


**Modern Indian Architecture**  
**Professor P. S. Chani**  
**Department of Architecture & Planning**  
**Indian Institute of Technology Roorkee**  
**Lecture: 01**  
**Introduction – Part 1**

Good afternoon students. My name is Chani and I am a professor in the Department of Architecture and Planning in IIT Roorkee. And it is my great privilege to teach you modern Indian architecture in this semester. The word modern in itself is a very generic word, because it simply means up to date. For example, if you were living in the Greek times, then the architecture of that period would be modern architecture. So, when we talk of modern Indian architecture, we are talking about the architecture of India today.

But as we will go through this first presentation of introduction, we would like to actually show you what all we will be covering in this course and that modern Indian architecture is actually a journey that begins before independence, and reaches up to where we are today.

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**Architecture and the World**

- Architecture - **very significant role** in the **understanding of human history**
- **Reflection** - a society or civilization's belief systems, socio-cultural values, economic status and technological abilities etc.

If we consider architecture in the world, we realize that architecture has a very significant role in understanding human history. There are many things that are very important when we need to understand history, and buildings are one of them. They are a reflection of a society of civilizations, belief systems, their socio cultural values, their economic structure, or economic status, their technological abilities, etc.

For example, if we just look at the pyramids, or the temples, that speaks a lot to us about what the people believed in, or the value systems they had during that time. Similarly, if we look at

the architecture of today, then modern architecture is a testament to a modern world. And modern Indian architecture is a reflection of what modern India is. So just as in the past, architecture of the time, is a reflection of what those people were .Modern architecture and in continuation ‘Modern Indian architecture’, is a reflection of what India is today.

So the study of modern Indian architecture, will not only teach you about architecture, will also teach you about your country as a whole and the value systems we have on the socio cultural structure , or the economic status and the technological developments that are taking place today. They are all encompassing within architecture. But I will take you back a little bit to one of the fundamental principles that have really impacted me as I have been studying about architecture.

I came to study architecture, in the department of architectural planning at IIT Roorkee 1986, as an undergraduate student. After finishing my undergrad in 91, I continued to do my Masters, and then I completed my PhD as well, and later became a tenure, or other the Full tenure teacher in the department where I used to study all over these years. So, I have tried to understand what are the things that are vitally important for a good building design.

And one principle that has probably struck me most and of course, is that there are many principles which were given by Vitruvius, “Vitruvius” as some of you might know, was an architect, and in a sense, a theorist of the Roman times. He wrote a very important volume of books called the “Ten books of architecture”. Generally, all good libraries across the world have these books with them - “The ten books of architecture by Vitruvius”.

Vitruvius's most famous work - Ten Books on Architecture (approx. 20-30 BC)

Only text on architecture to survive since ancient times

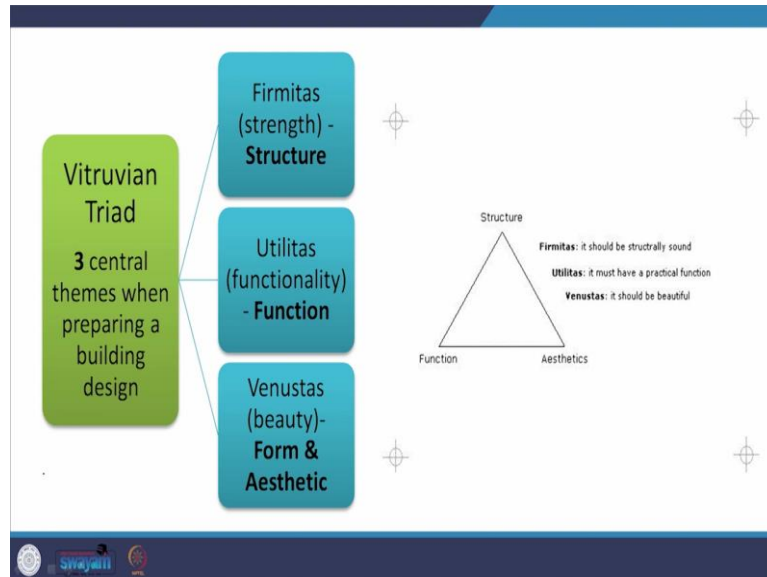
Connection between architecture of body and of building

VITRUVIUS  
THE TEN BOOKS  
ON ARCHITECTURE  
TRANSLATED BY MORRIS HICKY MORGAN  
68 ILLUSTRATIONS

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Now, in these 10 books, it is the only text in architecture that has survived since ancient times and tells us about the connection between the architecture of the body and of the building.

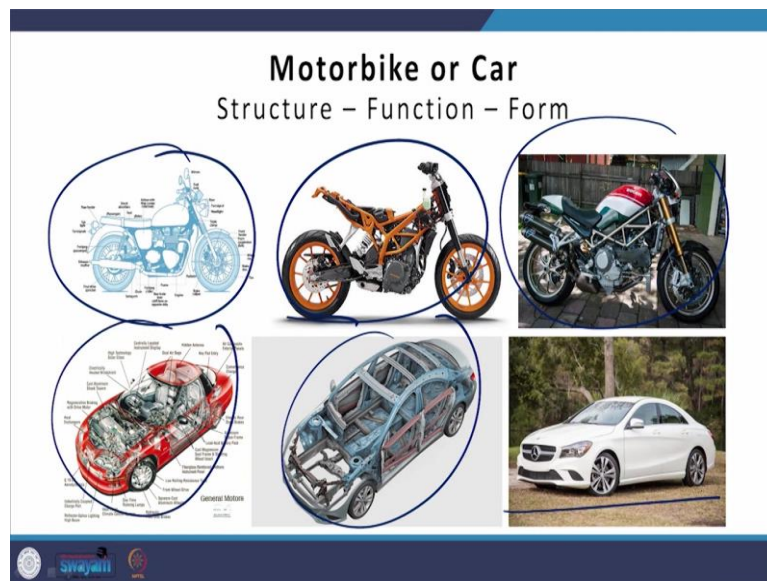
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The most important component of the writings of Vitruvius is said to be what is written in this slide, I would call it the Vitruvian triad, the three vertices of a very balanced equilateral triangle, three central themes, when we are preparing a building design and that is what he called as firmitas that is strength or we can call it structure, utilitas that is about functions we call it function, Venustas that is beauty, or we can call it in our modern language form an aesthetic.

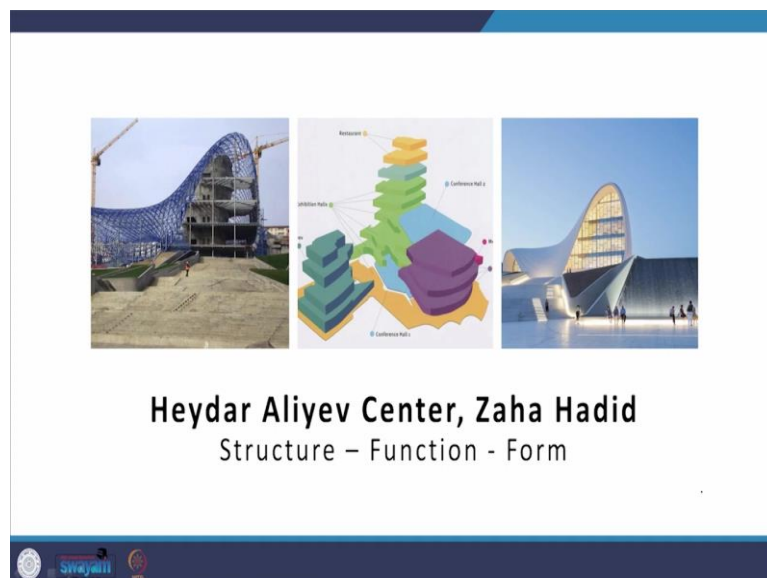
So three fundamental things, structure, function and form coming together in a very balanced manner. Create a good design now I am not saying building design I am saying design. Because, this principle holds true for every product that you see in your daily life. Let me just take you to some things that might be interesting to you.

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For example, look at a motorcycle or a car. This slide shows you that these three points are there. And these are all these products like a motorcycle as a structure. As you see here, this is the structure. This is the structure. This slide is showing you the various functional form components of the motorcycle. And finally, the form as it appears to us. Similarly, in a car, here is the structure. This is the function. And then this is what the car looks like on the form.

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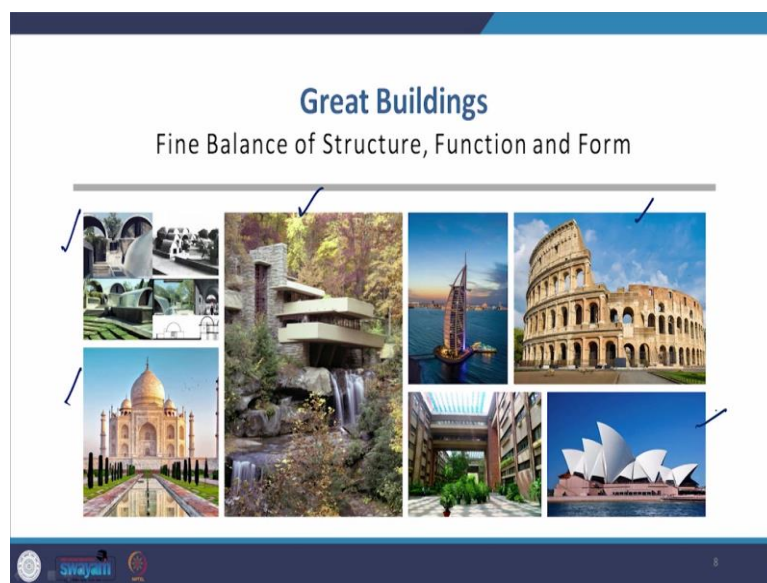
Now the same principle is there in many products, you can pick up any product design tutorial, we conducted our first year program, where we give our students that a problem that you can pick up any item, you can pick up a table lamp and you can pick up a table, you can

pick up a chair, you can pick up anything and try to identify its form function and structure element, how do they get identified. So let us now come to building design.

So let us take a very famous building of our modern times a Heydar Aliyev Center, in Azerbaijan by Zaha Hadid. And here it is, the structure, the functional organization of the center, and how it appears from the outside the form when these three components come together in perfect harmony. When a building has an attractive form or appearance, when it has a very well defined functional organization.

And when it has a very stable and safe structural system, then it works together. It generally always turns out to be a beautiful building. You can take up any building across the world, right from the ancient times in you will find that this holds true for all great buildings, there is a fine balance of structure, function and form.

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It can be, for example, the Colosseum in Roman times, or in our modern or later on in the Mughal times, the Taj Mahal or the probably the greatest house of the 20th century, the falling water or an Indian architects amazing work the Sangath by B.V Doshi Ahmadabad or it is John Woods on Sydney Opera House, the one iconic image of Australia or it is the Burj Al Arab in Dubai or the India habitat center by Stein in Delhi, all these amazing buildings, the one thing that holds true for them is the harmony of form function and structure.

This fine balance was seen in Indian architecture even in the past, when we look at our temple, and the chaitya halls and the Hawa Mahal and the Buland Darwaza or the Sanchi stupa different religions, structures from which they are coming out rather different religious

systems to which these structures belong, all coming in harmony with regard to their form, function and structure.

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And then to the present are airports, corporate buildings, institutional buildings, public buildings houses in this slide are some of the iconic works of contemporary Times of India and they also have this harmony of form functional and structure. Now, why am I talking about this, I should rather be talking about modern Indian architecture or other talking about that and why I am telling you this is that this will form the basis of our discussion of the buildings we will study throughout the semester.

We will try to see this harmony between form function and structure in our buildings. Now, I would not be able to say that we will be able to cover every aspect, but we will touch upon various aspects to see how they come together in buildings, whether function is just about the planning of the building or is it much more is it also about the services is it also about energy efficiency and other factors other influenced the design of a building, whether there is an integration of structure and form and function in a manner that we do not know where one ends and the other begins.

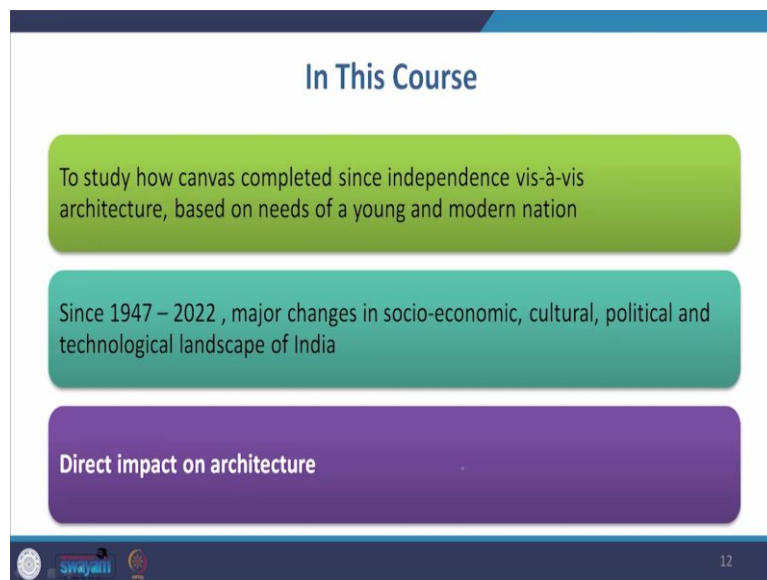
So, I have started by mentioning this because this I believe, is foundational to the understanding of any good building design. And when we study the progress or evolution of modern Indian architecture, this will always remain in the background.

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Now, the background, you see, when the British departed from India, they left behind an unfinished Canvas as John Lang says, for to reimagine and render herself in our own style up till independence, the Britishers had been painting this canvas, and there is some amazing architectural work that they left behind when they left India, but the Canvas was incomplete. So, it was left to us independent Indians to complete the canvas.

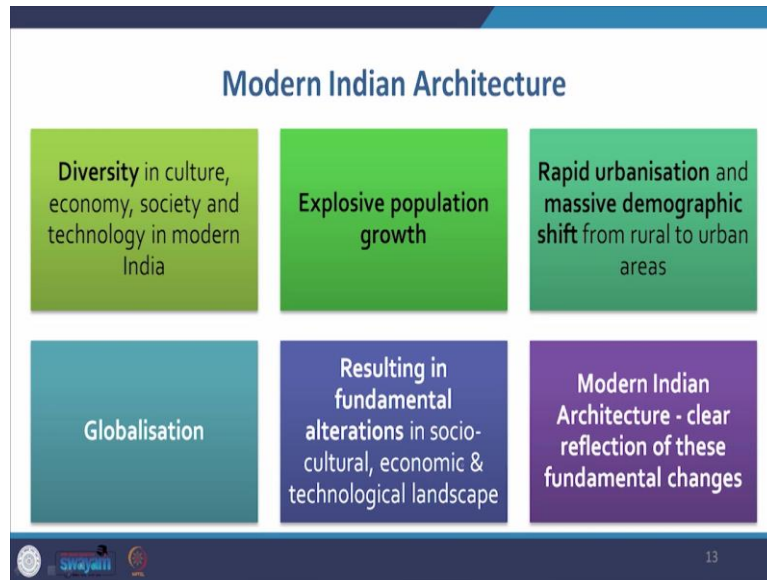
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This course, we are going to study how this canvas was completed or rather, I would say is being completed since independence, vis-à-vis architecture based on the needs of a young and modern nation. Since 1947, till 2022 today, major changes have taken place in socio

economic, cultural, political, technological landscape of India and that has had a direct impact on architecture.

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Now, modern Indian architecture per se, is influenced by the diversity of our culture, economy, society and technology in modern India, there is also explosive population growth, there is rapid urbanization with massive demographic shift from rural to urban areas. There is, of course, the great a big factor of globalization on top of it all. And this is all resulting in fundamental alterations in socio cultural, economic and technological landscape. And thus modern Indian architecture, which is a clear reflection of these fundamental changes.

Modern Indian architecture, as I said before, is a clear reflection of these fundamental changes. So, and I like to say one more thing here, and it I am not trying to be controversial here, I believe sincerely that architecture is not a driver of change, but it is driven by change. Architecture is not a driver of change, but it is driven by change when change takes place in our society, in our social cultural value systems, in our economic structure in our technologies in our materials, architecture also starts evolving accordingly.

Of Whatever little study. I have read of modern architecture, in globally and in India, I have always seen a new change, rather, a change in any of these things brought about a change in architecture. Now, of course, Winston Churchill is also true, who said, first we make our buildings in our buildings make us so that is, to a certain extent true. Recently, I was reading an article where they said that in sense, it is true with a limited window, that yes, the built environment can impact our behavior, but to a limited extent.



So therefore, when we studied these changes taking place around us, we get a very good idea of what architecture we have in front of us rather, when we will study modern Indian architecture in this semester, we will also be talking about these aspects in passing, they will be like the ancillary is we have the main thing, we will look at some of these changes, so that we can understand how these changes impacted the kind of architecture that arose. Why did why did it arise like that? It just did not come out of nothing.

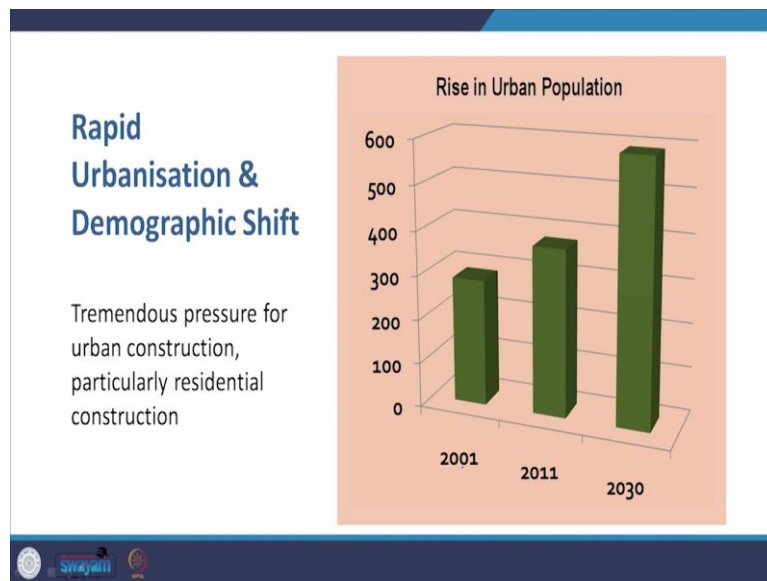
So why did it and also in the end, when we wrap up the semester, we will be able to look through the crystal ball, so to speak, and see that if these are the changes that are happening in these various areas? What kind of architecture can we anticipate in the years to come in our country, that I believe that those of you who are going to practice core architecture that is very important for you to know, what kind of buildings what kind of building typologies would we expect in the years to come?

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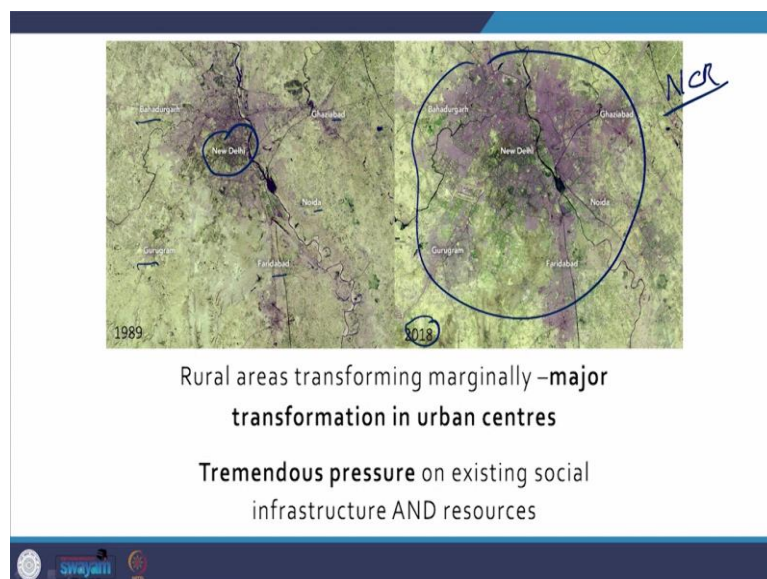
Now, let us take one of each of these points, just to look at it in real detail, explosive growth, how explosive is this growth 2012 We were somewhere around 1235 million, 1.2 billion people, we are expected to be we are going to be we are touching 1.36 plus billion in 2022. And this is going to rise but all it we see is that the this the speed at which the population is growing is somewhat, somewhat slowing down.

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The other big factor which has a tremendous implication for architecture is rapid urbanization and demographic shift. The tremendous pressure on urban construction, particularly residential construction, as you can see there is a rise in urban population. In 2001, our cities were occupied by around 250 million or let us say 25 crore people, this in 2011 shot up to something like 35 crore, and we will be touching close to 60 Crore by 2030. That is a very substantial chunk of Indians will be living in cities are already living in cities. Now, how does it impact actual city? How do the cities actually get transformed?

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Here is an image how rural areas transformed or other how New Delhi transformed. Rural areas are transforming marginally, but the urban centers are transforming in a very big way.

This is New Delhi, in 1989, right? So the areas near it Bahadur garh, Gurugram, Faridabad, Noida, Ghaziabad, they are all satellites, but that kind of strong linkage is not there. Now, look at the picture in 2018. And you find they are all the part of what is now called the National Capital Region, there is a tremendous pressure on existing social infrastructure and resources. Now, this kind of development has direct implications on architecture and planning.

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What is the changing face of our cities, these two images will clarify that to you, this was Gurgaon, I believe something like the 1980s 1970s, maybe a little earlier. And this is what is Gurgaon today. This was Mumbai in the 1980s. And the same shot taken from the same spot in today, this is what Mumbai is, all over this entire city has come up with this vast collaboration of these amazing amount of construction taking place. So, that is the aspect of urbanization.

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## Impact of Globalisation on Architecture

- Transforming cities and **homogenising built environment**
- Similar built spaces and buildings, **not responsive to regional contexts**
- **Disconnecting people/users from their built environment**



The slide features two images. The top image is a 2x2 grid comparing 'THEN' and 'NOW' architecture for four regions: Asia, Russia, Europe, and South America. The 'THEN' column shows diverse, traditional architectural styles, while the 'NOW' column shows uniform, modern skyscrapers. The bottom image is a grid of city skylines from various countries: Germany, China, Switzerland, Italy, France, New Zealand, Saudi Arabia, Russia, India, Japan, Nigeria, and the United Kingdom, illustrating the global spread of similar architectural forms.

Now, what is the impact of globalization, that is a global phenomenon on architecture in general, not just India, everywhere we are that is transforming cities, but it is also homogenizing the built environment. Now, let me just take a breather here and just tell you one thing, another takes a break and digress a little bit. Globalization is something, we cannot, it is inevitable, the more we develop our technologies and systems to draw closer to each other, for example, the social media that you spend your lives in day after day.

That is drawing people closer, we are able to very easily and very smoothly interact with each other all over the globe as one people. Therefore, this is here to stay. All the technological development over the past 20-25-30 years is leading has been leading to this when the pandemic happened, for example, not only the negative impact that will happen all over the globe.

But the positive part of it, the battle for the pandemic or against the pandemic is also a global fight. Similarly, other issues are, are now global issues, and global issues impact local issues. So globalization is just bound to happen with the way our world was going. But the negative side vis-à-vis the built environment is it has homogenized our built environment, it has left the built environment of our cities, neutral and faceless, we do not find in them any touch of the local culture or the local flavor.

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18

For example, if you look at this picture below us, I know how clear it is to you. This is an example of that one symbol of modern architecture all over the tall glass and steel building. So whether you look at Germany, or Netherlands, Japan or Indonesia, this picture shows you, it all looks so same, so similar to each other. So if this was the identity of Asia, Russia and Europe and South America then before globalization, this is what it has become now. It is all the same, right? Similarly build spaces and buildings - they are not responsive to regional contexts today, we have learned to circumvent them, for example, climate.

Now today, you build a building in the Middle East. So you build a building in Europe, you build it in India anywhere, we can make this picture this glass in steel building anywhere in the world, because we can actively control the indoor climate of the building. And therefore we do not need to depend on the outward or the external climatic conditions.

So, if we are in the hot Middle East at the cold Europe, or the hot and humid areas of other parts of the world or whatever be the climate, we have neutralized it. So, there is a disconnect of people from their built environment and from the regional realities.

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### The Global City – Visible Evidence of Globalisation

Uniformity rather than diversity of:

- Socio-economic structure and living standards
- Urban problems and demographic growth
- Building typologies, materials & technologies, eg. tall buildings in RCC, glass & steel



The slide features a grid of six images showing city skylines. The top row contains Gurugram, Mumbai, and Bangalore. The bottom row contains Singapore, London, and Chicago. Each image is labeled with the city name in a blue box below it.

19


So, the global city, there is a visible evidence of this globalization. These are images that I have picked up from different parts of the world, Gurgaon, Mumbai, Bangalore, Singapore, London, Chicago, if you look at these images, they all look the same. In fact, sometimes if I were to remove the caption beneath the picture, it would be very difficult for you to sometimes capture which city I am talking about, unless there was some iconic building that you remember that it belongs to a particular city.

So, there is this kind of homogeneity is there socio cultural uniformity, rather than diversity, vis-a-vis economic structures and living standards, urban problems and demographic growth, building typologies, building materials building technologies, for example, tall buildings in concrete, glass and steel all over the world.

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Impact of **Globalisation** on Modern Indian Architecture

- Made **architecture a faceless entity, devoid of regional diversities** of climate, materials and socio-cultural identities
- **Whereas required - to preserve existing built environment, interpret it and respond to it in a contemporary context**
- Reconnect user with his built environment



20

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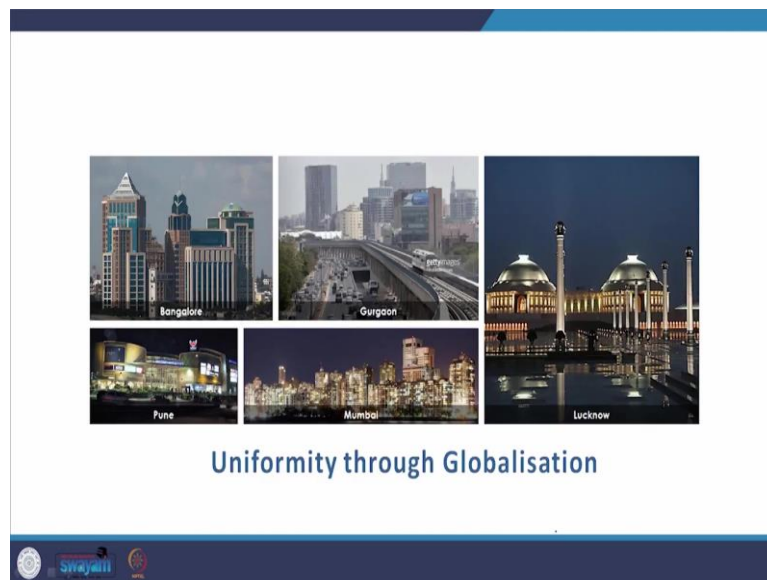
Now, the impact of globalization on modern Indian architecture is very much the same. It is made architecture a faceless entity, which is devoid of regional diversities with regard to climate materials and socio cultural identities. Whereas what is required of us was to preserve this existing built environment, but interpret it and respond to it in a modern or contemporary context.

So, if I were to try to clarify this point, the above image is of that faceless entity, Gurgaon any global city, but below in between. This is a picture of a traditional courtyard space, which has been lost. This is the regional identity that has been lost, but then you would say, but sir this is going to be lost because our technologies, everything is improving, we cannot stay in the past, we have to, you are right, we have to move on.

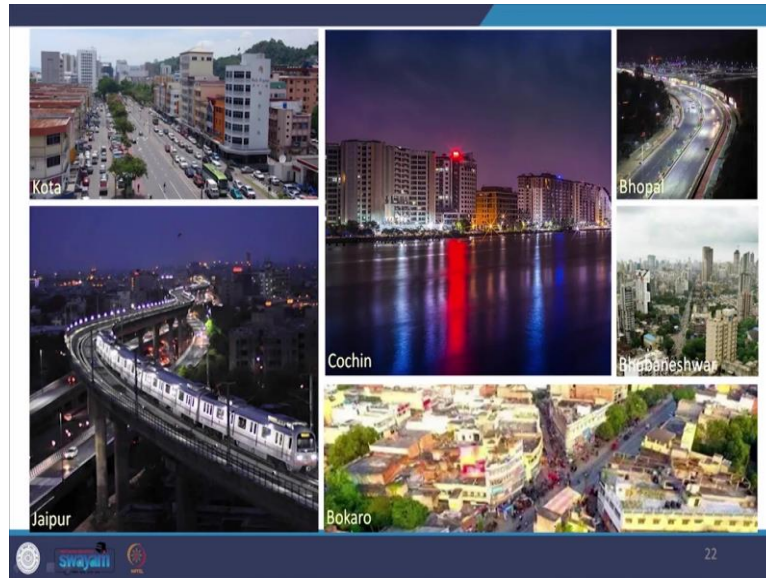
But what I am trying to say through this point is that we can preserve this existing environment by interpreting it and responding to it in a contemporary context. And that is one very important part of this semester that we will be focusing on how Indian architects have responded to the regional context.

This is an image of such a response. There is a picture of the British school by morphogenesis. And it shows a modern day courtyard. It is a modern building, but it is a regional modern building. So, there is a reconnect between the user and his built environment. We will come to this point later on in the semester.

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Now, we see this uniformity in India through globalization, whether you are in Bangalore or you are in Lucknow, or any other city, whether you are in these cities, which are even type two type three cities like Cochin, Kota, or Bokaro. They are they all look same.

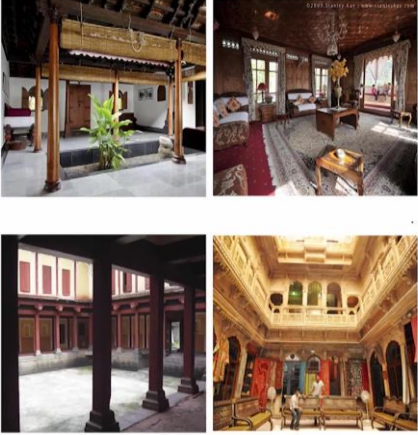
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But traditional Indian architecture was not like that. It was defined by these variables like culture and climate and local materials, let us just take the distinct identity of the Indian traditional house. So, we have the house in Himachal Pradesh, we have the house in Kerala, we have the house in Rajasthan. And I believe this I think this is in West Bengal, or similar terrain, but what I am trying to focus on is the diversity of our materials and cultures and climatic conditions not about a diversity of houses and diversity of expression of these houses.

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Traditional Indian House – Interiors



24

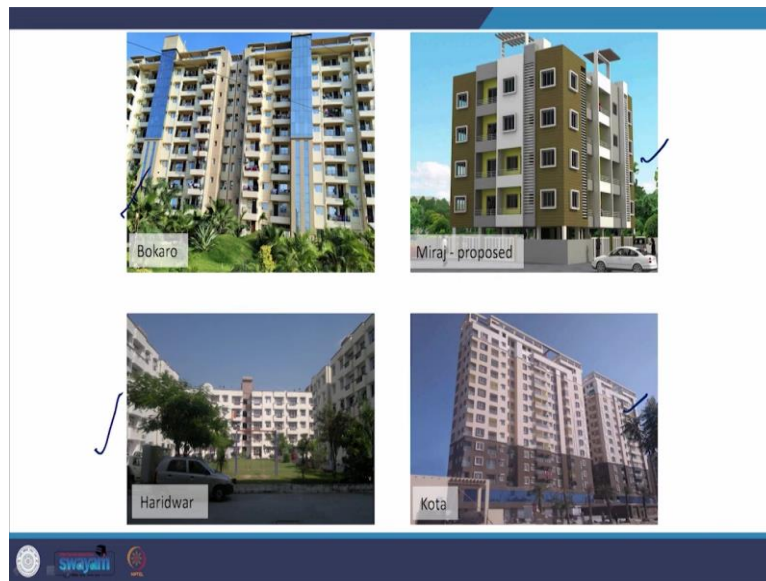


Gurugram Bangalore Mumbai Pune

Uniformity in Modern Indian Housing

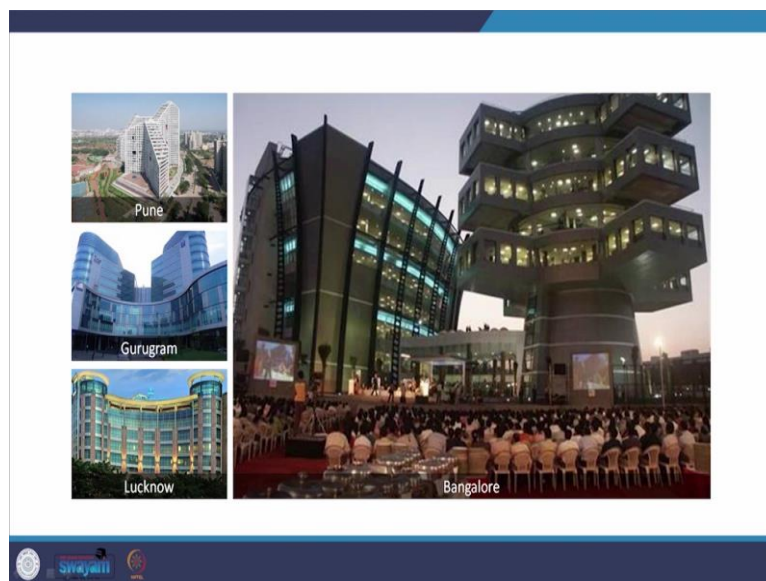
Similarly, the diversity of interiors, if there were courtyard spaces or any other kind of space within each reflected regional identity, but when we look at modern day housing in India, there is this uniformity under the label of globalization, whether any of the cities of India and not only that, you can pick up housing in any part of a third world or even in the first world, barring a few changes here and there, they are pretty much alike, they are pretty much alike.

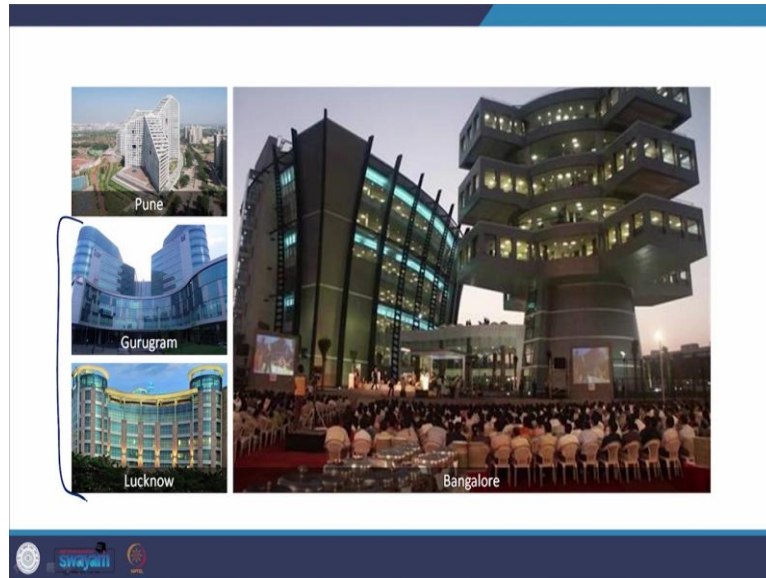
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In the Tier one tier two tier three cities of India, that they are alike, whether it is a small place called Miraj, where this particular apartment that you see here is proposed or it is in Kota or even in haridwar or in Bokaro there is not much difference.

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Not only houses, but even if we look at other buildings, institutional and corporate buildings, we do find that there is a homogeneity in some cases with regard to the glass and steel architecture. But there is a kind of an exception here in this slide because we do find buildings that are also iconic, and they are not exactly reflecting that global facelessness they are modern Indian buildings. This is another example in Pune. We will discuss about this also because both things are coexisting.

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Now, there are fundamental alterations that we were looking at, there are these ironies in India this the slums on one side and the skyscraper on the other, the rich and the poor living in close proximity to each other. Then there is the coming in of the high tech and green buildings, there is contemporary interpretations of traditional concepts as I just talked about a

little while back, we will be looking at all these factors that are in this cauldron of what is called as modern Indian architecture.

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**Traditional Indian architecture**

Had clear regional identity – **Rajasthani Haveli**, **Naga Hut** of Nagaland, **Kat-kuni House** of Himachal Pradesh or **Nalukettu House** of Kerala

The slide features four images of traditional Indian architecture: a Rajasthani Haveli (top left), a Naga Hut (top right), a Kat-kuni House (bottom left), and a Nalukettu House (bottom right). Each image has a blue checkmark next to it. The slide also includes a logo for 'Swayam' and the number '30' in the bottom right corner.

Again going back to the traditional Indian architecture, here we have this clear regional identity of Rajasthani Haveli or a Naga Hut in Nagaland or a Kat-kuni house in Himachal or a Nalukettu house in Kerala.

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**So**

Is there a contemporary Indian architecture...that stands out...

In this **confusion of styles and identities** that shout daily for attention?

The slide features four images of contemporary Indian architecture: a modern high-rise building (top left), a modern building with a curved facade (top right), a modern building with a glass facade (bottom left), and a modern building with a glass facade (bottom right). The slide also includes a logo for 'Swayam' and the number '30' in the bottom right corner.

**Traditional Indian architecture**

Had clear regional identity – **Rajasthani Haveli**, Naga Hut of Nagaland, **Kat-kuni House of Himachal Pradesh** or Nalukettu House of Kerala

30

So, then, is there a contemporary Indian architecture that stands out? See, this stands out, each and every one on these buildings stand out? They speak to us of a people they speak to us of an identity. But does this do any of these buildings speak to us of a region or an identity, it speaks to us of a global homogeneous faceless identity. In this confusion of styles and identities that shout out for our daily attention is a something that really stands out for us.

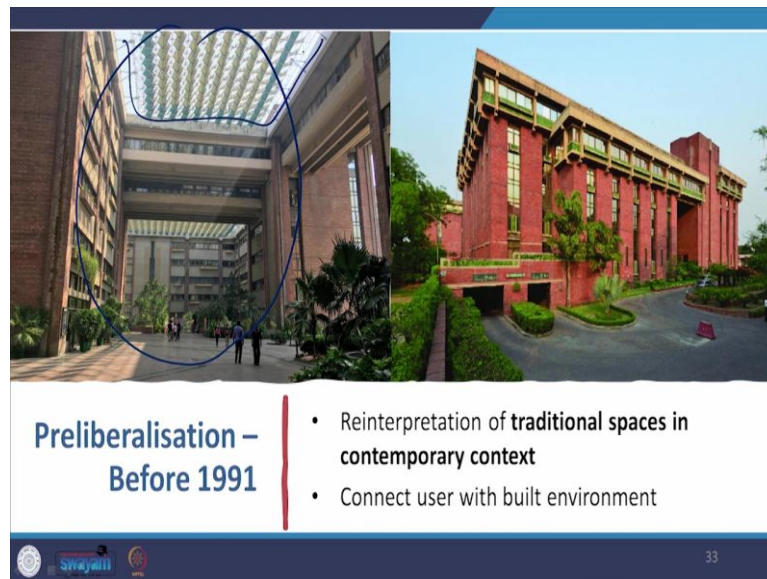
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**Contemporary Indian architecture**

Distinguished by **consumer capitalism** replacing decaying functionalism of socialist city

Contemporary Indian architecture is also distinguished by consumer capitalism that is replacing the decaying functionalism of a socialist city that was a part of the early years of India in the 60s and the 70s. So, this is a part of the socialist program. And this is post liberalization in 1991. The Global Program, the liberalization program, the capitalist program.

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Pre liberalization before 1991 Indian architects did respond in a wonderful way, by reinterpreting traditional spaces in a contemporary context. This is an iconic building the India habitat center by Joseph Allen Stein, it is tremendous connect between the user and his built environment. Here we have a courtyard space where it is a modern courtyard. It is got a roofing system that is entirely modern high tech version of roofing system over this expansive courtyard.

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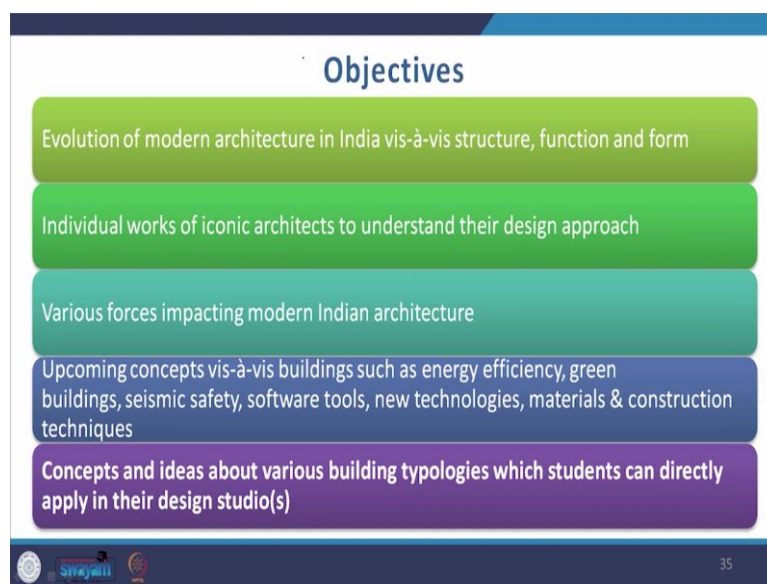


But post 1991 liberalization, we have an architecture of a consumer culture, this endless novelties with features that are devised to maximize development, evade compliance with regulations, hide flaws and satisfy or satisfy the whims of both the architect and the client.

Now, I am not saying that such things did not exist pre 1991. Of course it did, what I am trying to say is, today we see there is a literal boom of this consumer architecture in our country.

So, should we reject it? Should we say it is bad and cast it in the dustbin? No, we cannot. As students of architecture, we need to study it, we need to find on what is good about it and learn from it. So, we come to the objectives of the semesters modern Indian architecture, we will be studying the evolution of modern architecture in India, vis-a-vis, the three fundamentals given by Vitruvius structure, function and form.

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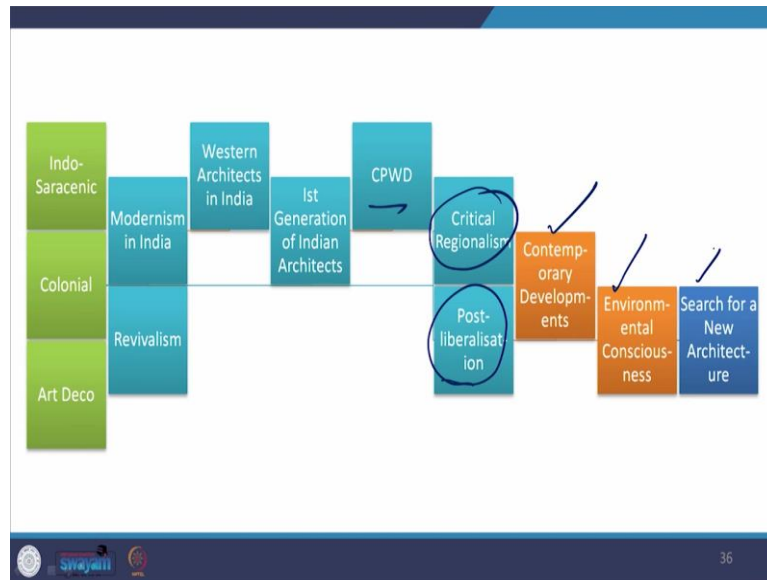
We will be doing that by studying individual works of iconic architects to understand their design approach. Now, let me just take another step and tell you one more thing is this study of modern Indian architecture? It is not a history book study. I am not trying to go I am not going to teach you history. That is not my objective. My objective is, yes, we are studying this historical evolution from pre independence down to 2022. But why? The objective being that we learn from it, we gather lessons from it.

What are the various forces like point number three objective, the various forces impacting modern Indian architecture, upcoming concepts vis-a-vis buildings such as energy efficiency, green building, seismic safety, software, tools, technologies, etc. concepts and ideas about various building typologies which students can directly apply in the design studios and that I believe is the biggest point that we have as an objective that you can learn and apply it in



your design studios, that you can learn it can become a part of your design thinking or your design process.

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This is broadly what we will be covering. We will be beginning with indo- Saracenic colonial and Art Deco pre independence. Moving on to just about after independence on to modernism in India and revivalism. Then we look at Western architects in India. In their contribution, we look at the first generation of Indian architects will look at the contribution and the works of CPWD.

We will move on to critical regionalism or regional modernism, then we will be parallely studying about post liberalization era, we will be looking at contemporary developments, we will then come down to studying environmental consciousness and other factors related to that.

And finally, end by the search for the new architecture in India. So this is in general the profile of what we will be going through in this semester on the study of modern Indian architecture. Thank you so much for this time that you have given me today.

And I do hope that this will be a thrilling semester for both you and me that the person assisting me is a friend and research scholar, his name is Farhan Asim. He is supporting me in building this program course for you this semester. And both our intent is to bring it to you in a manner that will make you think they will make it exciting for you. When you look at the development of modern Indian architects. Thank you so much.

