

# *Design Fundamentals for Illustrators*

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Graphic Designers are intimately familiar with *Elements and Principles of Design*. The subject is pounded into them from their earliest design classes. Elements and Principles are the glue that holds the discipline of design together.

*Elements* are the identifiable pieces of graphic objects you see in a design or illustration. A drawing of a fish is a combination of elements (lines, shapes, colors, textures) that convey the impression of a fish to someone who has seen a fish. For someone who has never seen a fish, the drawing is still a collection of the graphic elements, but the combined effect just isn't a 'fish' to that person. The lack of common experience doesn't weaken the graphical strength of the image, but the message never comes across.

*Principles* are the rules of graphic organization used to produce an effective image from elements. Principles come in two levels -- *overall* and *detailed*. Overall or primary principles control the design as a whole. *Gestalt* and *composition* are two results of effective use of overall principles. Detailed or secondary principles control the relationships of elements to produce recognizable objects combinations of elements.

Principles and elements are a language to describe aspects of design, however, these aspects must be understood intuitively. It is not as if a computer could be programmed to analyze, organize and select the elements according to principles and produce an effective design or illustration. A computer could not even select an effective photograph. However, using these terms and ideas, professional designers and illustrators are able to talk to one another about objectives and critique results. These conversations then produce and improve effective graphic products.

The following definitions may not satisfy a mathematician or grammarian because they are somewhat recursive. One definition may depend upon a logical understanding of other terms whose definitions lead back to the term being defined in the first place. As with most things in the realm of practical usefulness, this has to be overlooked in order to make any progress. Some very basic terms such as 'point', 'area', 'object', 'characteristic', 'image' and even the word 'element' itself are not defined (we do try to avoid the ubiquitous word 'thing' but some things are just, well, 'things').

## *Elements of Design*

There is not total agreement in the world of design as to the correct list of elements. The following aspects are however, commonly considered to be fundamental and are included in many lists of the important elements.

**Line:** A math-oriented descriptions for 'line' might be: the trace of a moving point made visible by the fact that it contrasts with the surface on which it is drawn. A line may have other precise definitions that are not very useful when talking about the image of a line. The most practical definition for artistic application is that a line is the description of a boundary between two areas. A line may have visible ends in the picture space or terminate at the boundary of the picture space. A line may continue on and merge with other lines or close back on itself to form the boundary of a shape. A conceptual line has no thickness therefore, real lines are usually represented by very long narrow solid colored shapes that contrast with their background. Artists work with lines that are hard or soft (having precisely defined

boundaries or “blurred” boundaries). Lines have other characteristics which may vary over the duration of its length; such variation, if used effectively is referred to as a “sensitive line”.

There are also applications of 'line' that do not fit any of these definitions. The function of a line may be performed by an area of gradation where the “line” is the 'fuzzy' boundary between the areas of contrasting value or color. An example of another type of “non-line” that serves the purpose of a line is a line of emotional or logical tension such as the stare between the eyes of antagonists or lovers in an illustration. There are also lines that may or may not be graphically drawn that indicate the relationship between parts or motions in an animated diagram.

**Shape:** A two dimensional area having a boundary defined by an outline or by contrasting with the surrounding area of color, value or texture. The term 'shape' refers to flat object and should not be confused with the term 'form' which refers to depiction of a three dimensional object, 'volume' or 'mass'. Shapes are usually referred to as 'angular' or 'mechanical' (bounded by straight lines) as contrasted with 'organic' or 'flowing' (bounded by curved lines).

**Color:** The character of a surface observed as a response of vision to characteristics and intensity of light energy. Color is described in terms of its *additive* characteristics (such as would be used for images on a digital display or stage lighting) or its *subtractive* characteristics (such as would be used when mixing pigments of paint or printers' inks). Perception of subtractive color is totally sensitive to the color of the light illuminating the color.

Characteristics of color that are relevant to the application of a color in a design are:

Hue: The basic aspect of color that can be named such as Red, Green, Blue Green and finer descriptions. While hue is commonly thought of as a frequency of light, it is actually the response of human vision to the cumulative effect of a collection of frequencies perceived in a small visual area.

Saturation: A useful concept to describe the “purity” of a color or the precision of the hue description. A *saturated* color will have no hint of another hue whereas a *desaturated* color will be dull and tend towards a neutral or gray hue. A desaturated color may be light or dark whereas a saturated color will appear with its *natural or inherent value* (for example, yellow is naturally lighter than red because human vision is more sensitive to the frequencies of yellow than red frequencies),

Value: The lightness or darkness of a color regardless of its hue or saturation; in other words, the level of response of the human eye to the 'brightness or lightness' of the color. Note the comment above regarding *natural value* of various colors. A “black and white” photographic is actually shades of gray and is composed of only the value information of an image. Ideally, the value of a color would refer to the optical or radiant energy of a color; however, this factor, as with all aspects of perception is totally relative to the overall effect of the color in a given situation. Value conveys the most information of any property; this is why black and white images are the subject of intensive artistic study.

Psychology or cultural factors: Much study has been devoted to the psychological effect of individual colors or of combinations of colors. This effect is frequently the result of the cultural upbringing of the viewer. This is one of many reasons that artists must consider the 'target audience' for their work as they create the graphic design. Artists must also consider the desired overall effect of a color scheme, particularly the 'key' (general lightness or darkness) and temperature (overall tendency towards yellow-orange

(warm) or blue or blue-green (cool).

**Juxtaposition:** The physical relationship of the shapes of one color with other shapes of color. As with all aspects of an image, the perception and interpretation of color is highly dependent upon the interaction or association of the color with other colors in the image. Most carefully crafted images will have an intentional 'color plan' that will be designed to achieve the intended effective perception of colors in the image.

**Texture:** The tactile 'feel' of an object or a representation of such a surface characteristic. Textures may be physical (such as would be used for fashion, decoration or sculpture) or visual, such as would be used to indicate physical texture in a flat image. The term 'Texture' should be contrasted with 'Pattern'. The term 'texture' is usually applied to a surface treatment based on irregular variation in color, shape or value that has a typical and recognizable repetition over a large area. The term 'pattern' is used to describe a surface treatment based on regular and precisely repeated variations in color, shape or value over a large area.

**Typography:** The effective use of type. the graphics of type are primarily in the dominion of design, while the use and function of text, as part of an image is of significant importance to the illustrator. This is because text conveys precise meaning while the use of the type that presents the of a story, article or essay sets a tone and creates a graphical “map” for the reader's vision. The main issue for illustrators when they include text in an image is that the type functions as a visual magnet that retains the viewer's full attention until all of the information is milked from the text. For this reason, most illustrators limit the type in any image by depicting only a few words that have little continuity or are “greeked” (i.e. defaced in such a fashion that, while it is obvious that the image is text, it cannot be read. Sometimes text is used in an image as a part of the graphic structure of the image by cropping the a single word to act as a “clue” and extend continuity of the image outside of the frame of the image.

**Scale (Size):** The relative size of an item with respect to a given frame of reference which is usually included in the image of the design. Scale is measured relative to the size of other shapes in the design.

**Space:** The measurable size of an element or shape or the distance between shapes. If space is perceived as occupying picture surface or subject area, it is said to be *positive space*. If perceived as consisting of the background or picture surface that is not occupied by the subject, it is said to be *negative space*.

**Proportion:** The ratio of height to width in a two dimensional frame of reference. For roughly rectangular objects, proportion is frequently measured as the ratio of width to height referred to as “aspect ratio”. A shape that is approximated by a “skinny” rectangle has a high aspect ratio (e.g. 20:1) while a shape closer to a square (e.g. 1:1) has a low aspect ratio.

**Value:** Lightness or darkness given to a surface by the intensity of light reflected from it. Technically, this is an aspect of color (see Color in previous section) but because of its strong narrative and structural characteristics, and because there are many 'black and white' images used in design and illustration, value is frequently studied as a unique element on its own.

## **Principles of Design**

**Volume:** A collection and association of shapes which gives the illusion of describing a solid form with mass or having length, width, and depth (3D).

**Direction:** The characteristic of an object which indicates potential direction of movement, stability, tension or attention.

**Family:** Similarity of the characteristics of the lines which form the perimeter of an object or an obviously related group of objects.

**Anomaly:** The presence of irregularity in a design where regularity or pattern prevails.

**Unity:** The whole or total coherent effect of a design which results from the combination of all its component parts.

**Variety:** A principle which suggests that sameness deters interest, (sameness is less interesting)

**Contrast:** A kind of comparison whereby differences are made clear. Contrast may apply to value differences, size, shape sizes, rhythms, and many other properties that can display a range of differences within a design.

**Balance:** A feeling of equality of weight, attention, or attraction of the various elements within a design.

Symmetrical: Identical compositional units on either side of an axis. For most symmetrical compositions the axis is vertical whereas the axis for symmetrical objects may not be vertical in the composition. Symmetry may be a two or three dimensional property.

Asymmetrical: Visual units are not identical but are placed as such to create a psychological balance in the vertical axis.

**Dominance:** A principle which suggests that certain elements should assume more importance than other elements in the same design.

Tension:

Rhythm:

## **Organizational Methods for Producing Unity**

Since the 'unity' of an image is almost always a primary factor in the effectiveness of the image for design or illustration purposes, unity is often treated as a primary subject in the study of the use of elements and principles of design.

**Structure:** Governs the positioning (scale, proportion and spacing) of shapes relative to one another in a design.

**Repetition:** Use of an identical visual element a number of times in the same design.

**Transition (Gradation):** Intermediate step between dissimilar components.

**Concentration:** A way of distributing unit forms which may be thickly gathered in an area or thinly scattered in other areas of a design.

**Eye Flow:** Implied direction for visual movement about the elements in a design.

**Radiation:** Forms or structures which revolve regularly around a common center point.

Centrifugal: Surrounding a common center.

Centripetal: Radiating outward from a common center point.

**Focal Point or Focal Area:** The termination point suggested by directional visual devices within a design. The objective of eye flow and a core component of composition.

## **Overriding Concepts and Objectives of Design**

### ***Gestalt***

### ***Composition***

The primary concept and objective of effective graphical composition is to control visual effect of an image and the resulting attention or *eye flow* of the viewer. Creating effective composition usually requires an effective use of all of the principles of design as well as understanding of other aspects of communication and psychological factors.

### **Appropriateness • Craftsmanship**