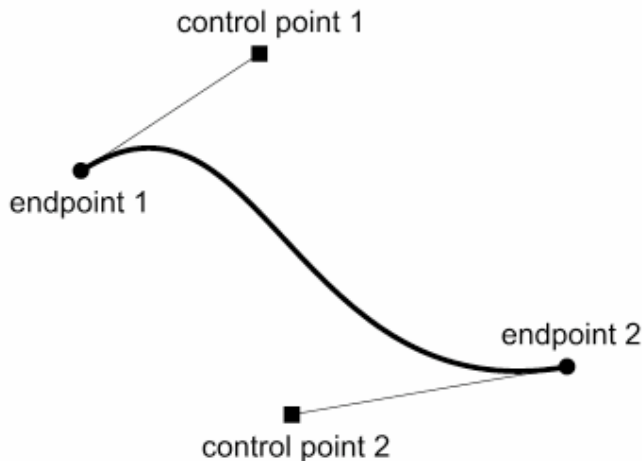


Terminology Review

Vector Graphics:

Computer graphics created in a drawing program (Illustrator, FreeHand, Flash, CorelDraw). Shapes are defined by **paths** which are made with Bezier curves (each curve is defined by the points on the curve itself and control points that do not lie on the curve but can be used to manipulate it's shape):



Vector graphics are represented by **mathematical formulae** with strokes and fills. Because they are mathematically defined, vector graphics can be enlarged indefinitely without compromising quality. They are best understood in contrast to the bitmap.

Bitmap Graphics:

Bitmap graphics (PSD, JPG, GIF, TIFF) are created using paint or photographic programs (Photoshop, Painter, Fireworks). They are represented on the computer as an image composed of **pixels** (the smallest rectangular unit in a bitmap image) having a height and width and resolution (the # of pixels/inch- web standard is 72, print is 300 or more.) Height, width, and resolution define file size. In the Bitmap, every individual pixel is specified as having a unique color. When one enlarges a Bitmap sufficiently, one sees this pixilated structure (think Mr. Ducky).

Paths:

(In Adobe Illustrator) – Lines Created Using the Pen Tool. These lines are defined by the location of endpoints and "handles" which change the shape of the line by defining curves and corners.

Stroke and Fill:

(In AI) The Stroke of a path is the thickness and/or appearance of the line. The fill is the color or pattern contained within the area defined by the path. (Think: the interior color = the fill, the border= the stroke).

Portrait vs. landscape alignment:

the first is longer height-wise and the latter is longer width-wise. Think of a portrait painting vs. landscape painting or the options in a print dialogue box.

Conceptual Element:

Visual element that does not really exist, but seems to be present. We feel it there.

Point:

A geometric point is a dot in space with neither length nor width nor depth. It indicates position. Most often they are drawn as squares, but they can take any shape, as they are plains in miniature.

Line:

A line is a series of points. It has no height (thickness) but is essentially a separator between one shape and another. In other words, we perceive a line where one shape ends and another begins. Lines can be connected and combined to form shapes. Can be straight, curved, bent, irregular, or hand drawn. Endings can be pointed, round, or square.

Form/Plane:

Understood as shape, form is the basic visible geometric unit, defined by lines. Straight lines combine to make regular (all angles the same, all sides the same length) geometric shapes like rectangles and octagons. Curved lines combine to create organic (natural or biomorphic) shapes. Forms can be combined in a variety of ways through addition, subtraction, union, or division, to create other shapes or broken apart into component shapes. Forms have shape, size, color, and texture. They can be said to have or be affected by direction, position, space, and gravity.

Grids:

The grid is a regularly spaced set of lines (usually vertical or horizontal) that mark off divisions of space for the purpose of imposing structure on a design. The grid can be rotated and can be visible or invisible. Usually it is invisible and acts as a design aid. Can be active and inactive. If it is inactive it never interferes with the forms, and doesn't divide the space up into distinct areas, but merely governs the placement of forms. If it is active the grid divides the space up in a visible way and interacts with the forms (you can see "lines").

Formal composition (structure):

Governed by strict mathematical principles, often using a grid structure (active or inactive, visible, or invisible). The rules are predetermined- patterns are a good example. Four ways of producing a formal composition (based on mathematical concepts of symmetry) are:

a) translation

- b) rotation
- c) reflection
- d) dilation.

Informal composition:

Not governed mathmically or by a predetermined structure in general but a sense of balance and unity. Here are some attributes seen in informal compositions:

- a) gravity
- b) contrast
- c) rhythm
- d) center of interest

Symmetry:

- a. Symmetry is easiest to understand as a reflection. (Think of making snowflakes by folding paper in half and cutting patterns.) Simple horizontal reflective symmetry means that an object on the left will appear the same size and color and position (relative to the center of the page) on the right. Vertical symmetry can be summed up by "as above, so below." Radial symmetry (think- radiation, like the sun's rays) is the regular revolution (rotation of forms) around a central point (think of a bicycle wheel)
- b. "beauty as a result of balance or harmonious arrangement."

Space:

Space is understood as the area that separates forms. In the 2-dimensional plane, we can speak of space in two distinct ways. The first and most basic (essential) of these is this idea of separation. The page is understood to be a void until forms are placed upon it. Immediately, the form occupies space and space is defined around it. As designers, space is a primary concern as the relationship between objects and the edge of the page. We can also use certain characteristics of this apparent physical space to create the illusion of 3 dimensions through certain kinds of repetition (and scaling), and the use of mathematical perspective, shearing, gradients, and shading.

Relational elements:

Speaking of space, and how it functions in design, elements relate to the design field and to each other in different ways, often determined by grids. They can exhibit perceived (visible) relationships such as direction or position, or felt relationships, such as a sense of space or gravity (apparent weight or lightness in the design).

Relation of forms:

Forms can interact in several different ways, and of course they can be entirely separate as well (detached)- they can be **touching** (their edges appear to meet), **overlapping** (which creates a sense of three-dimensionality as one form appears to be on top of the other), in **union** (the forms merge into a larger unit form),

subtracting (removing one form's area from another), **penetrating** (where they overlap is subtracted), **intersecting** (only the overlapping area remains), and **coinciding** (1:1 correlation in space, i.e. one directly on top of the other).

Negative Space:

Negative space is a special term for the space around forms. The implications of this term is that the negative space becomes a form of its own. Extreme examples of this are optical illusions (ever seen the vase-face picture?) In black and white design, negative space is usually white.

Positive Space:

The space occupied by forms. In black and white design, usually black.

Balance:

The sense that elements are in a state of equivalence. Balance can exist between light and dark, black and white, various shapes and sizes. The sense of balance in a composition is of the utmost importance to the designer and to the viewer. It has extreme psychological value in terms of the sense of well-being or calm (or the opposite of these). Balance can be symmetrical, asymmetrical, radial, and crystallographic.

Contrast:

Contrast is defined as the apparent diversity of objects in color or tone. Light and dark contrast. A rectilinear shape contrasts with an organic shape. Contrast is more apparent when two shapes are next to each other. Black and white are said to be high contrast whereas two middle tones of grey are low in contrast.

Gradation:

Whenever there is a repetition there can be gradation. We can have a gradation in scale (larger objects appear closer, smaller ones further away)/ Gradation between shapes in which a form appears to "morph" into another form (a circle into a square) is possible, or in which a shape appears to rotate in relation to the page in steps. Finally, there is the basic gradation between colors or tones which we associate with the gradient tool in Adobe Illustrator.

Repetition:

Any form we use more than once is repeated. But, repetition refers not just to repeated forms, but also to colors, sizes, textures, positions, directions, even gravity (the sense of a shape having weight). Repetition can produce a sense of order or chaos; it can be structured or random. Certain structured repetition implies rhythm, in an almost musical sense.

Unit form:

when a form repeats in a design it is referred to as a “unit form”.

Super-Unit Form:

When unit forms unite to form a larger shape (think of overlapping circles to form one bigger circle pattern - 4 unit forms overlapping make a super-unit form).

Sub-unit Form:

The repeating unit forms that make up a Super-Unit form, such as each circle in the above example. Once they are part of a super-unit form they are called sub-unit forms.