B. ARCHITECTURE
THEORY OF ARCHITECTURE – I (AR6102)
ELEMENTS OF ARCHITECTURE – BASIC ELEMENTS
Lecture - 2

Basic Elements of Architecture:

Basic elements of architecture actually are listed in slides

- Floor
- Walls
- Pillars
- Roof
- Doors
- Windows
- Steps

All these elements which are different from one another, when put together is what forms/ creates, Architecture.

Basic elements of form:

- Points
- Lines
- Planes
- Volume

Volume is a 3-dimensional substance. However a step back, would help us realize that this 3 dimensional figure is formed with the help of a 2 dimensional plane. This is the sequence of formation from a 3 dimensional volume to a plane. This 2 dimensional plane is made of lines which are of a single dimension. This line is comprised of a sequence of points which do not have a dimension at all.

Significance of a Point:

A point is a basic element which is creates everything else. Now we will see the significance of a point;

Significance of a Point:

- Signifies Centrality
- Signifies Stability
- Based on its position in a visual field it can;
- Signify dynamism
- Movement
- Visual Inertia

For instance, if you take a rectangular field with a point in its centre, it doesn't have any dimension nor any direction. However, it does give away a central feeling. It creates a focus in the entire composition. Therefore, it dominates the entire field of the rectangular field but if you slightly change the position of this point in this rectangular field, to any one of its sides, you can feel like as if the point is drifting away if it’s on the top left or that it's drowning if its placed in the right bottom of the rectangular field. So just by changing the position of the point, the field etc, you can get a dynamic feeling of the entire thing. The point based on its position, creates visual inertia.

Ways of Manifestation of a Point:

- The two ends of a line
- The intersection of two lines.
- Meeting point of lines in a plane and volume
- Centre of a field.

For example, take a line, at both ends of the line you can visualize an imaginary point. Also, at the centre of the line, there is another imaginary point. A line is made up of several points put together. However, only these three points have a centric focus and carry out its importance another example would again be a line, but we intersect this line with another line, there forms an imaginary point at the point of intersection.

For example, you take another shape, all the edges of these shapes have imaginary points as well. Even if you take a 3 dimensional figure, there is a point at every vertices. At the centre of every plane, there is an imaginary point as well.

Ways of Manifestation of a Point in Architecture:

- Vertical linear element like a column.
- Building in a large expanse of land.
- A point can occur as points, part of a building as well.

Another way would be that an entire building can be seen as a point in a large expanse of space. For example; an entire building in this large expanse of space, acts as a point, another building next to it is another point and there is an imaginary line connecting these two. So from a simple column to an entire building, can be conceptualized as a point in architecture.

Significance of a Line:

Line is nothing but a repetition of points. Here are some qualities that a lines possess.

- Movement
- Direction
- Growth

A line has more significance in a composition, be it an architectural composition or a composition in various other art forms. A line in a composition may signify the following;

- Linkage

- Edge of Shape
- Surface Articulation

Two elements in a composition can be linked with a simple line. What you call a shape is nothing but lines linked together. A line can be used to articulate a simple plane in Architecture.

A simple vertical line in the above image, has the quality of what is known as, 'standing against gravity'. It is compared to a human standing against gravity, perpendicular to the ground. Hence, it signifies what is known as, ' Equilibrium against gravity'. If a line is horizontal as shown in the above image, it is compared to a human being at rest. A line possess a quality of Stability, a quality of being at rest. All these imaginary philosophical qualities of a line are applied to architecture.

Ways of Manifestation of a Line:

- At the Edge of a plane
- At the intersection of planes
- At the Edges of a 3d object

When two planes intersect each other, the joining of two planes, can form an imaginary line. If you take a 3 dimensional object, all the edges of such an object is made up of what is known as a simple line.

Ways of Manifestation of a Line in Architecture:

- As a Vertical Linear Element
- As a Space defining element
- As an articulating element
- As an axis
- As a path
- As a connecting element

In the above image, you would notice a single vertical line in the centre; this signifies a central focus in this architectural composition. The next point, a point can be used to define a 3 - dimensional space. In the above image, there is a 3 dimensional building in the centre, however, around this

building; there lies an imaginary 3 dimensional space formed due to the presence of the four pillars. A cuboidal volume is formed due to the minarets, these four minarets are just vertical elements that help create the imaginary 3 dimensional cuboid. This is a composition of vertical lines and horizontal lines, that creates this 3 dimensional space, like a maze. A 3 dimensional space through which one can walk through.

A line can be used as an Articulating element as well. For example;

If you take any building, a line can be used to signify or decorate any element like this wall or the roof or the window border or any other elements of architecture.

In this element of architecture, you would notice the vertical elements. This is the cathedral of Milan, which has some magnificent vertical quality. The cathedral is beautified with those vertical elements. Here is another angle to it. This is another angle to the Cathedral, having the beautiful vertical aspects to it created by the linear elements of Architecture. A line creates an important aspect, the Axis. An axis is an imaginary line that is created by connecting two elements in a space.

If you see this example, there is a central axis created by connecting the two buildings. An axis also possess the characteristic of division, it helps divide space and create a symmetry on either side of it. In history, axis has been incorporated to create importance to buildings. An axis creates forms an order; it creates importance at both of its ends in architecture.

Line - Path

A line can signify and give meaning to a path. A path needn’t necessarily be a straight path, rather a path which is curved as well. What is called as a simple line? A line that simply connect elements and thus create what is known as a connection. If you want to connect two separate elements in architecture or if you want to connect visually two buildings in a large space, you can create the connection by a simple linear element. In this case, it is two sides of a valley that is connected by a simple linear element known as a bridge. A bridge that connects two valleys. Let us take a look at another example, here is a plan created by simple linear elements, seen as walls in a

plan, which creates a sense of orientation, a sense of direction as one moves inside a building. The form of the building itself can be linear, creating a sense of movement and direction, connecting different parts of the building.

A building form can be linear or even curved linear like the example below. You can see few examples about the impact of lines in architecture. This example depicts how the dynamic nature of line is applied in architecture. This has linear elements in terms of the, long wall and the roof, the vertical linear columns all creating a dynamic effect to it. At one point of time in modern art, just a simple line, or just a simple plane was considered to be the most powerful artistic element.

This is a composition of simple lines, geometric lines and planes, creating an aesthetic effect.

Significance of a Plane & Volume:

Aspect of what we called as plane. A plane can be created by simply repeating a line, or just three points joined together to create a plane.

- Three points
- One line one point
- Moving line and moving point
- Line repeated

A plane be created by simply repeating a line, or just three points in any space can be joined to create a plane as well.

Significance of a Plane:

- Creates a sense of Direction
- Creates a sense of Orientation
- Creates a sense of Axis
- Creates a sense of focus at its centre, its corner points.
- Creates Shape.

Space Orientation:

- Horizontal plane
- Vertical plane
- Overhead plane

You would have scene spaces created by walls, roofs and floors, we are going to simply look at them as planes. However, You do not need to have all three to create a dimensional figure, a combination of the three can be used to create a 3 dimensional space.

- Just Two planes is enough to create an imaginary, three dimensional volume.

- A single plane and a point ahead is also enough to create a 3 dimensional volume.

- A vertical - Single plane

- A horizontal - Single plane

Significance of the Different Kinds of Planes:

- Horizontal Plane: The spread of activity. This creates a sort of base to compose many other architectural elements or any other design elements upon it.

- Elevated Platforms: Simplest way of space making, infinite Height

- Overhead Plane: Creates a meaning of a shelter over the person, standing below it.

- Vertical Planes: Enclosure, More defined volume. This helps create what is known as a 3-dimensional volume and also creates a meaningful display area.

These act as a boundary between volumes .

Plane in Nature

There is one place, where we can see a perfect plane and that would be the surface of water, other than that we have the following imaginary surfaces;
Ground - Horizontal plane
Sky - Overhead plane
However we do not have a naturally occurring vertical plane like the horizontal plane. However, a Row of trees can be viewed as a vertical plane, also Cliffs as a vertical plane .

Quality of Planes:

- Colour
- Texture
- Plane quality extended to space quality
- Qualities of imaginary planes
- Colour and texture also contribute to the space inside as well.

Volume

This is created by repeated planes to compose a 3 dimensional structure.

Properties of Form:

A volume possess a 3 dimensional form as one of its properties. It can also differ with regard to its size. A three dimensional figure can also have colour and texture as well. A three dimensional volume can have an Orientation and can suggest a direction on the basis of its position as well. A 3 dimensional object when placed on its base, it signifies stability. When kept in an unbalanced manner, it can suggest a dynamic effect. As shown in picture.