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Question 4: Why is Information Design important? Explore the importance of wayfinders and information design (Delivered by Gavin Kirby)

Graphic design elements such as typography, colour, icons and symbols are essential for creating understandable signs to help the wayfinder using information design techniques.

“Information design makes complex information easier to understand and to use” (Visocky O’Grady & Visocky O’Grady, 2008 p.18).

The quote above shows the importance of design to present information. Graphic design can help shape the world around us by providing easy to understand information. One example of this is the graphics used to help the important function of the wayfinder sign. Signs such as wayfinders and other traffic signs will be explored in this essay to discuss the importance of information graphics.

The definition of wayfinder is “a sign, landmark, or other indicator used to assist people in navigating to a particular location.” (Oxford Languages) and it is important in today’s society is because it is to “educate and inform a visitor of their new surroundings to help familiarise themselves with the features, amenities and function of the space they find themselves in.” (Soulful Creative, 2019). Some examples of these are, road signs informing drivers of danger ahead, what direction to go to for hospital appointments, or even identifying the toilets’ gender.

Typography, colour and iconography for the wayfinder are essential elements to consider in the design of wayfinding signs. This essay will illustrate why these three key aspects of wayfinder is important.

The first key aspect of wayfinder is typography because it is “the bedrock of all good design.” (Caldwell, 2019 p.53). According to the Oxford Dictionary, typography is “the art or procedure of arranging type or processing data and printing from it” or “the style and appearance of printed text” (Waite, 2012 p.793). Caldwell (2019) describes typography as the art of putting type together in a way that is appropriate for the situation. In the context of typography, ‘type’ refers to letterforms that are produced and arranged to convey language.

“The size of letterforms and their position in relation to each other have a huge influence on the look and readability of text” (Caldwell, 2019 p.55). When considering differences in reading ability such as dyslexia or visual impairments, typography is an important aspect of information design to shape the world. Over time, people have been creating and studying typography to see what the best typography is to read in short period of time such as when driving, ensuring that it is clear to understanding and can be read without confusion of mixing up the letters. For instance, when driving and seeing directions for exits on a motorway or roundabout, road signs used to be in capital letters, making them harder to read. However, road signs now use only the “lower-case words with initial capitals instead of the all-capital” (Baines, 2015) to help people get a quick impression of the word and “read more quickly and from a greater distance” (Baines, 2015). This is because research showed that people read words in shapes rather than individual letters. “... it should be realized that words consisting of only capital letters present the most difficult reading – because of their

equal height, equal volume, and, with most, their equal width” (Albers, 2013 p.4). However, in contrast to directional signs, one of the most well-known road signs is the “STOP” sign, which does consist of all capital letters.



Figure 1: Street Name Letter Change by Tim Mills (2016)

When redesigning the letters, consideration was placed on similar looking letters such as ‘c’ and ‘e’ to ensure that they are distinctive from a distance and clearer to read. This was achieved by keep the apertures of the letters wide apart and cutting the ends of the letter in a perpendicular stroke. The letters are also spaced slightly wider than the previous version, making the letters easier to recognise. Additionally, letters with tails such as ‘l’ and ‘a’ were designed with right-slanting tails, similar to London Underground’s Johnston typeface. This helps distinguish similar looking letters from each other, such as the figures shown in figure 2, but it also reinforces an identity within transport font design in the UK (Baines, 2015).

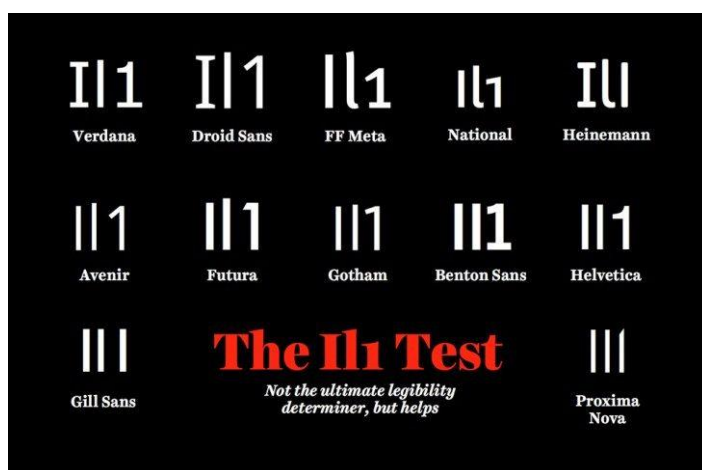


Figure 2: The Power of Fonts and Layouts: Choosing the Right Ones by Nivedit Majumdar (2023)

The decision to change the lettering on road signs shows the importance of having an understanding on typography when designing for readability. This is especially important when considering accessibility. For instance, the typography used can have an impact on how dyslexic people read signs. Research shows that dyslexic friendly typography includes letters that have longer stems and are weighted at the bottom creating unique letters, as this acts as an anchor so that they are less likely to rotate or move when being read. Increased spacing also helps dyslexic readers (Duranovic et al., 2018).

Another key aspect of wayfinder is colour. According to the Oxford Dictionary, colour is “the property of an object of producing different sensations on the eye as a result of the way it reflects or gives out light” (Waite, 2012 p.793). Pantone describes colour as “the aspect of things that is caused by differing qualities of light being reflected or emitted by them”. Sir Isaac Newton was the first to discover that light and colour are connected, and that to perceive colour, eye must be able to detect light. This is because light shining on an object can rebound off the object or be absorbed by it. Only light that is bounced off can be detected as colour (Pantone, 2023).

The impact of colour on the wayfinder is high, as colour can evoke feelings and represent meaning through universal language. For instance, within the context of road signs and wayfinding, red is globally accepted as the colour for danger, yellow means caution, and black and white usually represent boundaries. Most people also recognise blue in road signs to convey information, and green to signify safety (Rowe, 2022).



Figure 3: A Simple Guide to Safety Signs and Symbols by Safety Culture (2023)

Today we associate the colours red, amber and green with the traffic light system. The introduction to traffic lights on road has revolutionised the control of traffic flow. The first traffic lights were installed in the United Kingdom in 1898. At this time, they consisted of manually operated red and green lamps for nighttime visibility, and were used to help control the flow of traffic outside the Houses of Parliament. Later, in 1914, Cleveland in Ohio introduced electric traffic lights with two colours to indicate when to stop and when to go. The third colour was added in 1919 in Detroit. Texas began using electrically synchronised traffic lights in 1922. In 1926, London was also started using the three coloured traffic lights but they were still using a manually operated system. A year later, Wolverhampton trialled automatic traffic lights, which became a permanent fixture in 1930 (National Motor Museum, 2023). Traffic lights were designed with three colours of red, amber and green as a way to instruct drivers on when to stop and go.

Traffic lights are generally seen in order from stop to go but in Syracuse, New York, it is the opposite of the standard traffic light. This is because the Irish immigrants refused to acknowledge the British 'red' above the Irish 'green' and therefore reversed the traffic light system. This is the only place in the world to do so. Traffic lights are designed to have red on top is because according to a lighting and motion professional "it is the most prominent place and least likely to be blocked from view by other traffic. Not being able to see a light telling you to stop is exponentially more dangerous than not seeing a light advising you to go" (Hammett, 2019).



Figure 4: The World's Only Upside-Down Traffic Light in Syracuse by Jim Cheney (2023)

Although the colour red has many interpretations including "Empowered, Passionate, Energetic, Alert, Love, Strength, Danger, Heat" (Caldwell, 2019) p.72), in the traffic light system, its primary meaning is '*Stop*'. The underlining message is potential danger. Red is also used in many wayfinding signs to indicate danger, such as 'Stop' signs. The artist Anish Kapoor chose the colour red for his 2007 piece called *Svayambh* (figure 4), which was made to look like a train moving through a tunnel. It has been claimed that the colour choice for

this piece “just like red light on the traffic light, stopped people in their tracks” (St. Clair, 2017 p.137).



Figure 5: Svayambh, by Anish Kapoor, Royal Academy (2007)

Today the colour yellow has many interpretations including “Warm, Positive, Stimulated, Happy, Curiosity, Clarity, Wisdom, Cowardice” (Caldwell, p.72). In the traffic light system, its primary meaning is ‘stop if it is safe to do so’. From the above list, clarity and wisdom could be implied.

However, in other signs, yellow is used for cautionary signs such as ‘corrosive’, ‘caution for slipping or hot’ and ‘high voltage’. Yellow is used as it is a “very eye-catching colour and is meant to highlight instruction or precautions. In psychology, yellow is the first colour that the human eye can notice, drawing immediate attention” (Rowe, 2022). Similarly, orange is used to draw attention to the potential of danger (St. Clair, 2017). This means that the amber traffic light will assist the drivers to catch that it is on yellow and to slow down or stop. Additionally, yellow is used on warning signs on roads because of the high colour contrast against the grey asphalt even in low light, and similarly with the amber traffic light (St. Clair, 2017).

Johannes Girardoni chose yellow for his art piece titled *Dripbox – Yellow White* (2007), created with natural beeswax applied like varnish onto a wooden block. Like the yellow in traffic lights and road signs, this colour “draws the observer under its spell thanks purely to its sheer vibrancy” (Cichosch, 2016).



Figure 6: *Dripbox – Yellow White* by Johannes Girardoni (2007)

As with other colours, the colour green has many interpretations including “Grounded, Refreshed, Optimistic, Tranquil, Luck, Fertility, Naivety, Jealously” (Caldwell, 2019 p.72). St. Clair (2017) suggests that green is the colour we associate with the countryside and friendly to the environment. In the traffic light system, its primary meaning is ‘Go’ (Caldwell, 2019).

Despite the generally positive connotations with the colour green, green also has symbolic links with poison and sometimes evil (St. Clair, 2017). The juxtaposition between meanings can make it difficult to clarify which message is intended.

Green has the largest wavelength range in the spectrum visible to humans. Furthermore, it is the colour most perceivable to the human eye, even in darkness. This is because human eye

can adapt to 507nm in the dark, and 555nm in the light, and green has a wavelength of 487to 570 nm. The high perceptibility of the colour could be why it was included in traffic lights. However, the most common form of colour blindness is green-weak, which means difficulty in seeing green colours. This affects nearly 8% of the population. “Green weakness is so common that many countries add visual cues like strike through lines on green traffic lights to help color blind drivers navigate the signals” (Barcio, 2017).

Olafur Eliasson used green for the colour of an art installation in a river because of how the colour stands out. The “massive, fluorescent green streak soon appeared, to the shock of anyone happening by the river” (Barcio, 2017). This was noticeable by locals because of how perceivable green is.



Figure 7: Green River Project by Olafur Eliasson (1998)

Another key aspect of wayfinder is iconography. The word icon is derived from the Greek ‘eikōn’, which means ‘resemblance’ or ‘image’, (Buchanan, 2018 p. 253). According to the Oxford Dictionary, iconography is “the use or study of pictures or symbols in visual arts ” (Waite, 2012 p.358). Many of the most powerful icons use simple forms such as colour, lines,

patterns, or geometric shapes. These basic icons often represent grand concepts such as eternity (O'Connell et al.,2011). Within graphic design, icons have been developed for various functions that help people understand the world, including phone apps and instructions for flat packed furniture. In this way, icons act as descriptive pictograms, eliminating the need for text. This not only makes the design look sleek, but they remove language barriers by being able to communicate with anyone in the world (Cadlwell, 2019). This demonstrates the importance of the symbols and icons that can change the world with its clearly understood meaning, such as the gender of the toilets or the exit route to escape a building quickly and safely. It is important that universally understood icons and symbols do not change, so they can continue to communicate their message globally Visocky O'Grady & Visocky O'Grady, 2008).

The study of iconography is concerned with the images found within pictures and other forms of visual communication, and has been used to analyse images from Medieval, Baroque, and Renaissance Christian art. Art historians claim that the images in pieces of art from these periods were limited and had a consistent set of meanings. Romantic art used certain images to represent the ideas they were trying to communicate, such as mountains and rivers, which were codes for deeper meaning (Buchanan, I. (2018). Carl Jung stated that symbols "always stood for more than their obvious and immediate meaning, hinting at something not yet known" (Cited in O'Connell et al., 2011 p.57). Similarly, symbolism refers to "the use of symbols to represent ideas or qualities" Waite, 2012 p.738). As a symbols is "a thing or person that represents something else Waite, 2012 p.738), symbols are a key feature in the study of iconography. Symbolism has been a means of communication for thousands of years and across many cultures (Fletcher, 2001) signs use icons and symbols as

a way to communicate meaning. In a 'visual shorthand', using picture, numbers and letters to communicate practical and important information (O'Connell et al., 2011).

According to American philosopher Charles Sanders Pierce, there are three types of signs within the field of semiotics, which is a way of looking at meanings behind images and symbols. These are 'iconic', 'indexical' and 'symbolic' (O'Connell et al., 2011). The 'iconic' sign is a representation of an object or concept. In wayfinding signs, this could be a flame to represent fire escapes, arrows to represent directions and a silhouette of a car and a motorcycle to show which vehicles can enter a certain road. The 'indexical' sign represents "concepts that we have learned to associate with a particular sign" (O'Connell et al., 2011 p.62). This is usually learned by being taught how to interpret icons, such as the colour red being understood as danger when used in signs. Finally, the 'symbolic' signs do not resemble the item or concept being communicated but are understood by convention. For example, the international symbol for nuclear waste is three black triangles in a circle on a yellow background. Again, this would be understood through learning and experience, and demonstrates how semiotics is applied to the learning and understanding international symbols which can be communicated universally.

This essay has shown that the wayfinding sign uses typography, colour and icons as three design elements, making them universally understood. Wayfinding is important because it guides people to follow instructions and navigates them. For example, the traffic lights use colours to convey the information of whether it is safe to go, or if they must stop. Road signs to inform the speed limit or which exit drivers should they leave. This essay has also highlighted how iconography is universally understood by everyone as it is not

communicated by verbal language which is important for information design for everyone to universally communicate and understand around the world.

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