Modern Indian Architecture
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Lecture – 20
Impact of Western Architects: Walter Gropius - Part 1

Hello students, we will continue our presentation of the impact of western architects on Indian architecture and we look at the works of Walter Gropius and his impact in India. Now when we are talking about Walter Gropius, we are talking about an architect who never actually worked in India but he worked in a proxy manner in the sense that two prominent iconic Indian architects had a direct link, having studied under Walter Gropius in America and coming to India they made some amazing contributions to modern Indian architecture in the early years post-independence.

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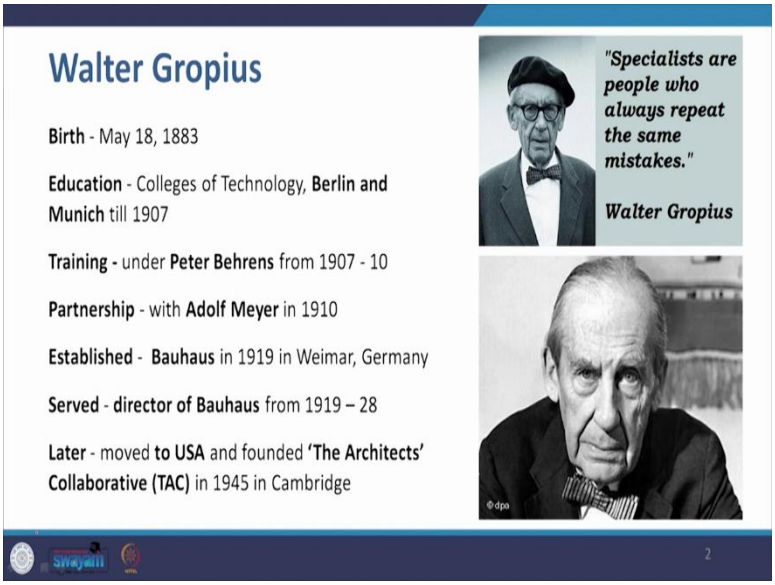

Walter Gropius was born in 1883 and he was educated in the colleges of technology in Berlin and Munich till 1907. Then he trained under Peter Behrens, another iconic architect of that generation from 1907 to 1910 in his office and then he partnered with Adolf Meyer till 1910.

He established the Bauhaus in a city called Weimar in Germany in 1919 where the actual Bauhaus school was finally established in Dessau in Germany which he himself designed and he served as the director of Bauhaus from 1919 to 1928 and then later on moved to United States of America after or rather in the early years of second world war and established the architects collaborative TAC in 1945 in Cambridge.

And the reason why he went off or rather he fled to America was because of the coming in of Nazism in Germany and the rising situation in Germany made it extremely difficult for modernist to continue practicing there. So, architects like Mies van der Rohe and Walter Gropius had to leave Germany and both of them ended up finally in America. Meis van der Rohe started teaching in Illinois Institute of Technology and Walter Gropius started teaching in Harvard.

He was also taking classes in MIT and this movement of many modernist German architects from Germany to other parts of the world particularly these in America was very very profitable, very very fruitful for global architecture in general and the rise of modern architectural movement because their ideas really propagated from there.

United States proved to be a very fertile ground for the exploration of these ideas and the establishment of the kind of a modern architectural pedagogy. And this resulted in tremendously innovative ideas coming even to India and this journey of young Indian architects going to America finding these amazing architectural teachers, educators and practitioners learning from them and bringing back those ideas into India gave rise to a very thriving modern movement in India. One of the most fascinating stories of modern architecture in the third world is the Indian story.

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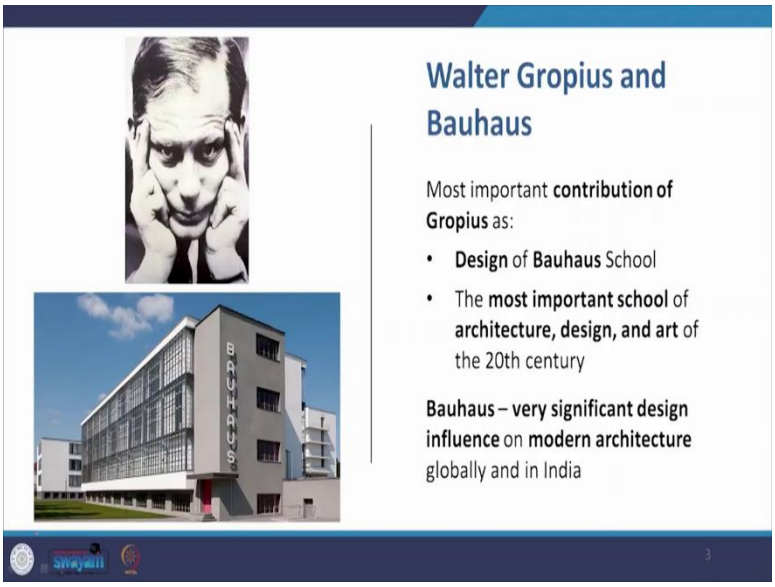

And Walter Gropius is very deeply linked with the Bauhaus both as a contributor to the design of the Bauhaus school and also because it became the most important school of the 20th century vis a vie architecture, design and art. Bauhaus itself is a very significant design and influence on modern architecture both globally and in India.

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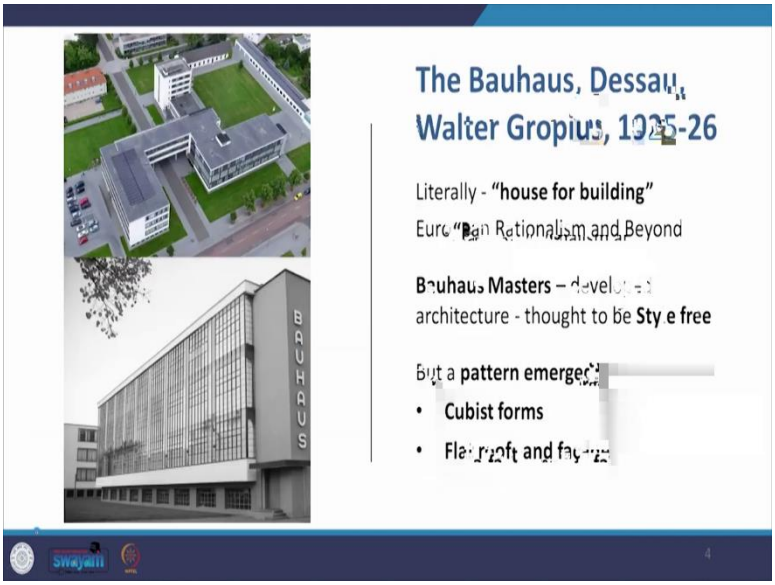

The Bauhaus established in Dessau that is the actual school is literally the house for building or building house, and this signifies or this actually highlights European rationalism and beyond. Bauhaus masters developed architecture which was thought to be style free.

This was one of the fundamental things that modernist began speaking at that time that their architecture is not connected with any particular style or dogma and it is not, it cannot be confined to the definition of a style and this is a similar idea that has been carried forward in late modernism particularly by high-tech architects like Norman Foster, Richard Rogers and generally late modernist who do not like to associate their works with a particular style.

Now, the patterns that emerged from this kind of architecture was that of cubist forms, flat troops and façade. Now please keep it in mind that this was one of the various components contributing to the international style. Very similar ideas we have discussed earlier with regard to the works of Corbusier which are also cuboidal forms, flat roofs and free flowing facades.

So, several architects were talking a very similar language and expressing that in their buildings and all these buildings seem to be connected with each other. They have different distributaries later on, we have talked about it earlier, I mentioned minimalism, mentioned brutalism and then onwards to late modernism, metabolism, constructivism onwards to other movements etc.

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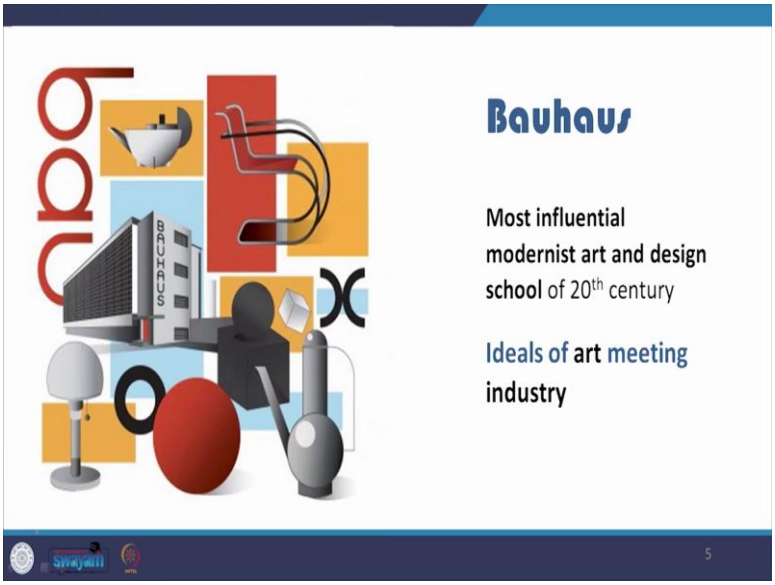

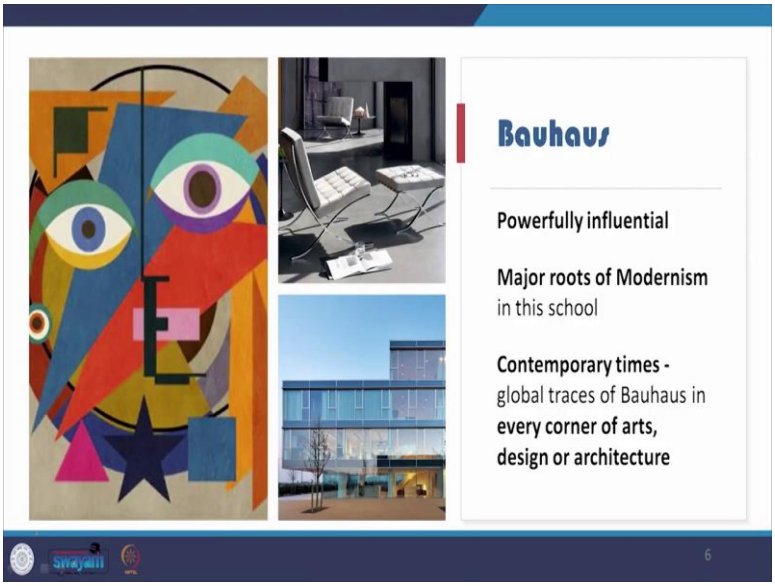

So, the Bauhaus was the most influential modernist art and design school of the 20th century and an ideal of art meeting industry. Now this is a very important idea because it is very critical to design thinking in the modern times. It is very powerfully influential and the major routes of modernism were established in terms of education in the school and the global traces of Bauhaus are found in every corner of art design or architecture in the modern times.

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So, contemporary graphic design, contemporary ideas of tubular chairs for example or even glass and steel office towers, stem from the idea of Bauhaus. Like I said, let us not confine it to Bauhaus. Let us talk about the wider umbrella of modernism and the international style because these buildings for example also depict the minimalistic works of Mies van der Rohe.

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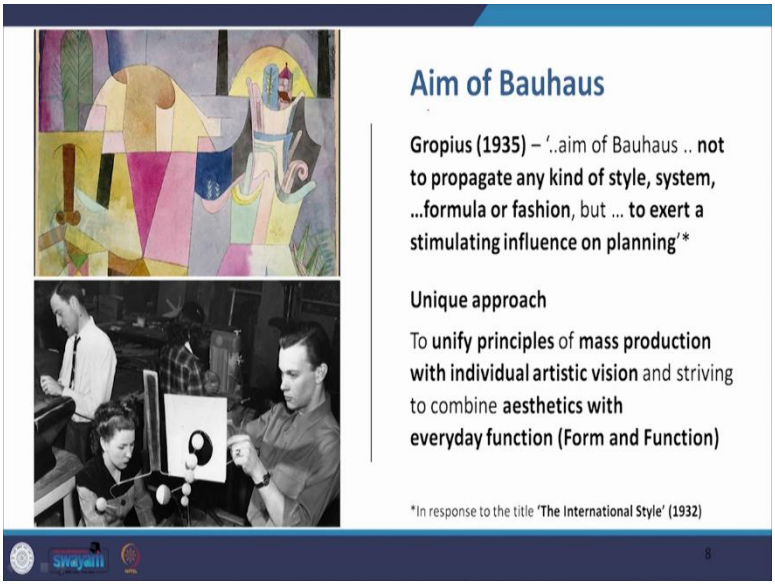

Now the aim of Bauhaus, the aim of Bauhaus, Gropius said in 1935 in response to the title the international style 1932, an exhibition that was held by Henry, exhibition held in America by Henry Russell Hitchcock and Philip Johnson and the book that was published 'The

international style', he said, aim of Bauhaus is not to propagate any kind of style, system, formula or fashion but to exert a stimulating influence on planning.

The unique approach was to unify principles of mass production with individual artistic vision and strive to combine aesthetics with everyday function or in a simple way we could call it, form and function work together.

Now, this is a very important statement and I tell you why? You see, post the rise of the industrial revolution led to mass production of goods in Europe particularly in England. Before this much of the work was being done by craftsmen and they were home guilds, you might have studied in your school history books.

They were home guilds that were manufacturing products and high quality products whether it was in crockery or it was clothes or textiles or carpets, etcetera would sell at a very high price because they were hand crafted, hand produced goods and they had a very high value. As a result, now because of the industrial revolution these goods began to be produced in mass. So, a lot of products began to be produced for a mass market.

The prices came down because of mass production also because the aspirations of the people grew. Because of industrial revolution there was an influx of population from the rural areas into the urban areas and these people who settled in the urban areas they came because they found jobs to work in mines.

They found jobs to work in factories, in shopping malls, in exchange buildings and in many other places and this influx of population gave rise to the development of what is modern town planning or city planning, sewage systems, drainage systems, housing, medical facilities, schools and educational buildings etcetera and these people then became an aspirational set of people, the rise of the middle class.

The mass-produced goods found a ready market amongst the middle class people and they could now aspire or they could now buy those goods that earlier used to be bought only by a very selective group of people either the very rich or the royalty or a very specific targeted people in society. But now lot of people could purchase these goods. But because of mass production and the gradual extinction of the craftsmen, the quality of these goods could not be controlled and this led to a ruin in the aesthetic quality of the product.

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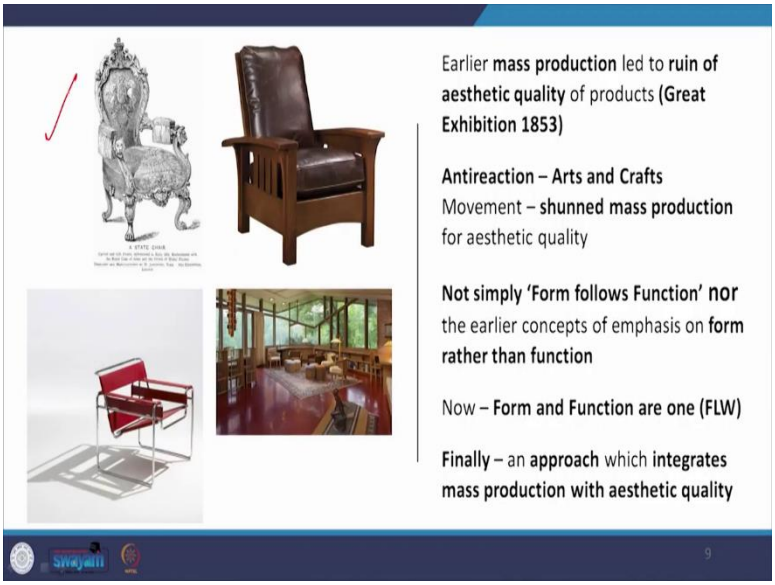

For example, this tremendously ornamental chair that you find. Now this became evident in the great exhibition that was held in the crystal palace in 1853 in Great Britain and though the purpose of the exhibition was to show the might of the British industry and to show the tremendous amount of goods that were being produced by the industry.

But it also led to a lot of questions being raised and criticism being levelled that the quality of the goods had come down sharply with regard to the aesthetic quality. So, there was an anti-reaction and the anti-reaction gave rise to the Art Nouveau Movement in Europe which is also called the arts and crafts movement in Britain.

And their desire was to shun mass production for the sake of aesthetic quality. But it was not so later on, post art nouveau or rather I would say parallelly in terms of chronological sequence to art nouveau was the rise of the Chicago School in America and Louis Sullivan giving us the dictum form ever follows function or form follows function.

Now, this form follows function was dissimilar or different from the earlier concept where the emphasis was on form rather than function. Form was important pre-industrial times over the function and now form follows function and in the modern movement this became the foundational dictum. But Eiffel Wright gave us another idea altogether.

He said, form and function of one, he was not saying form follows function. I have earlier also, I believe in one of my lectures told you that even Sullivan did not mean it this way that you design the building, plan the building functionally and the form will come up automatically.

He had clearly said it would be an intuitive intervention on the behalf of the designer or the architect that will give rise to the form and it is an iterative process that you have to go back and forth. Something that you as students are already aware of, you know that when you do plan a building today, you emphasize on the function but the form does not arise by itself, you have to intervene in that intuitively, artistically, creatively to generate an interesting form.

That is what Sullivan said but take it in a nutshell, form follows function seems to be very cut and write statement. Form follows from function. Wright said no, form and function of one. One is totally linked with the other, one gives the other and they are both symbiotic.

So, let us go back to the Vitruvian triad. Form, function and structure are three parts of the triad and they are, I have again and again emphasized a good building is a tremendously good harmony of form, function and structure. So, finally the approach became integration of form with function or mass production with aesthetic quality. Let us go back. What they said was to unify principles or rather to combine aesthetics with function, form and function are one. Mass production has to be correlated with aesthetic quality.

Something that went missing post industrial revolution. Mass production dismissed aesthetic quality or removed aesthetic quality from the goods. This entire journey of going through art nouveau of shunning mass production in favour of aesthetic quality was also wrong because you cannot hind up or stop progress. Handloom is also a machine as is the power loom. The power loom is only an evolved form of the handloom. The potter's wheel is also a machine. So, the modern day mechanized potter's wheel is a derivation of the same potter’s wheel. So, machines have always been used by humans from time infinitum.

So, now the issue here is that aesthetic quality has to be balanced with rising industrialization and mass production. Mass production cannot be cut off completely that was not going to be way ahead. So, what they were able to finally arrive at? With all these various processes of different ideas being explored by the time we reach Bauhaus it becomes clear to the architects or designers that aesthetic value of the product has to work alongside the evolving technology of mass production prefabrication and the changing and evolving function of the modern building.

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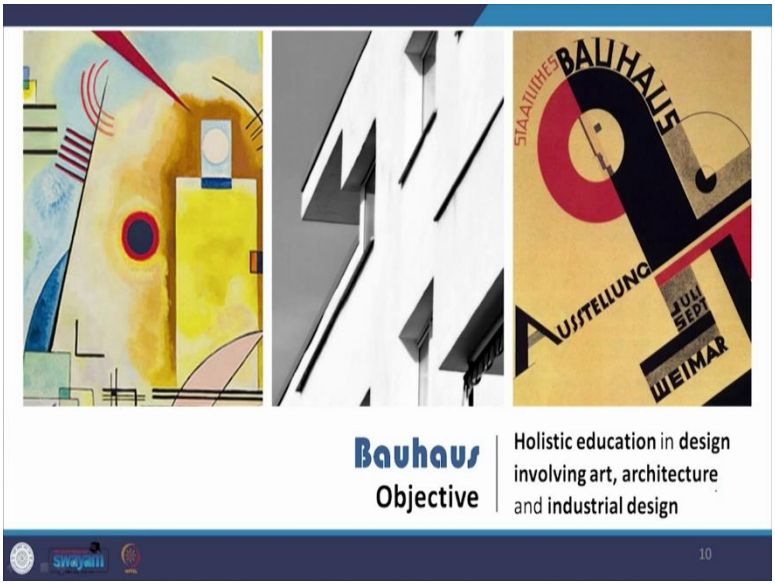

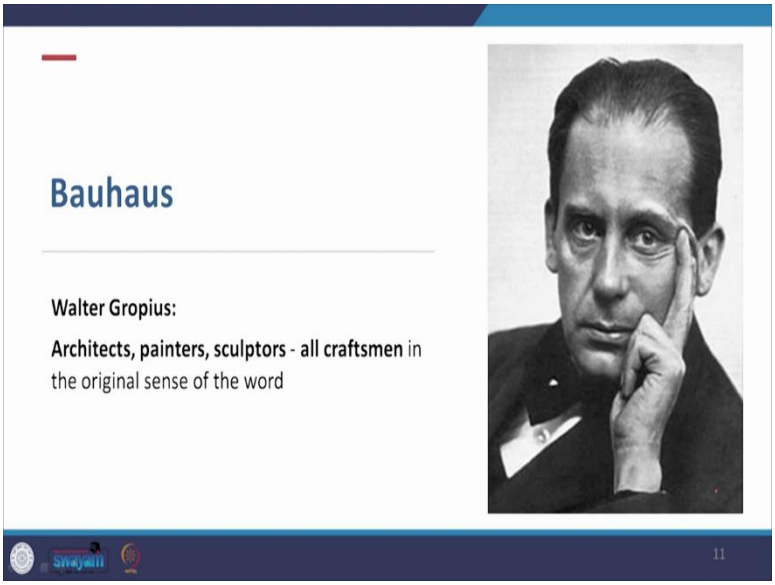

Therefore, the objective of Bauhaus became a holistic education, emphasis is on holistic. It is not confined only to function or only to form. It is an education in design involving art, architecture and industrial design. So, Walter Gropius is said, architects, planners, sculptors are all craftsmen in the original sense of the word.

I do not have time to explain to you why architects are closest to the craftsman or should I, if I would summarize that a technologist that is an engineer or even a doctor is not concerned so much with aesthetics as with getting the job done through a series of logical steps. The artist on the other hand is not so much connected with logic as to go to derive a creative result and therefore creatively he can come up with some ideas that may not seem logical in the real world but they have an intrinsic, creative or aesthetic value.

The architect is somebody that manages and has to balance creativity with the logic behind the design. For example, let us say a craftsman a carpenter, he designs a chair. The chair is extremely beautiful to look at, it is very very aesthetically beautiful but the moment you sit on it, it collapses. The reason for that is, it is not being taken care of in terms of its structural strength or you sit on it and it is very uncomfortable. It is not functionally sound. So, the logic fails, the aesthetic is there.

On the other hand, you design a very good chair that is structurally strong, its functionally very, its very comfortable etcetera but it is got a very poor aesthetic quality. Nobody wants to sit on it. So, on one hand when somebody sits on it the chair collapses is very uncomfortable, on the other hand the chair is very comfortable is strong but nobody wants to sit on it.

Therefore, what the carpenter does is he makes a chair that is both sound functionally, structurally and attractive aesthetically. That is what an architect's job is, he is supposed to make a product that is a building, that is both sound structurally and functionally and is attractive aesthetically, form, function and structure work together.

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Therefore, let us come to the Bauhaus itself, the design of the Bauhaus is the best-known work of Walter Gropius. It is a lab of architectural ideas emphasized by the use of modern technology and mass production techniques.

Now, just to add one more point here of all the great masters, Scriver and Bhat in their book after the masters clearly pointed out that, they talked about an architecture in India past the modern masters and the modern masters would be Walter Gropius, Mies van der Rohe, Le

Corbusier a generation before Frank Lloyd Wright would be counted as the modern masters. Of course, you could also take in Louis Kahan and Eero Sarin etc but focusing on these four, Wright's work refer to propositions. Corbusier's work referred to points, Mies work referred to building elements, Gropius's work mostly was connected with architectural education.

He not only designed a school of architecture, his school of architecture, he along with an entire series of amazing and interesting architects and artists gave rise to a modern architectural education. So, Gropius will always be associated or known not so much for the architectural works that he did more so with the propagation of architectural education, modern architectural education and this building that itself was a school of architecture.

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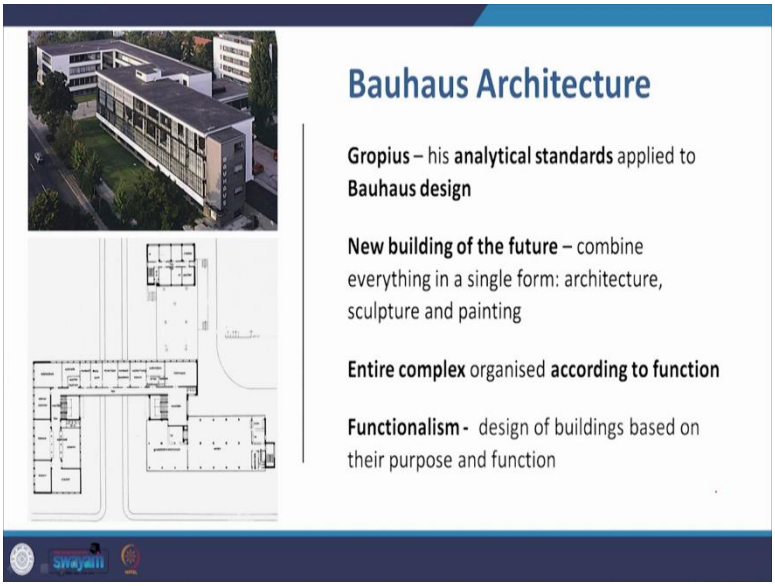

The Bauhaus in Dessau 1925-26. In this building Gropius's analytical standards are applied. It is a new building for the future which combines everything in a single form architecture, sculpture, painting all to be taught within the same school. The entire complex has been organized according to function. For example, this part is the workshop being. This part is the other technical part of the school.

These are the offices; this area includes the auditorium and this is the dormitory or the hostel of the students. It is so clear even aerially or even from above this shows the workshop being, this is the actual school where the classrooms are, these are the offices, this part is the auditorium and this is the dormitory at the back. This is called functionalism.

Design of buildings based on their purpose and function rather the entire building is split into various functions and then connected together. This is another strand coming out from the international style of modernism.

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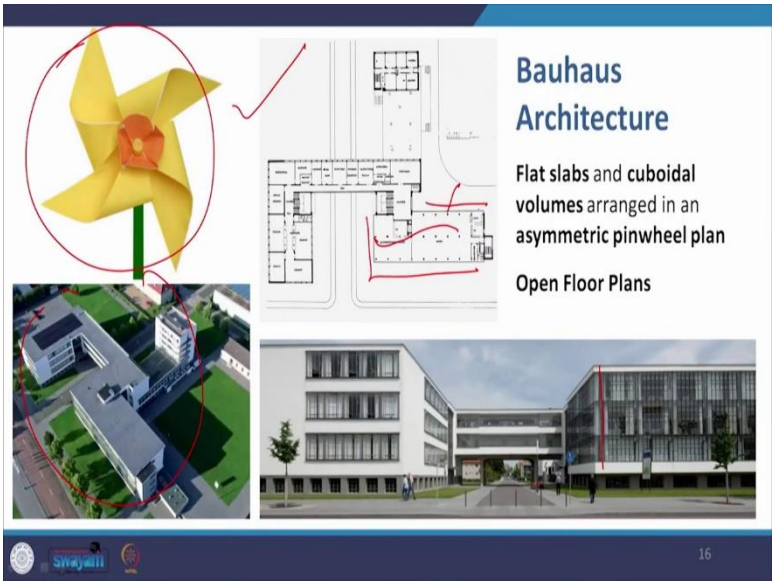

Now the basic structure is logically thought out system of connecting wings corresponding to the internal operation of the school and here it is flat slabs and cuboidal volumes as I mentioned earlier arranged in an asymmetrical pinwheel plan. It's a pinwheel plan as you can see here, it is a pinwheel organization.

This is the plan, these are open floor plans as you can see the workshop wing. If I were to mention in Corbusier's language, these are the pilotus, so the free-standing columns , so the entire frame is an RCC frame. But this time the frame has an extensive curtain wall wrapped around the workshop being like this, complete glazing on these sides.

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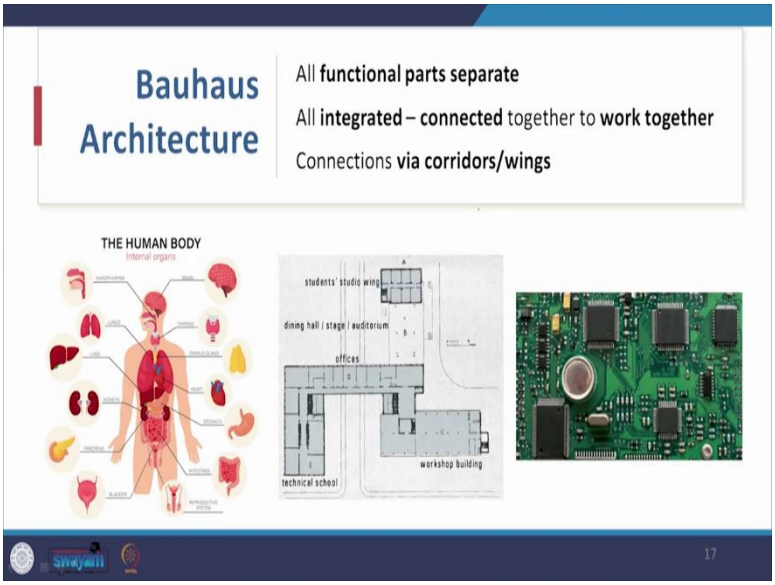

And now the very important part, hear me carefully. All the functional parts are separate like I said the workshop being, the technical school, offices, dining halls and auditorium and the students dormitories but all are integrated or connected together to work together, how? Look at the human body all within us, within each of us we have an amazing array of body parts organs. We have got our kidneys, we got our lungs, we got our heart, we got our blood vessels etcetera etcetera.

Now all of them are distinct organs and have distinct functions but they are all connected together to work together. They are distinct, you can pick out any organ of the body and it is distinct. It is clearly a lung or it is the heart or the kidney they are very very distinct from each other but they do not work alone. They work together, a heart on its own cannot function. A lung on its own has no meaning. So, they all work symbiotically they are distinct but they are connected together to work together.

For example, in the earlier days or even today. Now of course it has become far more advanced there was a, the printed circuit board, the PCB and all the chips on it are distinct from each other but they are all connected together on through the PCB to work together. Connected together to work together. That is what the design of Bauhaus is, that is what functionalism basically leads us to connecting various distinct functions on the buildings via corridors or wings and connecting them together.

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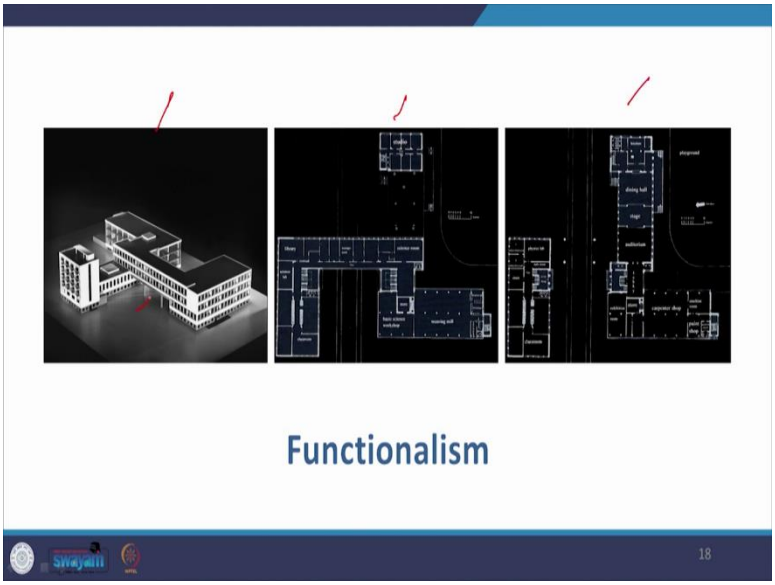

So, this is functionalism. This is the form of Bauhaus and these are the plants. It also has a skywalk , that you see here and the traffic flows underneath it and there is a bridge or wings above it. Now this is, I am mentioning it here because we will refer it back again in the works of A.P Kanvinde particularly in IIT Kanpur.

Now the Bauhaus in the international style is a composition of the simple white cuboidal blocks, devoid of ornamentation and extensive use of glass. Now what does it remind us of? The works of Corbusier, in the same era or the same time period when he was doing the Bauhaus, Wright was designing the first phase of his works of the Villas in white cuboidal geometry, devoid of ornamentation, he was using glass in ribbon windows, the structural system he was using RCC.

So, was this in RCC. So, all these different architects were all following a similar direction very very connected with each other. That is why they all came together in one body that came to be known as the Congrès Internationaux Architecture Moderne or CIAM.

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Now the use of steel glass in RCC, glass curtain wall within surrounding a recessed structural frame. As you look at this wraparound curtain wall of the workshop wing, you can see the structural frame inside it and there is a penetration of abundant amount of natural light very much needed in the cold climbs or climate of Europe.

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Then it gave rise to functional furniture. Now please understand they were not the first ones to do that, not the first ones to use steel or any other metal for manufacturing furniture that

was functional, that was aesthetically beautiful, easily maintainable, easily cleanable, long lasting but the first person to actually apply that in a building was Wright. He did that in a building an office building called the Larkin Building which was finally demolished. He made that, he designed that it was built in Buffalo New York and that building had steel furniture.

In fact, they had amazing steel furniture. If you get a time you can go to google and have a look at it. That steel furniture for example, the chairs of the people who were working there, the chair was hinged connected to the table and did not have legs so that it would make cleaning the floors easy. No legs, so the chairs would be pivot out of the table and come back in.

Of course, I have not seen any other architect having that kind of boldness in other later ideas but this tubular furniture that came up from the Bauhaus already had a predecessor to it and that was the work of F. L. Wright.

But here we have very interesting amazing furniture designed in the Bauhaus and even architects associated with Bauhaus like Mies van der Rohe and other architects like Marcel Royal and later on Marcel Breuer, Alvarado, all of them have contributed immensely to the rise of furniture design, good quality furniture design, aesthetically beautiful furniture and the because architect by nature is a craftsman. Furniture designing is a natural experience for an architect or it is natural for him to design furniture.

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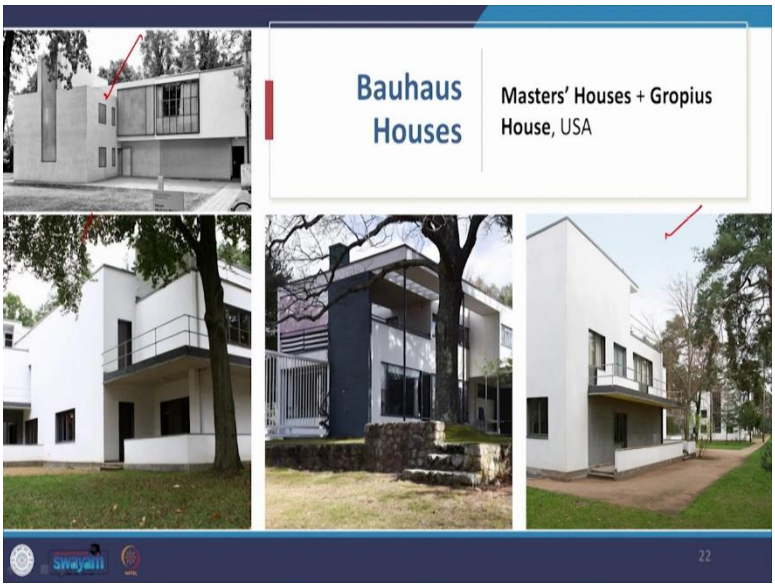

So, here are the houses designed on the campus the Bauhaus for the teachers or the tutors, the masters of Bauhaus. We have these three houses, this one, this one and this one, all of them following the same format of white cuboidal geometry. Very similar to the ideas of Corbusier and then this house is called the Lincoln house, now it is called the Gropius house in Lincoln in United States. This is the house where Walter Gropius is used to stay when he was in America, now it is a declared heritage building.

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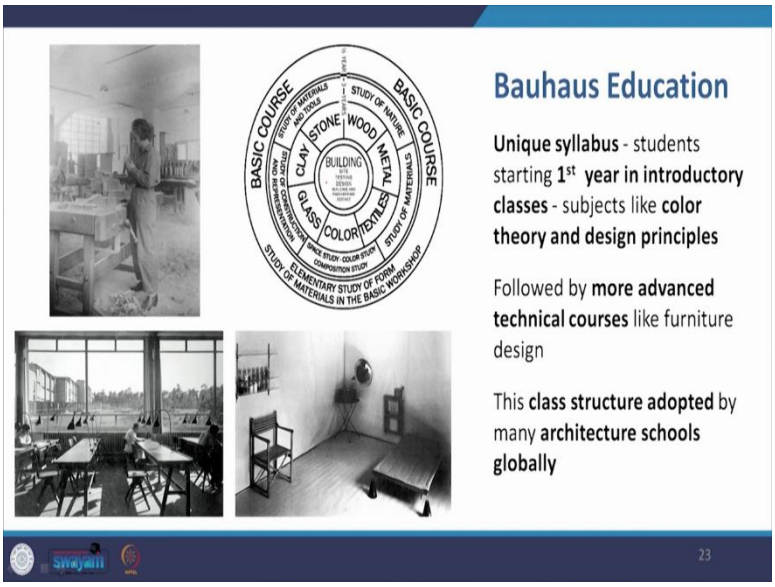

Now the education structure. It had a unique syllabus in Bauhaus each student started the first year of introductory classes with subjects like colour theory and design principles. So, if you take the circle of the subjects the outside are the basic courses and as you move in the course becomes in more and more intense and takes in a deeper and deeper subject.

So, our journey in the circle from outside to inside is leading us to greater and greater advancement and maturity in architectural growth of the student and the curricular structure is following from first year onwards to the final year into the circle.

It is followed by more advanced technical courses post the first year like furniture design and in glass work and then the class structure. This kind of structure, education structure has been adopted by many architecture schools globally. Much of our architectural education today for example in India, is pretty much based on the same model.

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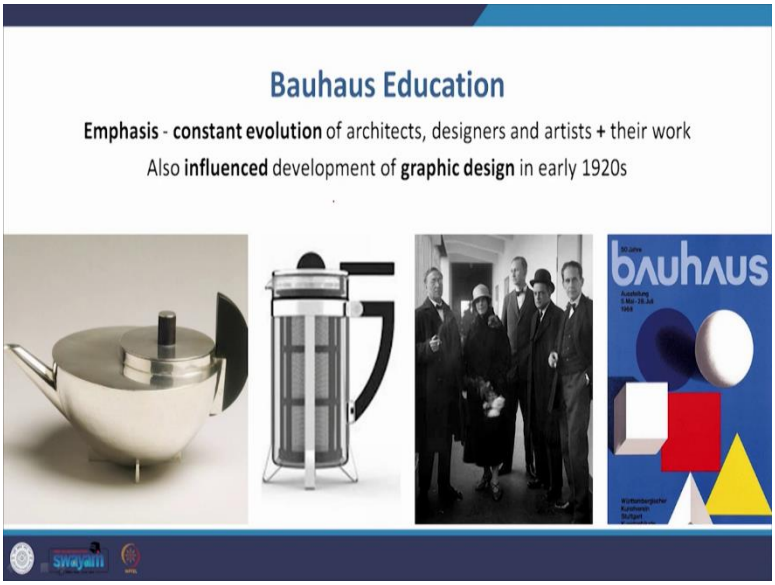

Now the Bauhaus education the emphasis was on constant evolution of the architect the designer and the artist and their work. It also influenced development of graphic design in the early 1920s. This is the example of graphic design, these are some of the products, this kettle and this coffee maker that was designed in the Bauhaus.

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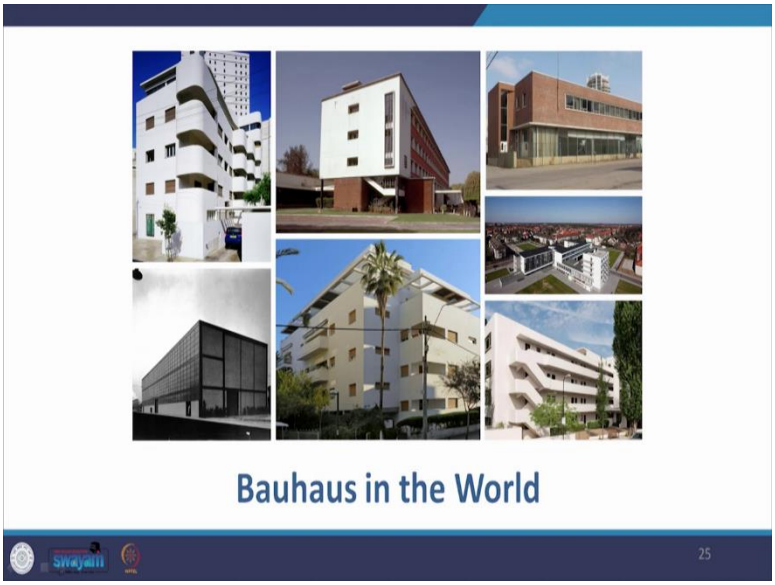

This is how the Bauhaus architecture appeared in the world. These are some buildings in Tel Aviv in Israel which is like a kind of an exhibition of Bauhaus buildings, a sole range of Bauhaus buildings are there in Tel Aviv, this is another example and there are other buildings in different parts of the world which are directly connected with Bauhaus. This is the work of

A.P. Kanvinde, the ATIRA Building that we look at in the second part of this presentation that was done by Gropius, by Kanvinde.

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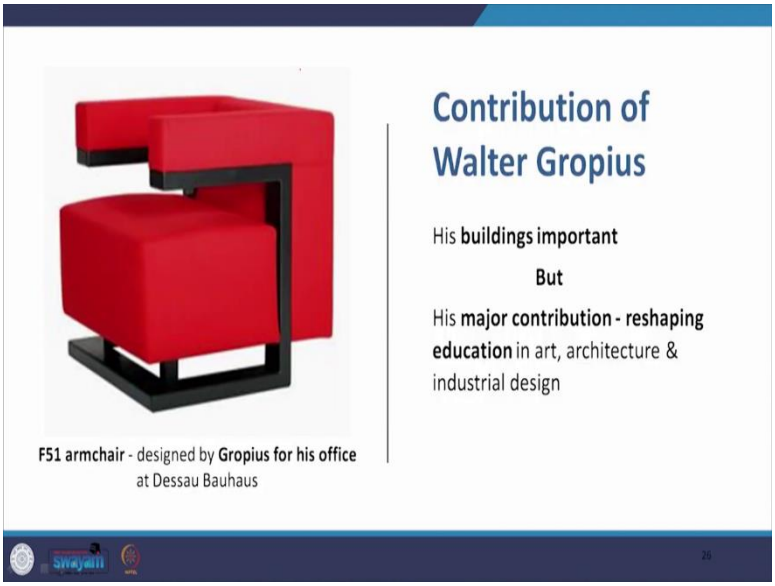

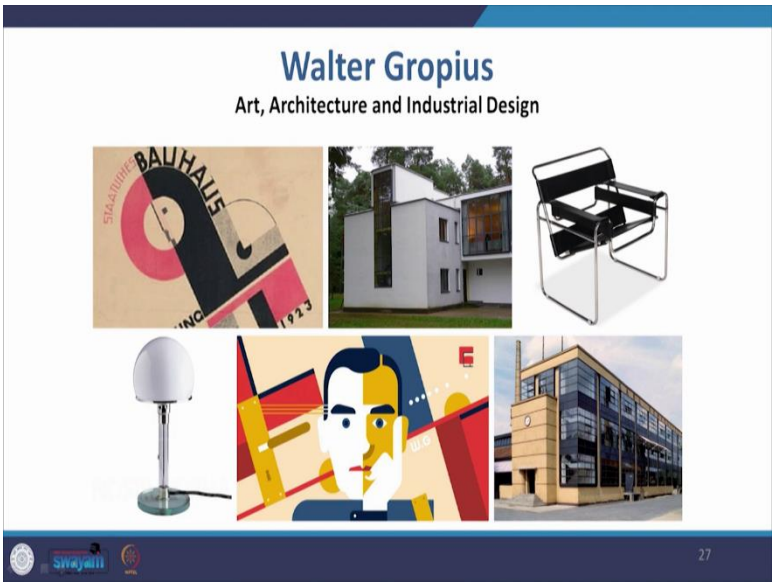

And then, the contribution of Bauhaus not only were his building is important like I said, his major contribution was in reshaping education in art, architecture and industrial design. This armchair was designed by Gropius for his office at Dessau in Bauhaus. These are some of the other contributions for example, to highlight art, architecture, industrial design, industrial design, like the lamp, furniture design, building design, graphic design, etcetera.

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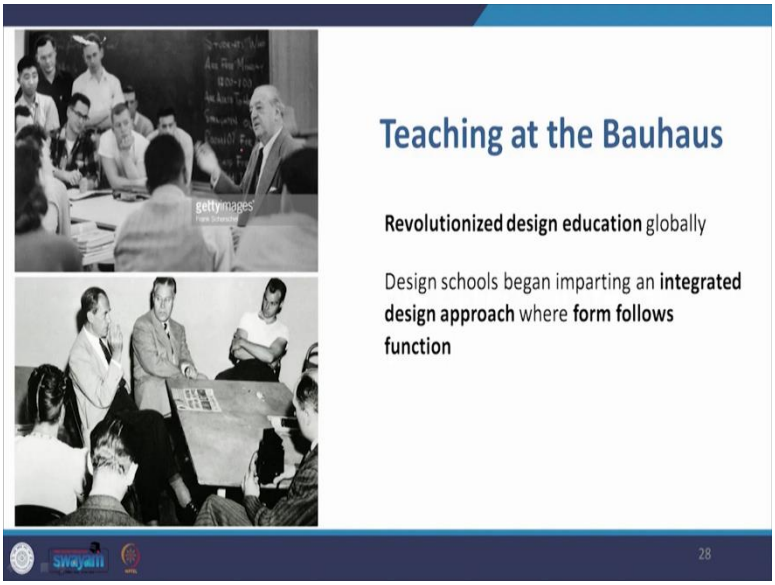

So, the teaching at Bauhaus revolutionized design education globally and design schools began imparting an integrated design approach where form follows function but in a very integrated manner.

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So, Bauhaus international style modernism are all connected, the imagination of Indian architects was captured by the visual clarity and the boldness of expression that was provided by modernism both in Europe and America, Villa Savoye, Fans worth House, Seagram building, the Bauhaus, the Schrader house and this is the pan am building designed by Walter Gropius in America. It is now called the Metlife building.

Thus, it was accepted that modernism is the approach to architecture in India and no other was acceptable to the young Indian architects. So, we will stop here and we will begin from here to look at the impact of Gropius in India through the works of particularly A.P. Kanvinde and Habib Rahman. Thank you.