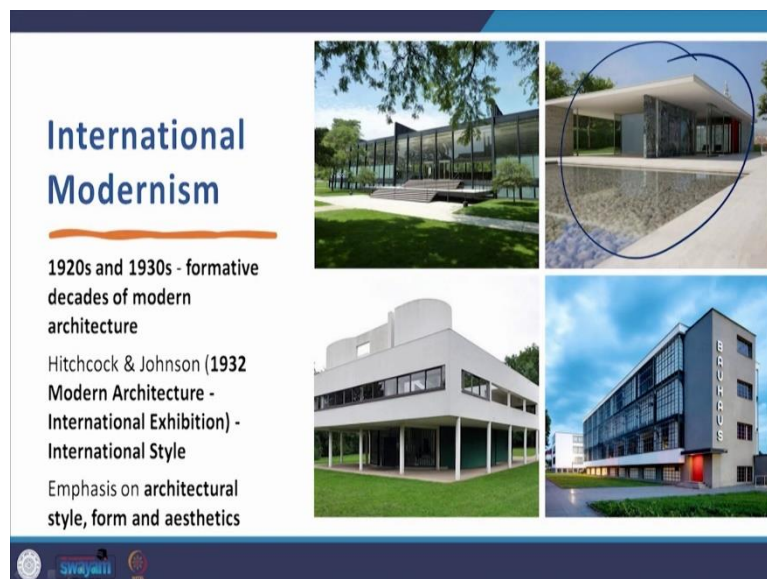
Europe, three things were predominant that was neoclassicism as you see here in this building.

There was art deco that you see here in this building, and then there was modernism international style, minimalism, Bauhaus functionalism, all under the umbrella of modernism as you see here in villas tene by the Corbusier. In the US, it was the works of Frank Lloyd Wright, as you see here in the Robie House or you see here in this building in Philadelphia, a tall glass and steel building which is the European modernism appearing in America, it would become even stronger when people like Walter Gropius and Mies van der Rohe would shift to America, settle down there, start teaching there, and then modern architecture or modernism would take deep roots in America.

Then in India, it was neoclassicism or some modified version of neoclassicism that you see here. In the Kashmir house, I told it is what for want of a better word, I use the word classical modernism, unadorned surfaces, borrowed from modernism but still paying obeisance to the Lutyens by having the chhatris so that and then there is this art deco that you find here in Eros Cinema in Mumbai.

So, in a nutshell this was what was going on simultaneously across the world. Of course, we have missed quite a few things, because we have not talked about the arts and crafts, we have not talked about art nouveau and its continuing impact all the way up to 1910 and a little further because movement just do not come to an end at just one given point, but this is the general picture of what was happening.

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So, when we look at international modernism, which is I believe the most revolutionary development of in modern architecture in the 20th century, and I believe that this is the single most radical transformation of architecture ever, I am not trying to go back into history and say that others were not, but for us who are living in these times, what these people did was tremendously revolutionary.

So, International modernism in the 1920s and 30s were the formative decades of this modern architecture. Henry Russell Hitchcock and Philip Johnson in 1932 hosted an exhibition of modern architecture and it is in this exhibition they coined the term international style based on the kind of work being done by several architects, all under the same umbrella.

All following a kind of a simple aesthetic, unadorned surfaces, plane geometry, volume more important than mass, whether it was villa, savoy by le Corbusier, whether it was the functional organization of Bauhaus, by Walter Gropius, whether it was the Barcelona pavilion, here by Mies van der Rohe or the crown hall in glass and steel by Mies van der Rohe, the emphasis was on architectural style, on form, and aesthetics.

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### International Style - Characteristics

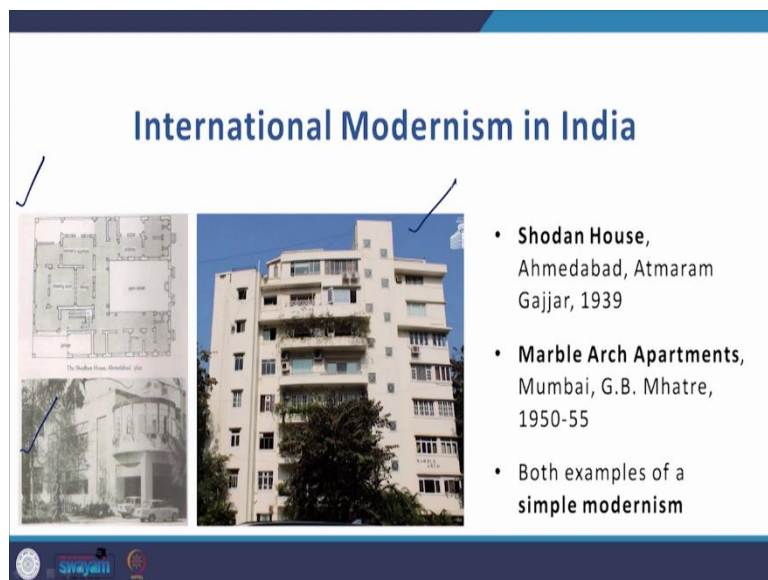
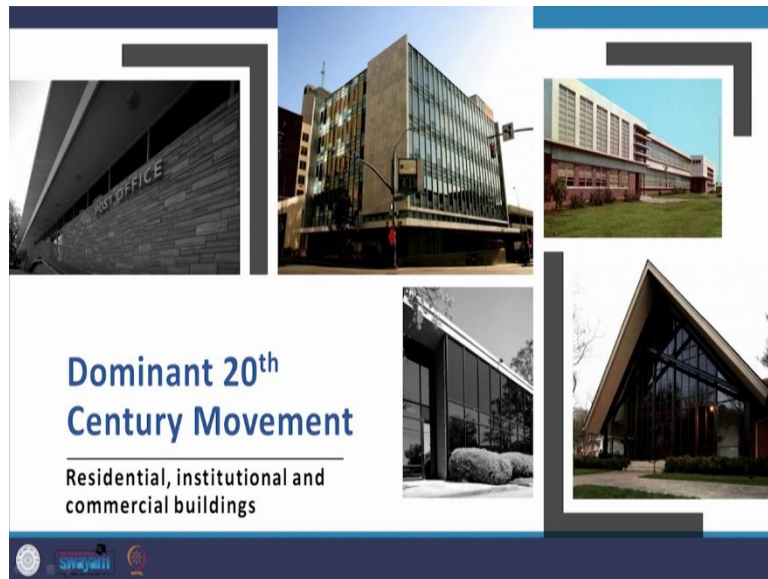
- Architecture as volume – thin planes or surfaces create building's forms as opposed to solid mass
- Rectilinear forms
- Light plane surfaces without applied ornamentation
- Free flowing interiors
- Glass and steel + RCC

More than that, the characteristics was that architecture is to be considered as volume. Thin planes or surfaces now created the building form, because the building form was being supported by an independent structural frame either in RCC or in steel. In RCC it happened, for example, with the coming in of the Domino system, where Le Corbusier, and Engineer Max J Boy developed the Domino system, a simple structure of slabs, and columns, and RCC staircase, which became the model that was adopted globally, where the walls are independent of the structural system and the outer walls are non-load bearing partition walls.



So, here we see that these surfaces became thin as opposed to solid mass, the forms were rectilinear, the light plane surfaces that were there on the outside without applied ornamentation, they were unadorned, the interiors were free flowing, and there was a use of glass and steel and RCC. So, you see that here in the Currechet House, you see that within the free plan movement, in the villa, Jeanneret I believe by Corbusier, and the tall glass and steel buildings coming up in America.

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This was the dominant 20th century movement with even simple buildings like residential, and institutional, and commercial buildings, all and even religious buildings, all following this model.

Now, when we look at international modernism's appearance in India, we can for example go back and look at the Shodhan house, not by Corbusier but by Atmaram Gajjar. Atmaram Gajjar's Shodhan house in 1939, which is this one, has been demolished does not exist, but John Lang gives us a picture of this, and this house was a very example of very simple modernism, as you can see in this, the kind of very simple massing.

Similarly, in the Marble Arch Apartments by G.B. Mhatre in Mumbai, in 1950 to 55, we find again the example of simple modernism, a simple block of in apartment block, multi storage housing which is in a modernist style. Of course, by the time 1950, 1955, we will also see parallely the works of Habib Rahman, and others coming in and working around that time or a little while later, so that we look at in in subsequent presentations.

So, I will stop here for today, with this that we have covered colonial style, we have covered the work of the residential assistants and how they shifted away somewhat from the strong and rigid new classicism that was prevalent with Lutyens and Herbert Baker to something which was in addition of modernism, that there was a very definite desire to make the building climatically responsive and unadorned unornamented surfaces. We see that in the work of Shoosmith, and Walter Sykes George, and then we find the art deco in Mumbai, and the coming in of the modernist architectural thought in India.

We just looked at these two final examples, we will pick up from here in the next part of pre-independence to independence, early modernist architecture in India. Thank you so much, and I will meet you next time.