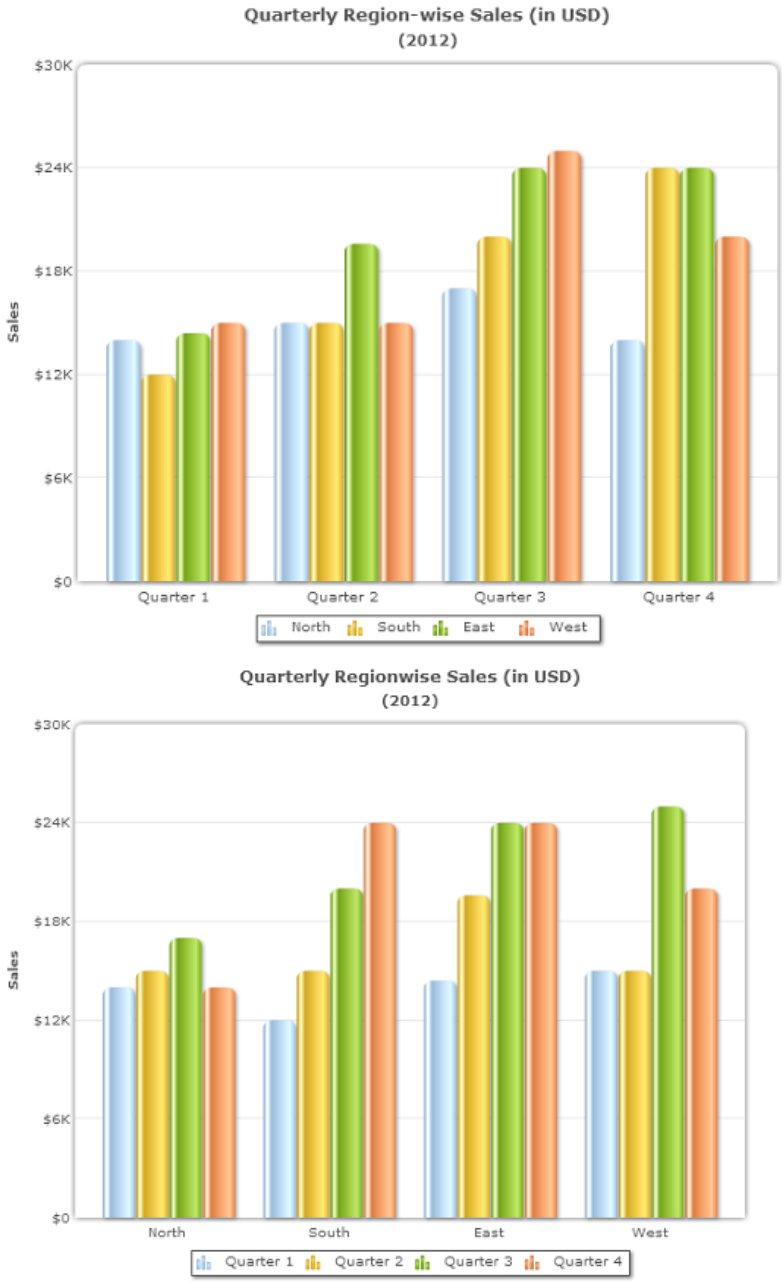
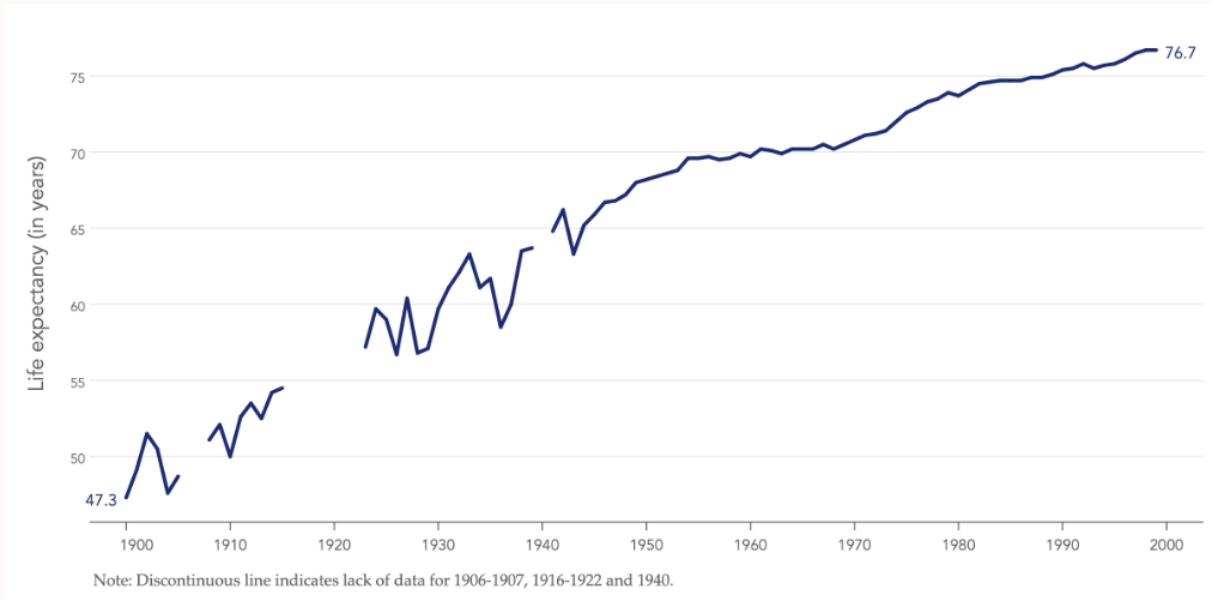
Proximity

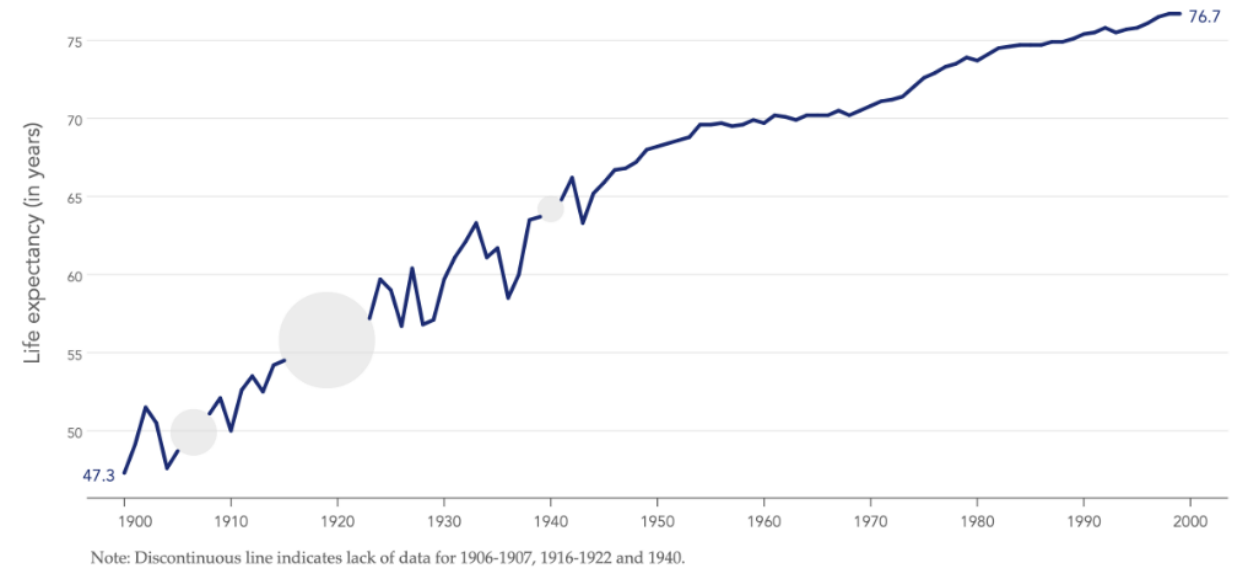


Source: https://www.webfx.com/blog/web-design/data-visualization-gestalt-laws/

Based on gestalt's Proximity law, we group more relevant objects close to each other to simplify the perception of the graph. In the above graphs, we can observe that the first graph's x-axis is labeled with Quarters data making it difficult to compare Region wise sales. Keeping in mind the objective of the graph, which is to show quarterly region-wise sales, switching to region-wise grouping facilitates better. Using the concept of proximity helped improve the graph for a more functional outcome.

Closure

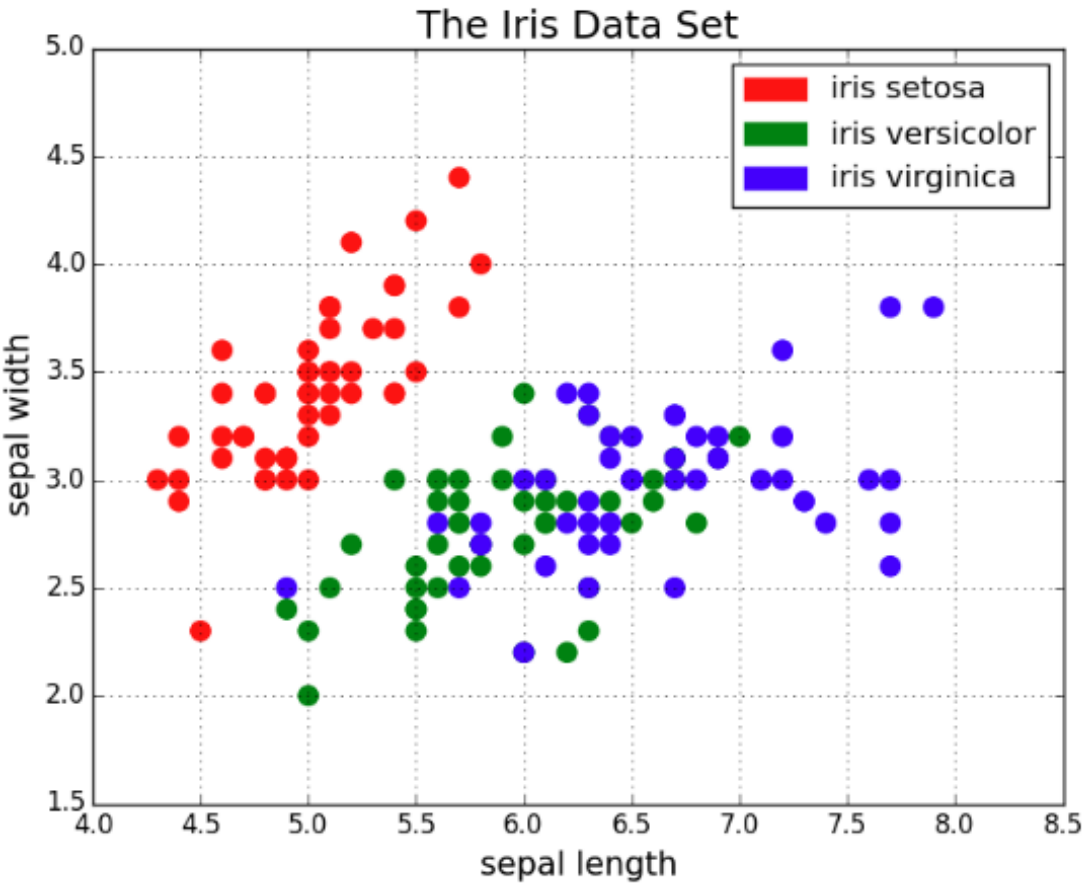




Source: https://graphworkflow.com/decoding/gestalt/closure/

According to the Closure principle, our minds see full shapes or forms when an incomplete picture is seen. In the first graph above, discontinuity is observed due to the lack of data in those specific years on the x-axis. Instead of keeping them empty, adding a meaningful indication in those spaces will ensure the completeness of the graph. As seen in the second graph, they have chosen to add subdued colored circles in the gaps proportional to the missing data size. This not only adheres to the law of closure but also visually encodes the amount of data that is missing in the graph plotted.

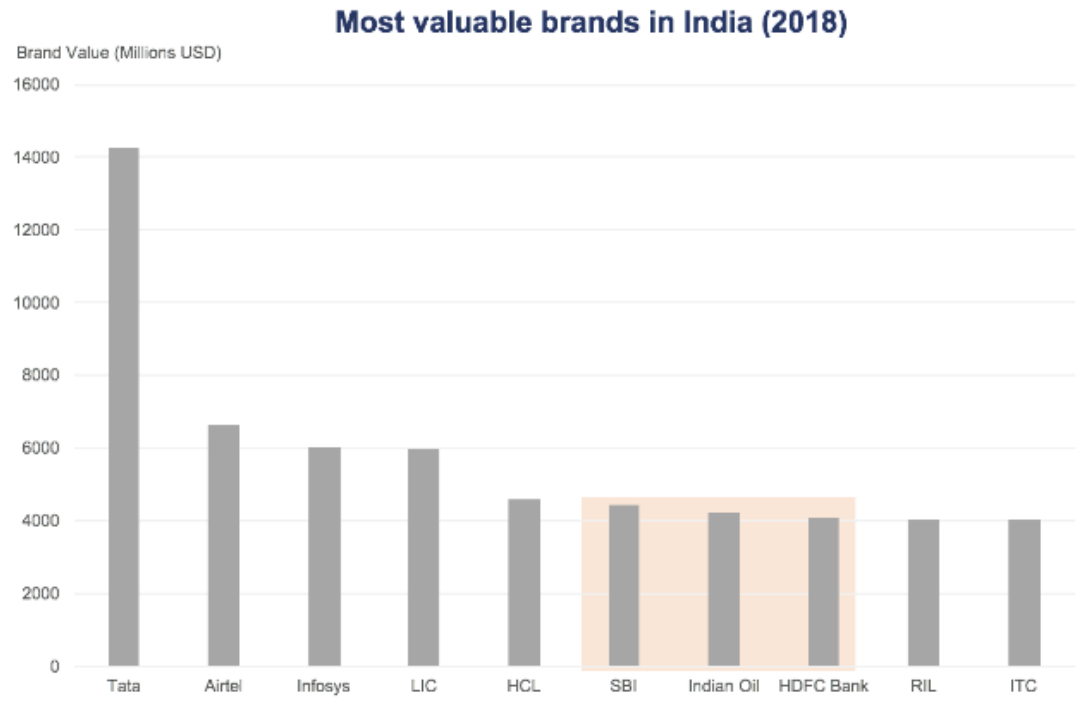
Similarity



Source: https://www.pybloggers.com/2015/09/my-first-time-using-matplotlib/

According to the Similarity principle, we showcase similarities and differences by sharing the same color, shape, and direction. The scatter plot above is the outcome of observations made between the sepal length and sepal width of three different kinds of flowers. To indicate the flower type, colors are assigned to each plotted sepal value. This enables us to differentiate easily among all the flower types. This graph uses the gestalt law of similarity, enabling a better understanding of data differentiation.

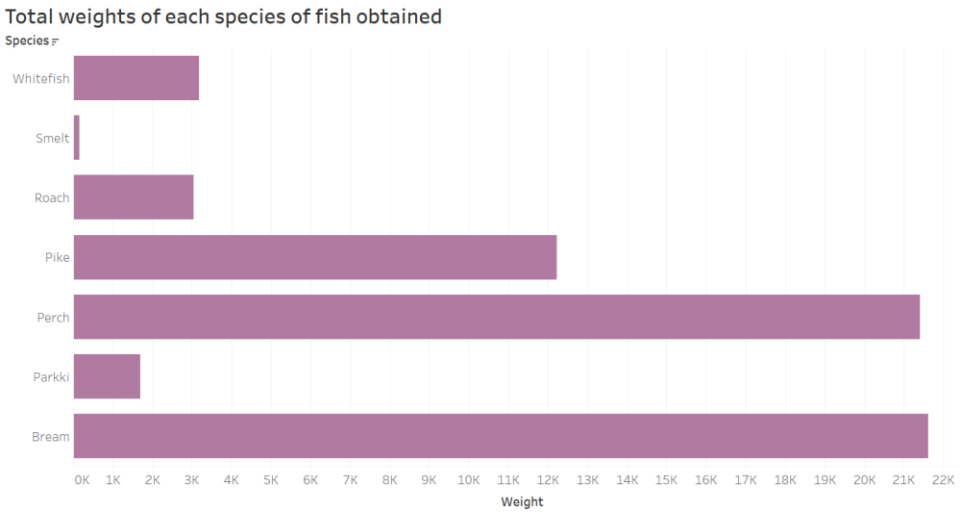
Enclosure

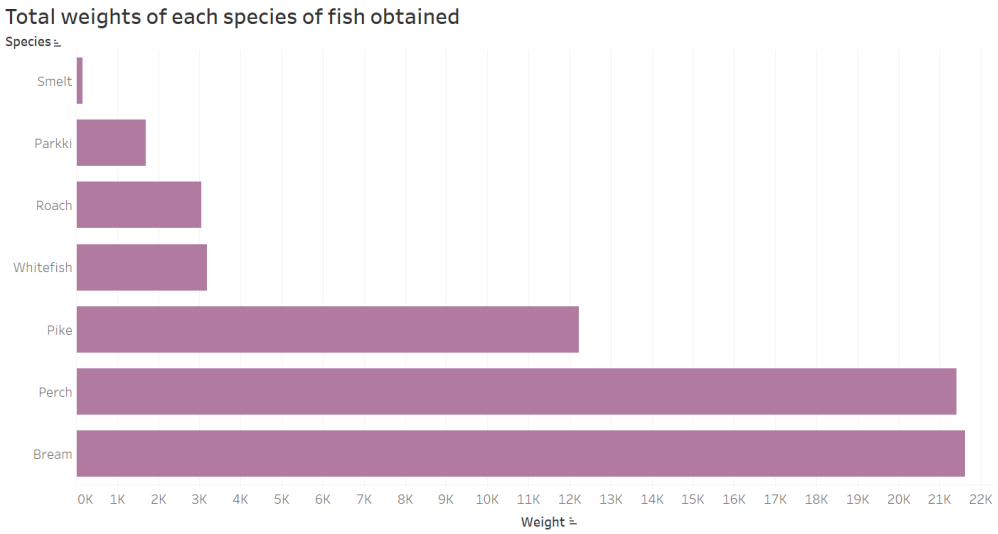


Source: http://daydreamingnumbers.com/concepts/gestalt-laws-data-visualization/

Enclosure law is used to identify a few objects in the graph together. This is showcased in the above graph by drawing a boundary for 3 bars, namely, SBI, Indian Oil, and HDFC Bank. The box drawn focuses on telling some similarities between these three brands, among the most valuable brands in India for 2018.

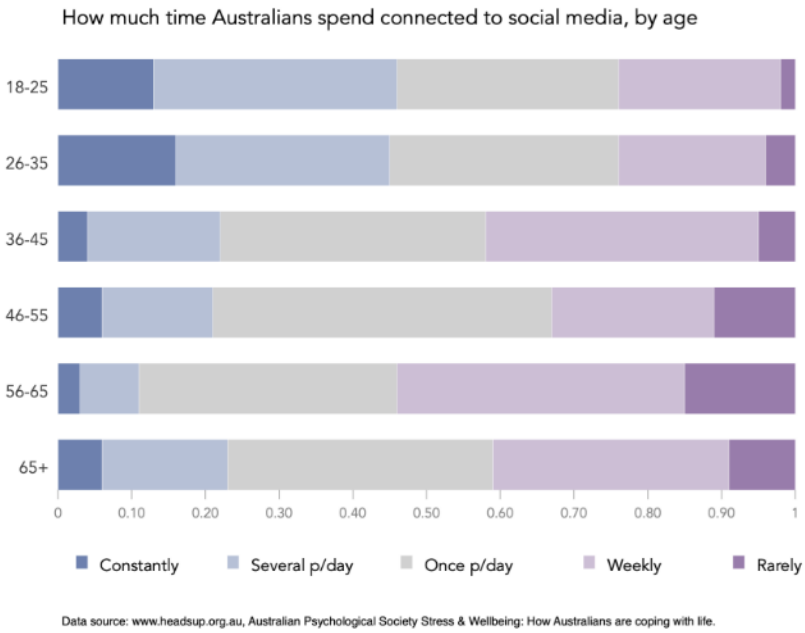
Continuity

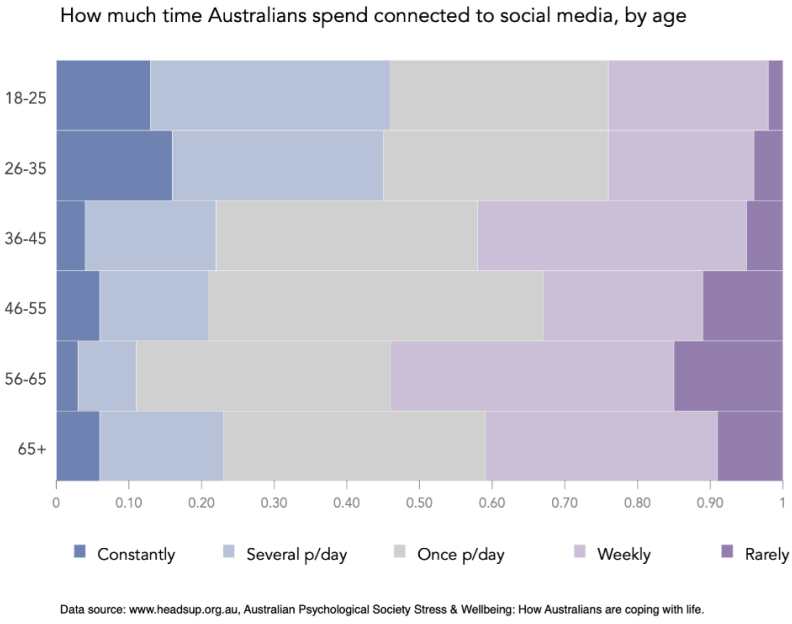




Referring to the bar chart I created on the tableau, the first chart indicates the total weight of the fish for each species in the dataset. We observe multiple variations in the lengths of the bars, making them random to identify the least and the highest total weights. So, by ordering the weights in the second graph, we obtain a more continuous graph that is easy to read and make observations. The second graph adheres to the gestalt principle of continuity.

Figure and Ground



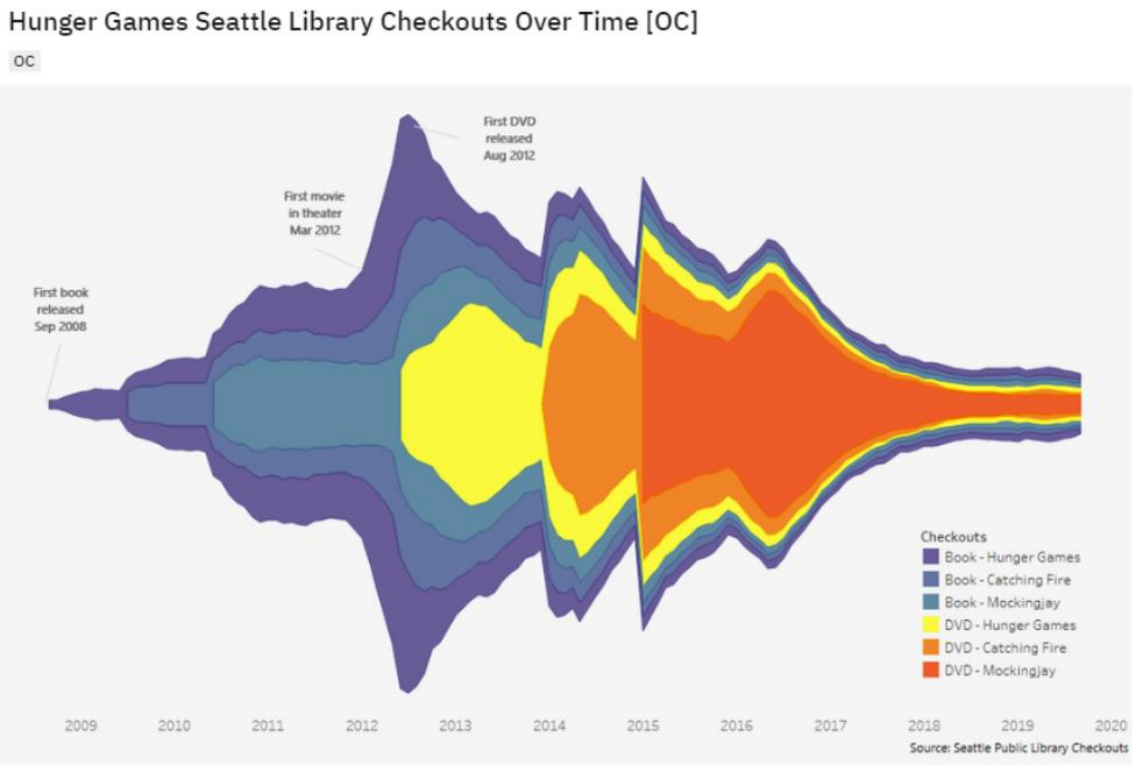


Source: https://graphworkflow.com/decoding/gestalt/figureground/

The above graphs are stacked bar charts representing an age group on the y-axis in various bins, and the colored segments show the amount of time Australians spend on social media. In the first graph, the white spaces act as the ground sharpening the figures of each age group individually. This helps us quickly identify the changes within the age group.

But as per the title, we want to know how Australians spend connected to social media, which becomes the primary objective and later comes the by-age requirement. Hence the second graph adheres to the emphasis on the required objective by decreasing the foreground white spaces and making them thin lines, enabling the switch between the figure and the ground. In the new graph, thin white lines act as figures, and the stacked bars as ground. This provides a vertical view of all durations spent separated by figure.

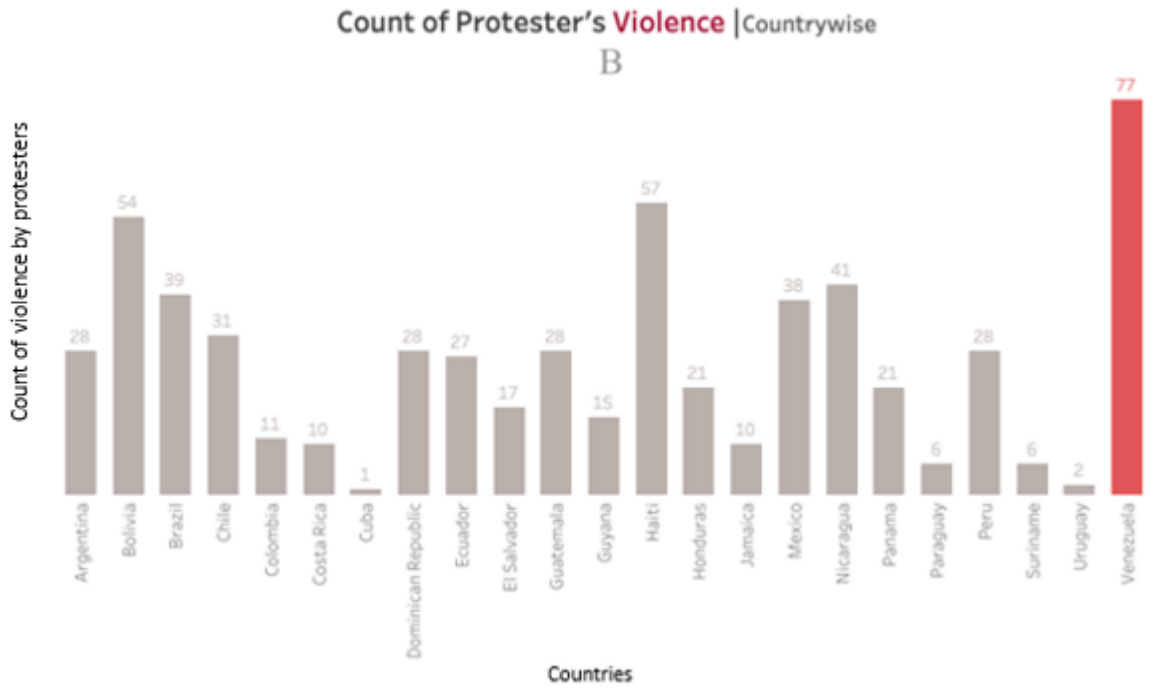
Symmetry



Source: https://towardsdatascience.com/a-data-visualization-adventure-55876196f7f8

The above graph showcases the changes in the number of checkouts of Hunger games books and DVDs over the years from 2009 to 2020. Simplistically it is an area graph with overlapping of newly introduced books or DVDs. The above graph applies to shadow with the same area chart creating symmetry and a more defined shape to the graph. I believe doing this added an aesthetic appeal to the visualization through the gestalt law of symmetry.

Focal Point



Source: https://medium.com/nightingale/how-to-apply-gestalt-psychology-principles-in-data-visualization-6242f4f1a3de

Adhering to the Focus Point of the gestalt laws, the above graphs highlight the bar of Venezuela. This helps in bringing our attention to the country which has the highest number of violence caused by protesters.