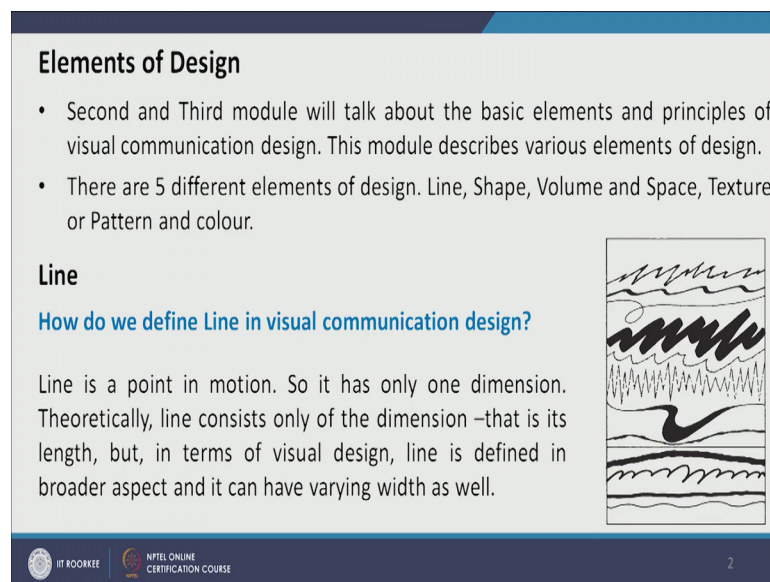


**Visual Communication Design for Digital Media**  
**Prof. Saptarshi Kolay**  
**Department of Architecture and Planning**  
**Indian Institute of Technology, Roorkee**

**Lecture - 02**  
**Elements of Design Part-I**

Hello students. Welcome to the course NPTEL course Visual Communication Design for Digital Media. This is the second module; and in this module, we will discuss elements of design. So, second and third module, we will concentrate on the visual communication design part. In the second module, we will talk about the elements of design; and the third module, we will talk about the principles.

(Refer Slide Time: 00:48)




**Elements of Design**

- Second and Third module will talk about the basic elements and principles of visual communication design. This module describes various elements of design.
- There are 5 different elements of design. Line, Shape, Volume and Space, Texture or Pattern and colour.

**Line**

**How do we define Line in visual communication design?**

Line is a point in motion. So it has only one dimension. Theoretically, line consists only of the dimension –that is its length, but, in terms of visual design, line is defined in broader aspect and it can have varying width as well.



IT Roorkee NPTEL ONLINE CERTIFICATION COURSE 2

So, what are the elements of design elements of design we have five elements of design line, shape, volume and space, texture or pattern, and colour. So, line is one-dimensional, shape has two different dimensions, volume and space is when we talk about three dimensions spaces, and texture and pattern are the surface surrendering process texture and pattern, and then the colour will also create difference in the surface. So, these are the tools the basic tools with which we can create different kind of a visual designs. So, it can visual design can range from as we know from three-dimensional art and craft to architecture two-dimensional painting as well as digital media. So, in terms of digital media as well we have these five elements and with the permutation combination of all

these elements we can create different kind of visual design; and applying the principles of design, we can create different typologies of design

So, first element is line. So, how do we define the line in visual design? So, line is the point in motion. So, it has only one dimension theoretically. So, line only consists one dimension, but in terms of visual design it can have different kind of width. So, in the right hand the side corner, we can see different kind of lines, but in terms of geometry some of these will be called as shapes, because it has some width, it is not exactly one-dimensional. But in terms of visuals visual art and visual communication design this actually will be classified as lines because this has a single direction, one direction and it has a motion.

(Refer Slide Time: 02:47)

**How Lines can be used in visual communication design?**

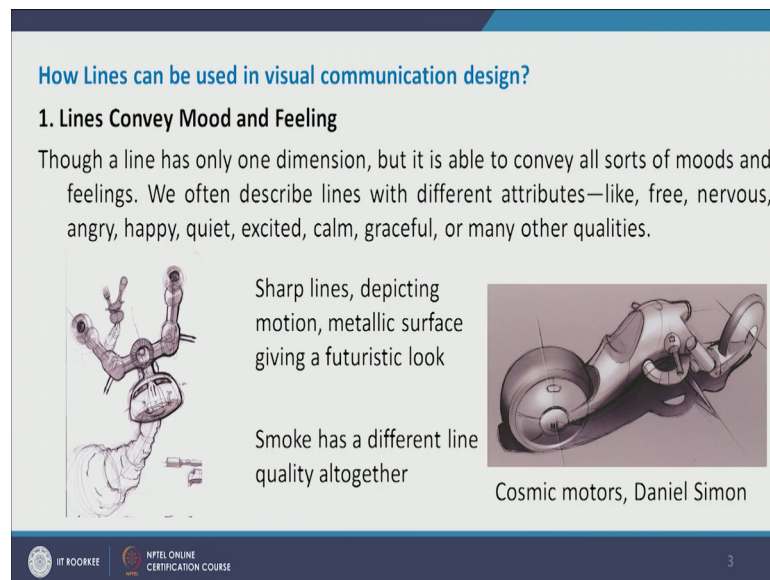
**1. Lines Convey Mood and Feeling**

Though a line has only one dimension, but it is able to convey all sorts of moods and feelings. We often describe lines with different attributes—like, free, nervous, angry, happy, quiet, excited, calm, graceful, or many other qualities.

Sharp lines, depicting motion, metallic surface giving a futuristic look

Smoke has a different line quality altogether

Cosmic motors, Daniel Simon

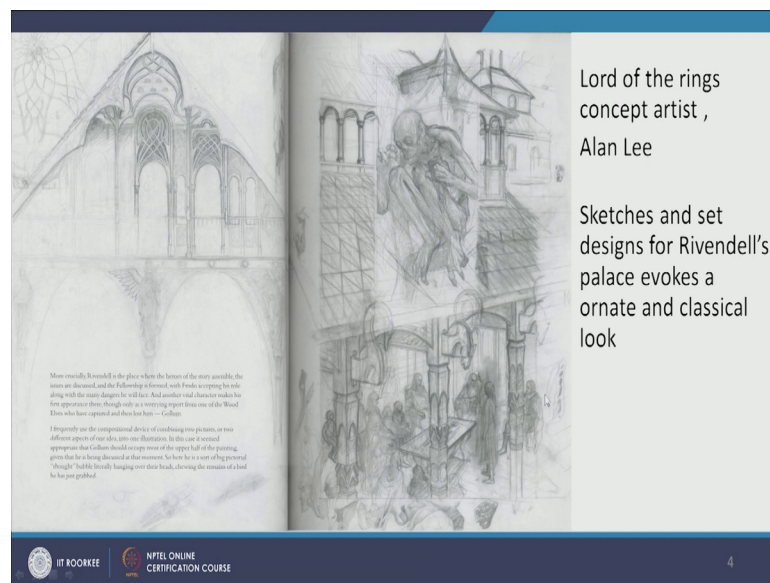


So, a in this slide we can see what are the different how line helps in visual communication. So, first of all line conveys a mood or filling, so that is the first usage of line. So, in this slide, we can see some design of the famous designer automobile designer Daniel Simons from his it is taken from the book cosmic motors. On the right hand side, we can see two wheeler design with sharp and sharp line which conveys motion; and on the left hand side, we can see a very sketchy design concept design of a spaceship. So, how lines can be used in visual communication design? So, first usage of line is to convey mood or feeling. So, though a line has only one dimension it can convey

different meaning it, and it many adjectives can be attributed in the line like, free, nervous, angry, happy, quite, excited, calm, graceful etcetera.

So, if you see in this picture on the right hand corner, both the pictures are taken from the book cosmic motors by Daniel Simon; on the right hand corner, we can see two wheeler design by him. And on the left hand side we can see a concept sketch of spaceship. So, this in the right hand corner is a very final design has lot of detailing, and we can see a very sharp line which has motion. And on the left hand corner, we can see a concept design, so lines are very shaky, and has lot of lines are over laid on top of each other. And if you see the smoke emitting from that spaceship the line qualities completely different, the line does not have that sharp and sleek nature which we have on the right hand sides final design.

(Refer Slide Time: 04:39)



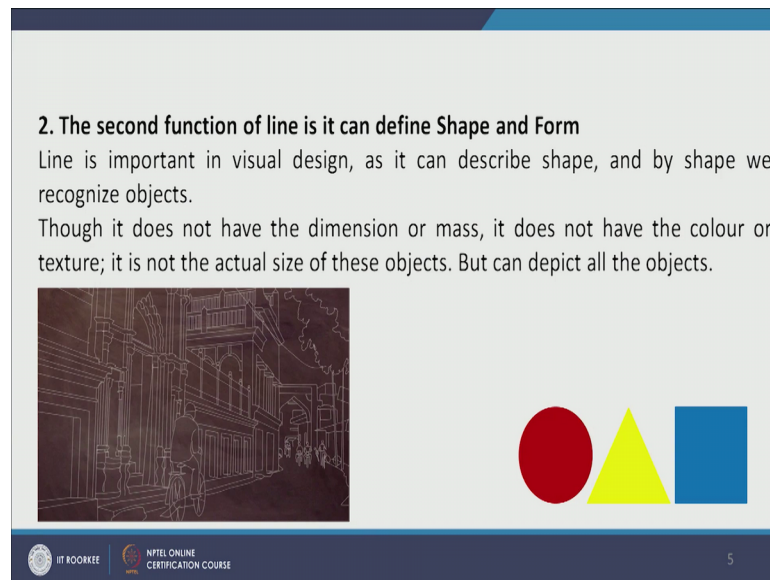
So, in another example, this is an concept design by an Alan Lee, who is the concept designer of lord of the rings movie. So, here we can see and concept design of Rivendell's palace. So, here the line quality is completely different. Here in the corner we can see that the curvilinear lines which has lot of ornate characteristics and the strokes are absolutely different if we compare with a design of the motor.

(Refer Slide Time: 05:11)

**2. The second function of line is it can define Shape and Form**

Line is important in visual design, as it can describe shape, and by shape we recognize objects.

Though it does not have the dimension or mass, it does not have the colour or texture; it is not the actual size of these objects. But can depict all the objects.



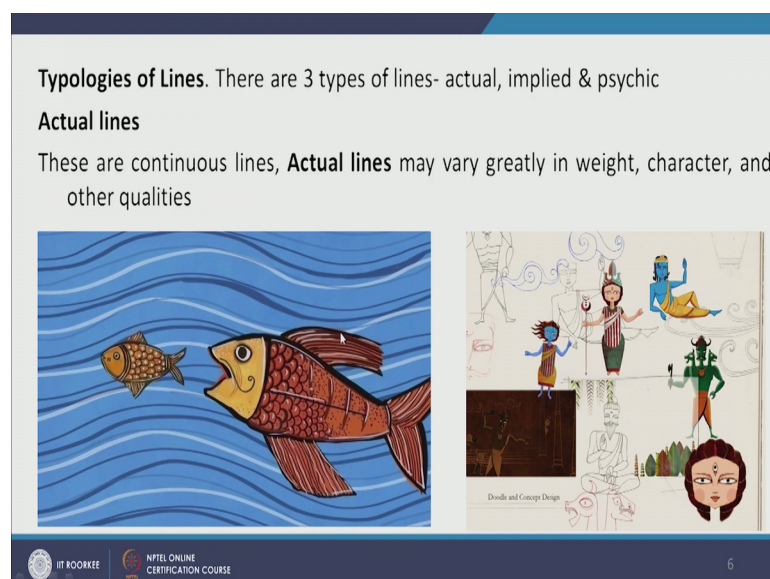
And here the second property of line is it can delineate the shape and form. So, lines important characteristics. So, it defines a form. So, in the right hand corner, if we see it defines three geometric form. So, if here it is actually these are shapes, but at the corner at the border, there is a line. And here in this picture we can see it depicts a cityscape of an old city. So, they are does not exist any mass any colour, any texture, but only through the line we can get the felling of the space.

(Refer Slide Time: 06:08)

**Typologies of Lines.** There are 3 types of lines- actual, implied & psychic

**Actual lines**

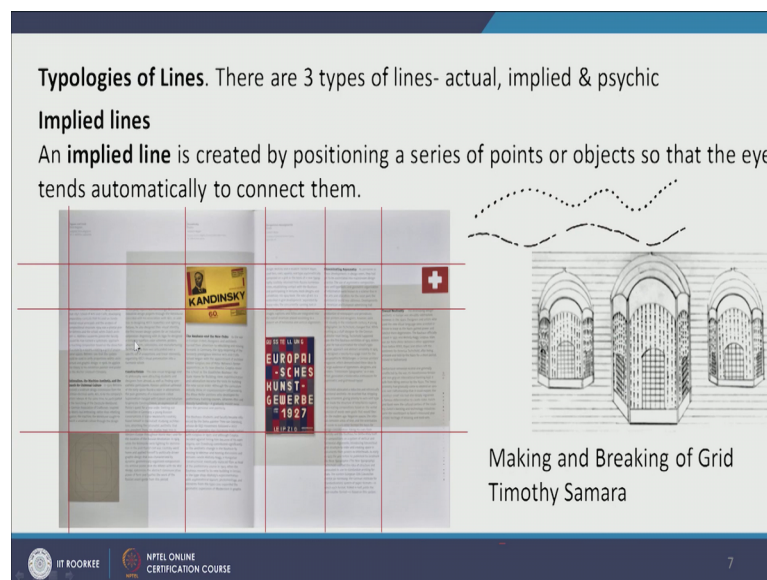
These are continuous lines, **Actual lines** may vary greatly in weight, character, and other qualities



So, if we talk about the typologies of line, there are three different types of line - one is actual line, and there is implied line another is psychic line. So, if we talked about actual lines actual lines are lines which exist which we can see. So, in this example, we can see this in this example where we can see a two fishes this lines which depicts waves are actually existing, though it can vary in the width and it has it can have different characteristics. So, here we can have a sketchy characteristics of line which resembles the brush water colour brush stroke of the line. So, this is an actual line and also in this right hand corner, we can see doodling.

So, these single line drawings are actually line which depicts shape which gives depicts the shape or form.

(Refer Slide Time: 07:01)



So, here this another example of implied line; implied lines can might not be a continuous line and there can be some points in between and or other for some objects in between, so we psychologically create the line. So, in this example on the left hand side, we can see and page layout design, page layout from the book Making and Breaking of Grid. So, in this page, we can see this Kandinsky poster - yellow poster and this logo are aligned on a same line even the text if you see, so the top horizontal grid line is not existent. But here we psychologically create that line and we join that line at that line appears in that design. Similarly, if we see this is vertical lines here, so these lines are not there, but the alignment of text and the photograph creates this line.

Similarly, this is an example this is design by one of the student here in architecture department. Here we can see these dotted lines. So, dotted lines are not actually lines these are dots, but this creates a vertical continuity and creates a implied line.


(Refer Slide Time: 08:25)

**Typologies of Lines.** There are 3 types of lines- actual, implied & psychic

**Psychic lines**

There is no real line, not even intermittent points, yet we feel a line, a mental connection between two elements.

This connection usually occurs when someone or something looks or points in a certain direction. Our eyes invariably follow, and a psychic line results.

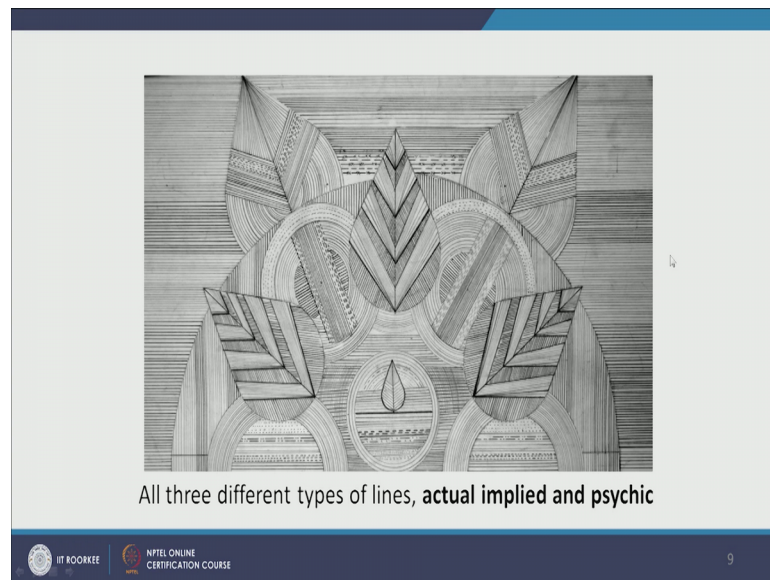


The illustration shows a man in a green striped shirt pointing his right hand towards a grid of red dots. A red arrow originates from his hand and points towards the top-left corner of the grid, illustrating the concept of a psychic line where the eye follows the direction of the hand despite the absence of a physical line.

IT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 8

So, the third type of line is psychic line. So, psychic lines are implied lines. So, here there is no existence of line, there is no point, but the composition creates a movement of users eye and that psychologic user psychologically a follow a line which does not exist in the picture. So, if we see in this picture, so, the person is looking at his hand. So, here in the red line depicts the implied line of users eye movement. So, this is a psychic line is actually uses eye movement in the composition where there does not exist any line.

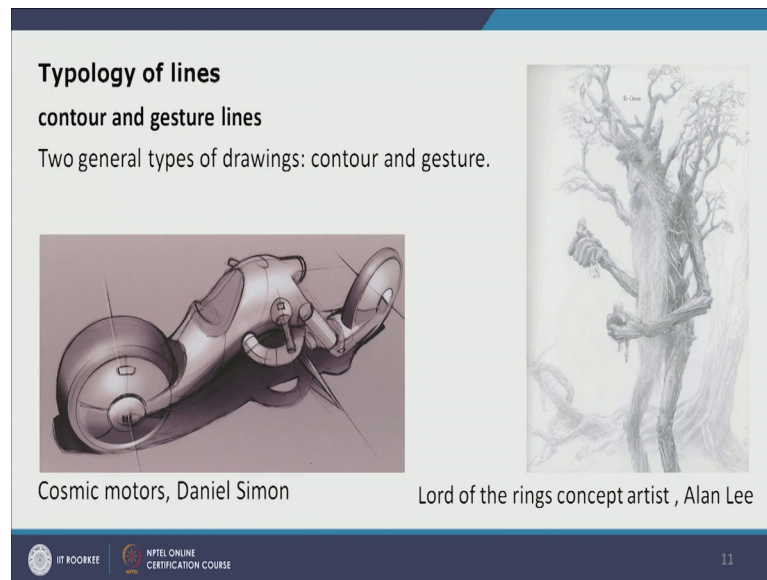
(Refer Slide Time: 08:53)



So, here in this example we can see three the three different kinds of lines is coexisting. So, here we can see continuous lines, this horizontal lines can be as actual lines. And here we can see lot of dots which are closely spaced and it creates a linearity. So, these are implied lines. And if we see the complete composition from the centre, centre has that focal point; and from the centre all these lease are radiating. So, these are actually psychic lines. So, user's eye attention first comes here in the centre and from there user start to look from the out at the corner of the composition.

So, types of lines can also be determined as the way it defines the form or shape. So, one can be contour line and another can be gesture line. So, contour line actually defines shape or form. So, it actually follows the outer boundary of a shape or form, but gesture line just flows a freely.

(Refer Slide Time: 10:04)



So, in this example this is a good example of a contour line and gesture line. So, on the left hand side in Daniel Simon's automobile design the line if you can see or actually following the age of a shape or form. So, this is actually a contour line. So, it clearly defines the contour of the shape and form. But here in the concept design of Alan Lee's the concept artist of Lord of the rings here in this character design, he actually does not fall a create a line which follows the outer boundary of a shape it freely comes within the shape and goes outside and creates a feeling of the line. So, it more or less concentrates on the characteristics of the line, the mood of the line and contour line concentrates delineates the outer shape of the form.

So, the next element of design is shape. The shape is two-dimensional line was one dimensional right now we are moving to the shape which is two-dimensional. So, how do we define shape in visual communication design? Shape is visually perceived area created either by an enclosing line or by colour or value change. So, it can be either a line, outline of a shape or there can be just a colour or value change and which can be appeared as a shape. So, shape can also be called as a form in a non technical way, but form generally is associated with three-dimensional, it converts a three-dimensional space, but shape is two-dimensional.


So, the term shape is in this sense more specific and when we talk about shape, the meaning of shape comes later, but seeing a shape is primary. And meaning of the shape



can be highly contextual and when it communicates with the user, then the context specific meaning can be different to the different users.

(Refer Slide Time: 12:18)

**Shape**  
There are 2 different types of shapes  
RECTILINEAR AND CURVILINEAR SHAPES



Guernica, Pablo Picasso

William Morris

IIT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE

13

So, there are different types of shapes. First we can differentiate a shape between two categories, one is rectilinear shapes, another is curvilinear shapes. So, here we can see in the first example we can see Guernica by Pablo Picasso the famous painter. And here we have lot of angular characteristics of shape lot of angles and straight lines are there. So, this Guernica is a actually Pablo Picasso's drawing which falls under cubist movement. So, cubist movement generally has lot of rectilinear characteristics which has lot of straight lines angular features.

But here we have on the other hand, we have William Morris's design which is which falls in the art and craft movement. So, here we can see lot of curvilinear shapes which are more which has less angles, but more curves. So, to define we can say rectilinear shapes being more angular and linear suggest geometry and hence appear artificial and manufactured. But in on the other way a curvilinear shapes provide us with lot of freedom curvilinear shape can also be geometry. For example, if you draw a circles ellipse and parabolic shapes which are curvilinear shapes can but which are geometric shapes.


(Refer Slide Time: 13:44)

**Shape**

Shapes can be positive or negative

This is also called figure and ground.  
Positive space conveys the main subject matter and contains more visual information.

The location of shapes in space organizes the space into positive and negative areas.



Kandarpa-hasti, Raghurajpur patachitra, Prabhakar Baral

IIT ROORKEE | NITEL ONLINE CERTIFICATION COURSE | 15

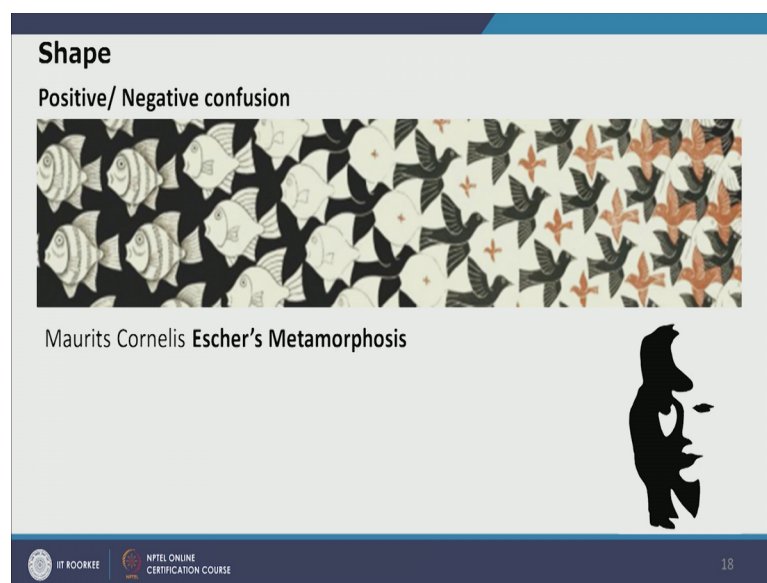
So, shapes can also be defined as a positive or negative. So, what are the positive shapes? Positive shapes are also considered as figure. And negative shapes are also considered as ground. So, a positive shape has lot of intricacy and has more subject matter. So, in this example we can see Kandarpa-hasti which is a drawing of a Patachitra drawing taken from Raghurajpur Patachitra and the artisan is a Prabhakar Baral.

So, here we can see a Kandarpa-hasti there are lot of women which who forms the elephant. So, that is the figure. And as a background we can see the black background which has a tree and lot of floral ornamentation there which acts as a background or negative space. So, here the positive space is the elephant and negative space is the ornate background which shows which is coloured in black and grey, so which also positive and negative space should be integrated. So, if these two spaces are not so well integrated, the composition does not look interesting. So, negative areas are if the negative areas are more interesting then positive and negative integration improves and most common device is to repeat a colour which is present in the positive space into the negative spaces.

So, if we go back to that example we can see there are lot of a brown colour here in the positive space which we can see small repetition here. If you see clearly there is a bird there which is also coloured brown; and here in the foreground we can also see the lot of the ground is coloured, the colour used for the ground is also brown. So, there is a

continuity from the figure to ground and the positive and negative space. So, these positive and negative spaces are coherent. So, there can be a positive negative confusion in the space as well. So, because of the familiarity of the positive as well as a negative shape there can be a confusion between which one is the user can be confused between which shape is positive, and which shape is negative. And both the positive and negative shape can act as a can simultaneously can be failed as a both the positive spaces. So, this principle is called gestures principles which we will discuss later in the different modules. So, and it can appear that be negative area does not even exist.

(Refer Slide Time: 16:45)

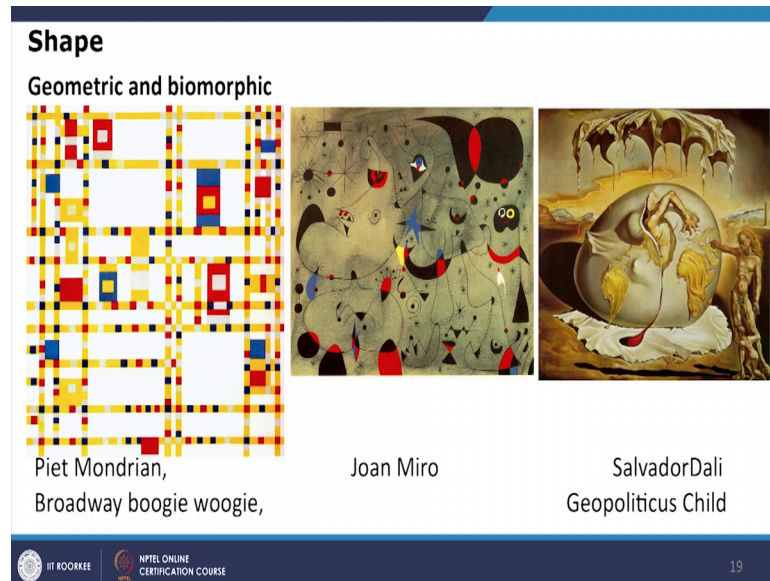


So, if we look at the example here, so this is Escher's Metamorphosis taken from the composition of Escher's metamorphosis 2. And this is actually a long painting and this is a portion of the painting, this is a very long painting. So, here Escher's shows a metamorphosis and evolution of animal kingdom. So, here we can see there are fish and fish transforms into bird, but if you see clearly the fish initially appears as a positive space figure, and the black part actually appears as the background or to the negative space.

But it gradually from the left hand side to the right hand side transforms the background the negative space gradually transforms into a bird, and the fish the positive space the white spaces actually diminishes and does not and on the right hand side they do not even exist. And again they take a form of a brown bird and they then another kind of a

figure appears reappears. So, there is a confusion between positive and negative space all together in this composition. Also in the corner right hand side corner we can see a either a female face or a person playing saxophone. So, sometimes we see perceive the white spaces of figure, some time white shape as a figure, sometime we perceive black shape as a figure.

(Refer Slide Time: 18:23)



So, another way of dividing shape into a two different category is geometric and biomorphic. So, geometric is lot of a geometrical shapes will be there and biomorphic lot of natural and biological shapes will be there. So, we can also call that organic shape will be there. So, on the left hand side, if we if we look at the Piet Mondrian famous painting Broadway Boogie-Woogie, we can see lot of geometric shapes here there are he played with rectangles and squares which are absolutely geometric. And on the right hand side, we can see Salvador Dali's painting, Salvador Dali was a surrealist painter and his painting in this painting we can see lot of biomorphic elements lot of curvilinear shapes, but as we discussed all the curvilinear shapes are not always biomorphic, it can also be geometric.

So, in this example, which is present in the middle of the presentation by Joan Miro, we can see lot of circles which are actually geometric shapes and lot of rectangles which are geometric, and as well as there are lot of free flowing curves which are biomorphic. So, Joan Miro's example which has biomorphic as well as geometric shapes, but Salvador

Dali's painting has lot of biomorphic shapes, but on the other hand Piet Mondrian's design has is absolutely geometric.

So, shape can be either geometric or biomorphic. Here we can see in the right hand side, we have Salvador Dali's painting geopolitical child which is from the art movement of surrealism. And on the left hand side, we have Piet Mondrian's Broadway Boogie Woogie which was under De Stijl art movement. So, in the left hand side in Piet Mondrian's picture painting, we can see lot of a geometric shapes which is square and rectangle, he played with the composition of a square and rectangle. And in Salvador Dali he did not use much geometric shapes, the most shapes are biomorphic which comes from the natural origin which is organic in nature.

So, and in between we have Joan Miro's composition of abstract composition, where we can see rectangles, lines and as well as circles which is also geometric shape, but curvilinear geometric shapes, and also we have free flowing curves which is biomorphic. So, this Joan Miro's composition is a comprises of geometric as well as biomorphic shapes, but Piet Mondrian's composition is completely geometric and Salvador Dali's composition is more of a biomorphic shapes.

So, if we talked about shape association either a shape can be a reminiscent of an obstruct known object. So, obstruction of a known object can be depicted with a shape which has a narrative association, narrative connotation, but also it can have no meaning just it can be up the shape can be solely of a aesthetic purpose. So, lot of twenty first century artists, they of forces are the user to look as a visual composition as just as a aesthetic composition.


(Refer Slide Time: 21:45)

## Shape


### Shape association

Shape can depict a reminiscent **abstraction of a known object**, or it can be created **solely for aesthetics without any narrative association**.

Many twenty-first-century artists are forcing us to observe their works as visual patterns, not storytelling narratives. Without a story, subject, or even identifiable shapes, a painting must be appreciated solely as a visual design.



Wassily Kandinsky ,



Bengal Patachitra , Moyna Chitrakar

IIT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE 20

So, in this composition by Kandinsky, we can see lot of a geometric shapes which does not have any narrative association. But on the other hand we can we have a Bengal Patachitra by artisan Moyna Chitrakar which each and every shape has a meaning and which conveys which is associated with a known object, in this case human being and trees and other musical instruments.

(Refer Slide Time: 22:28)

## Texture and Pattern

**To define them** we can say, they refer to repetition of a design motif.

Texture refers to surface quality of objects  
It appeals to our sense of touch. It provides a Haptic perception to the users.

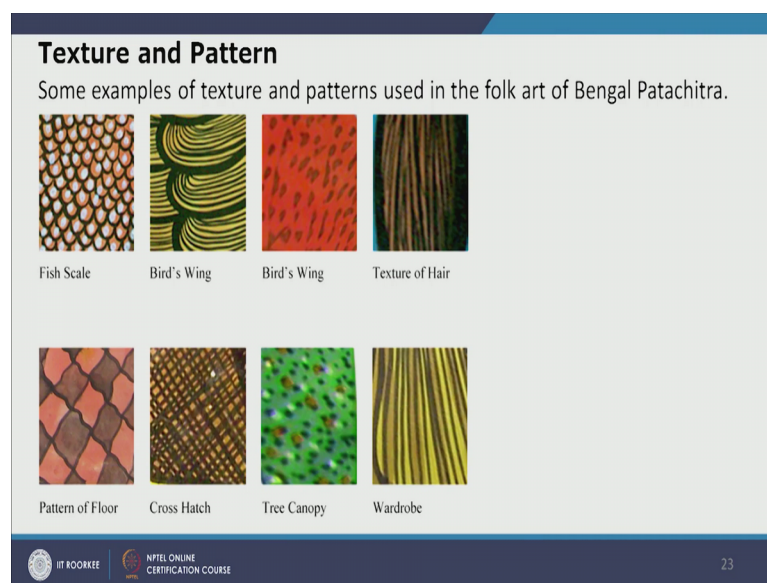
Even when we do not actually feel an object our memory provides a sensory reaction of Haptic communication.

IIT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE 21

So, next element of design is texture or pattern texture and pattern they can be used synonymously, but texture and pattern has slight differences. So, to define them we can

say they refer a repetitive design motives. So, when design motives are repeated several times that can be called as a pattern or texture, but texture can refer to a surface quality it has a Haptic characteristics of sense of touch. So, even when we do not actually feel the object we can have the Haptic communication through the texture. So, the difference between texture and pattern, there is a faint difference between texture and pattern. So, pattern is actually a regular repetition of design motives when the design motives are repeated in regular interval that is called pattern. And texture too has a repetition, but the repetition is less perceivable and does not have a similar regular interval.

(Refer Slide Time: 23:15)



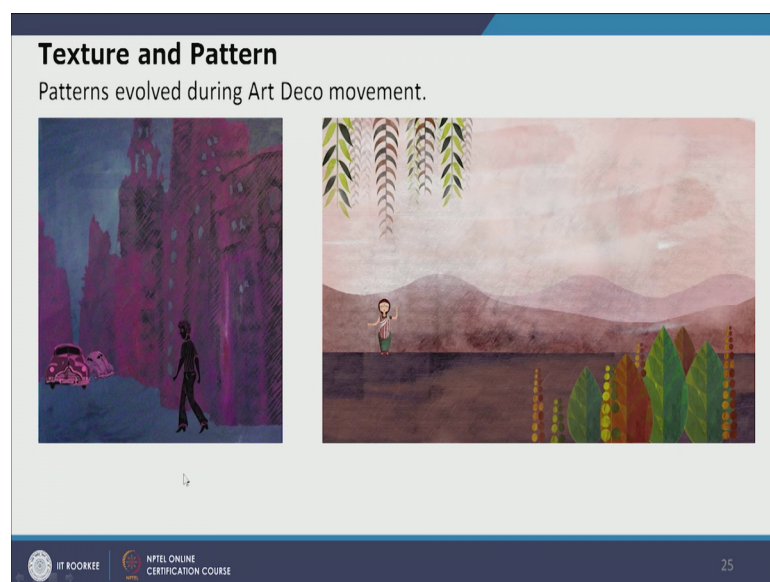
So, here we have some examples of pattern and texture. So, first example are the these examples are taken from a Bengal Patachitra and the photographs are take taken from Moyna Chitrakar's different paintings. So, first one is a fish scale which has a regular repetition of a same design motives. So, it can be a of pattern, but here we can see this texture of here and texture of wood wardrobe, these are actually textures, these are not pattern, so the repetitions are not so regular.

(Refer Slide Time: 23:55)



Here another example the previous example we have the example which is hand drawn. And here we have more geometric pattern and digitally manufactured and digitally designed motives. So, these are art deco texture patterns. So, these patterns are created a florist during art deco movement, and we can see a regular interval of same design motives. So, these are actually examples of pattern.

(Refer Slide Time: 24:20)



Here we have some examples of texture. On the right hand side, this is a screenshot of animation design stop motion animation design, and this is a screenshot of a game



design. So, here we can see our grunge texture and which has a watercolour effect in the right hand side; on the left hand side we have similar grand texture you, but which gives a texture of leno graph and woodcut painting, but not so a literally, but tries to mimic that kind of texture. And texture can be defined in two different way divided in two different way one is tactile texture and another is visual texture. In digital design in visual communication design in digital media, we can only use visual texture, because tactile texture is associated with the material when the texture is actually there. So, we can touch and feel the texture.


(Refer Slide Time: 25:19)

**Texture and Pattern**

There are two different categories of textures – **tactile and visual**

Architecture and sculpture employing actual material have **tactile textural** quality in them.

Texture that can actually be felt is called tactile texture.



The image shows a multi-story Brutalist building with a prominent brick facade and exposed concrete structural elements. The building has a series of windows and a flat roof. The texture of the brick and concrete is clearly visible, illustrating tactile texture.

IT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE | 26

So, the example will be a brick cladding or exposed brick wall. So, here we have a example of architecture. So, the exposed brick wall gives the texture of brick and exposed concrete also gives a texture of a concrete raw concrete. So, this is a from a brutalist movement photograph of a Safety University. So, this is a example of tactile texture we can touch and feel the texture, but in terms of visual design we can only use visual texture.

(Refer Slide Time: 25:50)

**Texture and Pattern**

There are two different categories of textures – **tactile and visual**

In visual design by hue and value ( attributes of colour) difference, illusion of familiar textures can be created, which otherwise does not exists physically— **Visual texture**.

So it evokes a Haptic perception though there s no undulation on the surface.

Visual texture is a very important element of visual realism


IIT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE 27

But visual texture is can be achieved by changing hue and value those are the attributes of colour difference and an illusion of texture can be created. So, this is actually not a texture and illusion of a texture. So, which does not exist physically, but when we see we can have a feeling of texture. So, it evokes a haptic perception through though there is no undulation on the surface.

(Refer Slide Time: 26:24)

**Texture and Pattern**

There are two different categories of textures – **tactile and visual**



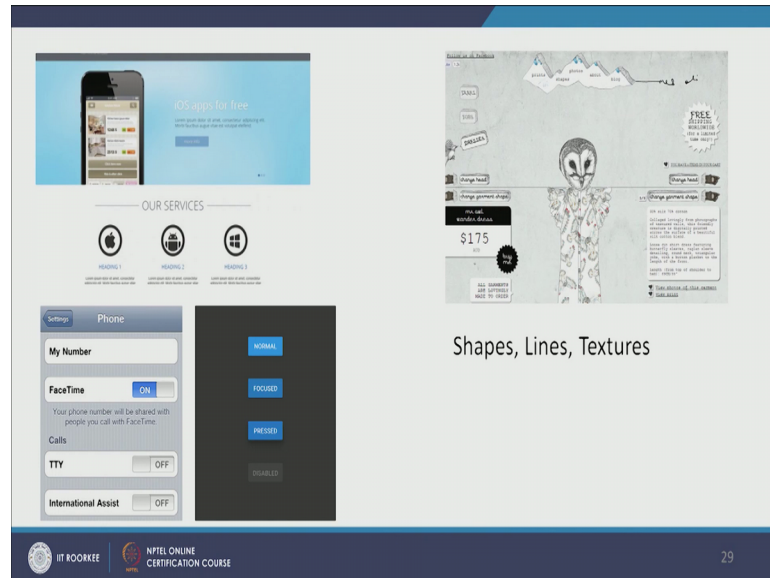
Skeuomorphism of ios

IIT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE 28

So, these are some examples. So, skeuomorphism is a style which first started by ios design. So, here we have that visual texture of wood and also the buttons have a shiny

glossy texture because of the hue and colour variation. So, we can see and perceived there is a haptic sensation of wood as well as this metallic finish through the in the style of skeuomorphism. This skeuomorphism will be discussed later in the different modules.

(Refer Slide Time: 26:53)



So, here to sum up we can have some examples, which plays with shape line and texture. In this example on the right side, we can see lot of sketchy lines this buttons and tabs are delineated with sketchy lines. So, these are very shaky lines are used and there are texture which mimics the texture of a canvas and which gives a different kind of feeling of this UI design.

On the other hand, we have a very strong geometric line, line quality, flat colour which has another kind of visual style. And here we have two different examples of one the first example is from skeuomorphism of Apple and this second example is of material design of Google. So, these two are completely different. Here in the Google's material design we can see very angular shapes geometric and rectilinear shapes. And in Apple's design, we can see some curve angles and lot of visual textures are used.