Indian Institute of Technology Kanpur

National Programme on Technology Enhanced Learning (NPTEL)

Course Title
Visual Perception and Art: A survey across the cultures.

Lecture – 04
Visual Perception and Creativity 1

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Welcome viewers to MOOCs online course on visual perception and art a survey across the cultures this is the fourth lecture.

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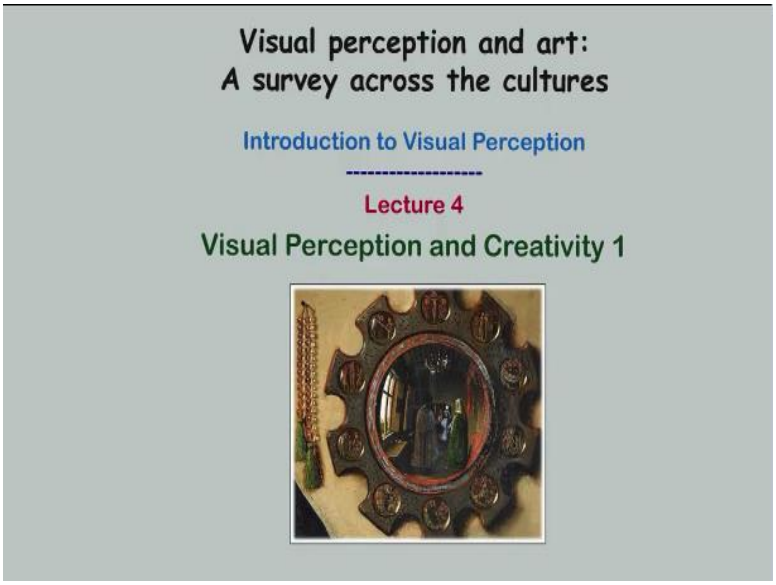

And the topic of this lecture is visual perception and creativity part one.

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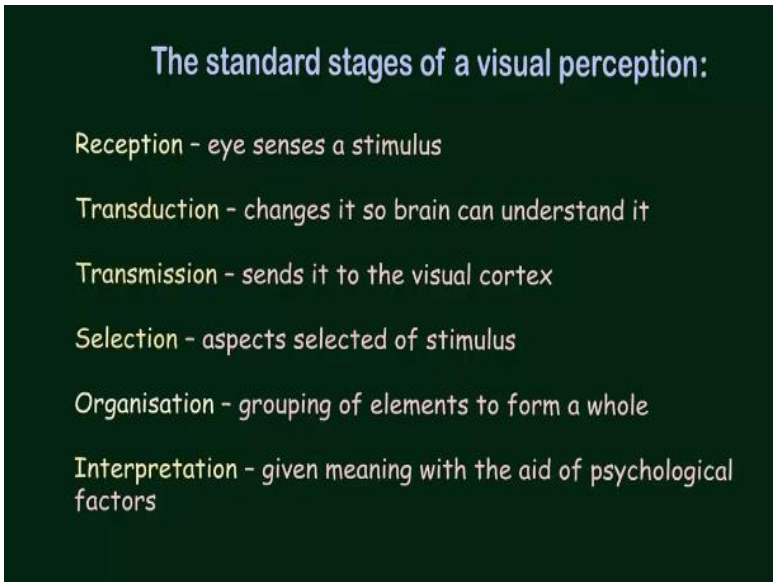

Now it is needless to say that any kind of visual perception involves certain standard stages like reception, which is when the eye senses of stimulus followed by transduction then it changes, so that the brain can understand it followed by transmission because then that visual sensation is sent to the visual cortex followed by selection. Where aspects selected of stimulus followed by organization where grouping of elements to form a whole and finally followed by very significant stage.

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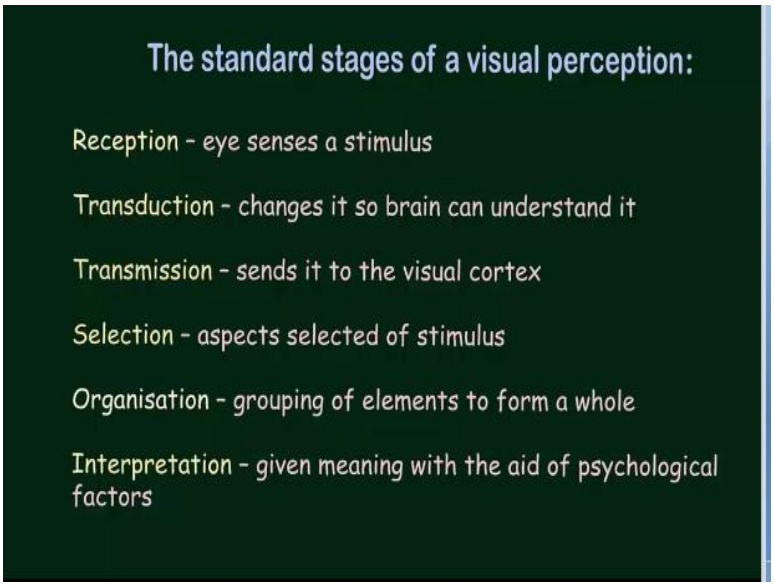

At the end which is called interpretation when a meaning is given and the meaning is also constructed through this process of visual perception.

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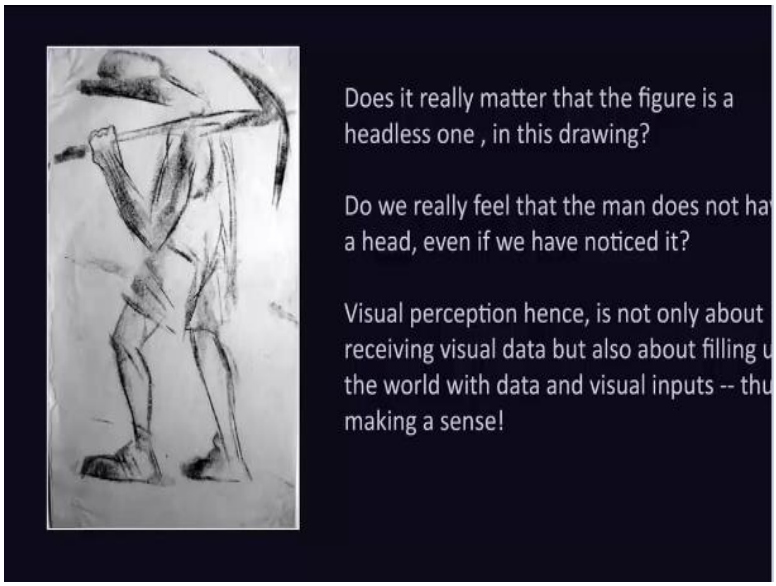

And that is one of the reasons why in a drawing like this which we have already seen we know that it does make a sense in spite of the fact that this human figure this drawing of the human figure the female of the human figure does not have a head. In fact it does not bother us we are not at all disturbed by the absence of this head simply because our brain fills up the gap of deceptions though the head has not been physically drawn by the artist but we the viewers can almost see as it were in our mind.

But this is not exactly only about imagination not just that we are imagining that the head is there it is a part of the process of visual perception partly due to the memory parted you tithe assumption partly due to the processor inference that we have already referred to .

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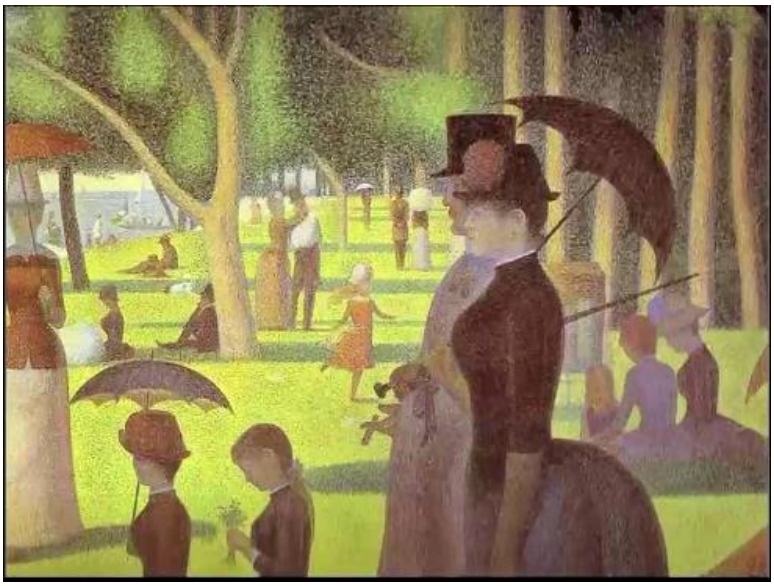

And that is why in appointing like this by sure despite the fact that many of the details have not been physically or really painted or drawn it does not really stop us from seeing them so there is a paradox it has not been drawn but we can see how it is possible it is possible because once again of the very complex process that the visual perception involves for example look at this very simple diagram.

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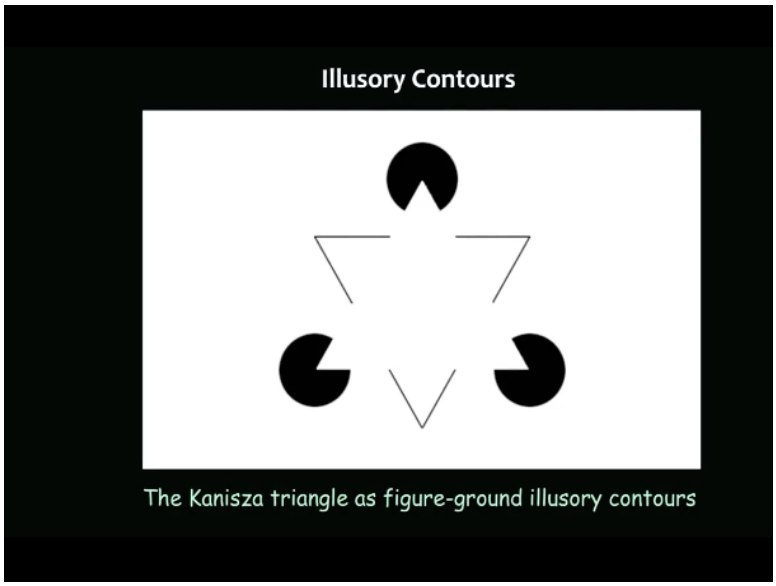

Which exemplifies the theory of illusionary contours so there is no such control line to clearly demarcate a wide triangle that all of us can see in this diagram it is almost impossible to do to avoid the any possibility of seeing it I mean you cannot say that no I have not been able to see the diagram it is impossible there it is so obviously that why triangle actually does not exist in this drawing it does it does exist only as an illusion so the figure ground initially contours have often been used by the artist.

So when you are doing a work of art when you're doing a painting and drawing it is really not necessary that you have to go on to show all the necessary details you have this freedom to suggest something by not showing it yet the viewers will be ablate see it sounds paradoxical it sounds very contradictory but believe me this is how it works as this simple diagram demonstrates so this illusionary contours have this a peculiar process of empowering us the Beavers to see things.

Which are not there but suggested nevertheless so we perceive an object as a whole despite it being actually incomplete we group the individual elements to make one by filling in the missing

contour lines so that it makes sense so look at these two diagrams and see how you can see a lot of things a pattern a square though in-between certain portions of this pattern and square has not been shown but in our mind we fill in the gap we continue with our imagination and complete what is not complete in the actual drawing.

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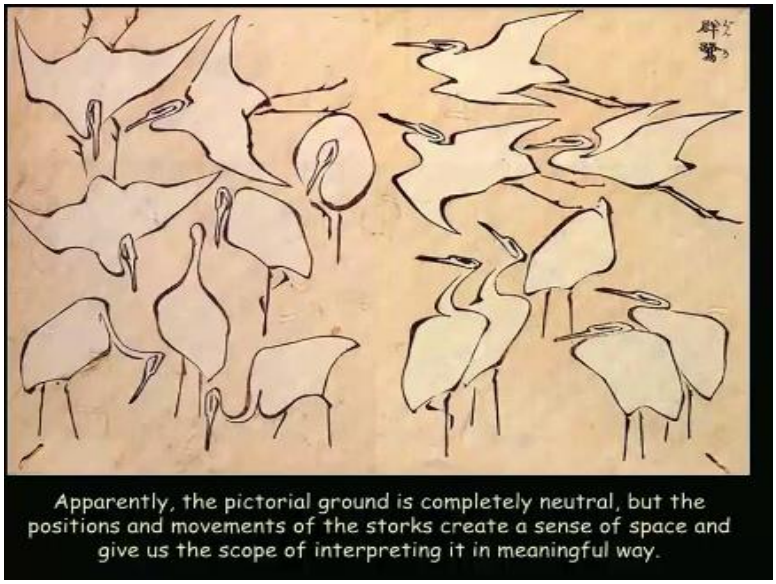

Now when you look at a work of art like this it is a Japanese drawing where you can see storks birds in different positions and movements now apparently the pictorial ground is completely neutral because there is no suggestion or no sign which characterizes the pictorial ground whether it is grass or whatever whether it has a depth or not it is a flat neutral pictorial ground butte positions and movements of the storks create a sense of space and gives the scope of interpreting it in meaningful way .

Now so it's a very deliberate choice not to show anything else in the ground it is a deliberate idea to leave the ground neutral to enable the viewers to imagine and to help us to imagine what we are supposed to imagine the positive forms in this case the birds in different movements impositions they actually guide us I mean our brains in a very significant way.

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And this is a fantastic example of how our brain works in order to complete and incomplete drawing, for example this is a drawing of Cabot how do we understand? This is a drawing of a cat because it is barely the tail and one ear a little bit of left side of the body. The controlling that is what has been really drawn rest has been kept completely blank but this is how our brain works in the context of visual perception.

That our brain completes the entire join whatever is remaining absent is completed by our brain through the process of visual perception so visual perception as I have told you right at the outset is not a passive process. It is an active process where you also take part in reconstructing your visual experience.

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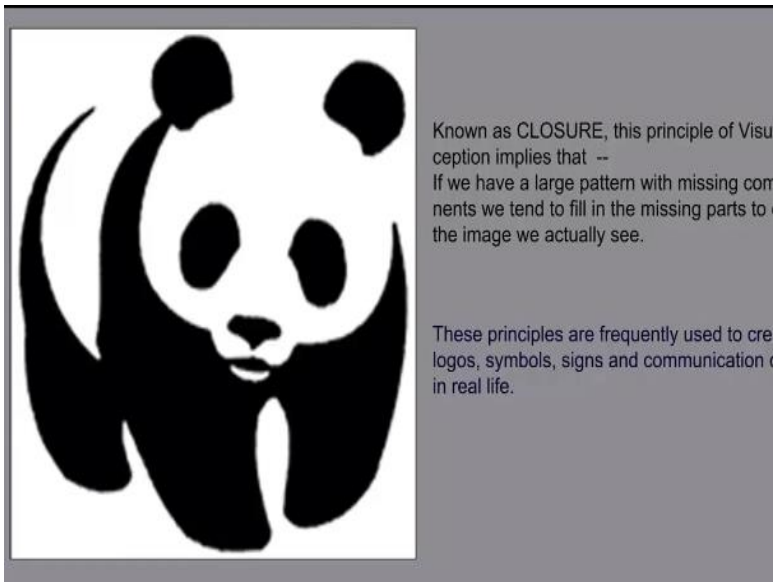

So lot of commercial logos and symbols tribe or this principle for example closure is a very important principle of visual perception which implies that if we have a large pattern with missing components we tend to fill in the missing parts to create the image we actually see so this logo of a panda has of course some suggestions of black shapes but then it is left up to us to imagine and complete the rest of the oceans of the form.

Now these principles are frequently used to create logos symbols signs and communication codes in real life.

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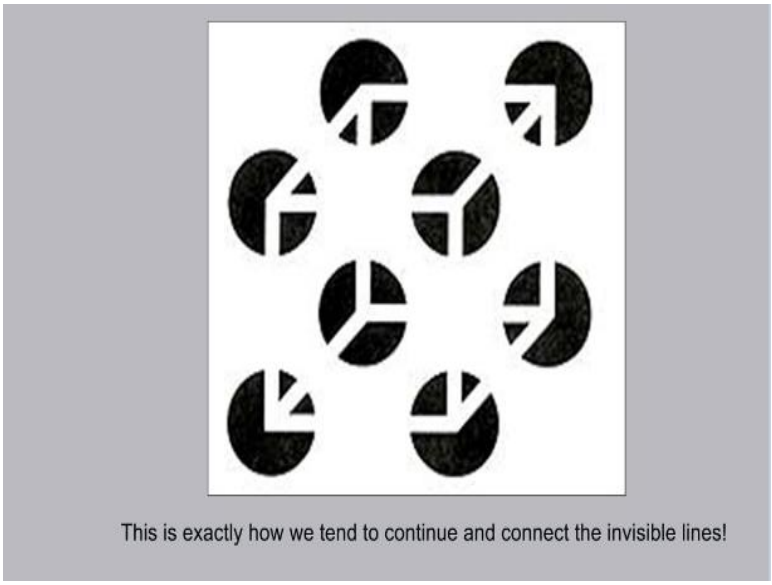

So once again you look at this diagram and you figured out that however if you try very hard not to do but you are bound to complete the missing links and complete the diagram. a diagram which has not been actually shown but suggested by living certain white oceans white lines against black shapes, so this is exactly how we tend to continue and connect the invisible lines.

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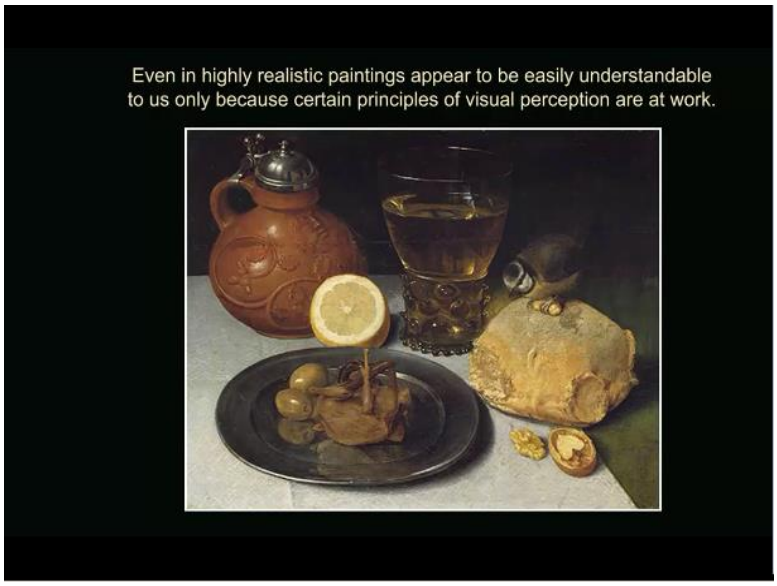

Even in highly realistic paintings like this which happens to be very easily understandable to us only because certain principles of visual perception are at work. For example when you look at this painting which is a very realistic and very convincingly painted work of art and all painting by a Dutch painter of 17th century, now it is very easy for us to feel to have a tactile sensation to feel the touch quality to also fill the depth in the painting to feel the three dimensionality.

To feel the light that is falling on the objects to shape in other words when you look at a painting like this you have the solution. As if you are looking at a real space with all the three dimensional qualities but the truth is what you're looking at is a flat space it is a flat canvas on which a speed light has been painted but evoking certain qualities using certain principles of visual perception which will compel us to consider this paintings an extension of real space thereby creating an illusion of real space.

No wonder that this kind of paintings has-been called illusionistic painting this kind of language of communication has been called illusionistic language.

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Or look at this one where you have the space the depth of an entire room with objects furniture is two figures placed within the painting now looking at this three-dimensional quality of the painting or the illusion that is created thereby we cannot really say that these objects like chairs and furniture and figures have been placed on the painting they have been placed inside the painting. There is a sense of insight and interior a three-dimensional depth within the painting whereas in reality this painting is nothing but a flat surface it is an illusion.

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So even a highly realistic painting lyticslike this is actually an illusion created by the artist by using certain principles of visual perception.

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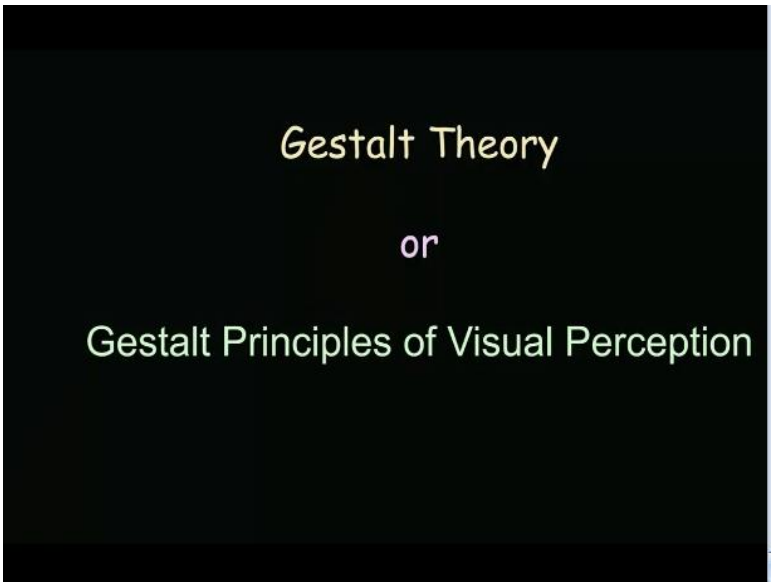

Now it is in this context that we should have quick look at what is known as guest althorn or guest all principles of visual perception. Now there are many principles and many aspects of gestalt theory we shall pick up a few and explode them.

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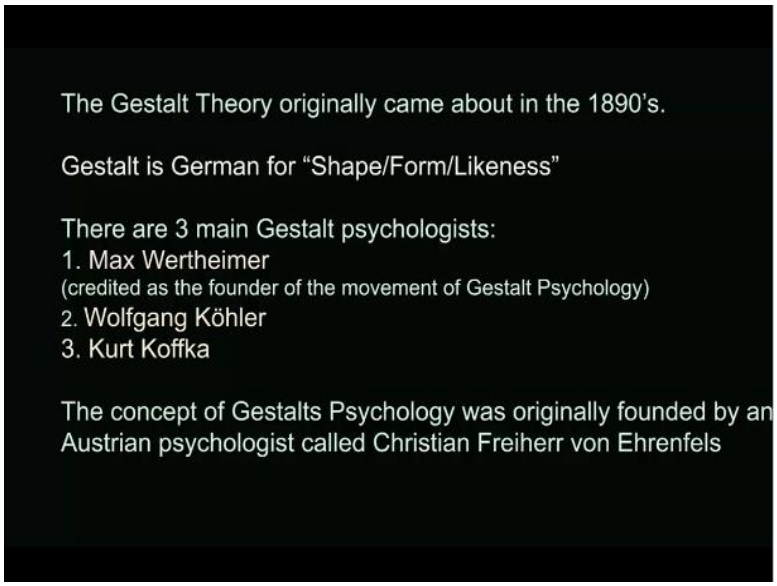

And the theory guest asthenia regionally came about in the 1890s to give you a brief historical background and guess told in German means shape form likeness there are three main guests all psychologists like max Wertheimer who is credited as the founder of the movement of gestalt psychology Wolfgang Koehler and cookKafkathe concept of gestalt psychology was originally founded by an Austrian psychologist called Christian. And Fraser born and sells now gets the principles are fairly simple and it is something that we experience in our daily life quite frequently.

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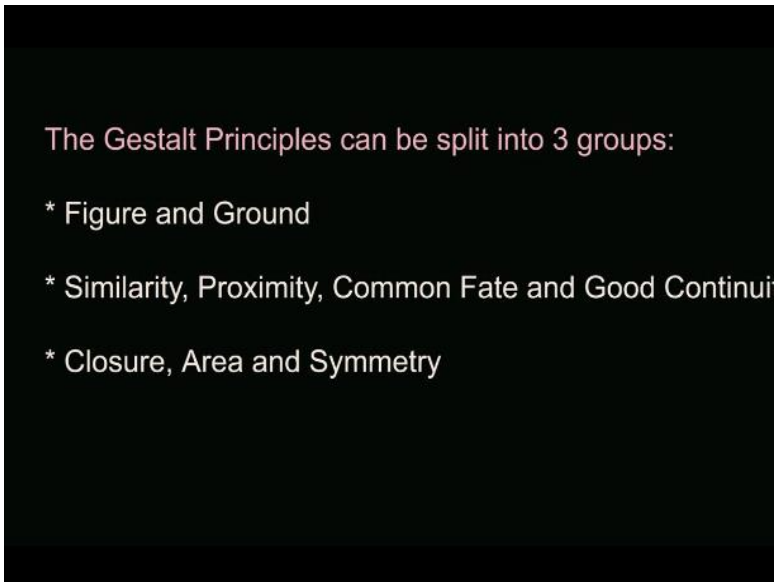

And they can be split into three groups first figure-ground relationship second similarity proximity common fate and good continuity and thirdly closure area and symmetry.

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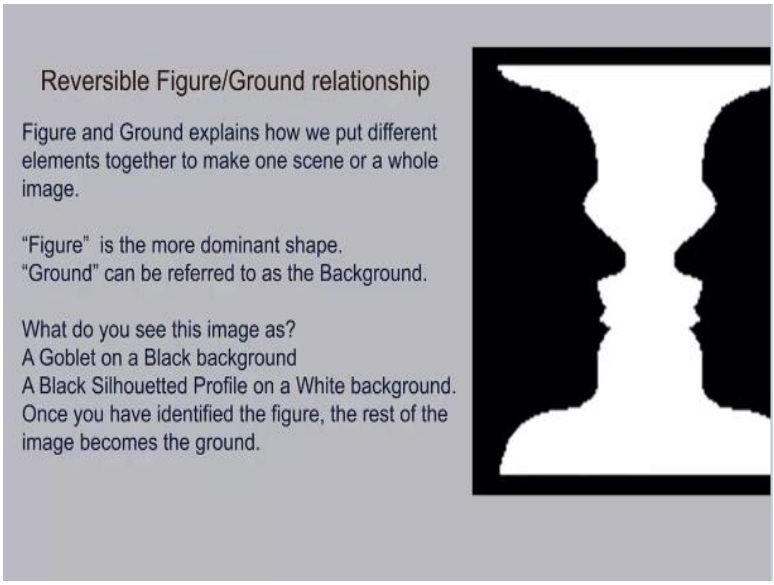

Now in the figure-ground relationship we often find a possibility of reversibility for example in this drawing figure and ground is explained that how we put different elements together to make one scene or a whole image figure usually is the more dominant shape whereas ground can be referred to as the background. But in this diagram you can see either a goblet on a black background or a black silhouetted profile on a white background it all depends on what you want to see where you want to focus on.

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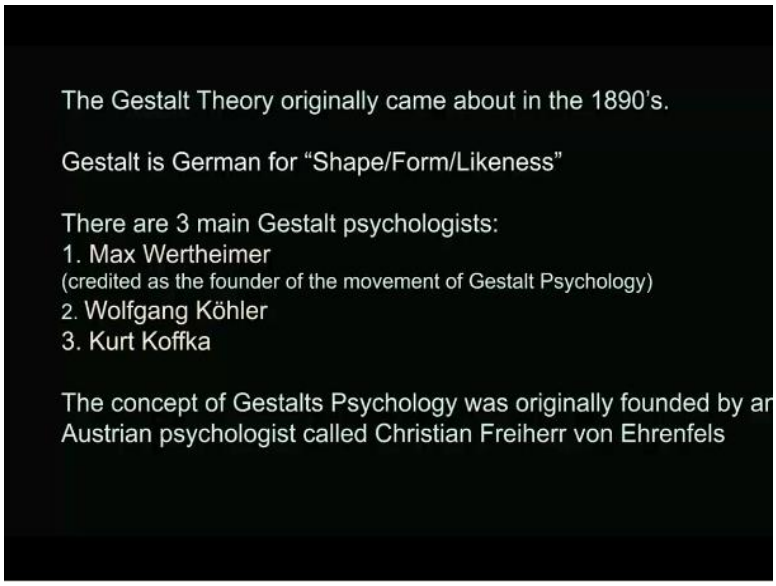

To once you have identified the figure the rest of the image becomes the ground it can be the goblet or it can be the two profiles so the possibility keeps unfolding itself it is a very simple diagram but when an artist uses this principle.

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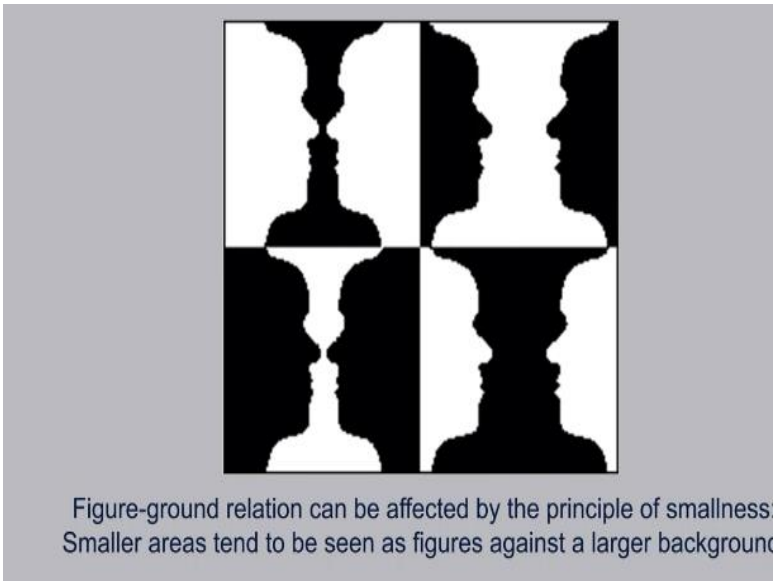

In his or her painting the scope of communication visual communication keeps expanding itself for examples in this drawing the figure ground relation can be affected by the principle of smallness smaller areas tend to be seen as figures against larger background and again you can havethe solutions or this ambiguity or this riddle where it is up to you to identify form and treat the rest as background and it can keep reversing one from the other.

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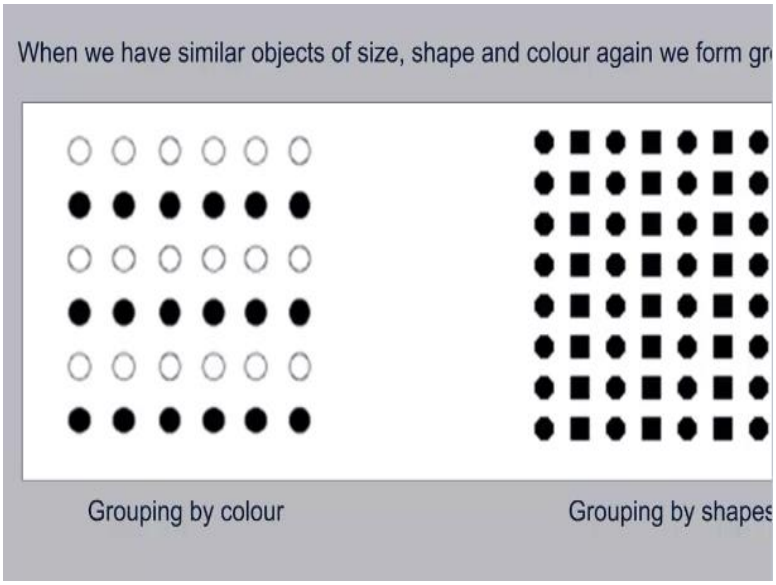

Now when we have similar objects of size shape and color again before groups it can be a grouping by color like the diagram on the left landside or it can be grouping by shapes like the diagram, on the right hand the image now what is happening here is that these possibilities of how our mind or brain works in the context of visual perception is used very carefully and very intelligently by many artists in any case in our subsequent lectures when we will be looking at various examples across the cultures.

We should see that intentionally or not deliberately or not artists all over the world I have always been using certain principles to make the visual communication effective for example of artists.

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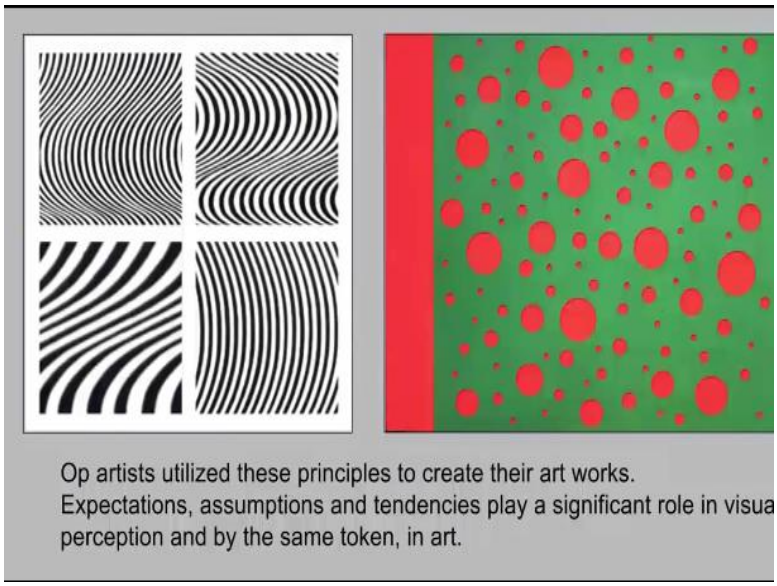

In the West in the context of modern Western art utilized these principles to create their artworks expectations assumptions and tendencies play a very significant role in visual perception and by the same token in art.

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When you look at the close-up of terracotta reliefs panel from terracotta temple in Bengal and how dowel know that these are window-shutters through which a figure or a head issleeping out because you connect these forms these lines these elements with what you know so visual principle is not just about what you are receiving at that moment. It is also about what you have already received in the past it has got something to do with your knowledge with your memory so when you look at this detail of a Bengal terracotta temple.

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A small little panel in most cases nobody will make the mistake of identifying this horizontal lines as something else because of the way the head is peeping out from inside because of the way the horizontal line have been caught in the soft clay paneled can immediately identify them as window shutters or venetian blinds whinchat one point of time was very common in Indian household or for that matter.

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When you look at this print which depicts landscape but the depiction does not have lot of details mostly too suggestive with lot of textures landmarks but because of your knowledge because of your ability to connect this imagery with the real and real landscape real life you are able to identify each and every object in this drawing perfectly, in our real life the processor visual perception actually helps us to identify objects from our knowledge to a great extent and knowledge is also required in art, in order to identify not only the objects but also the emotion also the feeling also the psychological content embedded within a given work of art.

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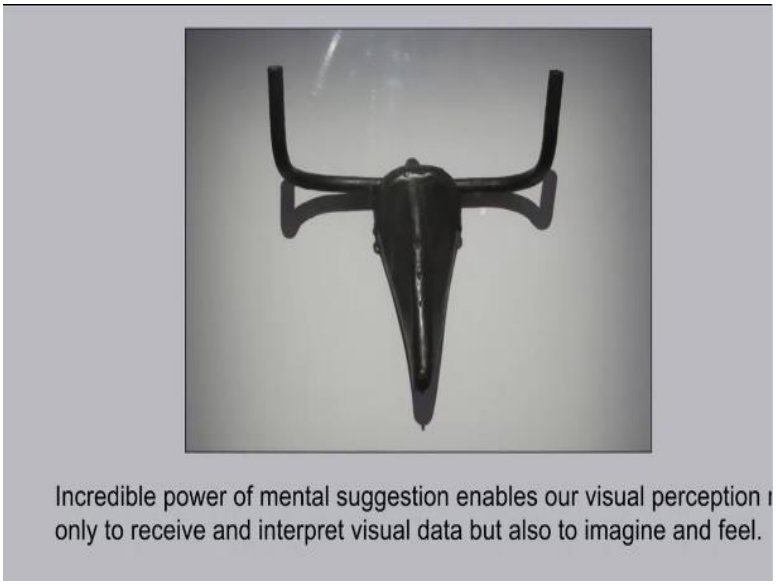

And that is why incredible power of mental solution enables our visual perception not only to receive an interpret this world data but also to imagine and feel so that is one of the reasons why when you look at this small little sculpture of a bull head weighty Picasso, even before you recognize the horn as a cycle handlebar or the size of the bowl as nothing but the cycle seat you actually identify the hole as bull's head.

It is only later when you try to figure out the elements that you notice that it is actually a combination between cycle set and a handlebar, but then because of a very perfect combination your brain despite the knowledge that these two elements have nothing to do with the real bull but they are part of a by cyclist does not matter for the brain because the brain has already begun identifyingthis object as the head of a bull.

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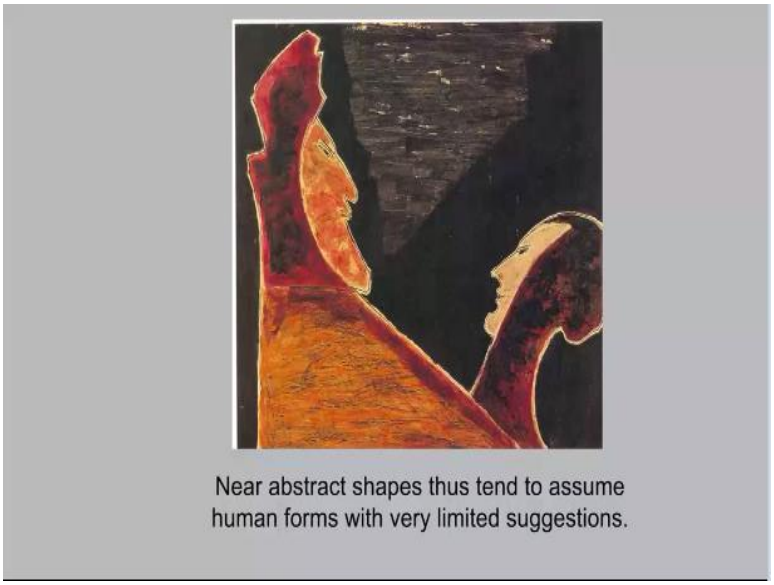

So and this has been used very intelligently by Picasso in this work of art or in this painting by Tagore Rabindranath very near abstract shape does tend to assume human forms with very limited positions.

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Now look at this work where you can see it is a page of an illustrated book meant for children even if you do not know the story you can see the figure of a human being placed right at the center bottom center of the page and placed in a very stable way in thievery next image you see the same person almost cut through the edge theleft-hand edge of the paper and it immediately gives you feeling as if the figure is walking out of the page walking away from the center and going out of the page just by using the positioning of a figure in a given space without.

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Introducing any other little the art is very successfully is able to suggest that in the left hand drawing the human figure. The character is still there very stable whereas on the right hand drawing is simply about to leave the city he does not say anything there is no literary text on the work it is theater of visual communication using certain visual course using the principles of visual perception, that the artist is able to communicate the content very intelligently.

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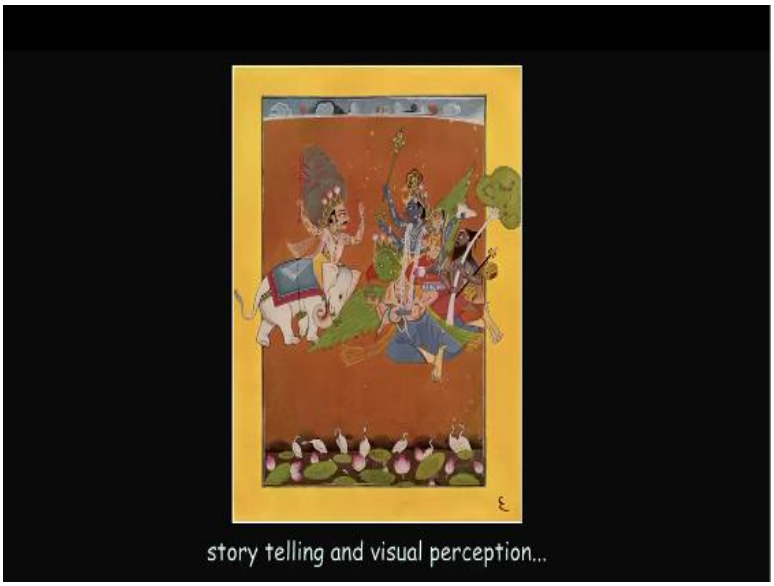

So that is why even if you do not know exactly the result by looking at the position of the figures you can sync immediately feel that it is about a very violent fight that is going on above the grounder maybe on the ground far away from the foreground in this particular painting referring to an Indian mycological story.

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And once again we go back to this painting which we have already seen in our previous lecture and we have already got the sense that because these figures have been pushed towards the right-landside of the painting a little bit of blank space on the left-hand side of the painting does not look really blank it actually a feeling that there is something outside the painting.

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More important than what is happening inside the painting and now when we look at the trumpets now when we look at the way the people are blowing the trumpet give us feeling that somebody probably a king is being welcomed by these people and that thing is yet to come into the frame.

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We still outside the frame so certain kind of visual principles can be very useful also to the suggests not only what is happening within the frame but also what is happening outside the frame.

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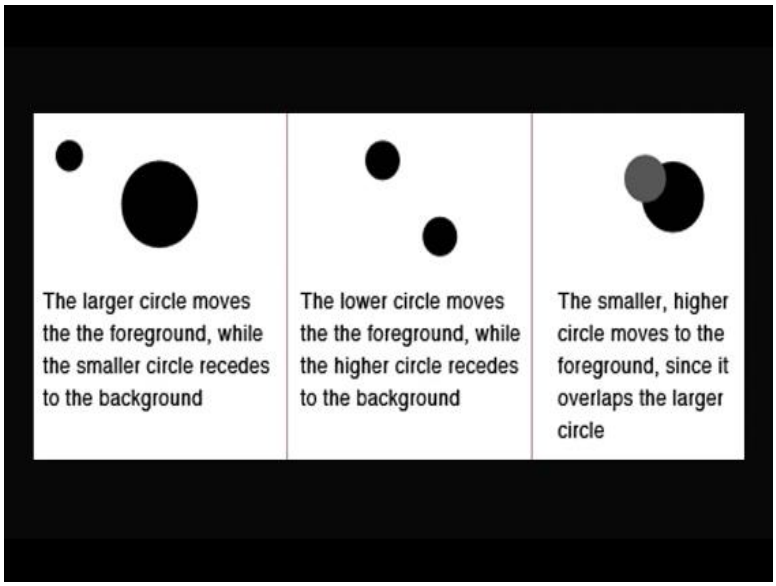

Now so larger circle for example is said usually to be moving kind of there foreground and the smaller circle is apparently a kind of recedes in the background and similarly the lower circle is supposed to move whereas to do down on the ground and the foreground where the higher circle is supposed to be receding into the background.

So positioning are very simple shapes like circles and how far they are located from each other can always tell you something about their activity about their fate comment fate so obviously the process of visual perception is very physical.

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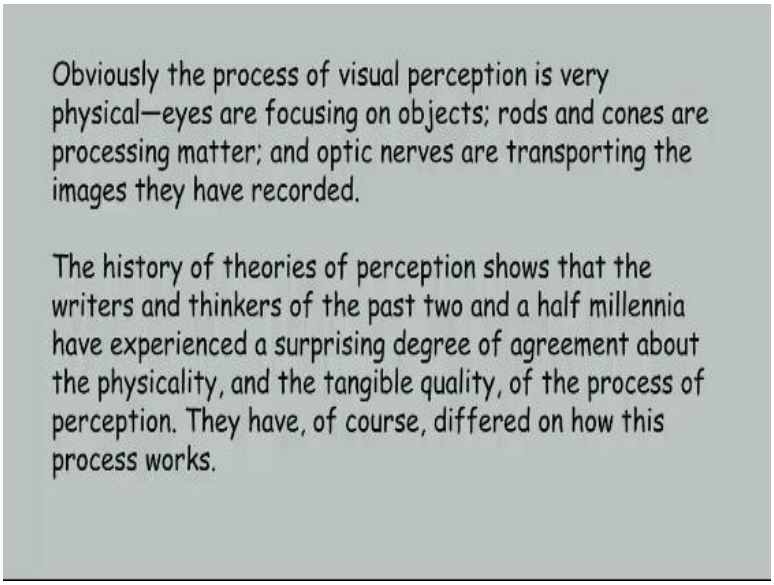

Eyes are focusing on objects rods and cones are processing the matter and optic nerves are transporting the images they have recorded, the history of theories of perception shows that the writers and thinkers of the past two and a half millennia have experienced a surprising degree of agreement about the physicality and the tangible quality of the process of perception. They have of course differed on how this process works not only does the brain make up.

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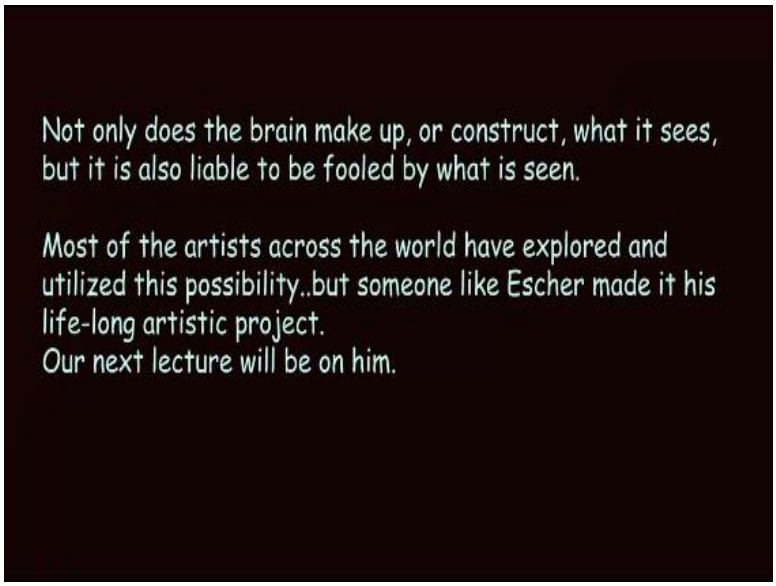

Or construct what it sees but it is also liable to be fooled by what is seen infect most of the artists across the world have explored and utilized this possibility but someone like ajar Melcher from Netherland made it kind of his lifelong artistic project that how to deal how to demonstrate these possibilities of illusions which is a part of our visual perceptual process and our next lecture will be on that thank you.

Acknowledgement

Ministry of Human Resources & Development

Prof. Satyaki Roy
Co – ordinator, NPTEL IIT Kanpur

NPTEL Team
Sanjay pal
Ashish Singh

Badal Pradhan

Tapobrata Das

Ram Chandra

Dilip Tripathi

Manoj Shrivastava

Padam Shukla

Sanjay Mishra

Shubham Rawat

Shikha Gupta

K.K Mishra

Aradhana Singh

Sweta

Ashutosh Gairola

Dilip Katiyar

Sharwan

Hari Ram

Bhadra Rao

Puneet Kumar Bajpai

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Ajay Kanaujia

Shivendra Kumar Tiwari

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