

Modern Indian Architecture
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Lecture 28
Critical Regionalism in Indian Architecture – Part 1

Hello students, we will continue our study of critical regionalism. And today, we will go beyond the introduction to look at critical regionalism in Indian architecture. And there will be a series of at least four presentations, where we will talk of buildings that were under the classification of critical regionalism.

Now, you might be wondering that now we have reached, we have done a very large chunk of this course, and much of our course has been concentrated on concepts and evolution ideas of modern Indian architecture. The range of various ideas and concepts that have shaped the creation of a modern Indian architecture.

And that is very true, that our focus till now we have looked at very few buildings in the 21st century, we have touched upon building all the way up to the 1990s, we have looked at a couple of buildings, a few buildings beyond that also, the reason why that is happening is one is that whenever we look back for the study of architecture, we get that window of let us say, about 15 to 20 years in which the building has already been used, it has already been in existence, and people have been able to study the building, observe the building, and its behaviour, and the response of the people in general. And much has also been written about that building.

So, that gap is also important when we are doing a study like this. So, for example, some building is just come up in the last maybe 5 or 10 years, there will be very little information available to talk in detail about that. But we will touch upon several examples like that in passing, so that you understand how the current architecture is evolving. The other thing is that these ideas that I am talking to you about form the basis of much of what modern architecture and modern buildings are. Now, that is not just true for India, it is true for buildings across the world.

If you look at the works, which are extremely curvilinear, or fantastic forms that you see today, being produced by a range of architects, you will look at the core concept behind it, and you will be taken back to the very foundation of modernism, free flowing spaces for example, is a concept that came in modernism. Of course, that space is being expressed in many ways today, but the core idea remains the same.

The reason why the buildings have become such amazing forms today is primarily because of the kinds of digital technology that we have, software tools that we have, that are able to capture our imagination, on paper, or let us say on the computer screen.

The other thing is, of course, the advancement in building construction technology and structural technology that makes such buildings feasible today, right from the time of the industrial period, somewhere around the middle of the 19th century, when structural engineering became a separate branch from architecture in Europe, and through structural calculations took the place of empirical hit and trial methods, right from then onwards structures, and the understanding of structural design analysis is evolved.

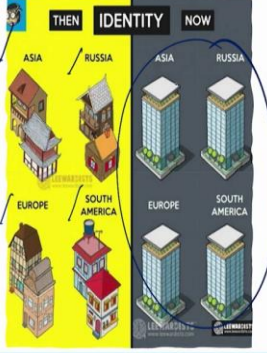
And now it is come to a very advanced stage, it is also being aided by immense amount of software technology that makes mundane calculations much more easier and faster to perform. And that is why many more imaginative structural solutions are possible today because of that. So, the growth and the evolution of forms, and the kind of the buildings we are seeing today has a lot, which is because of advancements in technology.

So, is there a new concept coming up? That redefines when modern houses, modern corporate buildings, very limited, conceptual changes have happened. They have happened, there is no denying that and if it does, someday, you get an opportunity to study modern world architecture. You will see some of these concepts being brought forth in those buildings in the 1980s in the 1990s.

In India, I believe that one of the dominant trends has been this combination of modern with regional architecture, most of the iconic works that we see around us, or that we remember or that is being talked about in academic circles, and that are lot of raving reviews written about them are predominantly in the category of regional modernism or critical regionalism. So let us go back again to this.

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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

2

2014 What is the national spirit today?



A placeless, rootless identity

3



Louis Kahn ~ Anant Raje (NDC) Corbusier ~ Shivnath Prasad (Akbar Hotel) Gropius ~ Kanvinde (ATIRA)

Direct Impact of Masters and Modernism

3

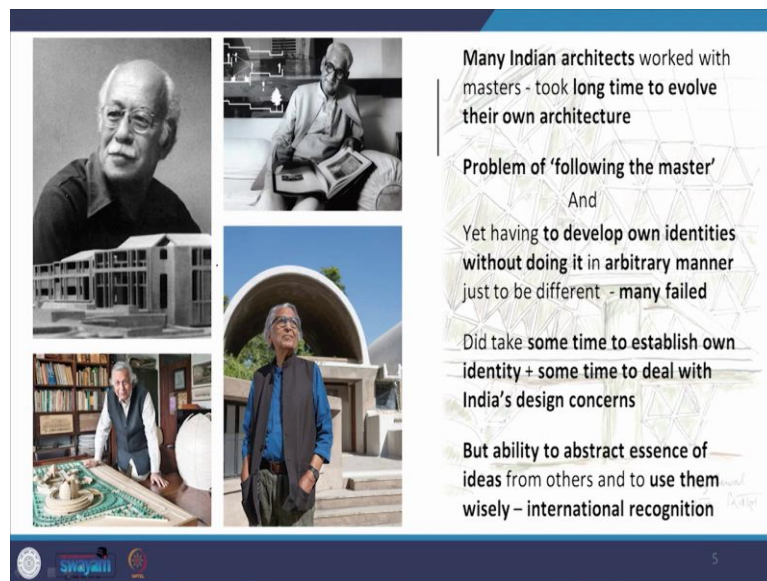
When what has been the impact of globalization on architecture? In India post 1991, transforming cities has led to a homogenizing built environment globally, there are similar built spaces and buildings that are not responsive to regional contexts.

Look at this, the picture that is on the side, if you consider the architecture, then in the past, then Asia was different from Russia, from Europe, and South America, each one had its own regional identity. But then, because of modernism, this is what happened. It became homogenised, the advantages of modernism notwithstanding, the fact that modernism brought in functional, better buildings suited for industrial society, notwithstanding the fact it still remains that these buildings had a rootless, placeless identity.

And when you look at them, you do not know whether the buildings are being made in Asia, or South America, or Europe. So, it disconnected people from their built environment. What then was the ideal solution, this is what I mean by place this rootless identity, look at these glass and steel buildings, whether it is in Germany, or Nigeria, or the UK, or Italy, all of them look the same. So much so that if I were to just to show you a photograph of a glass and steel building, it would be next to impossible for you to identify where that building comes from.

But if I were to show you a picture of a regional building, with regional architecture, in many cases, you will be at least able to peg the picture to very close to where it belongs. So there has been a direct impact of masters in modernism in India, and Louis Kahn has directly been interpreted or taken forward by Anant Raje, we see the direct impact of Corbusier on the work of Shivnath Prasad in the Akbar hotel, we see the direct impact of Walter Gropius on the works, early works of A. P. Kanvinde in ATIRA building.

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Many Indian architects worked with masters - took long time to evolve their own architecture

Problem of 'following the master'

And

Yet having to develop own identities without doing it in arbitrary manner just to be different - many failed

Did take some time to establish own identity + some time to deal with India's design concerns

But ability to abstract essence of ideas from others and to use them wisely - international recognition

But there were many architects to work with the masters. And they decided that they needed to evolve, the very reason that led to the creation of an architecture in modern Indian architecture with the regional identity that these people who had worked with the architects, or the master architects, or studied under them. They wanted to move forward. But it took a long time for them to evolve their own architecture, by long time I mean period of a couple of decades to really have a very strong footing in a style that was their own.


The problem was of following the master and yet having to develop their own identities, without doing it in an arbitrary manner, just so that they would appear to be different. And this very reason of some wanting to be different from what they had received from the modernists led to their failure, they could not bring about a change that could be maintained consistently. But there were others who brought in change that had a very solid foundation of concept and reason behind it.

It did take some time for them to establish their own identity, and some time to deal with the concerns of a growing young India. But the ability to abstract the sense of ideas from others, particularly from the west and the modernism of the west, and to use them wisely, brought them international recognition.

Now, I not only mean abstraction from the sense of the western architecture or modernism from the west, but also drawing the essence of traditional vernacular architecture and interpreting it for a new period that brought them international recognition. People like B. V. Doshi, Joseph Allen Stein, Charles Correa, Raj Rewal, to name a few.

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Continuing Impact of Masters and Modernism Through Works of Indian Architects



Swayam

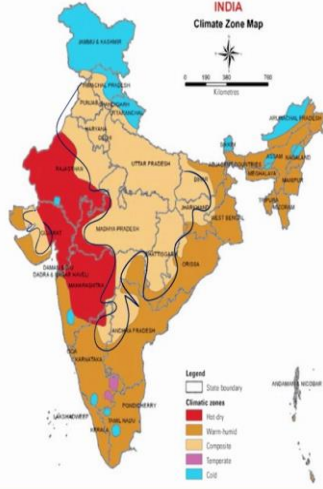
Complexity for a Modern Indian Architecture

- Enormous regional, climatic, geographical and cultural variations
- Fundamental differences in building materials + methods of construction and design approaches
- Many building types needed, from EWS housing to modern industrial plant

➔ Not feasible to have an architecture applicable to whole of India

Swayam

Enormous regional, climatic, geographical and cultural variations



Swayam

Now, there has been a continuing impact of masters and modernism that is seen through the work of Indian architects. These are some of the buildings from the 1980s all the way into the 21st century and this reflects either a very refined form of brutalism, like this work of Matharoo associates. This is the school of planning and architecture at Hyderabad. And this is the modern school that I have talked to you earlier. This is the Indian institute of forests management by Anant Raje that clearly shows the imprint of Louis Kahn.

So, there is a complexity for a modern Indian architecture, what is that? Why is modern Indian architecture very complex creature? Modernism on the other hand, has a very neat and clean palette. The points are very logical and rational, clearly defined, and globally used. But when we come to a regional approach, we are faced in India, which is India, if you talk about size and geographical reach of India, it is more or less as if you are talking about an entire continent like Europe.

So, in India, there is enormous regional, climatic, geographical and cultural variations. There are fundamental differences in building materials and methods of construction and design approaches in different regions of India, right from traditional vernacular architecture, and many building types are needed today and that is the need of a modern India from economically weaker section housing to modern industrial plants and corporate buildings.

Therefore, because of this vast variations in building typology, in regional variations, cultural variations, climatic variations, topographical variations, it is not feasible to have an architecture that is applicable to the whole of India, what are these variations?

There is an enormous regional, climatic, geographical and cultural variations, enormous climatic variations, we are talking about a climate zone map, where we have hot and dry, warm and humid, composite, this is the single largest belt that you see in India is of composite and then there are other pockets, then there is temperate and cold. Composite within itself this got 5 seasons in it. And not only that, composite within itself is not consistently the same from one part of the common region under composite climate to another region, there also there are variations.

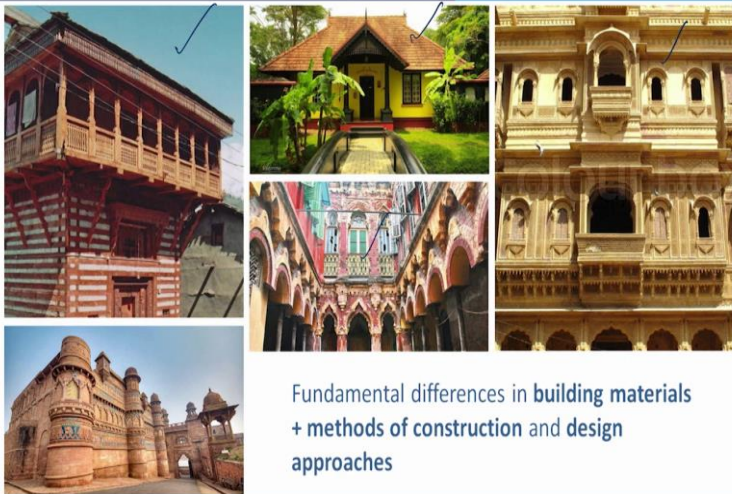
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Enormous regional, climatic, geographical and cultural variations



Enormous regional, climatic, geographical and cultural variations



Fundamental differences in building materials + methods of construction and design approaches





Then there is enormous regional and geographical variations, whether we are talking about the mountains, we are talking about the backwaters of Kerala, we are talking of the desert of Rajasthan, or the plains of North India, these are varying topographies, from hills to the sea, from desert to green plains. We are talking of enormous cultural variations, the so called thali, the basic full meal, which is from different regions of India, the cuisine varies so tremendously, and it is so unique and so interesting.

And therefore, an over and above that there is a fundamental difference in building materials, methods of construction and design approaches. So, if you are talking about a building in the hilly areas of Himachal for example, or Uttarakhand.

For example, or you are talking of Kerala, you are talking of Rajasthan, you are talking of Bengal, we are talking of different materials, different ways of representing the material, different methods of construction and different approaches of design, you cannot have a courtyard planning in the hills, just as you cannot have a completely enclosed building in composite climate or even in Kerala. In Kerala, you would require immense amount of cross ventilation because it is so hot and humid. So, we have to factor in these variations. That was not really happening in modernism.

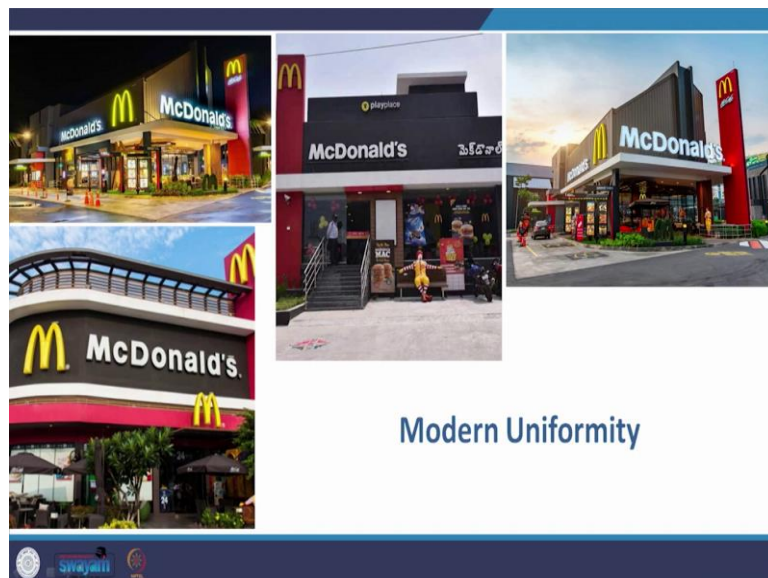
Now, if you reflect back on the lectures I have given you earlier days, remember I told you, every one of those architects who came, who ventured into India in the modernist period, whether it was Corbusier, Kahn or even earlier than that, Lutyens and Baker and others, all of them had to build their architecture around an Indian climatic response.

Even Indian architects who brought in modernism as is in India. For example, A. P. Kanvinde, Habib Rahman, and for example, Chitale in South India, they also had to modify their buildings to suit climatic conditions. The ATIRA building is a very direct correlation with the Bauhaus. I have talked about that earlier. The glass curtain walling of Bauhaus cannot be put in the ATIRA building. So that modification has to happen.

And there is a tremendous range in the types of buildings that we need, as I just mentioned to you earlier in the pre liberalisation time also vast range was needed from projects. As we have talked about the economically weaker section project of the Ananya low- cost housing or the so called or hospitals like the AIMS, or apartment buildings like the Kanchenjunga or modern 5 star hotels like the Meridien in Delhi, an industrial plant like the Dudhsagar dairy by A. P. Kanvinde and the NDDDB building, which is a corporate office of NDDDB in Delhi again by Kanvinde.

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And the same tremendous range continues post liberalisation, whether it is a hotel, or it is a hospital, or it is a residential apartment block, or a corporate building, or EWS housing. So, so many variations have to be factored in.

But modernism, on the other hand, brings about uniformity. In these pictures, a series of pictures of cities in India, and there is one picture of a city from Europe. But if you look at it, unless you have a very fine eye for a particular building, that represents a city, you cannot identify which is which, for example, this is Mumbai, this is Kolkata. This is Bangalore, this is Gurugram. This is Frankfurt, if I were to switch the terminology, if I were to switch it and tell you that this is, let us say, Mumbai, from a different angle, if the picture was taken, it may not have been so easy for you to identify that.

One of the ways for example, I would identify this picture is because I know this building, this is the Commerce bank by Norman Foster. And so I know I am looking at a picture of Frankfurt. But in general, if I were not to even mention the names, you would be hard pressed to identify which city it is globally, or even within India, that is modern uniformity for you. Even a simple thing or other that which is a cultural icon of today, the big M sign of McDonald's all over the world. So difficult for us to identify where these eateries are, in which city of the world all represented by the uniform architecture of McDonald's.

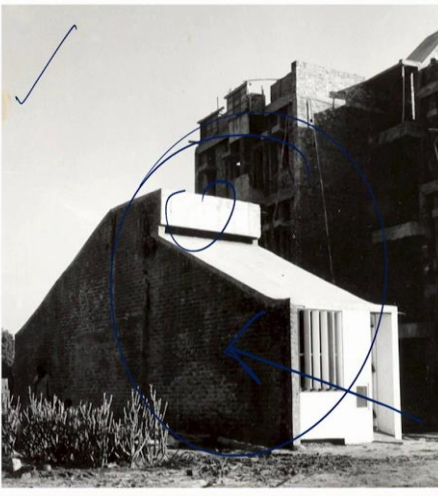
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Indian architects **moved away from direct influence of Masters**


Begun - climatically + culturally appropriate designs – for 'Indian' problems

Issues – climate, heat & dust + winter chills; social context - increasingly important in designing buildings

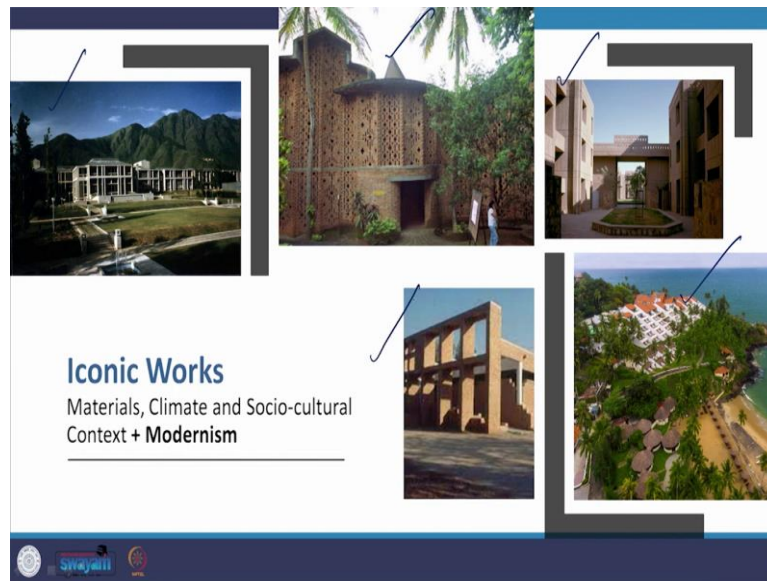
Also, **important – erecting building quickly within tight budget**



Iconic Works



Modernism + Local/Regional architecture




So Indian architects moved away from this direct influence of modernism or the masters, and began to work with climatically and culturally appropriate designs that were suited for Indian problems and Indian situations. The issue was also to do with climate, heat and dust, winter chills, social context, increasingly important issues with regard to designing buildings in India.

This project that you see here is a prototype house called the tube house. This was designed by Charles Correa, and it has a fantastic stack effect of taking air in and bring the hot air out from the top this vent that you see. So, the cool air moves in and creates a convection current inside and it brings it creates a passive cooling and breeze within the house without the need of mechanical ventilation, mechanical cooling. So, it is also important to erect buildings within a tight budget that was also very typical Indian constraint. And particularly in the early years of the 70s and the 80s.

Now iconic works that were built by these architects of that generation, which is a combination of modernism plus local and regional, local slash regional architecture. They were connected with either materials, climate, and socio cultural aspects, in many, many cases, all of them put together.

So, some of the iconic words that came up, which was a consequence of the use of materials and climate and socio cultural context is this work in Kashmir by Joseph Allen Stein, this building by Laurie Baker in Trivandrum in Kerala, this is the Asian Games housing by Raj Rewal, this is the Kovalam beach resort by Charles Correa, and this is the brise-soleil of the I believe the Jodhpur University by U. C. Jain.


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Role of Maisons Jaoul Le Corbusier

Stylistic principles evolving in his monumental projects back to fundamental architectural test - the house

When load bearing masonry construction the norm – he said 'Five Points of a New Architecture' – Prefabrication and Standardisation



From Villa Savoye to Maisons Jaoul - 1928 to 1955

But rejected his own ideals regarding appropriate form in machine age – 'House is a machine for living in' (Toward an Architecture, 1920s)

Concepts of modernism retained, but Modern + Old

White planar geometry ~ exposed brick and concrete

<https://www.youtube.com/watch?v=xJAQTFldPNO>

Now one house made a vital impact on Indian architecture in more ways than one, not only in Indian architecture, but globally. Now, of course, there are many such buildings. If you were to start studying them as case studies, you would find that they had a very definitive impact in the way modern architecture got shaped in the 20th and 21st century, but let us talk about one.

The role of what is called as Maisons Jaoul a set of two houses built by Le Corbusier in the 1950s in France, Maisons in French means a house. So, this is the Jaoul houses, the stylistic principles evolving in his monumental projects were again studied by him fundamentally in that one fundamental architectural test the house.

That is one thing I would like to add here is that most architects of repute have generally tested their initial concepts and principles via a small project, which generally always tends to be a house whether it is F. L. Wright or Corbusier or many others, because a house is a very simple unit without much complexity of technology etcetera, where the architectural idea or the concept can be tried in its pure version.

So, when we are talking about the work of Corbusier over which his entire foundation of his early style was built, or the international style was built, it lies in his idea of the domino system and the villas that he built ending with the summation which was Villa Savoye, the five points leading to the nine points of a new architecture.

So, coming back, the new ideas that he tried post World War II with that of brutalism with that of mass housing projects like Unite d'Habitation, the use of more sculptural forms, the use of more rugged and heavy mass in architecture, the impact that climate had on its buildings for example, in India.

Now, all those ideas and principles that came in went back into the design of Maisons Jaoul when load bearing, because remember, when load bearing masonry was the norm in construction, it was at that time that he talked about the five points of a new architecture and talked about prefabrication and standardization that has continued to be buzzwords in modern architecture, from that time and even from earlier onwards, going back all the way to the Crystal Palace.

But he rejected his own ideas regarding the appropriate form in the machine age, which he said was a house for is a machine for living in, and his concepts of modernism were retained. Unite d'Habitation, for example has a pilotis, we find the appearance of the pilotis even in the Capitol Complex buildings of Chandigarh, we do find the fundamental ideas of five points of new architecture in his later buildings.

But now what he did was he combined the modern with the old, the white planar geometry, for example of Villa Savoye was now being replaced either by exposed concrete or exposed brick and concrete as in Maisons Jaoul. So, this is the movement from 1928 Villa Savoye to 1955 Maisons Jaoul.

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From Villa Savoye to Maisons Jaoul

Flat roof ~ Catalan vault

Open plan ~ Load bearing brick walls



This slide features architectural drawings and photographs. On the left, there are floor plans and a section drawing of Villa Savoye, showing its iconic flat roof and open-plan layout. On the right, there are two photographs: the top one shows the interior of Villa Savoye with its flat roof and open-plan living area, and the bottom one shows the exterior of Maisons Jaoul, a modernist house with a flat roof and brick walls. A blue checkmark is placed above the Maisons Jaoul photograph.

From Villa Savoye to Maisons Jaoul

Isolation ~ Proximity

Pilotis ~ Closed plinth

Roof gardens



This slide contains four photographs. The top-left photo shows the exterior of Maisons Jaoul, a modernist house with a flat roof and brick walls. The top-right photo shows the exterior of Villa Savoye, a modernist house with a flat roof and brick walls. The bottom-left photo shows a roof garden with a white wall and a small tree. The bottom-right photo shows the exterior of Maisons Jaoul with a blue circular graphic overlaid on it.


Maison Jaoul to Sarabai House 1955

Exposed brick and concrete

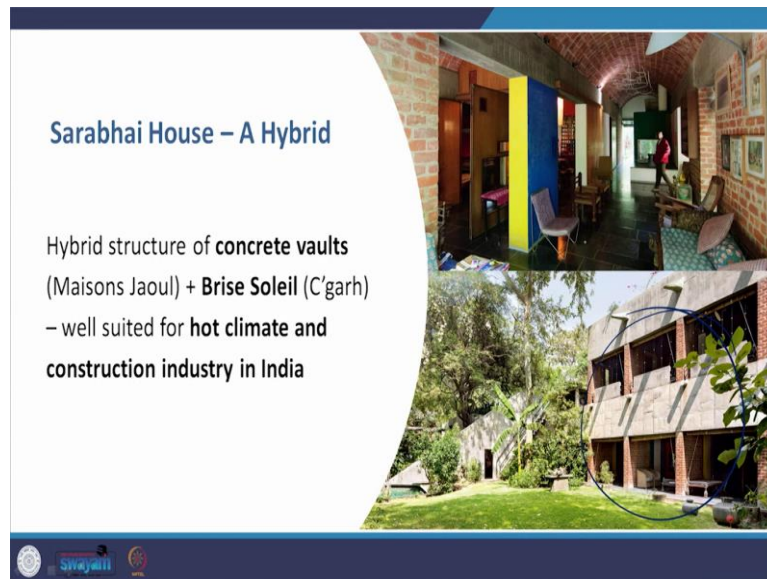
Catalan vault – structural system with bays

Greenery

Primary colours



This slide features four photographs. The top-left photo shows the interior of Sarabai House, a modernist house with a flat roof and brick walls. The top-right photo shows the interior of Sarabai House with a wooden floor and a brick wall. The bottom-left photo shows the exterior of Sarabai House with a swimming pool and a slide. The bottom-right photo shows the exterior of Sarabai House with a brick wall and a green lawn.



Now, again the comparison in the structural and construction system. This is a flat roof of Villa Savoye. But in Maisons Jaoul he goes in for a Catalan vault, and instead of an open plan that was achievable through the Domino system of an RCC frame, he goes in for load bearing brick walls, which are supporting the Catalan vaults.

Instead of the isolation of a project like the Villa Savoye. He goes in for proximity of these two units, two houses, which form the Maisons Jaoul, instead of the pilotis, he goes in for a closed plinth, but both of them possess a roof garden. This being a more traditional version of roof garden vis-à-vis the Villa Savoye.

Then again, we find exposed brick and concrete, now let us compare Maisons Jaoul vis-à-vis Villa Sarabai. Because Villa Sarabai is a direct so to speak, connect with Maisons Jaoul approximately the same time 1955, both have exposed brick and concrete, both have Catalan vaults supported by load bearing walls which formed the structural system with bays within Maisons Jaoul as well as the Sarabai house. Both possess dense greenery and in this case, of course there is water also in Villa Sarabai and both use primary colours in the interiors.

Sarabai house is a step forward because it is a hybrid, in that the hybrid structure of the Catalan vaults or the concrete walls of Maisons Jaoul attached with or to that was added the brise-soleil of Chandigarh and this brise-soleil was not needed in Maisons Jaoul, it was not needed in the climate of France, it was needed in the hot climate of Ahmedabad, and also suited for the hot climate and the construction industry in India. So, we do find these deep verandas in a sense of brise-soleil being created in the Villa Sarabai.

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Maison Jaoul to Sarabhai House

Two units/wings perpendicular to each other

The slide displays a set of architectural drawings for the Maison Jaoul to Sarabhai House. It includes three floor plans labeled 'Piano del secondo piano', 'Piano del primo piano', and 'Piano del piano terra'. There are also two sections labeled 'Sezione 1' and 'Sezione 2'. A small note at the bottom reads: 'Piano del primo piano in scala 1:50. La parte della linea è illustrata con un set senza indicazione del 100 per cento, perché solo illustrativa per un progetto.' The drawings show two perpendicular units and a central courtyard area.

Maison Jaoul to Sarabhai House

Two photographs of the Sarabhai House. The left photo shows a close-up of a concrete vaulted structure. The right photo shows the exterior of the house, which is a multi-story building with a prominent rooftop garden and arched windows.

Vaults, once waterproofed, covered with earth and...

...Upper part of house becomes magnificent garden

A collage of five images: a black and white photo of a staircase, an interior view of a room with a vaulted ceiling, a floor plan, a swimming pool, and an exterior view of the house with a garden.

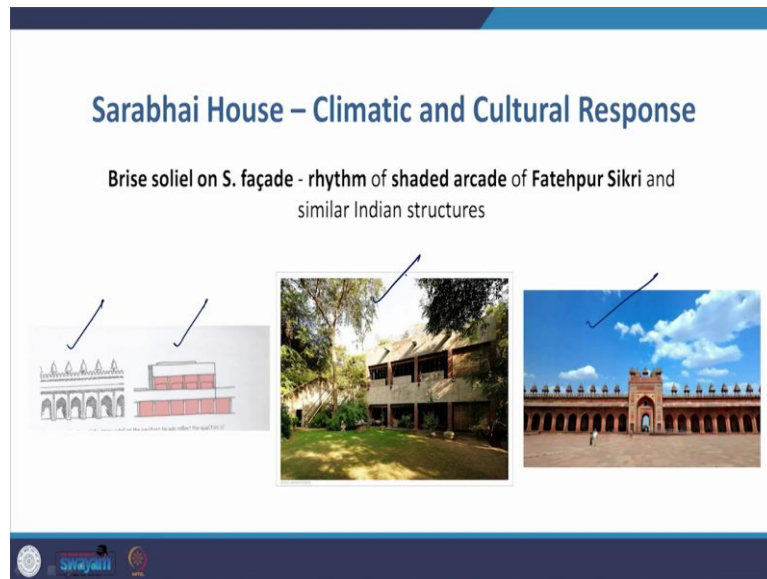
Sarabhai House

Vaulted system – control of internal climate

Rooftop garden – increases thermal mass and reduces heat gain

Vaulted interiors – easy flow of cool monsoon air through interior

Swimming pool + shaded verandas + cool black Madras stone – passive cooling system



Then again the two units or wings , in the case of Villa Sarabai, there are two wings, which are perpendicular to each other, they are perpendicular to each other. Whereas, in Maisons Jaoul, there are two houses that are perpendicular to each other.

The vaults in both cases once waterproofed are covered with earth, and then the upper part of both becomes a wonderful roof garden. So, we find that in the Villa Sarabai, we find that in the Maisons Jaoul.

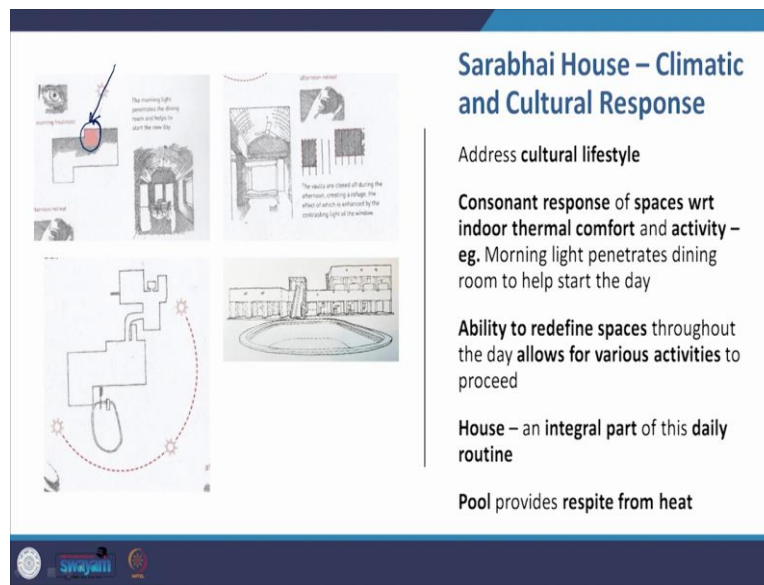
Now, the Sarabai house specifically talks about a vaulted system that was there in the Maisons Jaoul, which also help in controlling the internal climate of the house. It has a rooftop garden that increases the thermal mass and reduces heat gain that you find here, it has these vaulted interiors also lead to easy flow of cold monsoon air through the interior because of the vault, you get these parallel bays.

If you remember, we have seen these parallel bays in another project, if your mind can picturise it. It is CEPT Ahmedabad, which was done later than this. But they are also not having vault but flat roof, but Doshi employed the same idea to allow for breeze to flow through and through the modular bays that is happening in the Sarabai house.

And then there is the swimming pool in the back the swimming pool here and the shaded verandah that you see which is through and through the house. And these the picture that you see taken from somewhere, this picture is somewhere here. And then there is the pathway and this is the space through and through. So, these swimming pools and shaded verandas and there is this cool Madras stone in fact, one point that I would again tell you later is about the use of the modular scale. So, all these leads to a passive cooling system.

Now, there is a climatic and a cultural response in the Sarabhai house, the brise soleil on the south facade, is this is a similar rhythm to the shaded arcade that you find in Fatehpur Sikri, this picture shows the connection, this picture shows the shaded arcade of Fatehpur Sikri vis-a-vis the brise soleil units together in the Villa Sarabhai as you see here in the picture, and this is a similarity drawn from the cultural context.

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Then we have again the address to the cultural lifestyle. The important part is the entire Villa Sarabhai is designed in such a manner that , there is the particular indoor space is suited for a particular part of the day climatically, for example, there is this morning room that is provided here, which is the dining room when the sun comes in, and thus it becomes a very pleasant space to be in in the morning.

Therefore, there is a consonant response of interior spaces with respect to indoor thermal comfort and activity. That means the indoor thermal comfort that is provided is connected with the connecting activity. So, if I move to a different part of the house in the afternoon based on my activity, that will be also the climatically best part or the ideal part of the house during that time of the day.

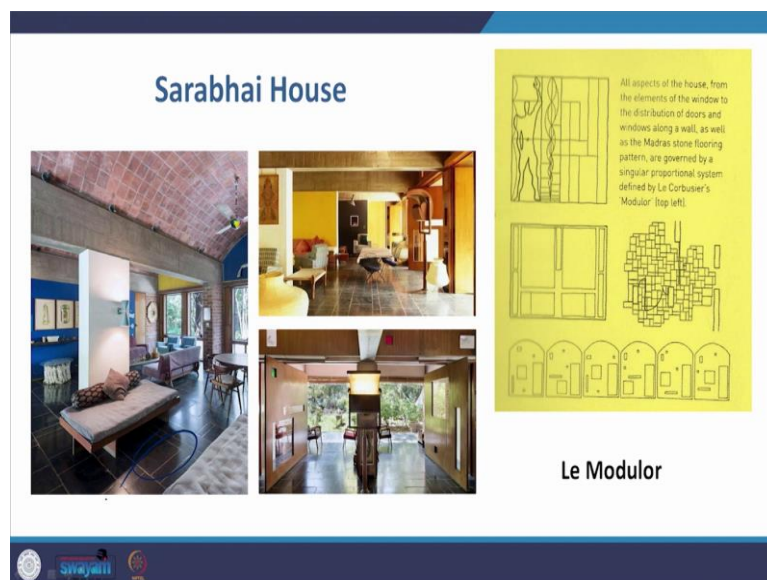
For example, I talked about the morning light penetrating into the dining room to help the start, to help start the day. Then there is this ability to redefine spaces throughout the day allowing for various activities to, proceed, because the climate automatically leads to such kind of utilisation of spaces.

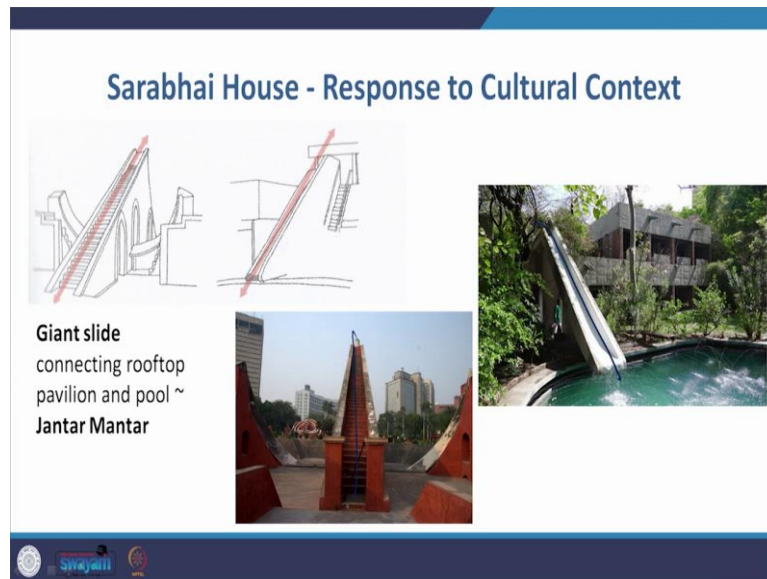
Now, this is also an idea that we have seen in another project I talked about earlier and that is the house it was done by Charles Correa, in which there was a winter section and a summer section I believe it was the Parekh house and in that particular house, certain section of the house was designed to be more suitable for the winters and certain section more suitable for the summers.

You can also look up a similar kind of concept in the tube house that I just showed you the prototype, where actually there is a day section and a night section. So, the spaces that can be used in the day can then be adapted for use in the night. So, Charles Correa, who gave us the dictum form follows climate, he was much concerned about this idea of the way spaces are used in relation to the outdoor climatic conditions.

We will later on look at a project called the Kanchenjunga apartments in Mumbai, where again, we will look at this idea of how the climatic response and the indoor spaces are in correlation to each other. The house therefore, in the case of the Villa Sarabhai becomes an integral part of the daily routine of the occupants and pool is also there to give respite from the heat.

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Now, the scale itself, the amazing part of the scale, that Le Corbusier used in the overall proportions with regard to the height with regard to the size of the base, with regard even to the grid that was formed of the marble, the black marble stone, Madras stone on the floor, all of it was based on the scale the modular that he had come up with now, you can read it up more deeply, and you can understand more deeply about the modular.

So, all aspects of the house, the elements of the window, the distribution of the doors, the windows along the wall, even in the Madras stone flooring pattern, they are governed by this singular proportional system called the modular. Now, the important thing, why this helps is because everything perceptively seems connected in proportion to another.

Now, this is not something that your mind is able to read mathematically, it is too quick a thing happening with your mind that if you go through a space, you are going to do some mathematical calculations, but subconsciously, your mind has a perceptive ability to identify that it is proportionately connected, you can try it out, you can try out two spaces, which have disproportionate arrangements.

For example, the even the ceil line, for example, is not consistent, the lintel line is not consistent, or the door window, the height at which they have been placed are not consistent, and you will find that disturbance in your perception. And then you will find another space where you will find your subconscious mind indicating that proportion to you.

So, that is not just Corbusier doing that, there are other architects of renown, who maintain that consistency of scale, or hierarchy of spaces, or they have for example, the ordering device that I talked about, talk to you about earlier.

Now, the other thing in the case of cultural context, in case of the Sarabhai house which also serves as a very, very wonderful piece of kind of facility for children for example, and that is the slide coming in from the roof pavilion down to the pool. And here it is the giant slide, which is similar to that of the Jantar Mantar, which is there in a couple of cities in North India. So, he is relating the Villa Sarabai with that.

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Maisons Jaoul – Sarabhai House

Excitement over Sarabhai House in India ~ to excitement over Maisons Jaoul in Europe

Critical interest in Maisons Jaoul + its imitation in west..



Assured


..Indian architects - their agreement with design of Sarabhai House was within mainstream of global design thought

+


Ideas of Sarabhai House in tune with climate, materials and socio-cultural context of India

Therefore, modernism could fit in local context



Impact of Maisons Jaoul – Sarabhai House



Why talk about the Villa Sarabai or the Sarabhai house, and why talk about the Maisons Jaoul because this was a very important project in the eyes of the Indians in the 1950s. Now hear me out those excitement with regard to the Villa Sarabai in India, similar to the excitement that Maisons Jaoul created in Europe. Please understand that Corbusier was the fore runner, or was the pioneer of the international style in Europe.

So, if Corbusier change tack and he went back again or rather he redefined his architecture with the rugged, massing, brutalism, raw concrete, exposed brick and concrete. Definitely his work would have been very critically studied, and therefore the excitement in Europe, similar excitement his own work the Villa Sarabai in India.

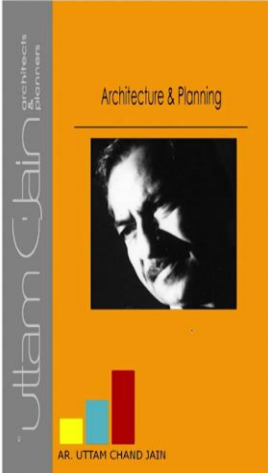
The critical interest in Maisons Jaoul and its imitation in the west, assured Indian architects that their agreement with the design of the Sarabai house was within mainstream of global design thoughts. Hear me out again. Please try to understand what I am saying.

The very fact that the Indians were able to appreciate the spaces of the Sarabai house and they were able to appreciate the design of the principles and design principles behind the Sarabai house and knowing that same principles have been executed in the Maisons Jaoul, and Maisons Jaoul itself has become a world renowned project highly acclaimed by western architects as a part of the larger ambit of modernism gave the assurance to the Indian architects, that when they are responding with a regional context for modern architecture, they are still within the mainstream idea of a global design theory, or global design thought.

The ideas of Sarabai house in tune with climate, material, and socio cultural context in India. Therefore, modernism could fit in a local context this was important, because this gave the Indian architects the young architects of the time, a sure footing to build modernism with a regional identity in India.

Now, the impact of Maisons Jaoul was felt all over, including and so also we can parallelly say the Sarabai house in India. This is a building in Europe, this is not, so these are three different houses a B. V. Doshi done, I believe this has been done by Raj Rewal and this has been done by Charles Correa.

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Architecture & Planning


Uttam Jain
AR. UTTAM CHAND JAIN

Design Philosophy

- Regional Vernacular Architecture
- Impact of Rajasthan
- His buildings reflect heritage of a particular place

Swayamii

University of Jodhpur, Jodhpur, 1971, Uttam Jain




Use of regional materials - **Yellow sandstone**

Planned with **modernist principles** of spatial organization

Swayamii

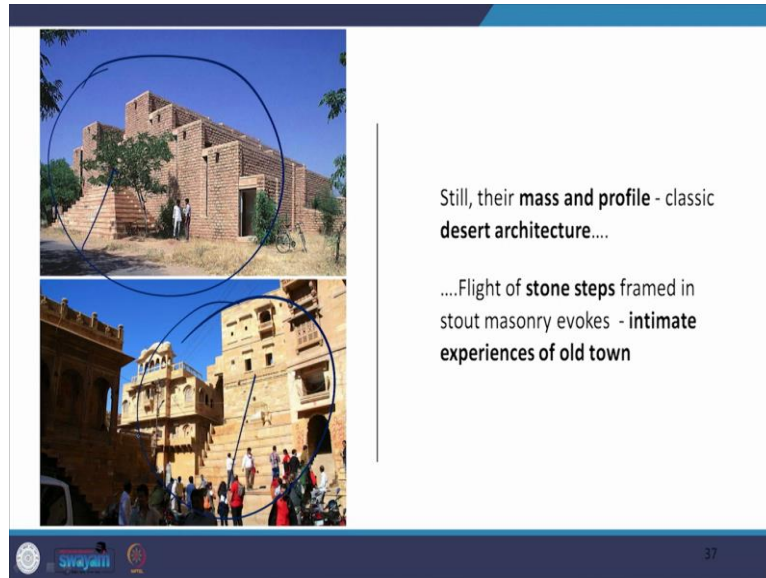
35



.....but **structure and form** - according to fundamental **order of load-bearing stone construction**

.....therefore, **short spans**; buildings '**solid**' and **small**

Swayamii



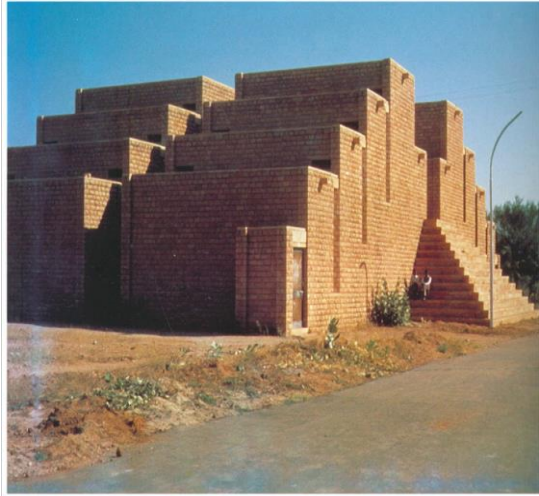
So, another architect who lay hold of the idea of vernacular architecture in connection modernism was U. C. Jain and it was a regional vernacular architecture. The impact of Rajasthan is clearly seen his buildings reflect the heritage of Rajasthan.

For example, the University of Jodhpur in 1971 where uses a regional material, the yellow sandstone, it is planned with the modernist principles to spatial organization, but the structure and form is according to the fundamental order of load bearing stone construction, for example, this is a open wing or a corridor in between these lecture halls on either side, which are made with exposed stone and this beam is a stone beam and the width of the corridor is as per the maximum length, so, to speak of the stone mean that was available.

So, the length of the stone beam available, define the width of the corridor, therefore, short spans were there and the building was solid and small and solid and small configuration is also good for a hot and dry climate like Rajasthan still this mass and profile. So, the idea that you see here is vernacular idea, but it is based on modern rational theory.

Now, this mass and profile that you see here in the lecture complex, which is one of the most interesting spaces in the Jodhpur university is directly connected to the idea of the stone steps this flight of stones that you see here you see here, that are framed in this stout masonry, that is an intimate experience of the old town. So, we find that space similarity within the traditional architecture.



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Stone primary material & determinant of structural order

Steel and cement used minimally – cost effective design

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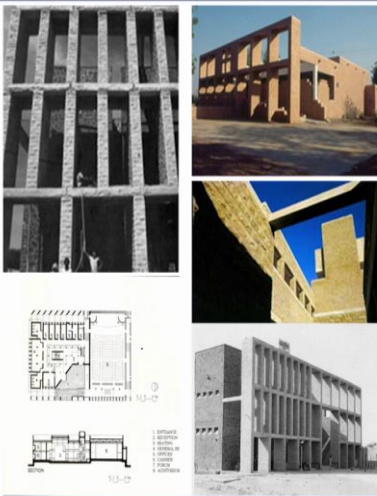
Plan

Counter hot, dry desert climate - bldg. constructed with double wall

Inner wall - structural with conventional glazed openings

Outer wall - Like screen to cut out direct sunlight

39



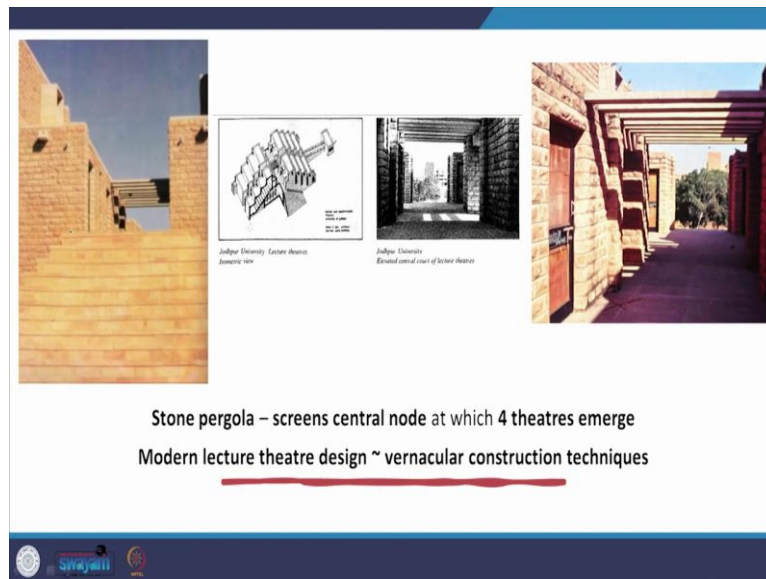
Brise soleil in stone designed by U.C. Jain in:

- University of Jodhpur Campus, Jodhpur
- Balotra City Hall, Balotra

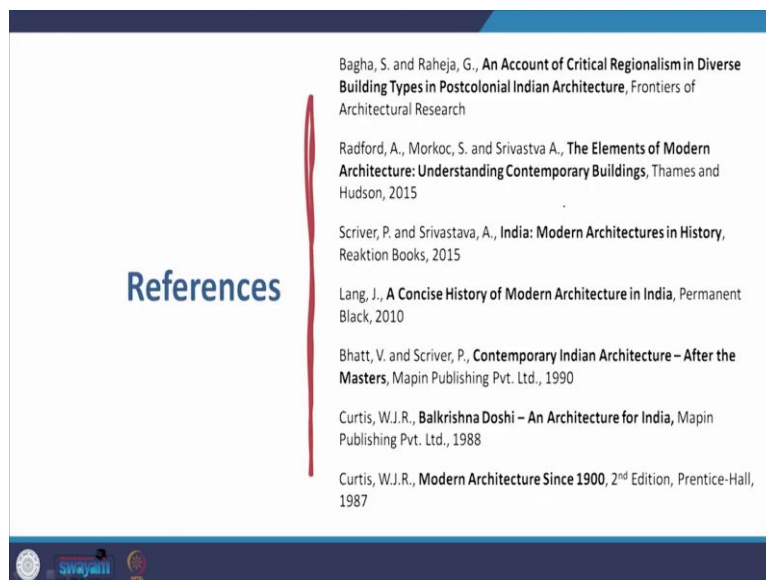
Adapted to hot and dry climate of Rajasthan

Modified - constructed at a distance from the buildings to cut sun from facade

40



Stone pergola – screens central node at which 4 theatres emerge
 Modern lecture theatre design ~ vernacular construction techniques



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Stone is the primary material used in Jodhpur university and it is also the determinant of structural order I spoke to you about the beam, steel and cement have been used minimally and therefore, it is a cost effective design.

Now, to counter the hot and dry desert climate the building has been constructed with a double wall. So, what you see here is that this on the inside is the actual wall with the fenestration the windows, and outside is another wall that is in front of the windows. So, the inner wall is the structural wall with the conventional glazed openings and the outer wall is like a screen, or maybe like a brise soleil, it is a modified version of a brise soleil, it actually becomes a screen to cut out the direct sunlight.

So, if you look at these two pictures, it is not very clear, but if you can see it here, you will find this, the fenestration inside and these are the bricks the stone screens on the outside. So,

direct light will not fall on the window the glare will not come but you will get diffused light for reading.

So, we find this brise soleil in stone designed by U. C. Jain and I have already shown you this slide earlier on the presentation of Corbusier, we find this brise soleil in the university of Jodhpur and we find it in another project called the Balotra City Hall. Now, in his case that told you earlier the brise soleil is not directly connected to the building as in case of Corbusier, but it is adapted for the hot and dry climate Rajasthan in that it is constructed at a distance from the building to cut the sun from directly impacting on the facade of the building.

Now, the stone pergola that you find here that I just showed you earlier, screens the central node at which these four lecture theatres emerge, here as you find here, and therefore the lecture theatre design which is in a step form is a modern lecture theatre design, but the construction technique used is vernacular.

So, we will end with this project and we will come back to a series of other projects where we will talk about these different aspects that constitute the formulation of a critical regional architecture, and some of the major iconic Indian architects who have brought about these works to pass. Thank you.