gestalt

laws of perceptual organization

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gestalt
principles

gestalt overview

Gestalt pysychology allows communicators to predict how viewers will respond to design elements. The Gestalt principles were developed in the nineteenth century by psychologists who believed that whole images are often perceived as more than the sum of their parts. Based upon this belief, Gestalt psychologists developed a set of principles to explain perceptual organization —how smaller objects are grouped to form larger ones. These principles are often referred to as the "laws of perceptual organization." Knowing and using Gestalt principles in visual communications helps to get our message accross and makes our designs more dynamic. This booklet briefly illustrates the nine Gestalt principles and evaluates how they can be applied to create effective publications.
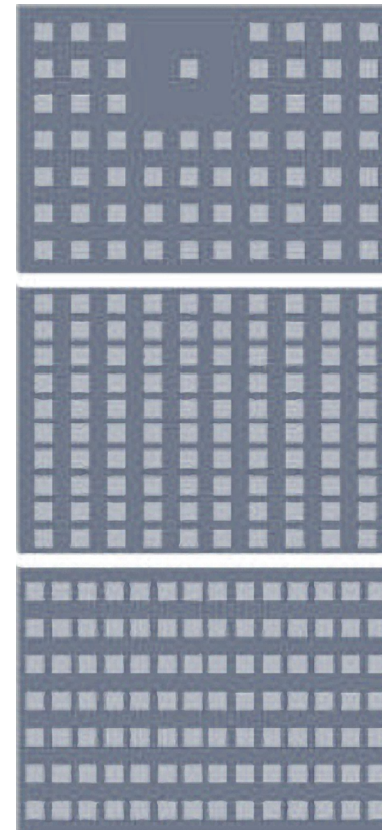
gestalt
figure/ground

Figure/ground (figure/background) organization is an important phenomenon of gestalt perception. The figure/ground principle states that we tend to perceive some visual elements as the figure, with a definite shape and border, while other elements appear as the background, further away and behind the main focus of the figure. In the top image we see a flower figure with a definite shape and border. The middle image illustrates how shadowing can create a clear sense of figure definition and depth. Many artists and designers play upon figure/background to create visual illusions in a manner similar to the bottom image. While we perceive the whole image to be the figure against a medium blue background, focussing on the M or W changes what letter seems to rise further out of the page.
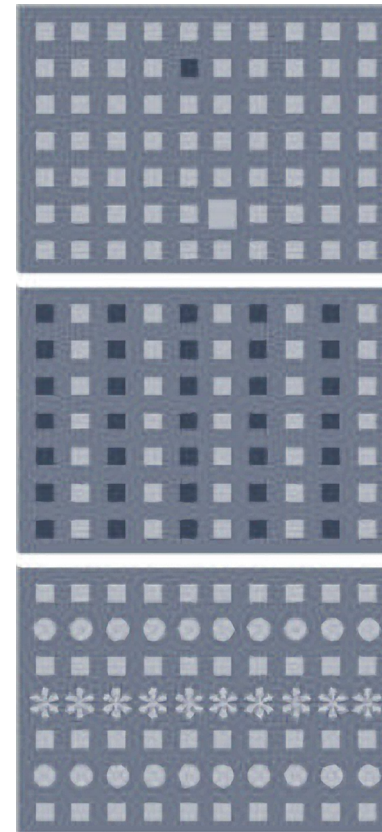
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proximity

Proximity is a grouping principle of perceptual organization—it states that objects near each other tend to be grouped together. For example, the upper image shows one square standing out among a sheet of evenly spaced squares. The lone square seems different because it is spaced further away from the others. In the middle image, we perceive columns made from the same squares because there is less vertical space between them than horizontal space. The opposite is true in the bottom image, and so we perceive rows.
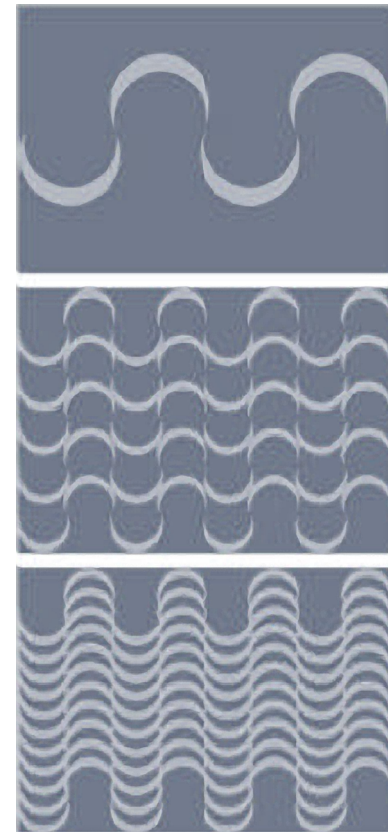
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similarity

Similarity is another grouping principle, which states that those elements that share qualities (of color, size, or shape, for example) will be perceived as part of the same group. For example, in the upper image we see a sheet of evenly spaced light blue squares, but we perceive two squares as different from the rest and from each other. The top-middle square seems different because of its color, and the bottom-middle square seems different because of its size. In the middle image, columns appear because we associate similar colors together even though the squares are evenly spaced. In the bottom image, rows appear because we associate similar shapes together.

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good continuity

The principle of good continuity states that we prefer to perceive smooth, continuous paths rather than abrupt changes in direction. Elements that continue a pattern tend to be grouped together. In the top image, for example, we perceive a continuous image of a wave, rather than alternating crescent moon shapes. The middle image illustrates how we can further accentuate the wave effect when the crescent shapes are reduced and repeated; we see a series of waves not individual, non-interacting shapes. Overlapping the same elements in the bottom image creates a continuous ribbon of pale blue waves that is either shallow or deep, depending on where we perceive the continuous forms.

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closure

The principle of closure states that we tend to enclose spaces by completing contours and ignoring gaps in figures. It follows from continuity and allows us to group elements together or to interpret forms as complete though parts may be missing. In the upper image, closure predicts that we perceive two diamonds and a half-diamond on the right (rather than two X's and a half -X on the left). In the middle image, a square appears to be sitting on top of a pattern of circles. We see a dark square here for the same reason we see the word "pear" in the bottom image. Both the square and the "A" in pear are not drawn, but we complete the contours to create closed-in elements, completing each image even though parts are missing.
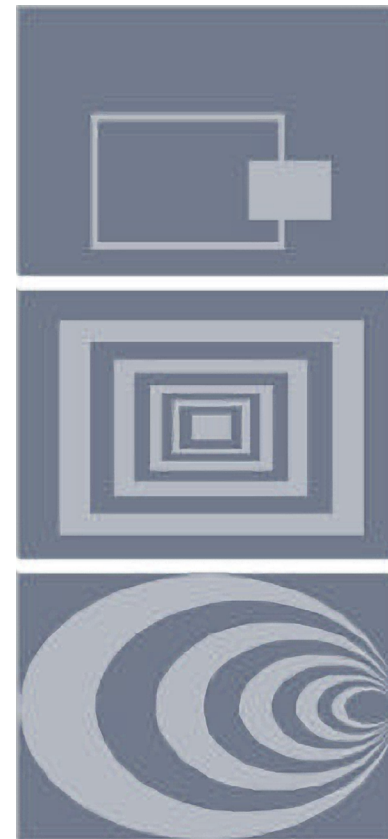
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surroundedness

Surroundedness is another principle that organizes figure and background. The elements of an image seen as surrounded will be perceived as the figure, and the elements that are doing the surrounding will be perceived as the background. In the top and middle images, we see two pine trees and a flower if the pale blue is the surround, or an upside-down "W" and a cross if the darker blue is the surround. In the bottom image, we see a pattern of overlapping crosses if we look first at the top left. But if we focus on the bottom right we see a pattern of flowers; we changed what is doing the surrounding and therefore what the resulting figure is.

gestalt
smallness

Smallness is a Gestalt principle that also contributes to the figure/background organization—it states that smaller areas tend to be seen as figures against a larger background. When two figures overlap, this principle states that the smaller of the two will be considered the figure while the larger will be perceived as the background. In the upper image, we perceive a small, pale blue box on a box outline, and both sit on top of a darker blue background. The middle and bottom images use smallness/area to play upon our perception of figure/background. In both cases, we can perceive the images coming out of the page or going into the page, depending on where we focus to see figure and background.
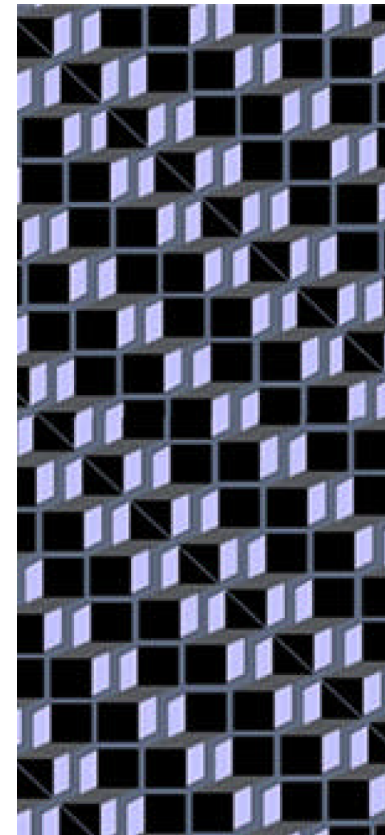
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symmetry

Symmetry states that symmetrical areas tend to be seen as figures against asymmetrical backgrounds. For example, in the top image, we see two overlapping circles, not one ellipse enclosed by two asymmetric shapes. Similarly, in the middle image we see three rectangles laid diagonally over a rectangular background, and we ignore the asymmetrical shapes in the top left and bottom right. In the bottom image, we see symmetry helping create a three-dimensional box. Instead of perceiving seven individual (and mostly asymmetric) shapes, we perceive the whole image as a symmetric three-dimensional box, emerging from the top left or bottom right of its space depending where we focus.

gestalt
pragnänz

Gestalt psychologists maintained that perceptual organization supported holism, and the principle of pragnänz was an attempt to explain this effect. It claims that reality is organized or reduced to the simplest form possible. Preferred perceptual organization should be the simplest, most regular interpretation of the elements in the design because individuals organize their visual experience in as simple, symmetrical, and complete manners as possible. In the image to the right we see a repeating pattern, within which are elements that play upon figure/ground, symmetry, and smallness/area. To look closely requires some adjustment before we perceptually organize the image. This is pragnänz at work.

gestalt
summary

Figure/Ground: the mind establishes a foreground and background when interpreting forms.

Proximity: features which are close together are associated.

Similarity: features which look similar are associated.

Good Continuity: contours based on smooth continuity are preferred to abrupt changes of direction.

Closure: interpretations which produce 'closed' rather than 'open' figures are favoured.

Surroundness: areas which can be seen as surrounded by others tend to be perceived as foreground figures.

Smallness: smaller areas tend to be seen as figures against a larger background.

Symmetry: symmetrical areas tend to be seen as figures against asymmetrical backgrounds.

Pragnänz: the simplest and most stable interpretations are favoured.

gestalt
conclusions

Gestalt theory was founded by German psychologists Max Wertheimer, Wolfgang Kohler, and Kurt Koffka—it focused on how people interpret the world. Its message is that "we see the whole as being greater than the sum of its parts." With this concept in mind and its principles to guide us, we are better versed as creative professionals to fashion dynamic designs that not only attract our audiences, but also effectuate communication.

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