

From: Design Fundamentals: Notes on Visual Elements and Principles of Composition by Rose Gonnella, Christopher Navetta, Max Friedman. Peachpit Press

Dot & Line

A **Dot** is the smallest Visual Element. It is not always circular or geometric. A blob of ink, clay, or paint is also a Dot. A dot can also be an object; the nose on a face, a flower, or the Moon and stars. It can be rough, delicate, organic, rigid, and suggest anger, happiness, or sadness. It physically indicates a place on a surface or within a given format.

A dot calls attention to itself. It is the smallest unit of a Line. A Line is a path. Unlike a dot a line feels active. Line is the most fundamental of the Visual Elements. It is both complex and versatile. You must be able to recognize the types, functions, character, and qualities of line and be able to make critical decisions for it functional, compositional, and conceptual use to create effective designs.

Types of Line:

(1)Interrupted. (2)Uninterrupted. (3)Angled/Geometric (Acute, Obtuse, Perpendicular). (4)Hatching or Massing of lines creates a variety of surface qualities and light to dark values. **(5)Gestural/Calligraphic** lines are free and organic. **(6)An Implied** line is not an actual line, but is formed in the mind’s eye of the viewer. The human eye and mind fill in the spaces between dots to complete the line. [Gestalt] **(7)Edge:** An implied line creating movement in and around a single object, or through the objects in a whole composition. A *Line of Vision*, or *Compositional Line*, moves the viewers eye around the composition. **(8)Three Dimensional** lines are physical and be made of any material.

Line Functions: To separate, isolate, demarcate, outline, contour.

Line Characteristics: Width, length, position, direction.

Line Quality: Focus (sharp, blurry, faint), Condition (jagged, straight, smooth, serrated, choppy, continuous, curving, angular, etc...)

Horizontal Lines feel stable.

Diagonal Lines feel unstable.

Vertical lines suggest power.

Wavy Lines suggest flowing.

Thin, Curving Lines feel graceful.

Coloured/Textured Lines allow for greater complexity of ideas or emotions. [Colour Theory].

Exercise:

Musical Lines Listen to music and interpret the sounds as lines.

Tools: Sketchbook, various traditional imaging tools.

Select a range of music and organize it to listen to continuously without having to stop the drawing activity.

With your tools ready, and as the music plays, interpret the sound with lines (using line’s types, functions, and expressive qualities.

Allow for free and uninhibited interpretations. There are no correct or incorrect ways to interpret the music. The outcome is to demonstrate the rich vocabulary of line.

Shape & Form

A **Shape** is a defined area or figure on a flat, two-dimensional surface, or *picture plane* (Paper, Canvas, Screen, etc.) It has Width and Height.

Line segments, Colour, and/or Texture demarcate Shape.

Open Shapes are outlines or contours that are purposefully left incomplete.

Closed Shapes are complete outlines or contours.

Positive and Negative Shapes – The object is the Positive shape. The areas around or between Positive shapes are Negative Space. Positive Shapes create the Negative Space.

A **Form** is a Shape with perceived or actual volume. It has Width, Height and Depth.

By using Perspective and/or Shading, two-dimensional Shapes can appear to have Volume.

Geometric Shapes consist of angles. They feel stable, solid, firm, and have a sense of order and structure. They appeal to the Human Intellect and Logical Mind.

Organic Shapes lack defined angles and structure. They feel natural, random, creative, and playful. They activate emotions and appeal to the heart.

Forms are also Organic and Geometric.

Organic forms can be rendered as a flat shape or through the illusion of volume. A flat, simplified shape tends to be symbolic of ideas and thoughts that go beyond its actual self. A Form can be symbolic as well, but the more realistic the form, the more literal it becomes, and the less it represents abstract thought.

Geometric forms feel mechanical and stable. They suggest order and structure.

Shapes and Forms can be actual objects or they can be non-objective.

Every object either represents itself or is a symbol of something else.

Representational Denotation

The outline of an object represents that object itself.

The contour of an object has further descriptive detail beyond the outline.

Colour and Texture further extend the illusion of reality.

Representational Connotation

Making the representation of an object Abstract alters the way the viewer perceives and interprets it. Many representational shapes have an established symbolic meaning relative to the cultural context.

Semiotics is the study of signs and symbols and how meaning is created.

A Visual Cliché is a symbol that has lost its effectiveness due to overuse.

The same shape can mean different things to different people depending on cultural and social experiences. It is human nature to assign meaning or emotion to unrecognizable shapes.

Shapes are never seen alone but in relation to other shapes and forms. Always consider the entire composition as well as the viewer's personal experiences when designing with shapes.

The brain reacts to and remembers simple shapes first, then colours, then words, which require more time to interpret.

Texture & Pattern

Texture is the active surface quality of a dot, line, shape, or form. Eyes rapidly scan a texture to get a visual feel for it.

Textures suggest emotions and ideas based on our own strong memories and associations. It creates a sense of physical connection to the otherwise flat remote feeling of a screen. It compels the viewer to both see and feel a design.

Organic textures feel and look random. The objects seem more lifelike.

Geometric textures have recognizable, systemic order, or structure.

Pattern – A structured and ordered repetition of shapes.

Words have texture – before being read, a group of words is first seen as a shape.

Warped textures and patterns appear to have volume and dimension.

Fractals – mathematical structure, patterns in nature.

Collage – The arrangement or Assemblage of actual textures. It inspires a visceral response from the viewer.

Visual Oxymoron.

Colour

Colour is complex and defies precise categorization, yet categorization establishes a foundation for designing with Colour.

What to think about: Physical interaction, emotional communication, symbolic meaning, and cultural context.

Our eyes receive Colour in two (2) ways:

Indirectly - Light reflecting off of all objects that have pigments that react to light.

RYB – Red, Yellow, and Blue are the **Primary Colours of Indirect Light**, known as *Subtractive Colour* because subtracting all of the light creates Black.

Directly – Generated light from within screen-based devices.

RGB – Red, Green, and Blue are the **Primary Colours of Direct Light**, known as *Additive Colour* because adding all of the colours creates White.

Millions (or billions) of Colours are mixtures of these basic Primary Colours. (No colours can be mixed to create Primary Colours.)

Mixing pairs of Primary Colours results in **Secondary Colours:**

Direct Light/Additive Colour

Red+Green=Yellow Light

Green+Blue=Cyan Light

Blue+Red=Magenta Light

Indirect Light/Subtractive Colour

Red+Yellow=Orange

Yellow+Blue=Green

Blue+Red=Violet

Mixing a Primary Colour and a Secondary Colour results in a Tertiary Colour, which feels and acts Neutral.

Any light source can change how colour appears. A shapes with a pale hue appears to expand when surrounded by a dark colour, but a dark shape appears to contract when surrounded by a pale hue. A neutral gray surrounded by a strong hue will make the gray feel like the hue's complement. One hue placed on complementary backgrounds will appear to have different levels of brightness.

Adobe Kuler:
<https://color.adobe.com/>

Emotional and Cultural Relationships

Color can conjure up deep feelings. Each person sees and responds to colour through the filter of his or her own cultural background and experiences.

Space

Format – The container for the visual elements. To activate the format, arrange elements to create interaction with the edges.

Rule of Thirds

Divide a composition into three parts horizontally and/or vertically to create intersecting points in which to place the visual elements in a well-ordered division of space that makes for an aesthetically pleasing composition.

2D Formats contain *pictorial space*.

3D Formats occupy *physical space*.

Elements parallel to edges feel stable. Diagonals feel dynamic.

Golden Ratio is a mathematical proportion often found in nature.

Space within a format is known as the **Picture-Plane**.

Illusory depth of the Picture Plane is usually divided into three Planar Levels: **Foreground, Middleground and Background**.

Within the picture plane, the **positive shapes are the Figures**, the **negative space is the Ground**.

Techniques for creating the illusion of space
Overlap, Placement, size/scale, perspective, atmospheric depth.

Visual Hierarchy

Visual Hierarchy is a ranking system for organizing elements in a composition based on their order of importance.

It establishes the step-by-step plan to leading the viewer on a path through the composition. It guides the eye through a composition so viewers don’t get confused in what could become a jumble of word, lines, shapes, images, colours, and textures.

- Prioritize
- Create a plan
- Lead the way
- Point to point
- Establish order

Where to Start

It is up to the designer to create a visual path for the viewer that starts and stops and restarts from any number of points in a composition. The most clearly emphasized element or area of the visual hierarchy is the **Focal Point**. This is the Entry Point to the composition. A composition may have a **Primary Focal Point** followed by **Secondary Focal Points** to create starting, stopping and resuming points amid many elements.

To create an **Entry Point**, emphasize one element (*dot, line, shape, texture & pattern, colour, and space*), or area over all the others. Diminish emphasis on other elements to create the “stepping-stones” or points on which a viewer moves along the path.

Contrast – Create contrast between elements through their physical characteristics. (Big vs. Small, Bright vs. Dull, Warm vs. Cool... etc.)

Texture – Highly textural elements stand out more than smoother ones.

Shape – Complex or bizarre shapes draw the eye more than simple ones. 3D Forms grab more attention than flat shapes. A recognizable image (e.g. a house) captures more attention than a non-objective shape (a flat square).

Density – An area with many small elements draws more attention than a sparsely populated one.

Position – The **top** of the format is a tradition, natural starting point. To start elsewhere, increase the contrast of the focal point. Elements in the **foreground** tend to be seen first. Elements in the **middle** of the format command attention when all other elements rotate around or point toward them.

Reverse the Contrast – Small elements, dull colours, and thin lines can also be seen in contrast and create emphasis. For example, if everything is big, the small elements stand out. Or if all elements are rough, the smooth element stands out. A small element can attract attention if it is isolated from other elements, or a brighter colour. If an element is repeated multiple times, the one that is a different colour grasps the viewer’s attention. **Keep it Simple** – A simple 1, 2, 3 ranking is good hierarchy. 4, 5, and 6 may be necessary for a large number of elements. Organize for a simple, clear progression and coherent whole.

Unity & Rhythm

Gestalt Theory: The human brain likes to organize what the eyes see into a complete and coherent whole.

Contrast establishes **hierarchy** and adds visual **Variety**. But too much variety can feel chaotic.

Unity creates a sense of **cohesiveness**. When elements in a piece relate one or more ways, they seem to **Harmonize**. But too much Unity can be boring.

Use Contrast and Unity.

To achieve **Unity** create relationships among elements using:
Repetition – Repeat similar colours, shapes, values, textures, or lines. **Alignment** – Lines and shapes that point to each other in circular or crisscross direction tie each other together. Use implied lines or edges of shapes to create paths of alignment. Aligned shapes feel stable and cohesive.
Similarity – Differing elements with similar characteristics appear unified. Proximity & Containment – Clustering different shapes together makes them appear unified because of their physical closeness.

Repeating colour and/or shape across and around a composition, pausing at a point of contrast, then starting again creates a noticeable pulsing **Rhythm** within the composition.

Balance

Balance is firm, emotionally stable, calming, peaceful.
Humans have a built-in sense of balance called *Equilibrioception*: an awareness of our place in a physical space, aided by our eyes and ears, in union with the skeleton and muscles working together to maintain balance.

Visualizing Balance

In the physical world, balance is created through an even distribution of weight.
In Art and Design, balance is created through equal distribution of Visual Weight of the elements of a composition.

There is a tendency to place “heavier” elements on the bottom and “lighter” elements at the top of the composition (instinctively applying the laws of the physical world.)

Balance is also a state of equilibrium and tension, a push and pull, a weighing and counter-weighing of the elements; arranging opposing forces to neutralize each other. (Yin Yang)

Elements that capture the most attention in any composition always appear heaviest. As elements diminish in importance, they appear lighter.

Our minds also assign weights to virtual objects based on their actual weight in the physical world.

Types of Balance:

Symmetrical Balance (formal balance) is the mirroring of visual elements along a central axis.

Asymmetrical Balance (informal balance) is placing different elements of similar visual weight on either side of an axis.

Radial Balance is an equal horizontal, diagonal and vertical distribution of visual elements around a single central point, dot, or line.

Crystallographic Balance (all-over balance) is the equal and regular distribution of all visual elements and weights across a composition. There is no focal point or hierarchy. (Pattern)