Module 1

Lecture- 1

Size, scale and overall proportion of form, Form and their structure, basic understanding of various shapes, inter-relationship of visual Forms.

(In this module we are going to discuss about forms and their size, scale , structure and relationship between them and their proportion by showing various illustrated examples for easy understanding of the subject matter, followed by specific context oriented hands on assignments in the class itself or students may be used to check this theory by taking photographs of any objects digitally and manipulate the same in computer to compare their size and scale with their surrounding objects, but the author encourages students to work manually).
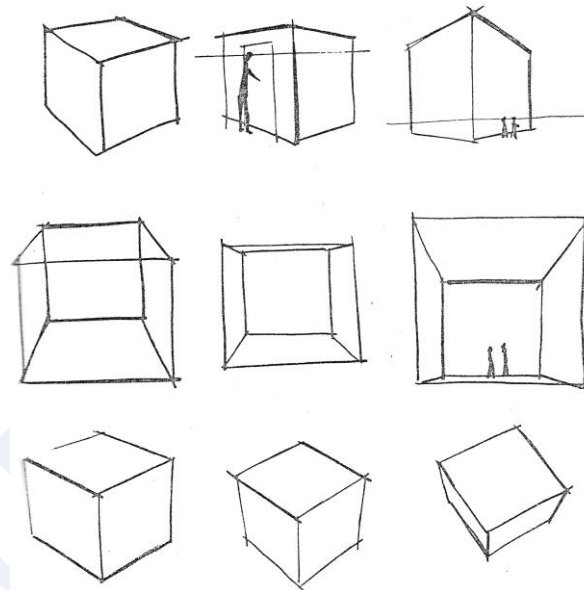

Fig.1: Scale and overall proportion

Scale and size:

Draw cubes of approximately the same size to represent small, medium and large objects (Fig. 1). Notice how the impression of smallness or bigness depends on convergence and eye level. Details can be added to enhance the impression. The size of the drawing is in direct proportion to the distance between the vanishing points. This exercise shows that if objects of varying size are to be represented in drawing of similar size the distance between the vanishing points must vary widely.

Forms and their proportion:

It is a very relative term that shows the proportion of an object along with its surroundings. For example, take an object as small as a fountain pen or as big as an aeroplane and make (some) drawings of it to see how you can change its appearance by varying view and scale. Refer Fig.2 as given below.
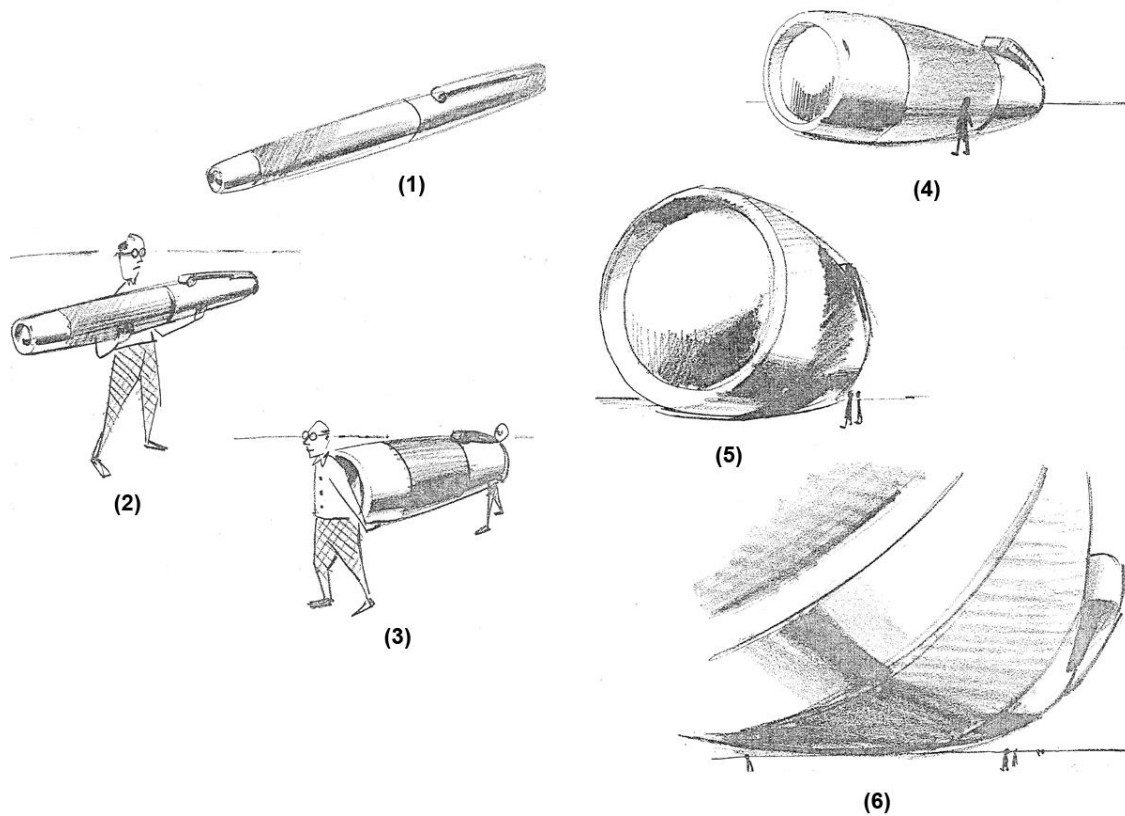
Fig.2: Scale size and proportion, a pen may be made to appear relatively huge.

All visual elements are constituted of what we call as "form". It is not just the shape that we see, but the shape of definite size, colour and texture which are the visual elements and also the properties of form. Form is positive element we place on any surface, environment, layout etc. as opposed to the negative elements we consider space. Form is the point, line, plane, and volume which are now no more as conceptual because they have been made visible. It is the shape and dots, texts, textures and images we use in a proper way to define a better layout of a design. Everything in our design is the form or space, positive or negative, figure or ground.

To start with forms, we first need to understand what is a form made of or what are the elements which come together to make up a form.

All forms are 3 dimensional. As we know it has length, breath and thickness or width. Although a form has volume other than point, line and plane, form exists in space, but human beings for their essentiality of communication of ideas, recording of experiences, conveyance of artistic visions has derived from 2-dimensional structure (shape) which consist of points, lines, and/or planes of a flat surface. Any spatial attributes especially as defined by outline is known as shape which is 2 dimensional (only Length and width), but our visual experiences of the 3-dimensional world influence our understanding and recognition of 2-dimensional shape. Shape is the spatial arrangement of something as distinct from its

substance. Any shape against an empty background appears to be surrounded by a void or empty area. Volume and thickness can be added to a shape to give it the 3-dimensional structure (form) which can also be rotated in space to exhibit different views.

Lecture-2

Structure of forms:
Any form is basically built of points, lines, planes and volume and either they are positive or negative. Visible points, lines and planes are forms in the true sense; although forms as points or lines are still simply called points or lines in common practice.

Point as a form:
A form may be recognized as a point if it is small. The smallness here is completely relative as any form may appear huge as compared to any tiny frame may appear huge or they depending on the frame of reference but the same form may appear large when it is put into a much greater frame of reference. As an example shown below a point can be a football if we go closer to the point or in other words, if we zoom it, the point may appear as a football visually (Fig.3). The most common shape is that of a circle which has features like non-directional, non-angular, compact and simple. However, a point may also be a square, triangle, oval or even an irregular shape (Fig.4). Thus, the features of a point are: it should be comparatively small and its shape should be simple.
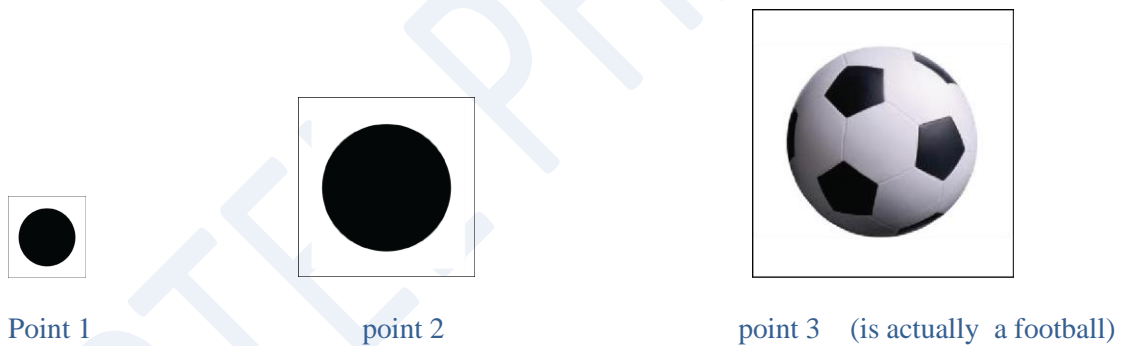
Point 1   point 2   point 3   (is actually a football)

Fig. 3: Point as a football

Fig.4: Various types of points depending on purpose.

Though mathmetically, a point dose not have dimensions, visually speaking,a point may have regular or irregular shapes.

Line as form:
Any form is said to be a line because of two reasons: first its breadth is extremely narrow and second its length is quiet visible and prominent. It generally portrays the feeling of thinness; however, this thinness is also relative to the comparison or frame of reference. Usually the ratio between the length and the breadth (of its extreme) is considered. As an example given in Fig.5 a line can be a wooden log when we go closer to the line and see. Line is a form of a wooden log. Fig.5
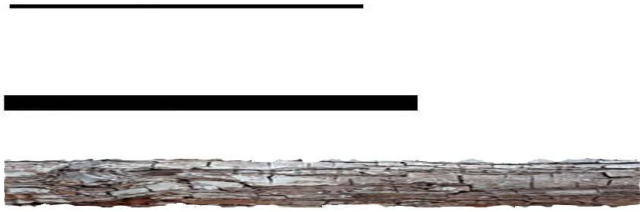
Fig. 5: A wooden log seen from a distance appears as a line.

The line is one of the very important basic elements of deign The various shapes of form to understand the various structural characteristics are shown in (fig. 6) an angular line has its own dimension as form. Here by adding width to the 2 dimensional lines, how we perceive 3dimensional structure (form) of the line. Likewise showing the structures of various lines such as straight, curved, angular contour in order to understand the visual characteristics of 3 dimensional forms and its structure could be perceived from various lines. The thickness of the line also determines the volume of the structure as shown bellow.
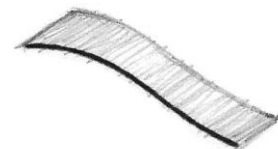

(a). Angular
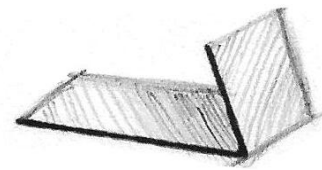
(b).Straight

(c).Curved

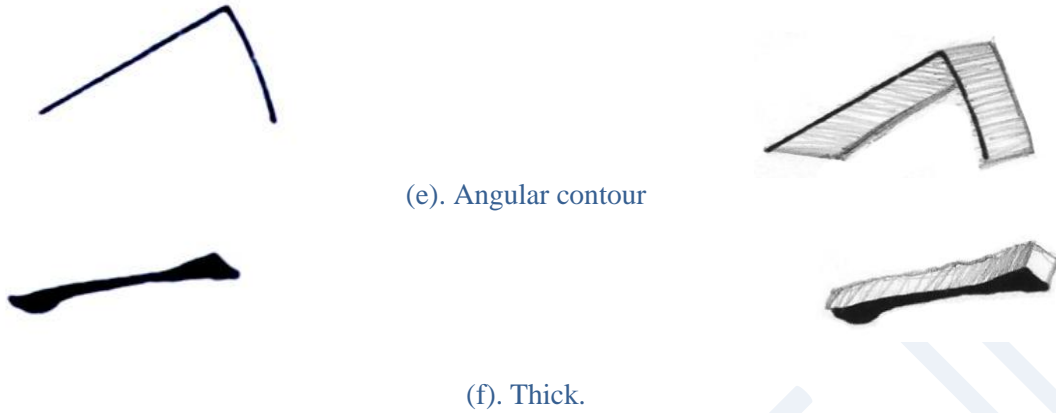(d). Contour

(e). Angular contour

(f). Thick.

Fig. 6: Different structural forms and their representation as lines.

(There would be a class room assignment for further exploration of various structures of forms)

Further following three separate aspects should also be counted in a line.

The Overall Shape:
This is the general appearance of a line such as straight, curved, bent, kinked, angular etc.

The Body:
As a line has some amount of width its body is contained within two edges and the relationship between these two edges determines the shape of the body. Usually these two edges are smooth or parallel, but sometimes, they may appear converging, diverging or irregular as shown in Fig.7.

(a): parallel edges

(b): Converging edges

(c): regular bumps edges
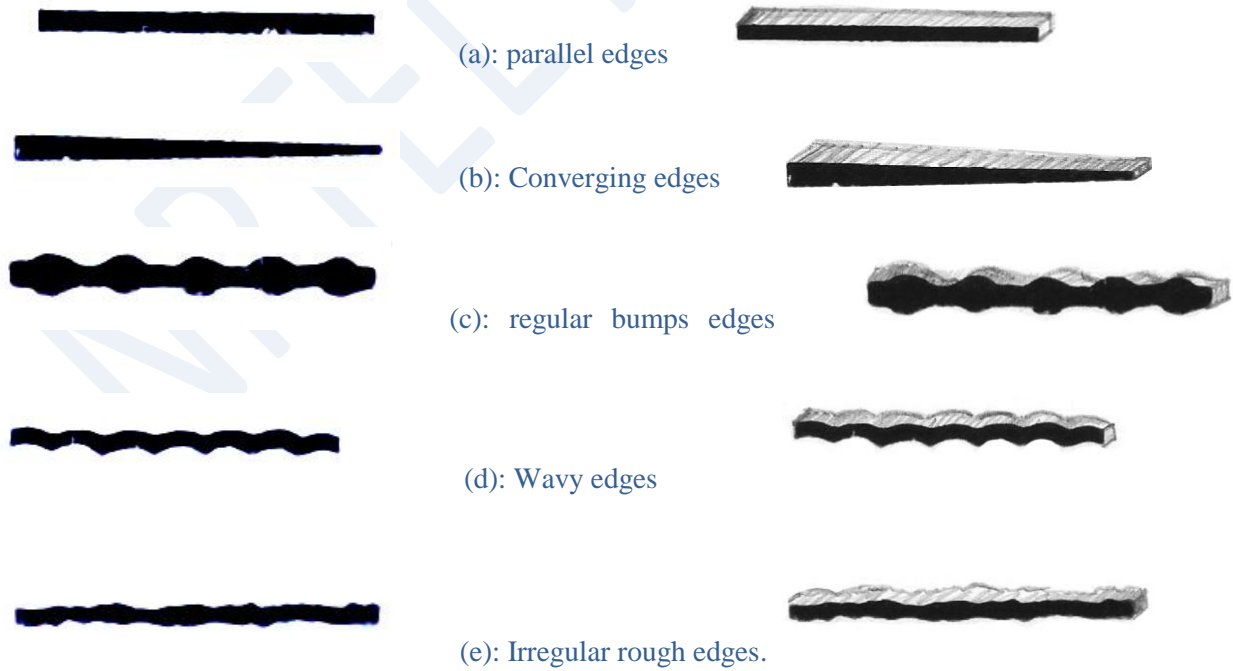
(d): Wavy edges

(e): Irregular rough edges.

Fig.7: Forms with regular and irregular edges and their representation as lines.

c) The extremities:
This feature is usually not considered when the line is very thin, but when the line is a thick structure or broad, then its extremities become visible. Here extremities mean the starting point and end point on the line as line itself is a combination of points in a row. (Fig.8).

(a): Parallel cut extremes.

(b): Rounded extremes.

(c): Angular/slant cut extremes.

(d): Pointed extremes.

Fig.8: Forms with regular and irregular extremities and their representation as lines.

Lecture-3

Shape as Plane:
A 2-dimensional surface is called plane. A planar shape is bound by conceptual lines which constitute the edges of the shape. The characteristics of these conceptual lines and their inter-relationship determine the shape of the surface. These planar shapes have variety which may be classified as follows:
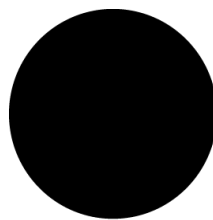
Geometric Shapes:
Shapes which are constructed mathematically are 'geometric'. For example, square, triangle, circle and rhombus are geometric shape. See the Figure below (Fig.9).
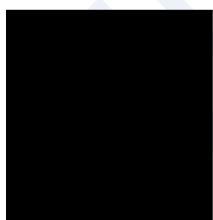
| Square | Triangle | Circle | Rhombus |

Fig.9: Some Geometric Shapes

Organic Shapes:

Shapes which are bounded by free flow curves usually represent dynamism and growth. They are often found in nature and are known as organic form. Fig.10
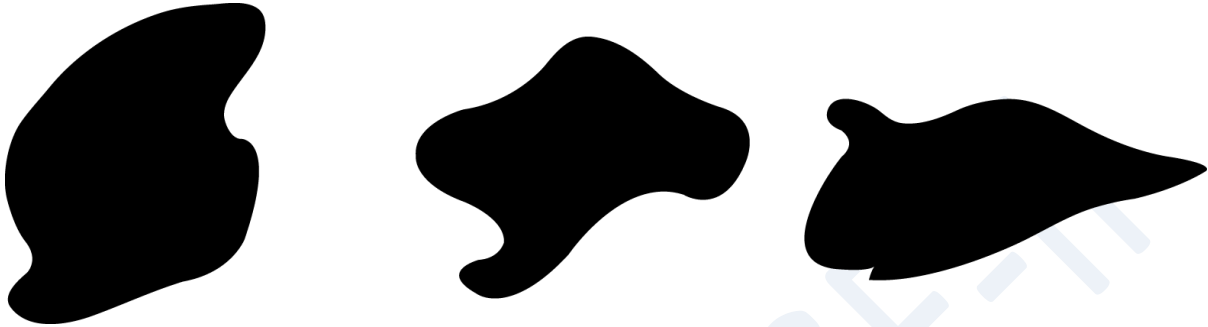

Fig.10: Some organic shapes

Rectilinear Shapes:

Shapes which are bounded by straight lines and connected to each other are called rectilinear shapes.Fig.11
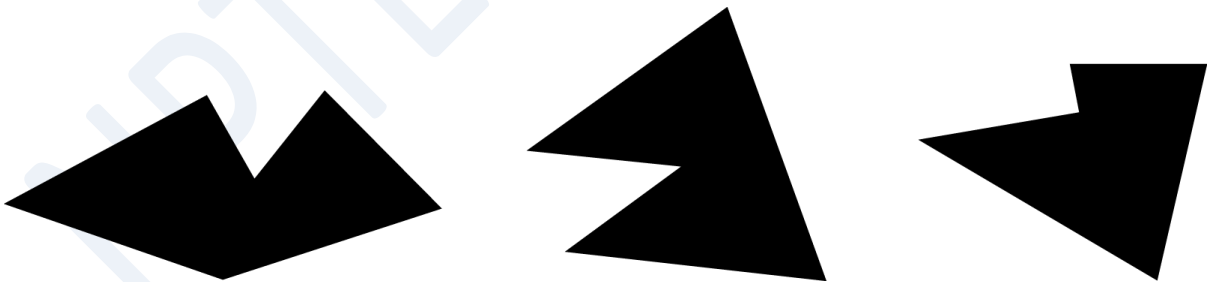

Fig.11: Some rectilinear Shapes

Irregular Shapes:

Shapes which are bounded by regular and irregular lines like straight and curved and are not constructed mathematically are called irregular shapes (Fig.12)
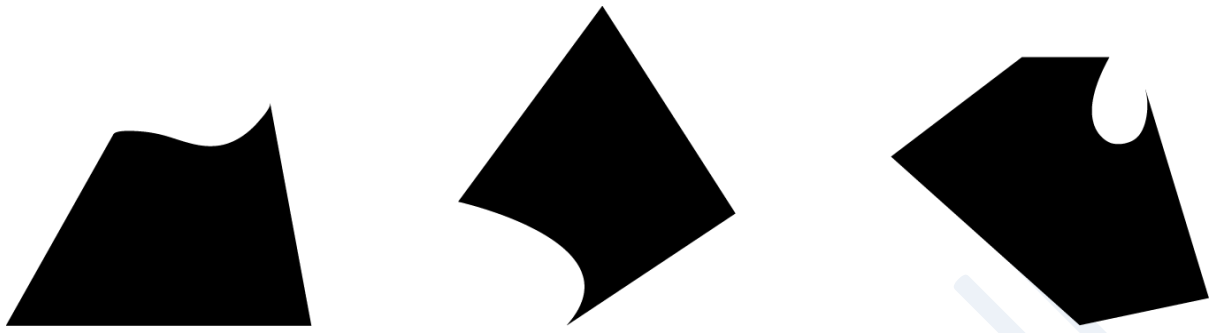
Fig.12: Some Irregular Shapes

Hand-drawn Shapes:

Shapes which are created with unaided hand or freehand to create various irregular uneven shapes are called hand-drawn shapes. (Fig.13)
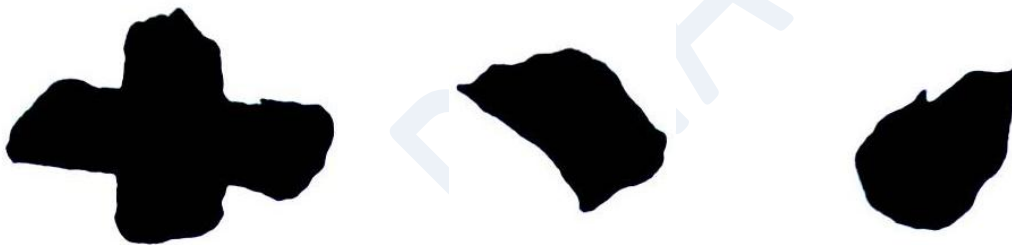

Fig.13: Some Hand-drawn Shapes

Accidental Shapes:

Shapes which are created by effect of special processes of materials or obtained non-intentionally or accidentally are termed accidental shapes.Fig.14.

Fig.14: Some Accidental Shapes

Form as volume:

Whenever we talk about volume we generally refer to a 3-dimensional form as it has length, height and thickness. A volume is a complete illusory experience and always demands a special spatial representation.

Lecture-4

Positive and negative space in a form:

Form is generally observed as occupying some space, but it can also be a blank space surrounded by a space. When we see a form occupying some space it is termed as a positive space in a form. When we see it like an empty space or blank it is considered to be a negative space in form. In any black and white combination, we tend to derive black as occupied and white as unoccupied. Thus, the black form is recognized as a positive, and white form is recognized as a negative form in space. But many times this understanding is not true. For example, when one form penetrates or intersects with another, what is positive and what is negative are no longer recognizable.

Positive or negative space is commonly referred to as the "figure" which is on a "ground". Here ground denotes the area surrounding the form or the "figure". In few cases this figure-ground relationship is reversible and may take various combinations for viewer to understand (Fig.15).

Fig 15: Figure and ground relationships.

The figure/ground reversals create a meaningful "surprise" in the viewer's eye. See the fig.15 above, in the first image you see the positive space or figure (white) as a vase which does not have any surprising elements but, in the second image the positive space or figure is a chalice where as negative space or ground (black) denotes two frontal faces looking at each other and in the third image as you can see four faces in both as figure and ground and the image of a bird comes out as figure. Many of the best logos designed use figure/ground reversal to their advantage.

Form is a 3-dimensional element. It has length, breath and thickness. But shape is 2 dimensional; it has only length and breath. Form exits in space where as shape always exists in area. This aspect of form shape relation is often misunderstood. See Fig.16 below, where you see the connection between form with space and shape with area. The shape of the glass exists in area and the form of the glass exists in space.
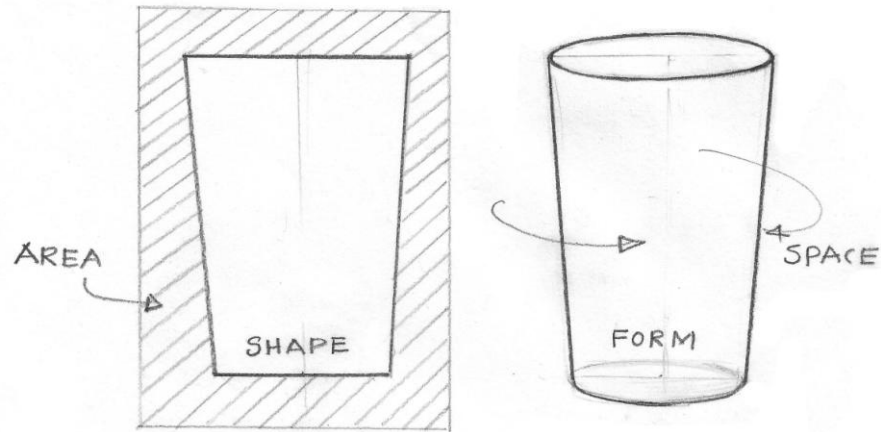
Fig.16: Relationships between shapes and areas and between forms and spaces (volumes)

Types of form:
Shapes or Visual Forms can be classified according to their particular contents.

Representational Form:
Any form that contains a recognizable subject and represents it is called representational form.

Fig.17: Representational forms resemble real objects.

Non-representational Form:
If a form cannot be recognized partially (semi abstract) but to some extent it is vivid to understand is considered to be a non-representational form or semi abstract form. Such forms cannot suggest proper volume of the object and space in particular (Fig.18).

Fig.18: Non-representational forms are semi abstract forms.

Natural Forms:

Representational forms can be further divided into sub classes of natural forms where the form replicates some subject found in nature. Natural forms include living organisms and any inanimate objects (Fig.19).
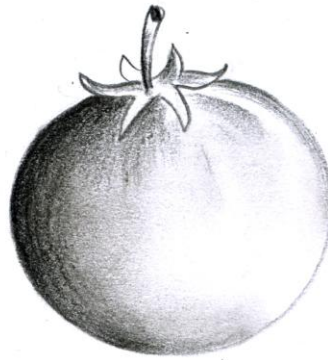

Fig.19: Natural Forms

Human-made forms:

Again representational forms are classified into man-made forms. These forms are derived from objects and environments created by man. They can be buildings, furniture, machines, tools, household products, toys, apparels, stationery etc as shown in Fig.20.

Fig.20: Human–made Form

Type font as form:

The written language consists of characters, letters, words, numerals which make visual communication affective. A form based on the elements of written language through various fonts is called font form.Fig.21 this kind of forms usually used for corporate identity, logo design or for big company signage in 3D.

Fig.21: a typical font Form

Abstract forms:

Unrecognizable structures of forms are termed as abstract forms. After much transformation the form becomes an element which does not relate to any recognisable element. In other words, it becomes ambiguous. Basically this kind of form expresses a designer's sensitivity to shape, colour, and composition without relying on any recognizable element (Fig.22). This kind of form is some time very ambiguous in nature thus it is abstract. Usually the sculptors use this abstract form for their unique

creativity to make their concept appropriate. Also see fig. 18 for clear understanding of non representational and abstract form.
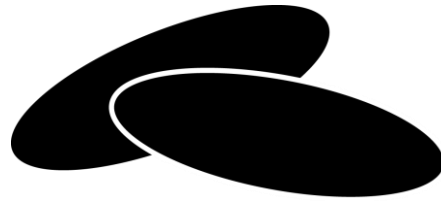

Fig.22: A Typical Abstract Form

Lecture-5

The inter-relationship of forms:
Forms can be found in various combinations and the ways in which they encounter each other are also numerous. When we take two circles to demonstrate the effects produced we find many different kinds of interrelationships. Below is an example of a circle Fig.23. Seen from above, a circle may represent a hole, a disk, a hemisphere, a sphere, and a cylinder.
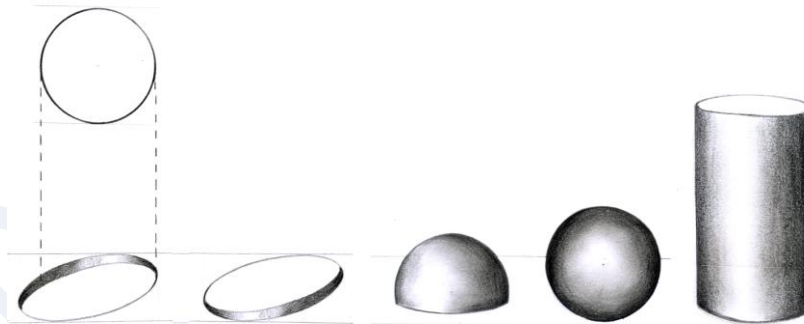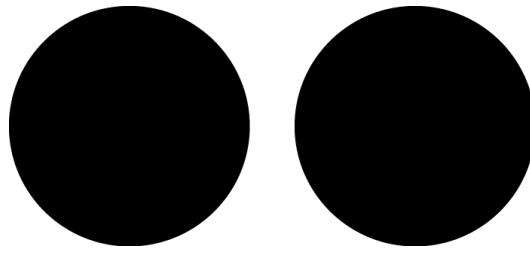

Fig.23: Different visual appearances of a circle.

Detachment:
The two forms remain separate from each other by space (less or more) is known as detachment. Where each form is visually distinct.

(a) : Detachment

Touching:

If we now move the two forms closer, they begin to touch each other. The space between the two forms which earlier was trying to separate the two forms is now being disappeared.
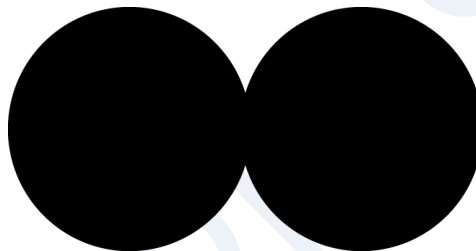
(b): Touching or attached

Overlapping (opacity):

If we now move the two forms still closer the forms cross over each other and tend to remain one above the other and hence covering one portion of the form which is beneath it.
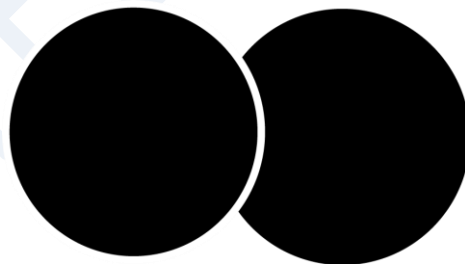
(c) : Overlapping

Interpenetration (transparency):

This is similar to above but, both the forms here appear see-through or transparent. Here there is no overlapping or above-beneath relationship here between them, and the edges of both the forms remain visible.
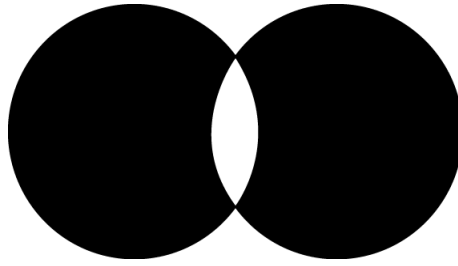
(d) : Interpenetration

Union:

This is similar to overlapping but here the two forms are combined to become one larger form. Both the forms lose a part each from their body when they are in union.
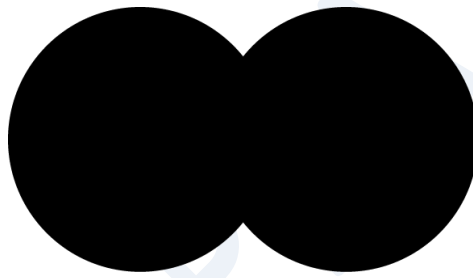

(e) : Union

Subtraction:

When two forms where both visible, but one positive (black/ visible) and other is Negative (white/invisible) , they cross over each other, the negative (white/ invisible) form crosses over the positive (black/visible) form, a portion of the positive (black/visible) form is covered by the Negative (white/invisible) and this portion of the form also become white or invisible. Such is termed as subtraction.



(f) : Subtraction

Intersection:

This is same as interpenetration but here the portion where the two forms cross over each other is visible. A new smaller form is generated as a result of the intersection. It is easy to confuse it with the state of the original forms.
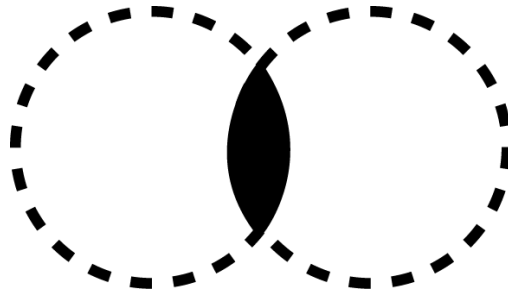
(g) : Intersection

Coinciding:

If we move the two forms even closer, they coincide and the two forms become one circle.
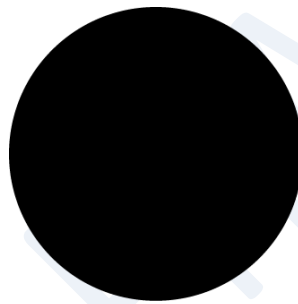
(h) : Coinciding

Fig.24: Inter-relationship of Forms

Question & Answer

1. What is visual Proportion? How you relate it with size and scale. Briefly explain with proper illustration.
    *   See lecture 1 for size, scale and proportion.
2. Write definition of point and line, give illustration explanation.
    *   See lecture 2 for explanation.
3. Line may relate to form. Show various lines and its formal structure.
    *   See lecture 2 structure of form and try to illustrate as shown in the lesson.
4. What do you mean by shape? What is the difference between shape and form and it relates to space and area.
    *   See the Positive and negative space in lecture 4
5. Explain briefly about inter relation of form.
    *   See lecture 5 and try to show this by illustrations as shown in lecture five.