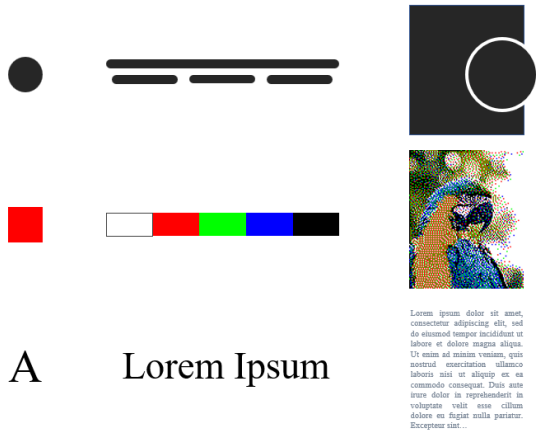
The Building Blocks of Graphic Design

Point, Line, and Plane



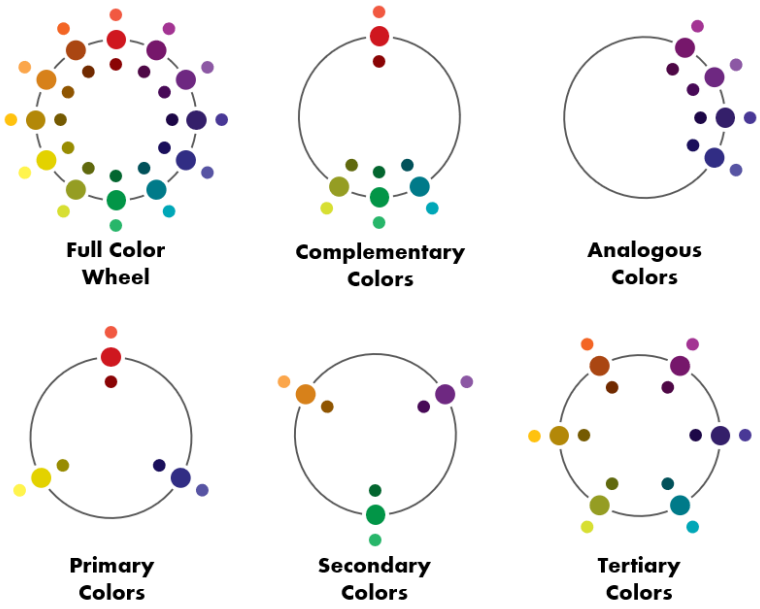
Point, line, and plane are perhaps the most foundational elements of graphic design, and together create the basic visual language that underlies all graphics (Lupton & Phillips, p33). At their most broad, they are the shapes and outlines that guide the readers eyeline across the page, and can be combined to create complex patterns, diagrams, and icons (Lupton & Phillips, p33).

By itself, the point is nothing but a position on the page (Lupton & Phillips, p34). Points make up every tool to follow yet carry little by themselves; Comprised of singular pieces of visual data, – dots, pixels, letters, etc. – they can together be repeated in one direction ad infinitum to create lines, and perhaps broadened even further to create entire planes. By themselves, points stand as assertions, drawing attention to important visual and textual data in the graphic. In lines, they mark the end and beginning of the natural flow of information, much similar to how a sentence starts with a capitalized letter and ends with a definite period (Lupton & Phillips, p34).

The line, comparatively, can be interpreted as the path between two points, be that curved, dotted, arrowed, or other (Lupton & Phillips, p36). Acting in both positive- and negative-space, lines connect together important points along a graphic with explicit markings while also separating planes of space through their implicit absence (Lupton & Phillips, p36). In such a sense, lines convey the association between important points, guiding the understanding of how data is related, trending, resulting, etc. In text, lines of characters often carry the most important information such as the title, taglines, and authorship, illustrating what the rest of the work will consist of.

Lastly, the plane is a surface with both height and width, and occurs when points or lines are given breadth to become bounded shapes (Lupton & Phillips, p38). Planes tend to carry the most space and information in a given graphic, making up the background, images, paragraphs, etc. Depending on their depiction, planes can add color, texture, and depth to a graphic, but usually aren't as visually prioritized as their point and line counterparts. Most writings comprise plains of text to fit their supporting work, and may sometimes separate them into separate, thinner columns for easier reading (Lupton & Phillips, p38).

Color



Color is perhaps one of the most essential elements of any design, being able to establish a mood, differentiate planes, and perhaps even highlight or camouflage certain datapoints (Lupton & Phillips, p81). To create the entire spectrum of color, many systems are used to measure the degree of each color value within a hue. For LEDs and electronics, the most common systems for color are RGB, which modifies the brightness of red, green, and blue components in a pixel, as well as HSL, which determines the hue, saturation, and lightness of the color (Lupton & Phillips, p86; w3schools, web). For printing, because light is absorbed instead of emitted, a CYMK color scheme is used, mixing cyan, magenta, and yellow pigments to create the color spectrum, with a black pigment to fill in the gaps (Lupton & Phillips, p86). An important tool for understanding this spectrum is the color wheel, which can depict hues as a function of the values along its circumference and their respective shades and tints as they get closer and further from the center of the circle respectively (Lupton & Phillips, p85). Using the color wheel, the entire spectrum can be divided into groups and harmonies that exhibit important compositional and relational data respectively.

Of the color groups, the color wheel can be split into three groupings of hues – those being the primary, secondary, and tertiary colors. Primary colors – red, yellow, and blue – are thought of as 'pure' and cannot be created using other colors, coming off as bold and attention-grabbing to the eye (Lupton & Phillips, p83). In contrast, secondary colors – green, purple, orange – tend to come off as more casual and cohesive and can be made by mixing only two primary colors (Lupton & Phillips, p83). Whereas primary colors by themselves tend to contrast one another and are often used to create opposition in graphics, secondary color can add depth and temperature to a graphic without disrupting its aesthetic. Tertiary colors, -- comprising the remaining hues on the color wheel – are thus made by mixing a primary color with a secondary one, creating good transitional colors and near-colors but are perhaps a bit more muted than the last (Lupton & Phillips, p83). Tertiary colors are essential for tying a piece together, which would otherwise have striking but distinct hues that do not mix.

Whereas color groups express certain properties of their hues, color harmonies illustrate the interplay between colors and which hues go well together. Complementary colors are pairs of hues that are opposite or near opposites on the color wheel, such as orange/blue, or red/green/greenish-blue/greenish-yellow (Lupton & Phillips, p83). Complementing colors tend

to be contrasting, partitioning hues into warm and cool colors that together balance into a striking piece. On the other hand, analogous colors consist of neighboring hues on the color wheel, and can create a pleasant and natural gradient across the piece (Lupton & Phillips, p83). Popularly split into gradients such as purple-to-blue, yellow-to-green, and red-to-orange, analogous colors can work together to create a cohesive tone and direction across a piece.

Texture

Texture in graphic design can be subtle, but important in reinforcing a mood and sense of physicality in a piece, or perhaps a lack thereof (Lupton & Phillips, pp69). The presence of textures such as the sky, ice, or linen can add needed depth and complexity to a graphic, pulling in the audience to an illusion of the physical world. In contrast, a lack of texture through the use of solid colors can suggest abstraction, taking the outline and breaking away from the physical word. Particularly when it comes to printed or digital designs, however, the texture is important to keep in mind when balancing an image as too messy textures can confuse or detract from the message of a piece.

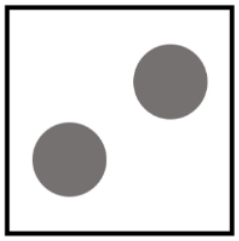
Text can have texture as well, varying with size, font, spacing, and other details that influence its message (Lupton & Phillips, pp74-75). Thick, bolded fonts such as **Aharoni** can come off as strong and structurally-sound, often fitting for titles and important information, while thin fonts such as `Courier New` can conversely come off as delicate and graceful, but lack the weight necessary for regular use. Small details in typography can have large impacts on the overall texture of a passage, such as how the look of text changes with the inclusion of serifs, or the decorative stroke sometimes found at the end of letters (Adobe, web). Serif fonts, such as Times New Roman, can suggest a sense of formality and professionalism, as well as allow for better distinguishing between letters close together, whereas sans-serif fonts, such as **Bahnschrift**, are more contemporary and can mirror how people handwrite (Adobe, web). As such, the contrasting textures between Serif and Sans-Serif fonts often make them good pairs when differentiating between the title and body in a single piece, balancing where the eye is drawn and flows (Adobe, web).

Scale

Scale is an essential consideration of every graphic design, and can add depth, emphasis, and a visual hierarchy that guides the viewer through the piece (Lupton & Phillips, p61). Notably, scaling requires multiple objects within a graphic, and only characterizes them in relation to the

surrounding subjects (Lupton & Phillips, p62). Graphics without differing scales in their shapes and text can come off as flat and somewhat uniform – while this may be beneficial for long passages of text, it can also leave a more visual design feeling confused in direction (Lupton & Phillips, p62). In contrast, differentiating scale can draw an eye towards larger shapes or text, adding both depth and a greater sense of importance to the subjects. Scaling can even run off the side of a graphic for greater perceived size, but also a sense of externality (Lupton & Phillips, p62).

Scaling in text is often important to create emphasis and textual hierarchy in an image (Lupton & Phillips, p66). In markup languages such as HTML, different level of headers are differentiated in scale, with the largest typically titling entire webpages while the smaller ones correspond to subtitles, chapters, or subsections (w3schools, web). As well, one can draw attention to important concepts and phrases by bolding their associated words, increasing both their size and weight (Lupton & Phillips, p66). In doing so, one creates a visual guide in reading where the most important information is concentrated in the largest scales, and key datapoints are differentiated in bold in general text.



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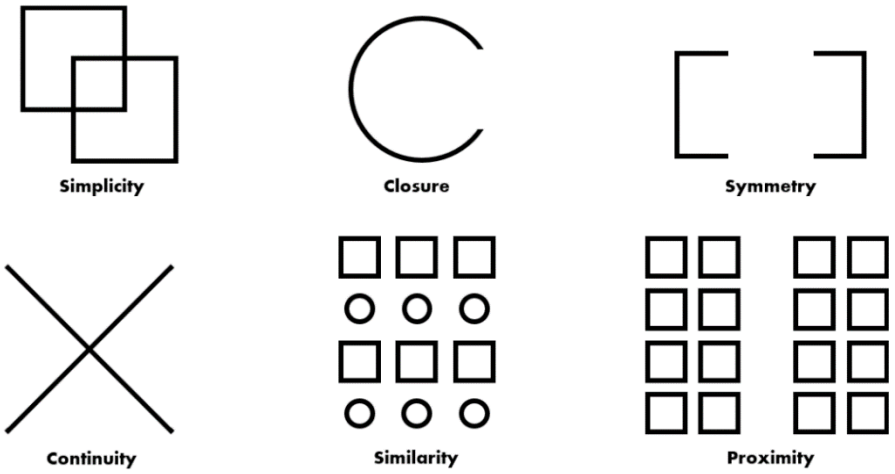
Gestalt Principles

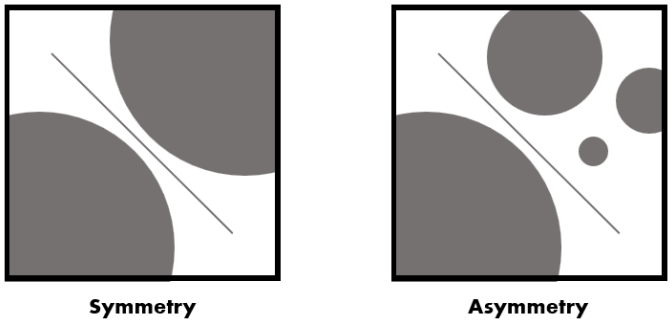
Gestalt Principles encompass the idea of perception in and of graphic design, particularly when it comes to organizing its visual information (Lupton & Phillips, p99). As it turns out, humans will tend to follow certain patterns when deconstructing visuals, and gestalt principles attempt to exploit them to create striking, intuitive, and effective graphics (Lupton & Phillips, p99). Perhaps most importantly, gestalt principles are all built on an idea of contrasting negative- and positive-spaces; When viewing a graphic, the subject of interest is typically seen in the foreground, existing in space positive to our attention, whereas the rest can make up the background in respective negative space (Lupton & Phillips, p99). By differentiating the two layers, people can more easily recognize and abstract important datapoints about the subject, even when the subject defies convention as in the case of a cut-out (Lupton & Phillips, p106). To understand how subjects are then understood, there exist 6 so-called gestalt principles related to how humans may pick apart the visual language of graphic design (Lupton & Phillips, p102).

Firstly, gestalt principles suggest that humans tend to group graphics by simplicity; When given configurations of shapes such as a 2-set venn diagram, people will not pick out the three complex sub-shapes and will instead tend towards two circles overlapping (Lupton & Phillips, p102). Similarly, they also suggest that humans interpret overlapping graphics with continuity; In configurations of lines such as a cross, people will tend to see two continuous lines intersecting each other in place of four lines converging on one point (Lupton & Phillips, p102). When it

comes to categorizing shapes on a page, gestalt principles suggest that humans tend to group items together according to similarity and proximity; Given a pool of similarly spaced circles and squares, people may differentiate the items based on their given shape -- however, if the pool was divided down the middle and physically separated, then people would tend to differentiate the separate sides instead, regardless of their composition (Lupton & Phillips, p102). Finally, when confronted with shapes that are not yet completed, gestalt principles suggest that humans will automatically enforce closure, and do so through symmetry; Given a pseudo-circle where one side is missing similar to the letter C, people will often complete it in their minds as a full circle, as opposed to leaving it open or closing it with a spiky line that fails to mirror the other side (Lupton & Phillips, p102). Using these principles, a graphic designer can thus understand how exactly a viewer will pick apart their work, and perhaps when there is a disconnect with the intended and perceived message of a piece.



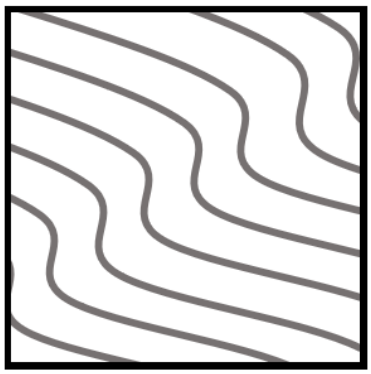
Balance & Rhythm



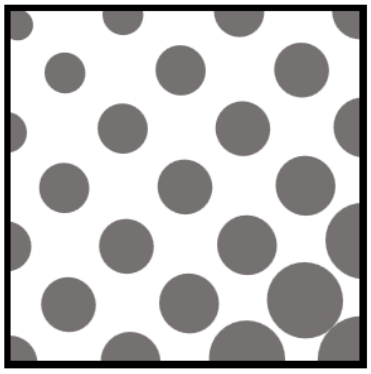
Balance and rhythm are perhaps the last essential considerations of graphic design, tying together a piece's parts into a cohesive and intuitive whole (Lupton & Phillips, p49). Balance can encompass every element of graphic design discussed so far, from scale to color to texture, and serves to create a certain stability to the piece's visuals and message. When a design is unbalanced, one side or point can often feel dominant to its surroundings, muddling the overall message and leaving the viewer confused as to where they should center their attention (Lupton & Phillips, p49). Thus, design is one of the necessities that becomes

more noticeable when it isn't present, and is important to keep a piece striking but easily navigable. Balance typically revolves arounds the basis of symmetry, but can be achieved either way – symmetrical balances can make a piece look orderly and organized whereas asymmetrical balance can add a flair of randomness and visual intrigue (Lupton & Phillips, p50). By achieving balance, however, both methods can prevent either side from dominating the screen, and more evenly spreads attention throughout the entire graphic.

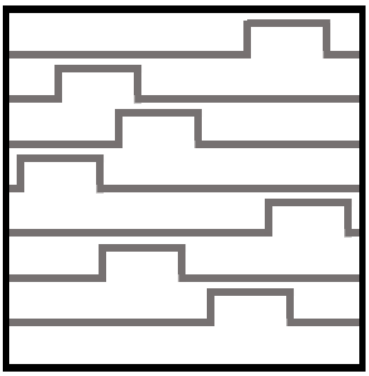
Rhythm can be trickier to utilize and requires greater planning beforehand, but is effective in creating a visual path throughout the graphic for the viewer to follow (Lupton & Phillips, p54). By itself, rhythm is nothing more than the repetition of visual motifs across a graphic, but can be varied to create different effects along the way (Lupton & Phillips, p53). Flowing rhythm, for example, involves utilizing rhythm to evoke a sense of movement across the piece, and can make a graphic feel alive and dynamic (Peate, web). Progressive rhythm likewise uses rhythm while modifying the scale or weight of the motif, creating a sense of growth while also emphasizing certain points along its path (Peate, web). On the other hand, random rhythm repeats its motifs in unpredictable and seemingly irregular ways along the path, creating a sense of energy and chaos despite it still being part of a larger pattern (Peate, web). While balance can make a graphic design look even and cohesive, it is the rhythm that creates the underlying path towards the message, guiding the user with intriguing patterns and pacing along the way.



Flowing Rhythm



Progressive Rhythm



Random Rhythm