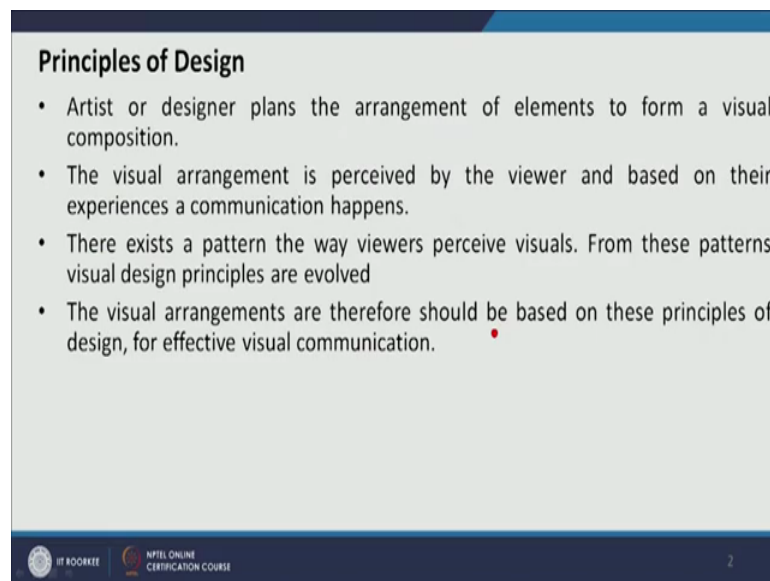


Visual Communication Design for Digital Media
Prof. Saptarshi Kolay
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Indian Institute of Technology, Roorkee

Lecture – 04
Principles of Design Part-I

Welcome students to the NPTEL online certification course titled Visual Communication Design for Digital Media. So, today, we will discuss principle of design. In the previous class, we discussed about elements of design and the principles of designs are; how we arrange the elements of design to create a composition. So, the artist and designers plans the arrangement of element to form a visual composition. The visual arrangement is perceived by the viewer based on their experience and communication happens through the visuals they look at.

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Principles of Design

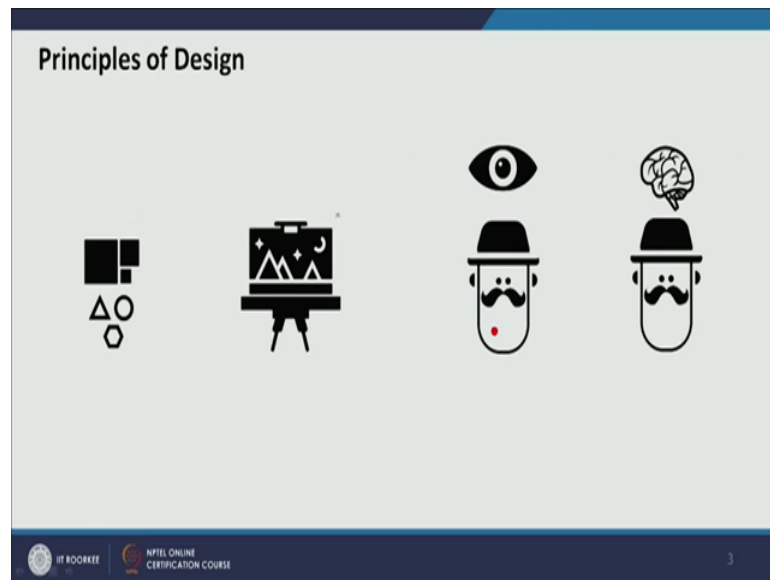
- Artist or designer plans the arrangement of elements to form a visual composition.
- The visual arrangement is perceived by the viewer and based on their experiences a communication happens.
- There exists a pattern the way viewers perceive visuals. From these patterns visual design principles are evolved
- The visual arrangements are therefore should be based on these principles of design, for effective visual communication.

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There exit a pattern; the way viewers perceive visual; from these patterns visual design principles are evolved.

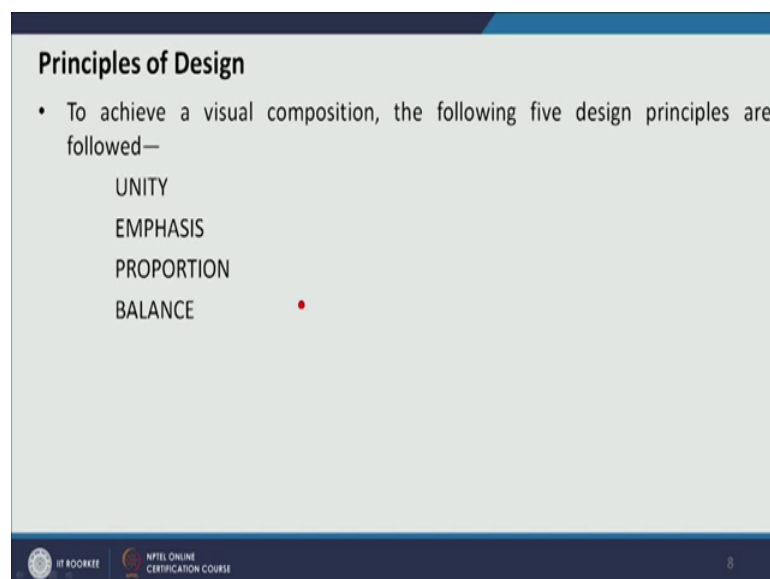
The visual arrangements are therefore should be based on these principles of design for effective visual communication.

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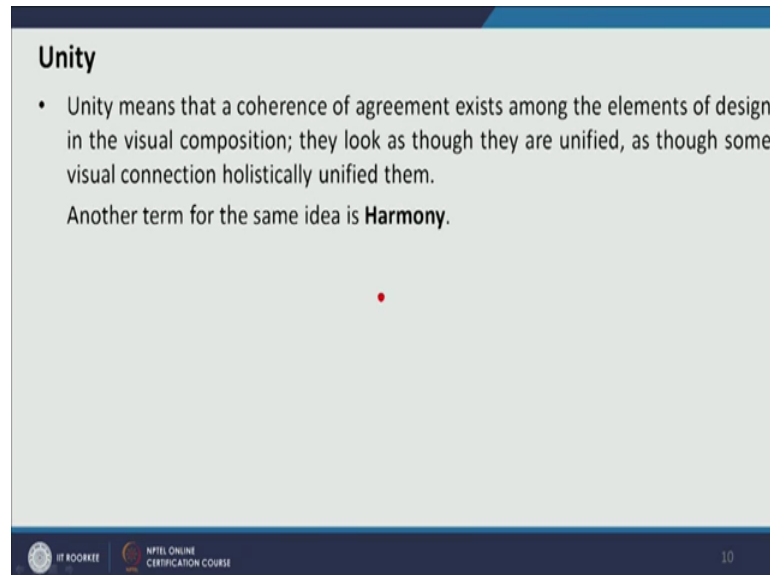
So, if you look at this diagram; this is a representation of the communication process. First we see the different elements fragmented and the designer and artist select these elements to create a visual communication, then the user sees the composition, after that there the interpretation happens and that goes into user's mind. So, if the composition is meaningful, then user perceives the meaning of the communication and the visual communication happens through the final composition.

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To achieve a visual composition, there are the following visual design principles. So, these are; one; unity, next emphasis, then proportion, balance and rhythm.

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Unity

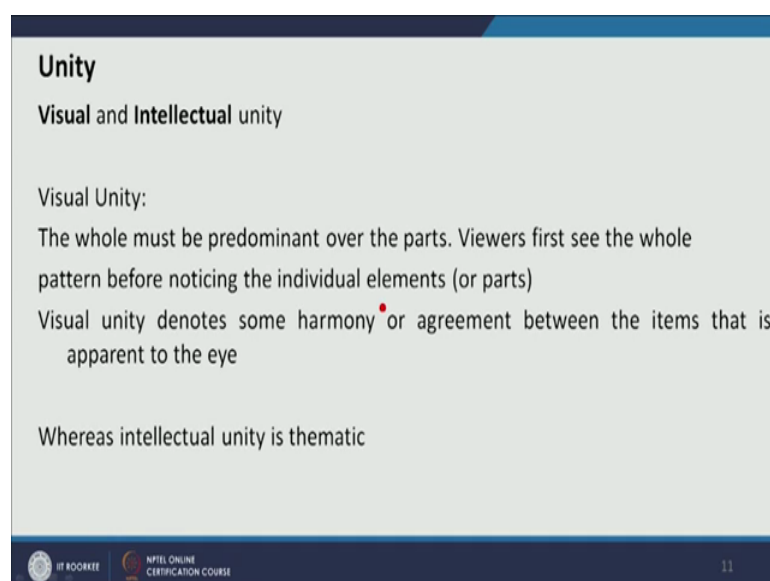
- Unity means that a coherence of agreement exists among the elements of design in the visual composition; they look as though they are unified, as though some visual connection holistically unified them.

Another term for the same idea is **Harmony**.

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So, first we discuss about unity. Unity means that there is a coherence of arrangement which exist among the elements of design in the visual composition. They look as though they are unified; as though some visual connection is there in the holistic composition. Another term of the unity is harmony.

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Unity

Visual and Intellectual unity

Visual Unity:
The whole must be predominant over the parts. Viewers first see the whole pattern before noticing the individual elements (or parts)

Visual unity denotes some harmony or agreement between the items that is apparent to the eye

Whereas intellectual unity is thematic

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So, visual and intellectual unity, we should not be confused between visual and intellectual unity. Visual unity is visually we connect different elements of design, suppose there are circles; it can be smaller circles, it can be bigger circles, but as there is a unity because of the element, shape of the design that is circle, we connect the designs. Similarly if there are unity in texture, unity in line quality or unity in the other elements of design, we connect the composition, but in terms of intellectual unity, there is a thematic connection not into; not in the connection; not a visual connection is there in the composition.

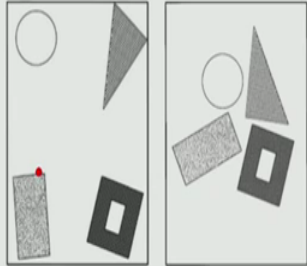
So, we can define the intellectual unity as the whole must be predominant; the visual unity is and there are different kind of unity, one is visual unity and another is thematic unity. We are in the principle of design; we are actually talking about the visual unity. Intellectual unity is not a part of the principle of design. Intellectual unity is just a thematic unity. So, for example, if you talk about visual unity; so, for example, if in the composition, there are multiple circles, one circle is smaller, the other circle might be bigger, if in the; there can be a color difference, but still because of the shape, unity in the shape that is the element of design, we perceive the composition as a holistic one and it can be in terms of texture, in terms of color, in terms of a line and other elements of design, the unity can be achieved; whereas, the thematic unity is just a conceptual unity; for example, if we paste the photograph of a tree and a flower and fruit, then we unite them as a parts of flora.

So, there might not be any visual unity in the composition, but that is just a thematic unity. So, the ways to achieve unity are different.

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Unity
Ways to achieve **Unity**

Proximity—
An easy way to gain unity—to make separate elements look as if they belong together—is by proximity, simply putting the elements close together.



A
If they are isolated from one another, elements appear unrelated.

B
Placing items close together makes us see them first as a group.

Lauer and Pentak, Design Basics


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So, we will discuss them as one by one. So, one is proximity and easy way to gain unity is to make separate elements look as if they belong together. So, if we arrange different shapes, different visual elements together and then they look unified. For example, this is an example taken from Lauer and Pentak's basic design. So, in the first composition A; if we see, there are different elements all have different color, different texture and they are not together. In the second composition in B; they are placed in the closer proximity. So, in the second composition; we perceive this circle; this rectangle and triangle and these 4 things together as a combined one, but in the first composition, we do not perceive that.

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Unity
Ways to achieve **Unity**

Repetition—
perceived visual paths or connections (actual or implied) among parts; elements that appear as a continuation of previous elements are perceived as linked, creating an impression of movement.



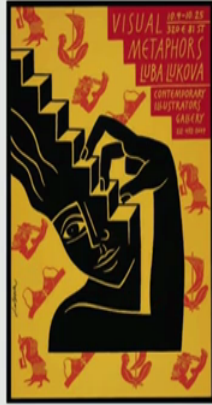
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The next way to achieve unity is repetition; perceiving a visual path and a connection based on the repetitive arrangement of different shapes or different lines or texture can create unity.

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Unity
Ways to achieve **Unity**

Continuity —
perceived visual paths or connections (actual or implied) among parts; elements that appear as a continuation of previous elements are perceived as linked, creating an impression of movement.



Luba Lukova, Visual Metaphors (Poster)


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For example, in this poster, we can see; there is a similar; 2 shapes are repeated twice, the color is different, this shape also has a 2 d effect, whereas, this shape has a 3 d effect, but still we unite them because of the continuity the visual continuity we have.

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Unity
Ways to achieve **Unity**

Continuity —
perceived visual paths or connections (actual or implied) among parts; elements that appear as a continuation of previous elements are perceived as linked, creating an impression of movement.



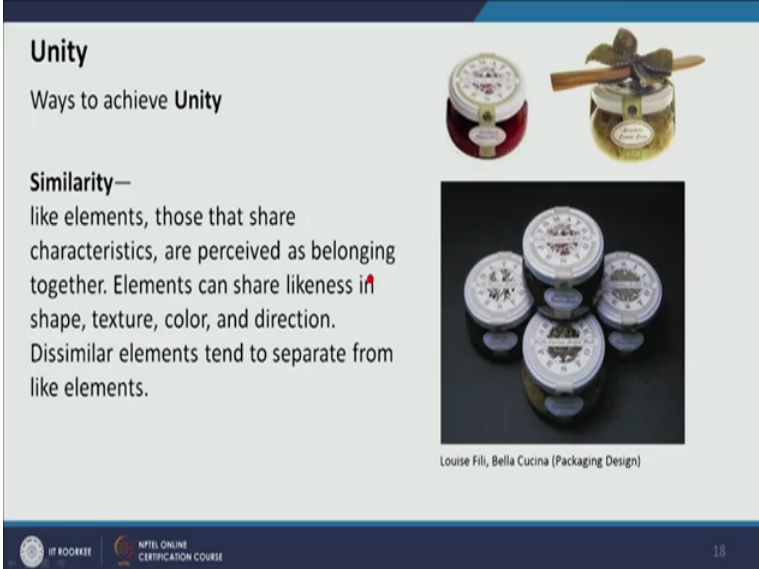
Website of School of Visual arts (ref, Lauer and Pentak, Design Basics)

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For example, this is an example from web design. So, if we see the popup window here and the backdrop has unity because of the continuity of the continuity is there in terms of color. So, we can see yellow color over here that is also there in the backdrop this red color usage of red color is there that is also there in the backdrop and the squarish format is also matching with backdrop.

So, there is a unity because of the principle continuity. The next is similarity; if there are similarities in the elements of design, we also perceive the composition as unified.

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Unity
Ways to achieve **Unity**

Similarity—
like elements, those that share characteristics, are perceived as belonging together. Elements can share likeness in shape, texture, color, and direction. Dissimilar elements tend to separate from like elements.

Louise Fili, Bella Cucina (Packaging Design)

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For example, there is a packaging design. So, different packaging design has different names, different colors, different products, packaging are of different colors and different names, but still you can see the unity be achieved with the arrangement of the elements of design. So, in the first example, there the color of the product is red and the second example; the color of the product is material which is there is a green.

But still the shape of the packaging and the labeling and the typography used and a texture everything is same. So, they create a unity among the product range and they talk about a brand identity.

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Unity
Ways to achieve **Unity**

Closure—
the mind's tendency to connect individual elements to produce a completed form, unit, or pattern perceives a unified holistic image through closure of parts

Paul Rand, IBM logo

Sir Peter Scott (initial design), WWF Logo redesigned on 1986

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The next is closure; if the mind try to connect the individual elements which is there in closer proximity, but in this is different from the example which we discussed earlier. The example we see over here, this is 4 different; absolutely different shapes together; arrange together that is why we perceive it as a same composition, but here if we see the example it will be clearer for example, IBM's logo and WWF's logo.

So, in terms of closure smaller element does not have any meaning, when we see together, then we can read the IBM. The complete fonts of I, B and M, but if you see it in the fragmented way, these are just a series of rectangles. Similarly in this logo of WWF, there are some black and white compositions because of the close proximities; they create the shape of the panda. So, there is in this principle that shapes are together and they the meaning comes when they are composed in a in a particular way and position in a particular place. So, the holistic meaning is there, but individual meaning is not there, then the way to achieve unity is common fate elements which are likely to be perceived as a unity as one unit.

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Unity
Ways to achieve **Unity**

Common fate—
elements are likely to be perceived as a unit if they move in the same direction.



Herbert Bayer, Bauhaus poster

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If they are moving in the same direction; for example, the famous poster by Herbert Bayer; the Bauhaus poster where portraying Kandinsky; so, the first is the original poster.

In the second if you see the elements different elements typographic elements the photographs and the shapes we see are there and the background is deleted the third example is actually the poster is to it the first composition what first element what we see the photograph is change the direction is changed and here the typographic typography and the boxes are the directions are change. So, if you see; for this example and this example here all the elements are following a same particular direction which is this axis where as in this example, these 2 are not following the axis. So, in this example this part and this part is not united with the rest of the composition because of the principle that is because of the common fate of unity is not achieved in this thing. So, this is actually a distorted composition this the from the original composition

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Unity
Ways to achieve **Unity**

Continuing line—
lines are always perceived as following the simplest path. If two lines break, the viewer sees the overall movement rather than the break; also called implied line



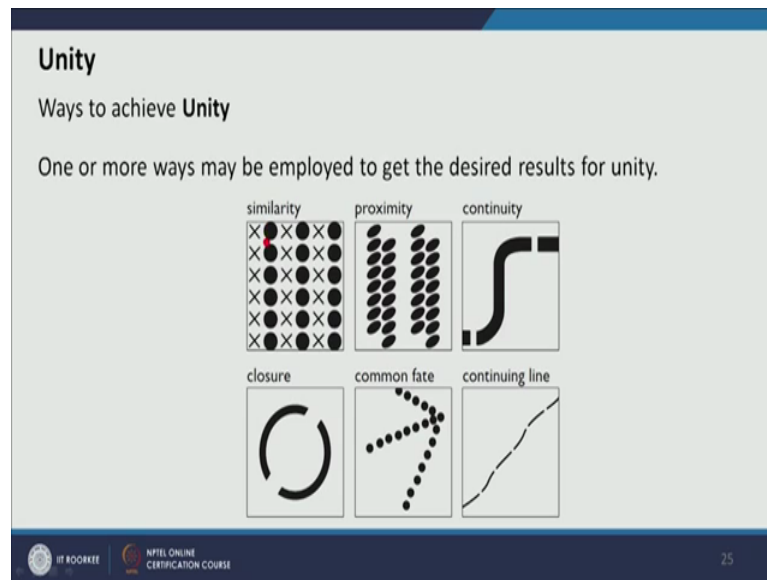
Timothy Samara, Making and Breaking of Grid

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Then another way of achieving unity is continuity in the line. So, if lines are always a perceived as if they are following simplest path. So, if 2 lines break the viewer see the overall movement rather than the break. So, for example, if we see there are psychic lines in the top of the row this is another row the top of the row these are this acts as a line this also access a line this is a top of top line of the shape. So, these lines actually break over here over here and also over here, but we perceive this line as a united line. So, this is actually based on the principle of continuity similarly we can see a line over here a line over here because of the photographs alignment and the text alignment we perceive a line similarly the grey patch over here follows a line at the bottom of this photograph.

So, if you some up these are the principles; these are the way to achieve unity one is similarity, this is the thematic photograph thematic diagram.

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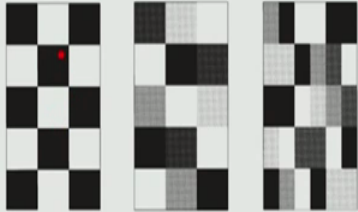
So, these circles are united and these crosses are united and the proximity when we cluster them together they create unity. So, here in this composition we actually have 2 different part 2 different zone of the composition because of the proximity of shapes here we have the continuity of line the line breaks over here, but it continues from here and connects this line. So, if this part this curvilinear line is omitted then this part and this part will not be united then because of the closure the 2 elements are meaningful when they are together. So, there is a holistic meaning in the in this principle. So, that that was the example for IBM's logo and then common fate when together they create a meaning and continuity of line is this thing.

So, unity with variety is a very important thing in the visual composition. So, we if everything is totally unified then there is a lack of lack of drama in the compositions the user lose it is their intention to look at the composition because there is no hidden meaning in the composition. So, some part of the variety has to be there in the composition along with the unity in terms of elements of design for example, in the first composition the composition is boring because it is absolutely united and it is very easy to perceive the composition.

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Unity
Unity with Variety

Variety in Form, Size, Colour, and Texture generates interest in the composition.
Neither utter confusion nor utter regularity is satisfying.



A A checkerboard shows perfect unity.
B Some variations in the basic pattern increase interest.
C Various possibilities are endless.

Lauer and Pentak, Design Basics

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So, first is black then white the regular pattern is there the second and third composition they were a little bit varieties added with the composition though there are only black white there is a play with black white and grey and all we have the squares in the composition, but still we have variety. So, the unity in this composition is the square and the color in terms of shape and color, but there are varieties in terms of rhythm.

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Unity
Unity with Variety

Variety in Form, Size, Colour, and Texture generates interest in the composition.
Neither utter confusion nor utter regularity is satisfying.



There is continuity through the structure of the composition from Typography to the shapes and colours, though the variety is achieved by juxtaposition of photograph, sketch and typography.

Modern Dog Design Co., Flaming Lips (Poster)

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So, in this example there is also a good example of unity with variety here we have different kind of line qualities there is a variety different colors, but still they are unified

because of the curvilinearity of the line. The curvilinearity of the text and the curvilinearity of the shape matches each other and even we see the color over here yellow and then again over here is a same yellow that is a repetition over here.



So, this that is why this composition is unified, but again the variety is also there in the sketchy phones as well as well as in the contrast of the photographic reality of the part in the bottom then the next principle of design is emphasis to create a focal point that is that is very important in the composition if we do not create a focal point. The composition just acts as a texture it does not have any visual any part where the visual interest will be there and to do that we have to create a hierarchy in inside a composition.

So, too way; there are different ways to achieve emphasis the first way of achieving emphasis is isolation if we isolate a particular element from the composition it will augment in the hierarchy and have an emphasis in a composition.

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Emphasis
Ways to achieve **Emphasis**

Isolation—
Isolating a shape focuses attention on it (focused attention = more visual weight). Please note that a focal point usually carries a great amount of visual weight and must be counterbalanced accordingly with other elements in a composition.



Thomas Eakins, The Agnew Clinic (Painting, oil on canvas)

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For example we have these 2 compositions this 2 photo one photograph and one painting here in the first example the photograph distribution if you see in terms of elements of design the distribution of color distribution of texture is absolutely even. So, this photograph actually acts as a texture and because of the even distribution of color whereas, in this photograph they are again the same theme is the same lot of people, but because of the lighting because of the difference of value the this person this foreground is first distinguish distinguishable from the background, but even in the foreground if we

see because of the isolation of this man from the rest 4 man the this man is getting the emphasis.

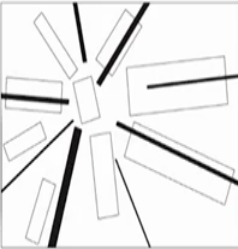
So, in this composition if you think about the hierarchy this here the first level of hierarchy is this. So, this person gets the first attention then 4 this 4 person gets the second has the second hierarchy second level of hierarchy in the composition and all this persons though they are facial expressions and bodies the detailed, but because of the illumination level they act as a background in the composition.

So, another way to achieve emphasis is a placement.

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Emphasis
Ways to achieve **Emphasis**

Placement—
How the viewer moves visually through a spatial composition has been an ongoing topic of study. It has been shown that viewers have preferences for specific regions of a page. Placing a graphic element at specific positions in a composition, such as the foreground, the top-left corner, or the center of a page attracts most viewers' gaze most easily.



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So, if we see in this example all the shapes and though they have they have different shapes they direct to a particular shape. So, here these among all these are shapes this rectangle gets the emphasis because of the position and the pay because of the placement of the other rectangles all other rectangles are directing to this rectangle.

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Emphasis

Ways to achieve **Emphasis**

Placement—
How the viewer moves visually through a spatial composition has been an ongoing topic of study. It has been shown that viewers have preferences for specific regions of a page. Placing a graphic element at specific positions in a composition, such as the foreground, the top-left corner, or the center of a page attracts most viewers' gaze most easily.



Adolphe Mouron Cassandre, Poster

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Again in this example we have this poster design by Adolphe Mouron. So, here all these lines direct to the star because of these lines the star gets an emphasis. The star's color, if you look at the color contrast and the shape and the area it occupies; it is not much and the color contrast is also not high where as we have the higher color contrast over here in the bottom, but because of the placement of this particular advantage point the star gets the first emphasis in the poster.

Another way to achieve emphasis is scale. So, if we play with the scale if we increase the scale of a particular known object the object gets an emphasis or if we also suddenly decrease the scale which also gets an emphasis; so, more or less. So, if there is a scale change. So, we can create an emphasis on that object.

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Emphasis
Ways to achieve **Emphasis**

Scale—
The size and scale of shapes or objects play an important role in emphasis and creating the illusion of spatial depth. Used effectively, the size of one shape or object in relation to another—what we call scale—can make elements appear to move forward or backward on the page. Large shapes and forms tend to attract more attention; however, a very small object can also attract attention if it is seen in contrast to many larger ones




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So, here we can see the comb over here and the glass over here and the brush over here are enlarged in scale so, but the other furniture's in the room are of the scale, we are normally used to perceive them in this scale. So, these 3 objects has the emphasis because of their enlarge scale.

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Emphasis
Ways to achieve **Emphasis**

Scale—
The size and scale of shapes or objects play an important role in emphasis and creating the illusion of spatial depth. Used effectively, the size of one shape or object in relation to another—what we call scale—can make elements appear to move forward or backward on the page. Large shapes and forms tend to attract more attention; however, a very small object can also attract attention if it is seen in contrast to many larger ones



Will Staehle, Kockroach: A Novel By Tyler Knox
(book cover)

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Similarly, in this composition if we see these top view of sky scrapers over here, these 2 skyscrapers and is absolutely of a different scale then the shoe. So, here because of the color contrast and the scale the shoe gets an first emphasis and because of the color

contrast the different color contrast the right up which is aligned with a shoe gets an the emphasis is there as well because of the direction its pointed towards the shoe the shoe gets the first emphasis and then because from the shoe there is typographic element coming here. So, that also gets an emphasis because of their enlarge scale another way to achieve emphasis is contrast. So, if we create a light and dark contrast or a texture contrast or a shape contrast in shape we can create an emphasis in the composition for example, here the contrast is created based on color.

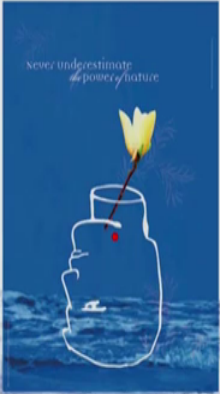
So, here we are the complete composition has a tone of blue and the flower over here has a yellow color.

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Emphasis

Ways to achieve **Emphasis**

Contrast—
Through contrast—light versus dark, smooth versus rough, bright versus dull—you can emphasize some graphic elements over others. For example, a dark shape amid a field of lighter shapes might become a focal point. Of course, contrast also depends on and is aided by size, scale, location, shape, and position.



Dermot Mac Cormack and Patricia McElroy,
Kockroach: Poster


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And if you see the color wheel yellow and blue other complementary color. So, they have highest contrast highest possible contrast in this composition. And also if we see this line is our sketched line and this these are the photographs also will this line gets the second hierarchy in the emphasis because of its line quality the other for things what is used in the compositions are photorealistic, whereas this line is hand drawn. So, that is that is why this line also the face which is created by hand drawn line also has an emphasis in the composition.

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Emphasis
Ways to achieve **Emphasis**

Direction and Pointers—
Elements such as arrows and diagonals use direction to point viewers' eyes to where they should go.



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Then the other way of creating emphasis is a direction of the pointer if this in this composition we see this 2 triangle is pointing towards the circle though the circle is smaller in size and occupies less area in the composition still the circle gets and higher highest emphasis than the other 2 triangles.

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Emphasis
Ways to achieve **Emphasis**

Direction and Pointers—
Elements such as arrows and diagonals use direction to point viewers' eyes to where they should go.



E. McNight Kauffer, Metropolis (Poster)

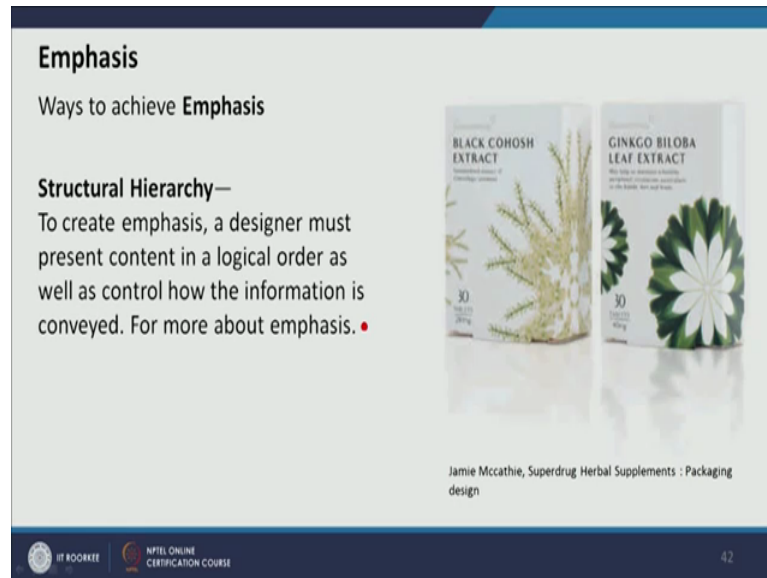
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Here in this composition also we can see the emphasis is there because of the direction if we start reading from here its metro and police. So, metropolis if we read o is here. So, this circle is here and because of this typography it directs towards the circle when we

stop reading from here to there the S is there in the circle. So, this circle and the centre of this complete composition is this. So, this creates gets an emphasis in the composition.

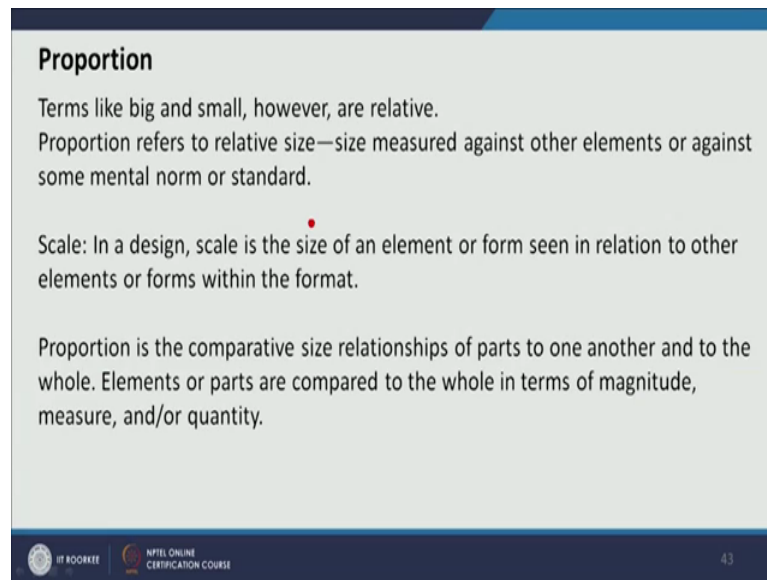
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So, we can we can see the there has to be a structural hierarchy in the composition. So, for example, we have 2 packaging design over here. So, there in this packaging design there are photographs there are typography and there are some blank Vacanza spaces. So, here in the composition if we see the first right of which starts from here is has larger font height. So, this has the emphasis as well we also have a photograph over here which also has a emphasis in the next level, but here this typography's are barely readable. So, this has a least degree of emphasis in the composition.

So, the next principle of design is proportion. So, in terms of big and small: however, they are relative, but the propose proportion refers to a relative size and size measured against other elements or against some mental or norms or standards or perceived.

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Proportion

Terms like big and small, however, are relative.
Proportion refers to relative size—size measured against other elements or against some mental norm or standard.

Scale: In a design, scale is the size of an element or form seen in relation to other elements or forms within the format.

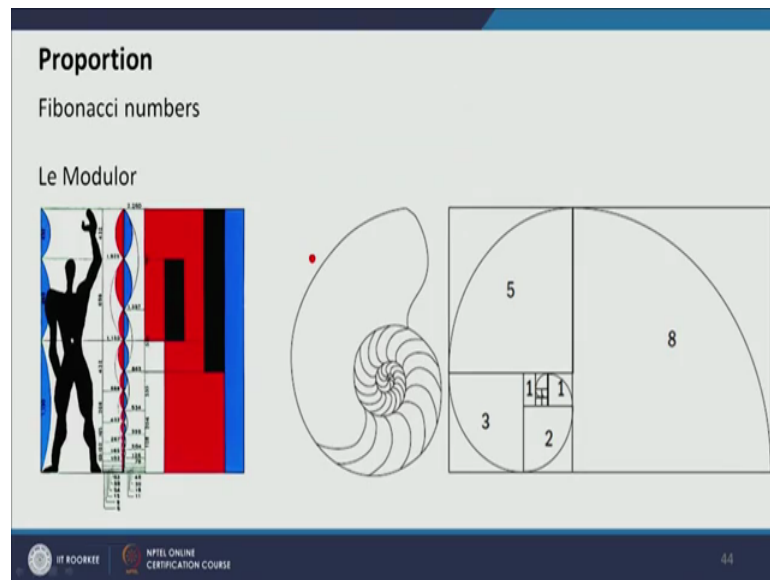
Proportion is the comparative size relationships of parts to one another and to the whole. Elements or parts are compared to the whole in terms of magnitude, measure, and/or quantity.

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So, the proportion when we think about proportion we also think about what we already have perceived. So, if that matches with the proportion we perceive the proportion is a proper and if it does not match with our preconceived notion, then we see some anomaly in the composition for example, that is why some of the proportion acts since beautiful in our users mind and the some of the proportions look odd in users mind.

So, based on this users experience and users preconceived notion we have some beautiful proportions are this established beautiful proportions are there: for example, Le Modulor by Le Corbusier. So, he established a proportion which is beautiful in or most of the user's eye and another is Fibonacci series which is based on the golden mean proportion.

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So, these proportions are actually we find them in the nature. So, this Fibonacci series and Le Modulor can be found in flora and fauna for example, we see the Fibonacci series in the conch shell, we see a Le Modulor in ideal human body part, even the Fibonacci series which is derived from golden mean rectangle is there in Vitruvian Man's; the Da Vinci's Vitruvian Man.

So, if we apply this, propose a beautiful proportion; the compositions looks beautiful for example, in this example The Egg which is there in the; has a different proportion and also in acts a foreground.

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But the other element in the backdrop does not have a perceivable proportion. So, here in this design this has a different proportion and has an emphasis in the design.

So, this is the first part of principles of design in the second lecture. I will continue with the elements and the principles of design the next part of the principle of design.

Thank you.