Lecture 5: Introduction to Perception

In Lecture 4, we described which visual encodings were most effective for visualizing quantitative information. This lecture describes the properties of human vision and perception that underlie those choices.

Goals for the lecture

By the end of the class, you will be able to:

- Describe the basic components of visual processing, from initial sensation to cognition.
- Explain preattentive processing, its strengths and its limits
- Describe the Gestalt principles of visual perception and their application to visualization
- Understand how the Bertin semiotics (visual language) for encoding quantity is applied to visualization. (not covered in the reading, but will be discussed in lecture)
- Describe basic models for color and contrast (detail in later lectures)

During practicum, we will:

View and discuss some of the visualizations handed in for the Assignment 2 (Vis Critique)

Reading Assignment

Few, *Show Me the Numbers,* Chapter 6, Perception

Things to consider as you read

1. What examples of preattentive processing are most used in quantitative visualization?
2. Which of the Gestalt principles are most commonly used in quantitative visualization?

Reflection questions

These questions are to help you think more broadly about what you've read and its relationship to the class. It is optional, but strongly encouraged, that you answer them and email your answers to info424@gmail.com to aid in discussion in class. Email must be received by 7 am on the day of the class.

1. Consider the famous, stylized map of the London Underground, which was shown in the lecture on 10/2. Which preattentive and Gestalt principles does it demonstrate?
2. Which of the visual principles discussed in the reading are most significant in the image you chose for your Vis Critique?