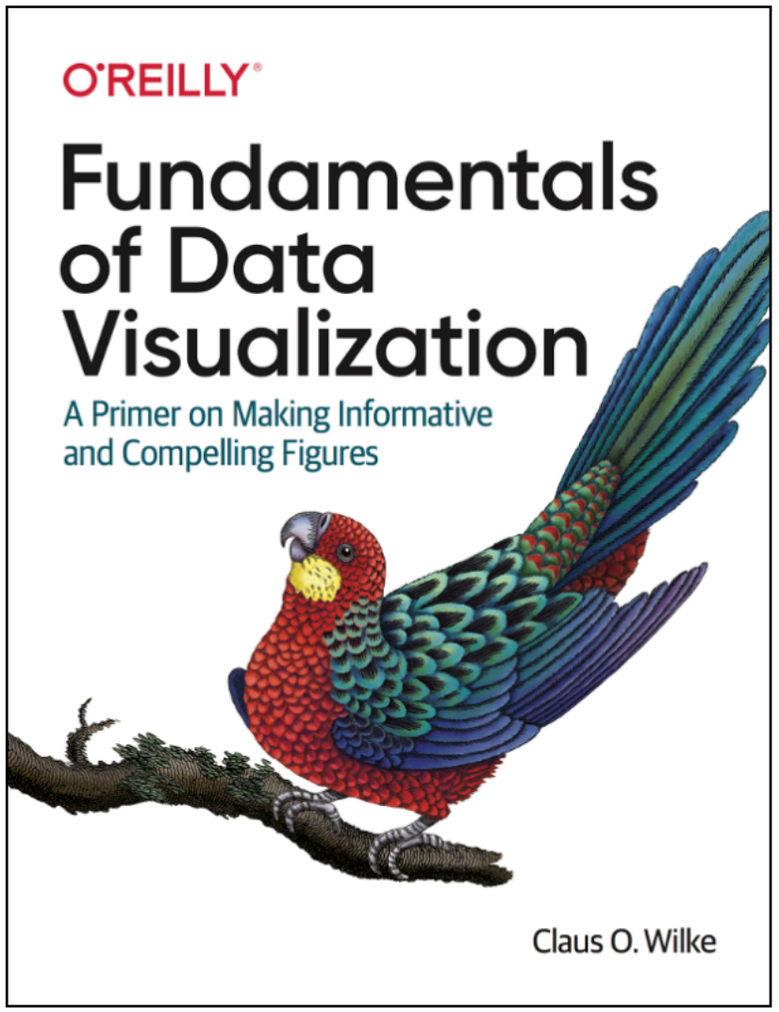
Fundamentals Of Data Visualization



Outline

Directory Of Visualizations

Principles Of Figure Design

Extras

Directory Of Visualizations

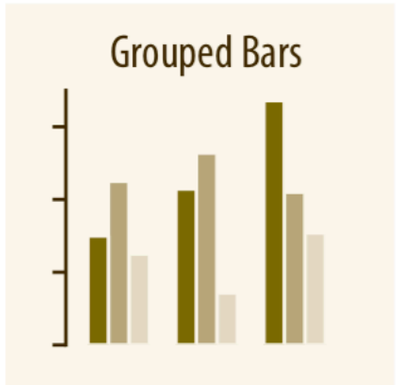
This book provides a comprehensive overview of graphic types for almost any situation along with the principles of a good graphic!

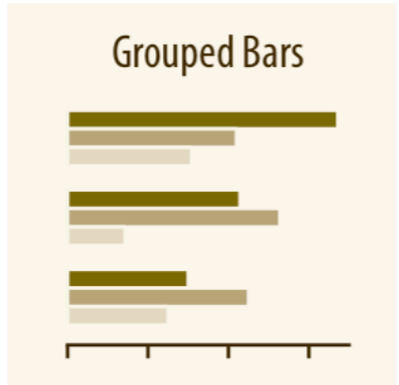
A large portion of the book describes different types of plots for each situation, which would take the rest of the semester to get through, but does include a handy directory that partially summarizes the graph types.

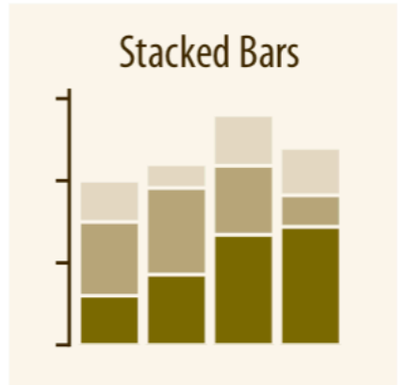
Let’s look through it quickly!

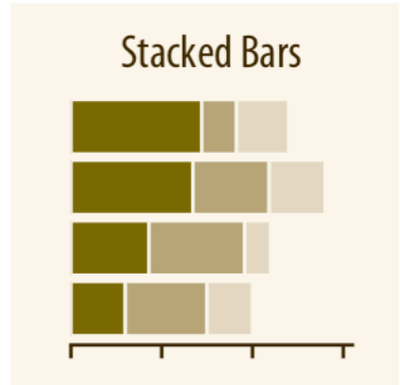
Directory Of Visualizations

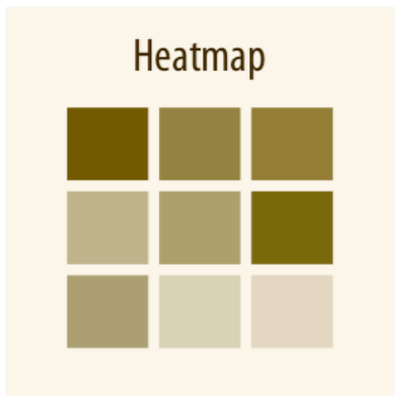
Visualizations for Amounts:

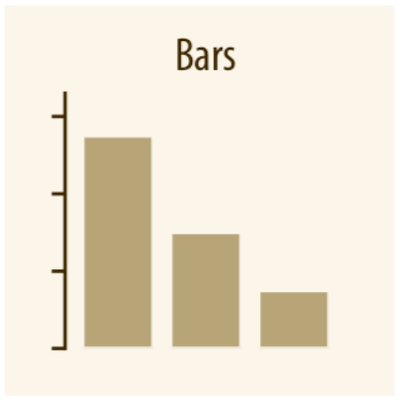


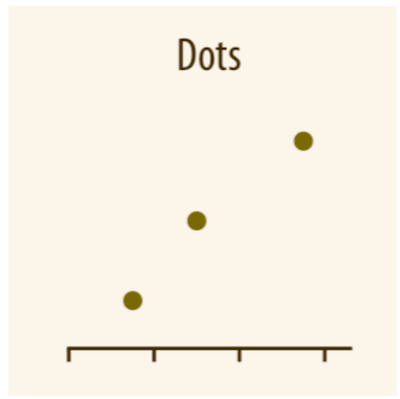






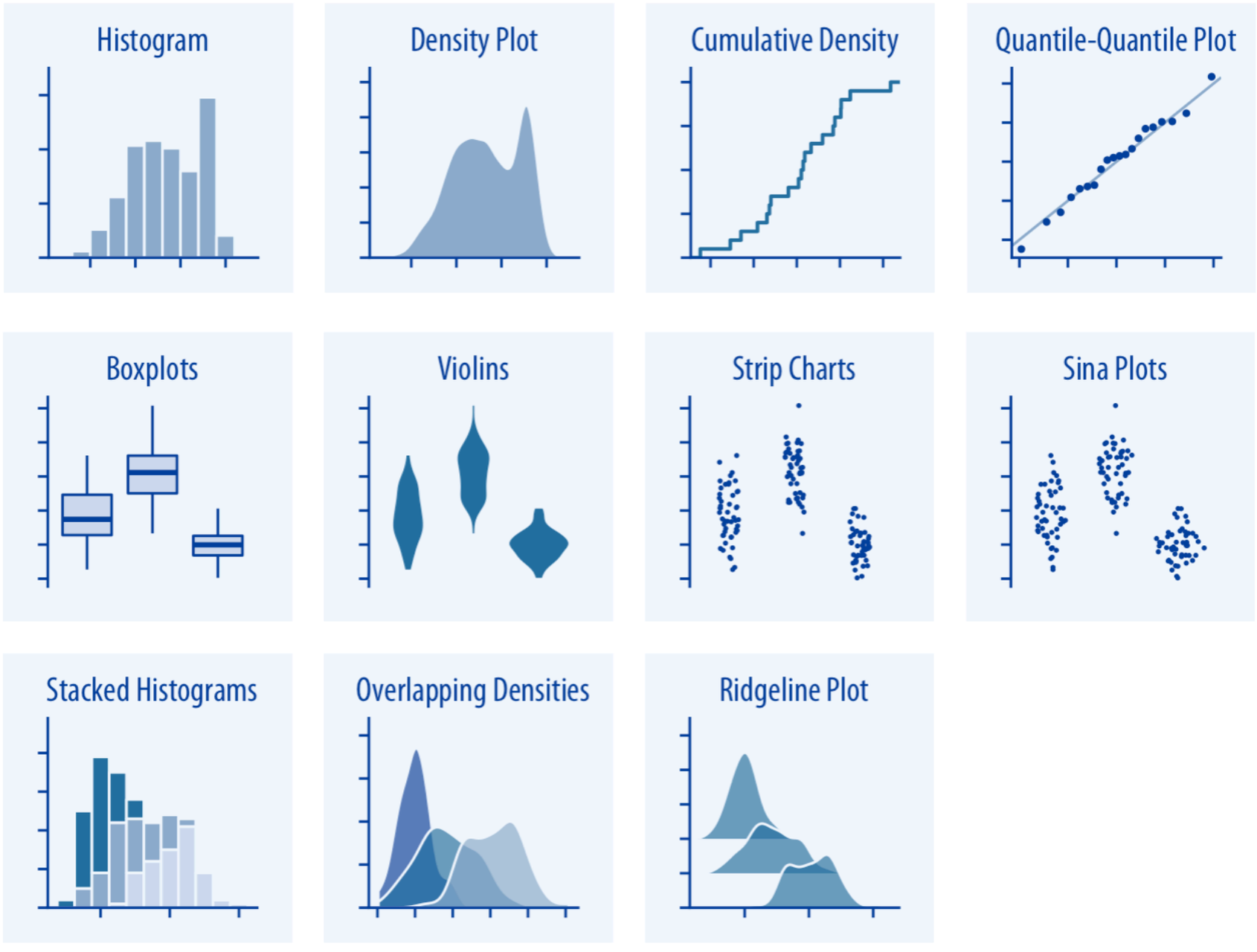






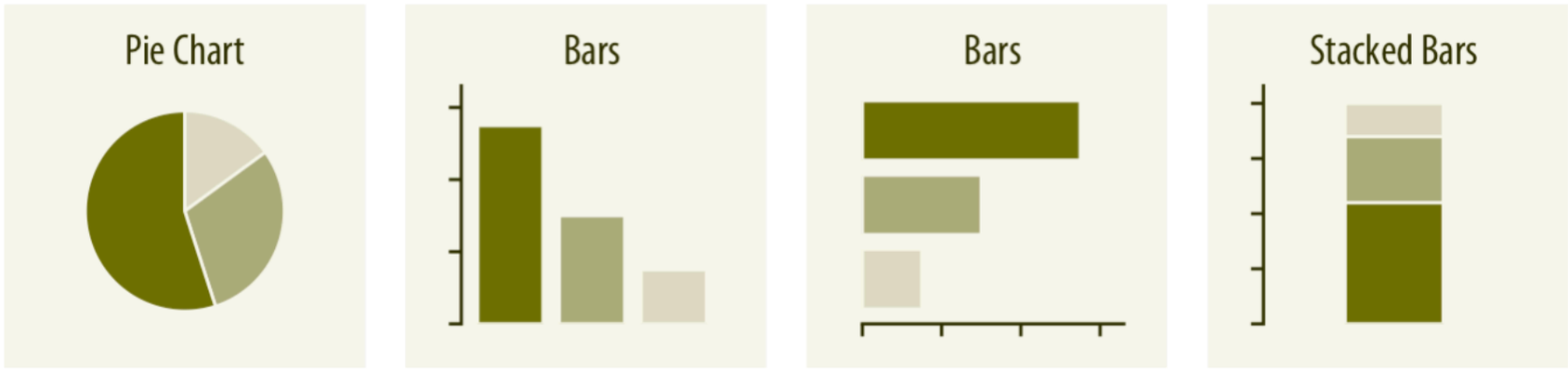
Directory Of Visualizations

Visualizations for Distributions:



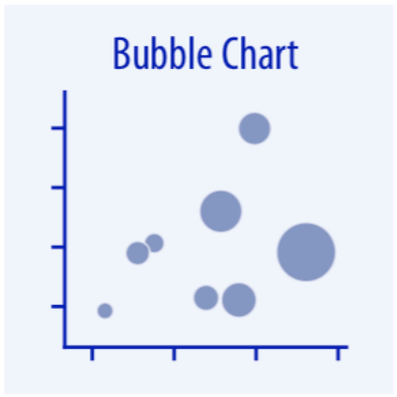
Directory Of Visualizations

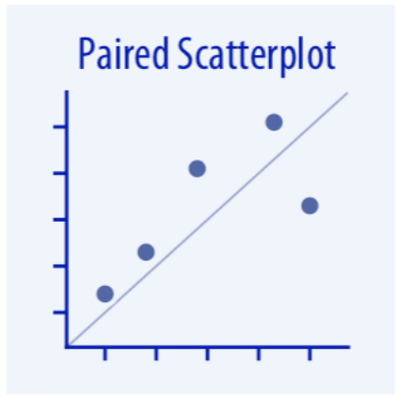
Visualizations for Proportions:

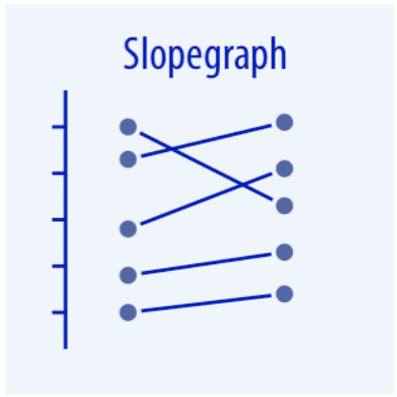


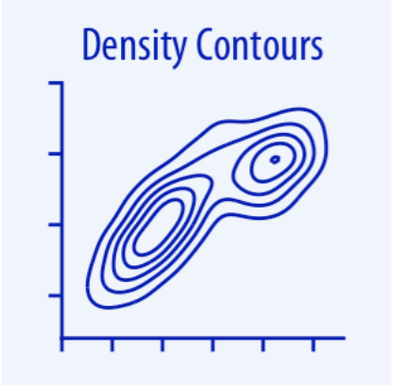
Directory Of Visualizations

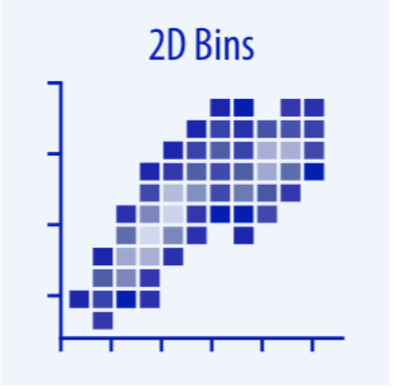
Visualizations for x-y relationships:

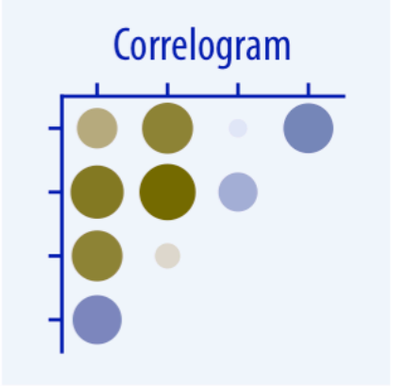


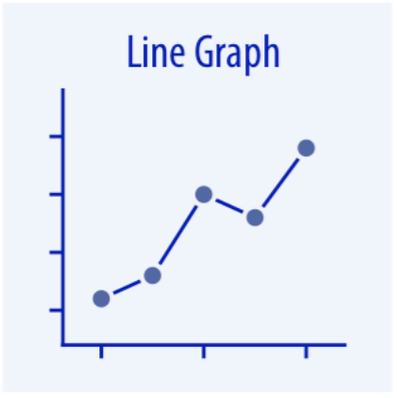


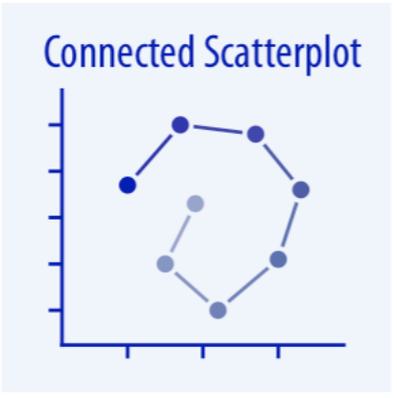


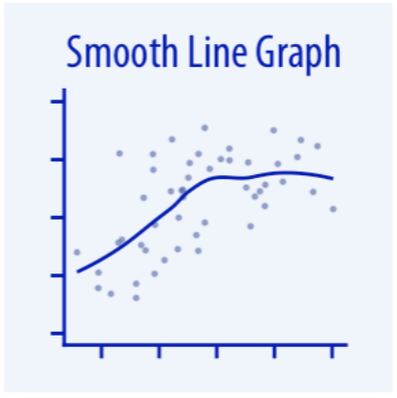






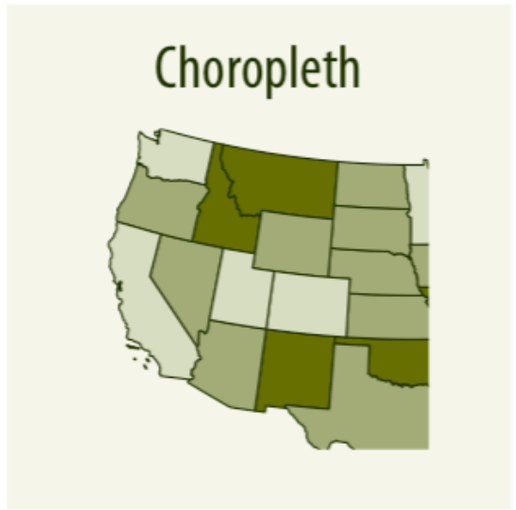


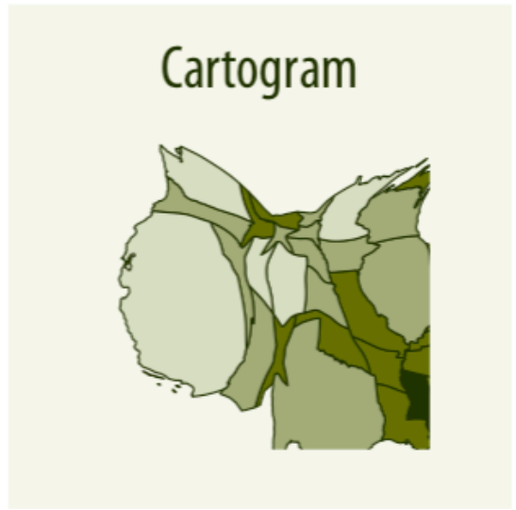


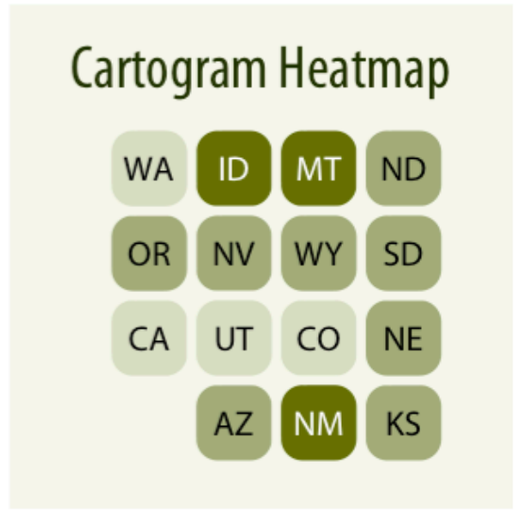


Directory Of Visualizations

Visualizations for geospatial data:

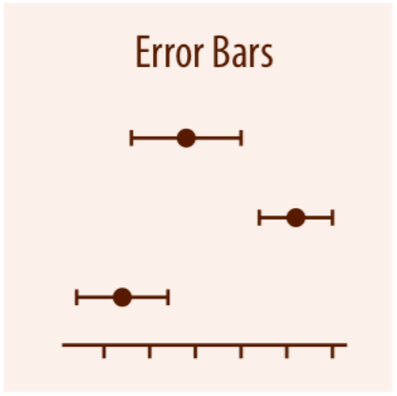


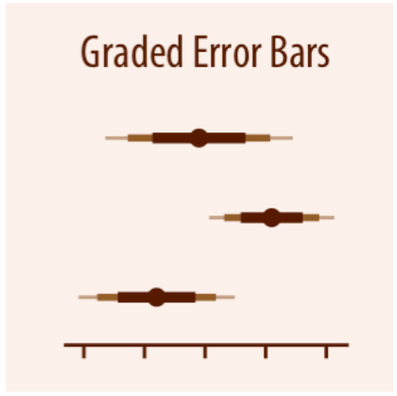


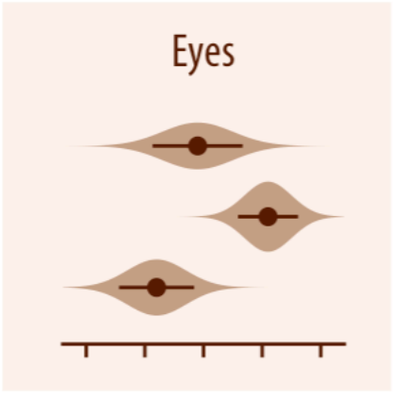


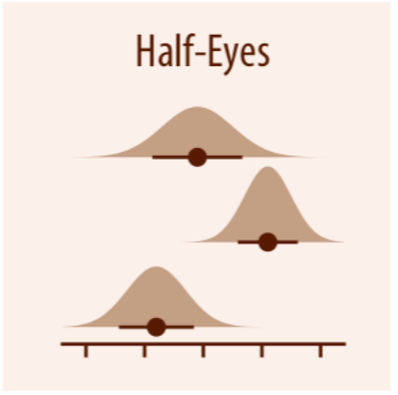
Directory Of Visualizations

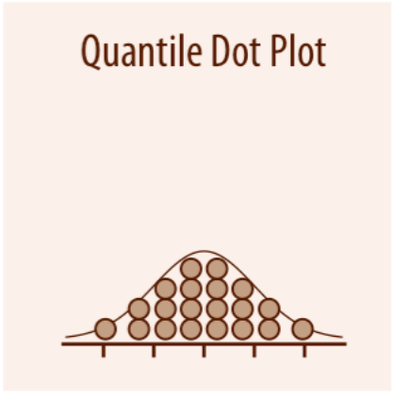
Visualizations for uncertainty:

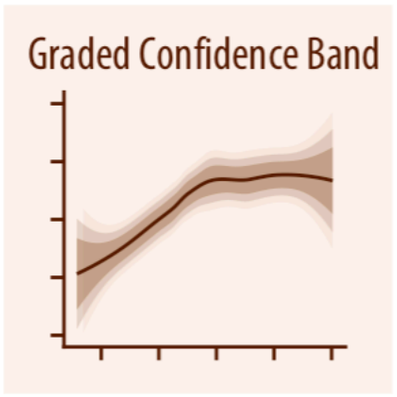


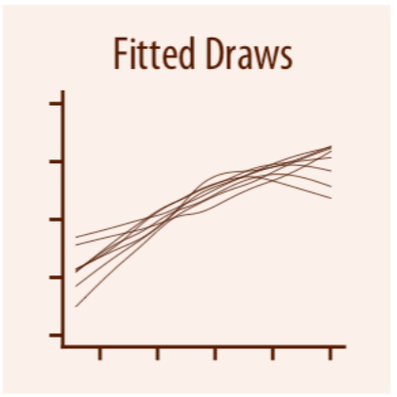












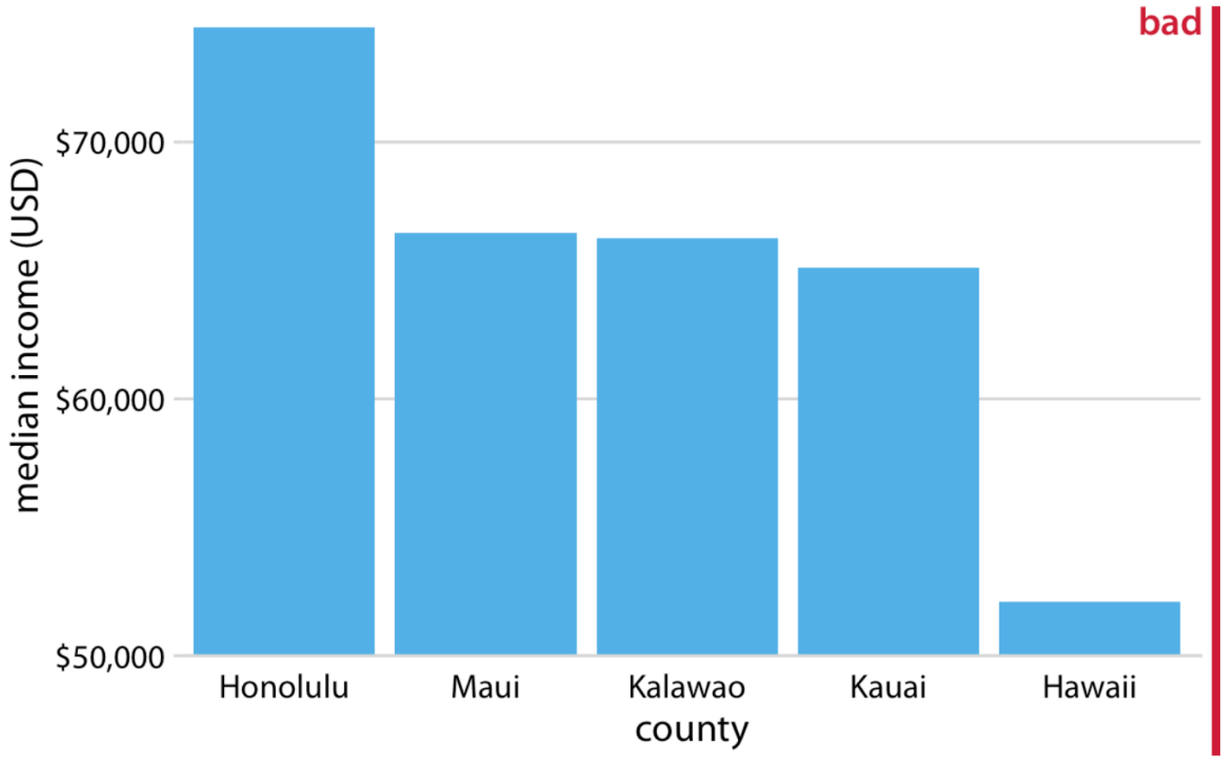
Principles Of Figure Design

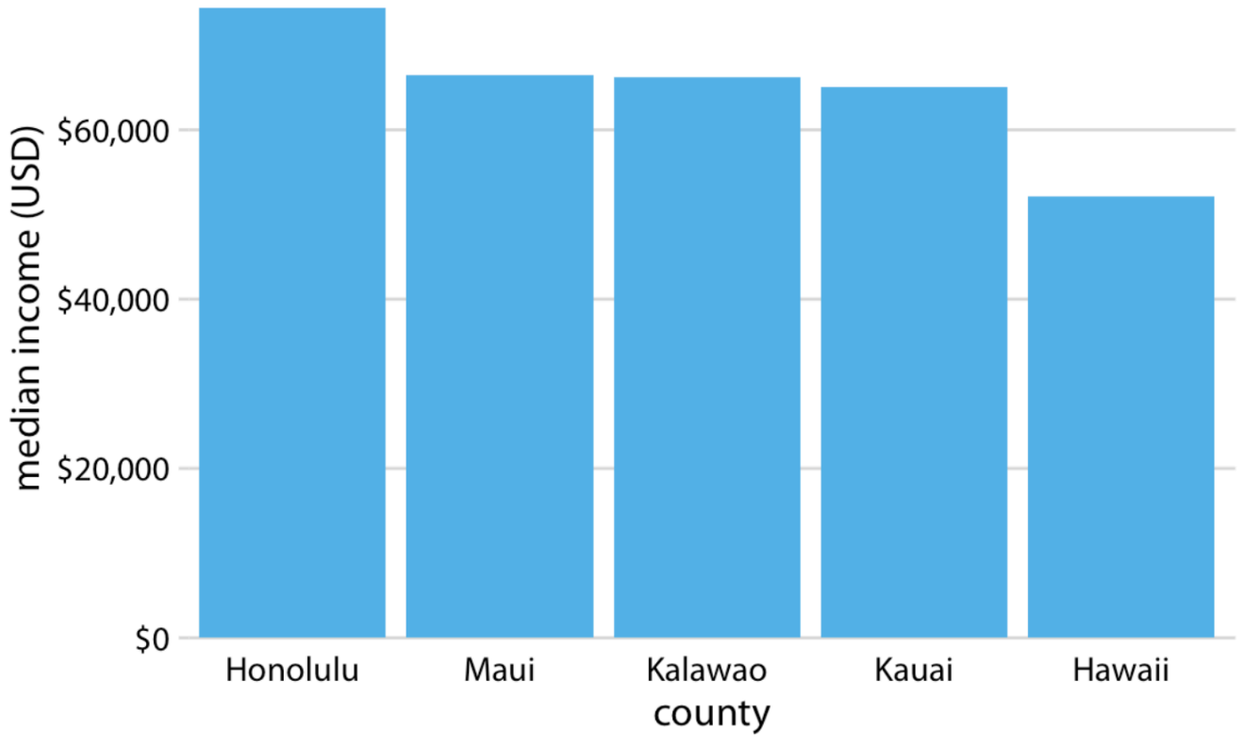
The second section of the book discusses common design issues that arise when you make visualizations. This is where we need to spend significant time!

The first principle is the principle of proportional ink!

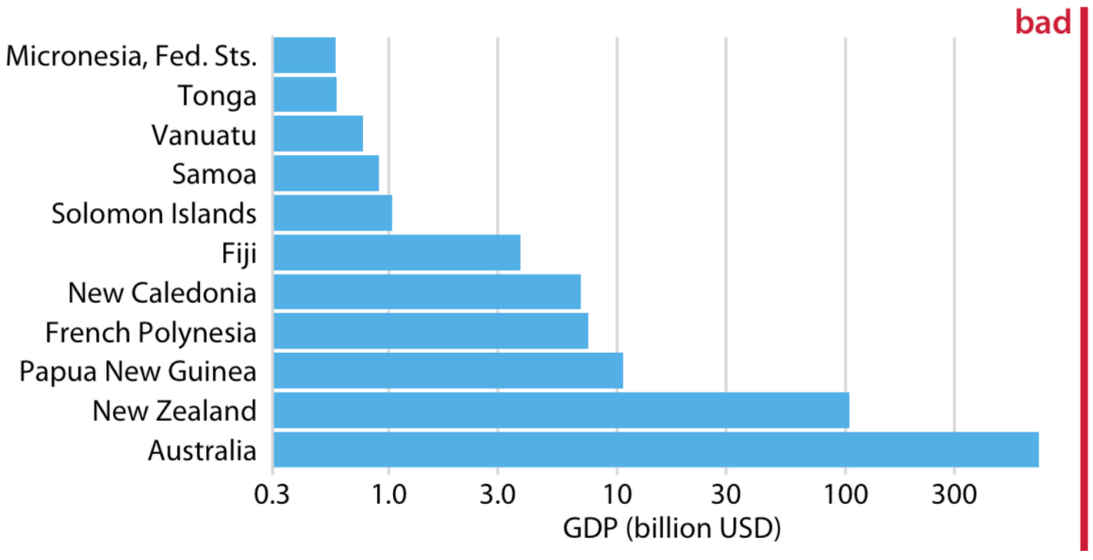
Principle of proportional ink: The sizes of shaded areas in a visualization need to be proportional to the data values they represent.

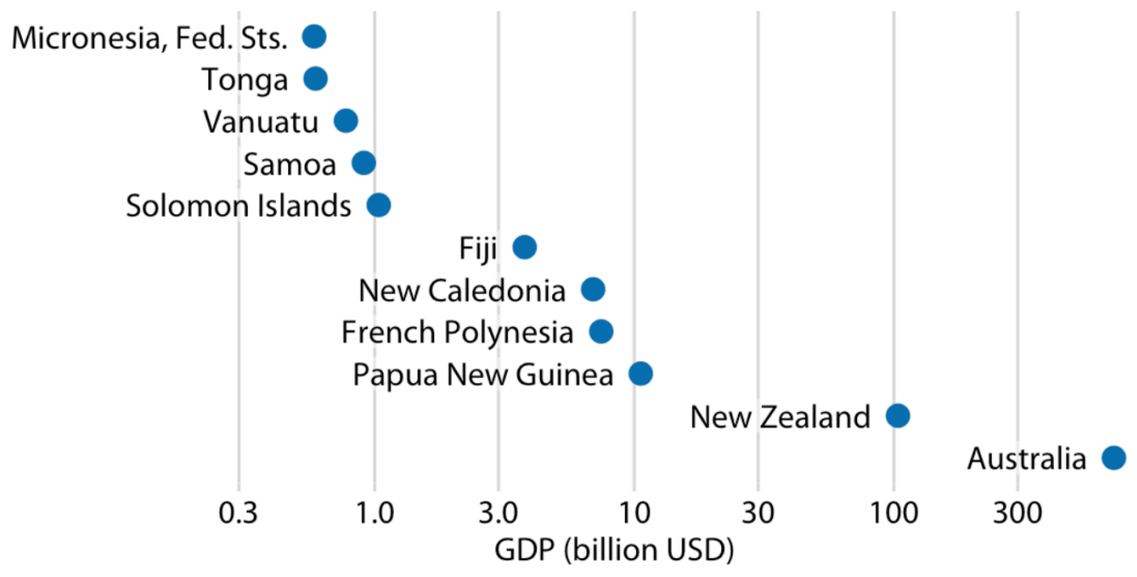
Principles Of Prop. Ink

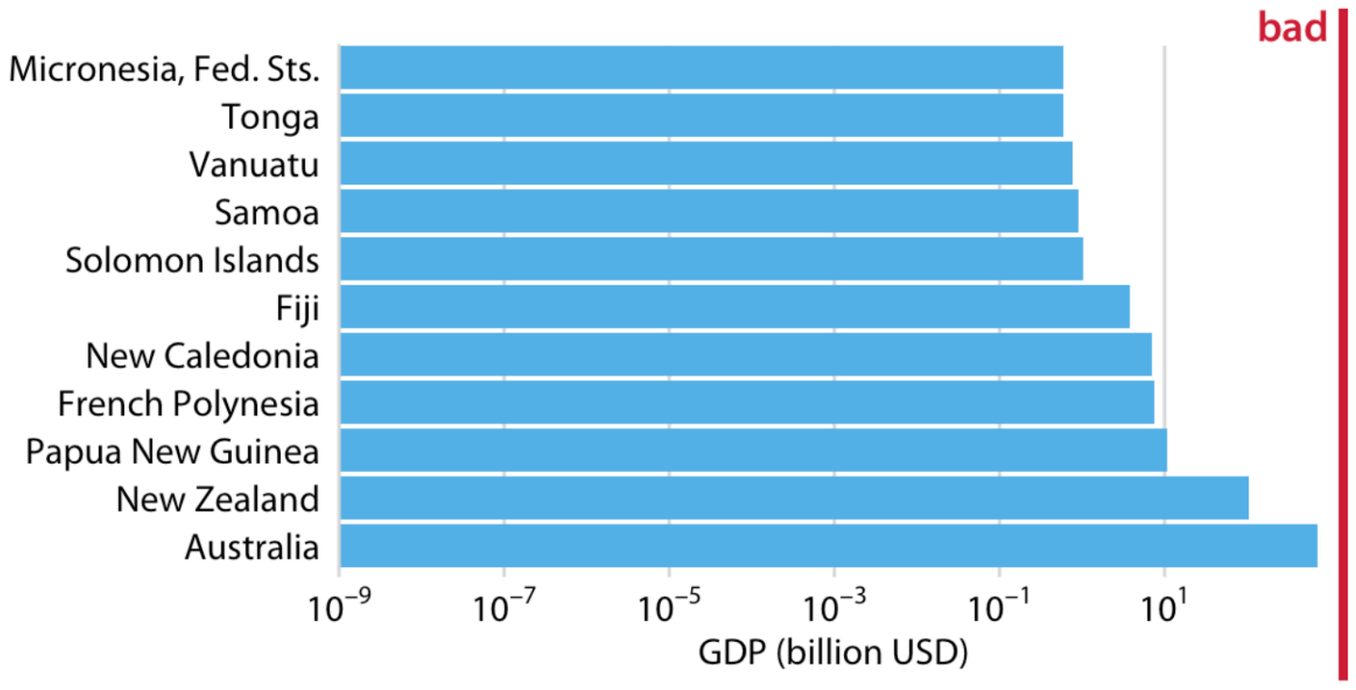




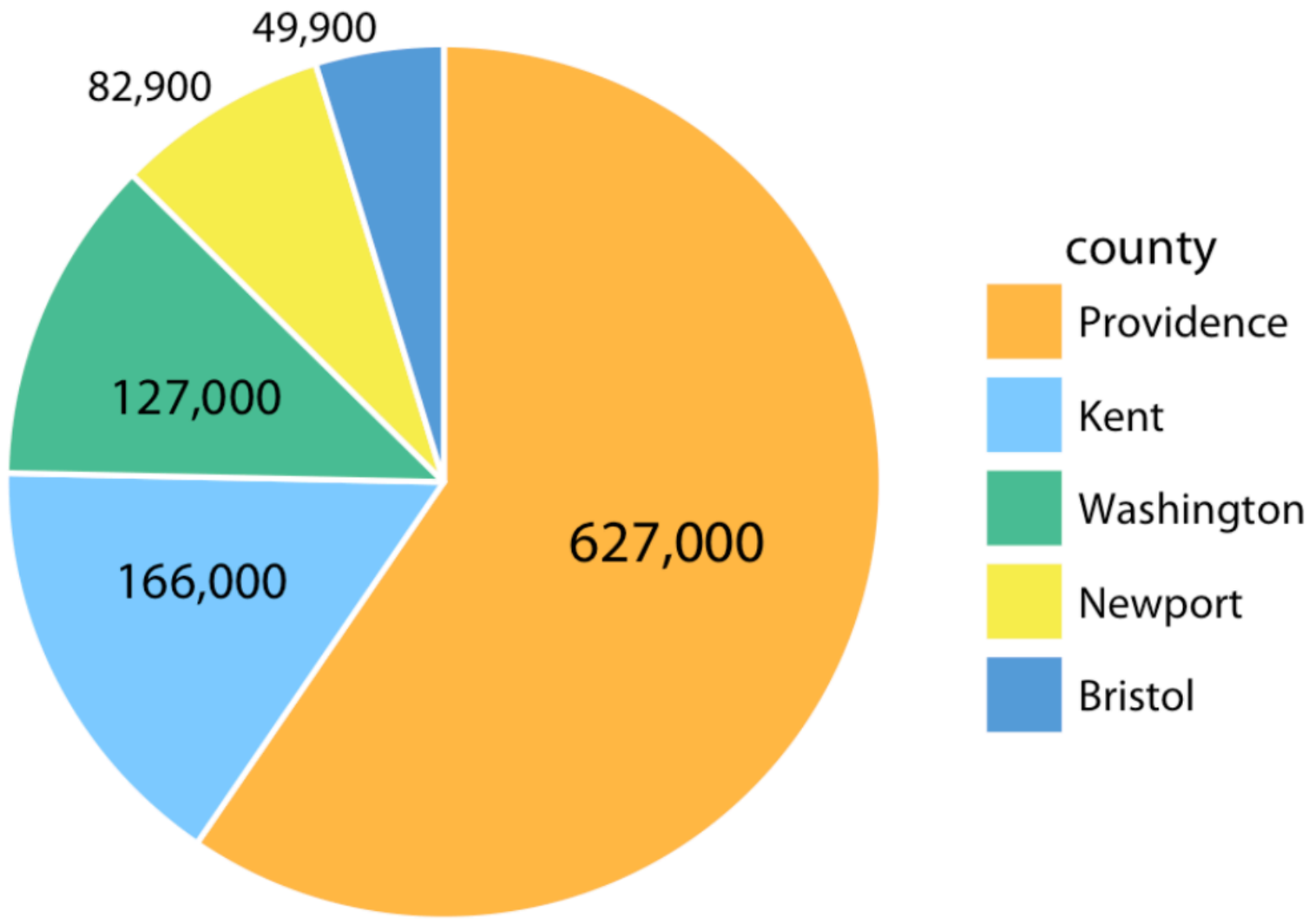
Principles Of Prop. Ink





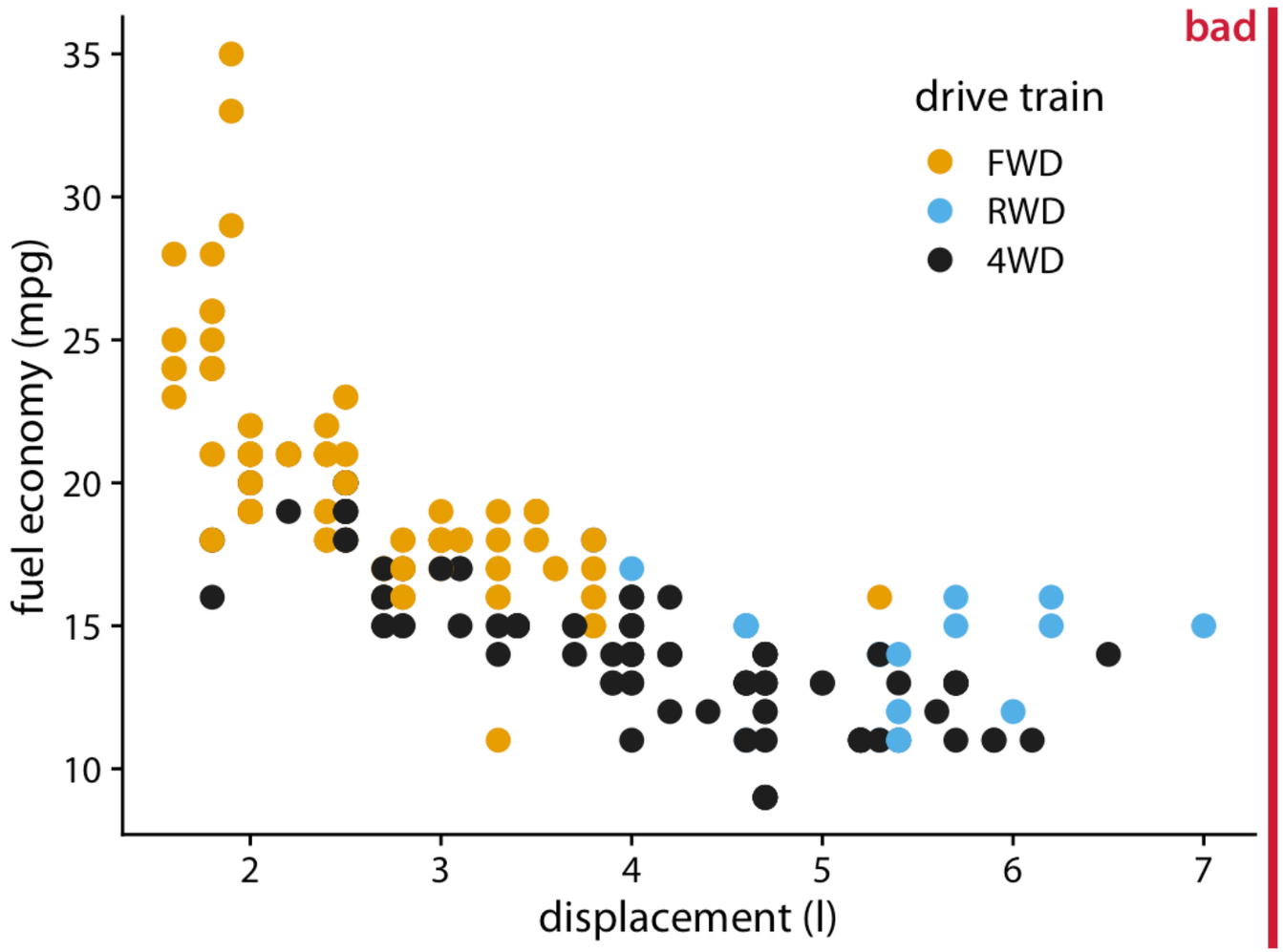


Principles Of Prop. Ink



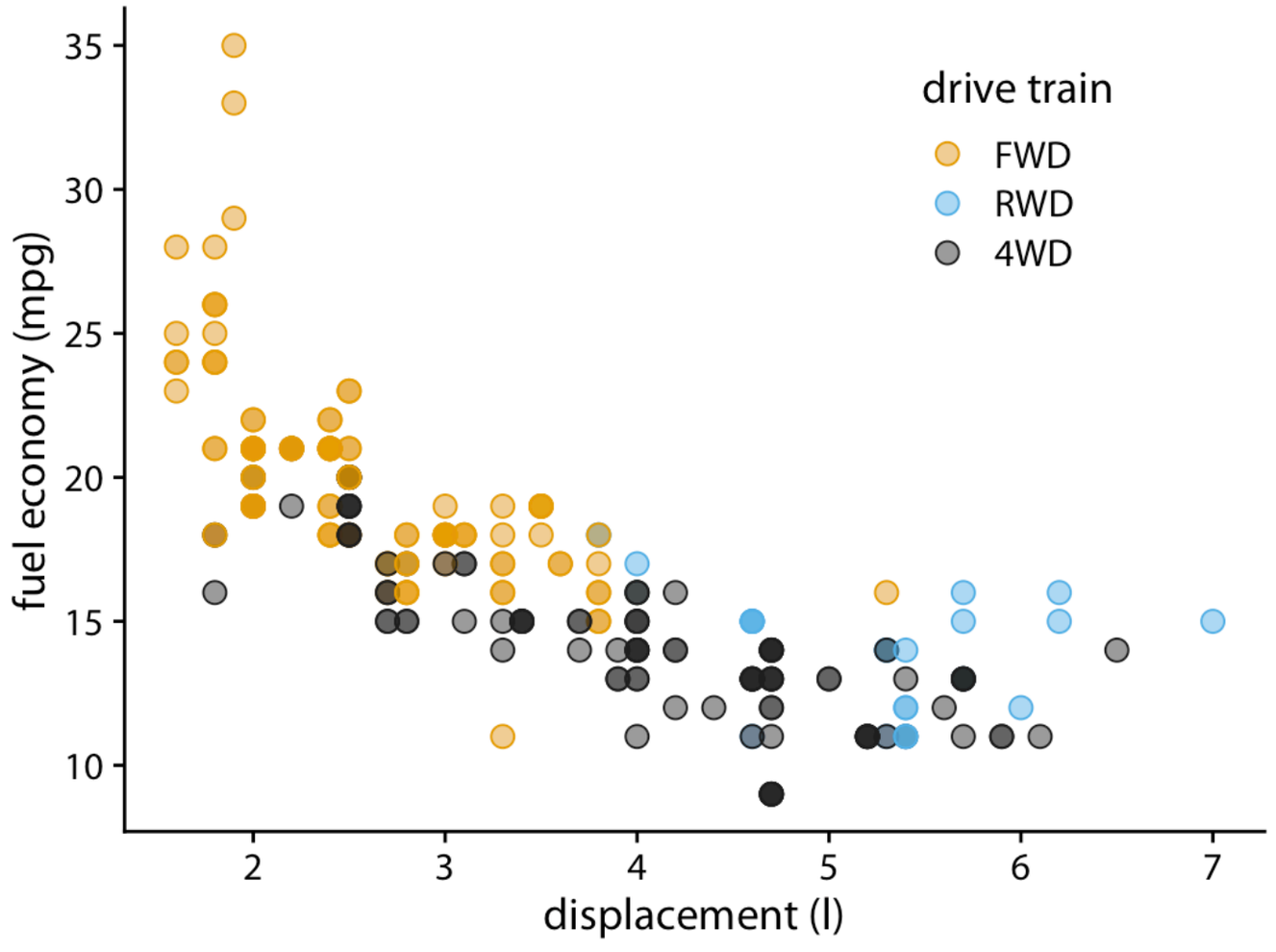
Principles Of Figure Design

The next issue we want to focus on handling overlapping points (overplotting)!



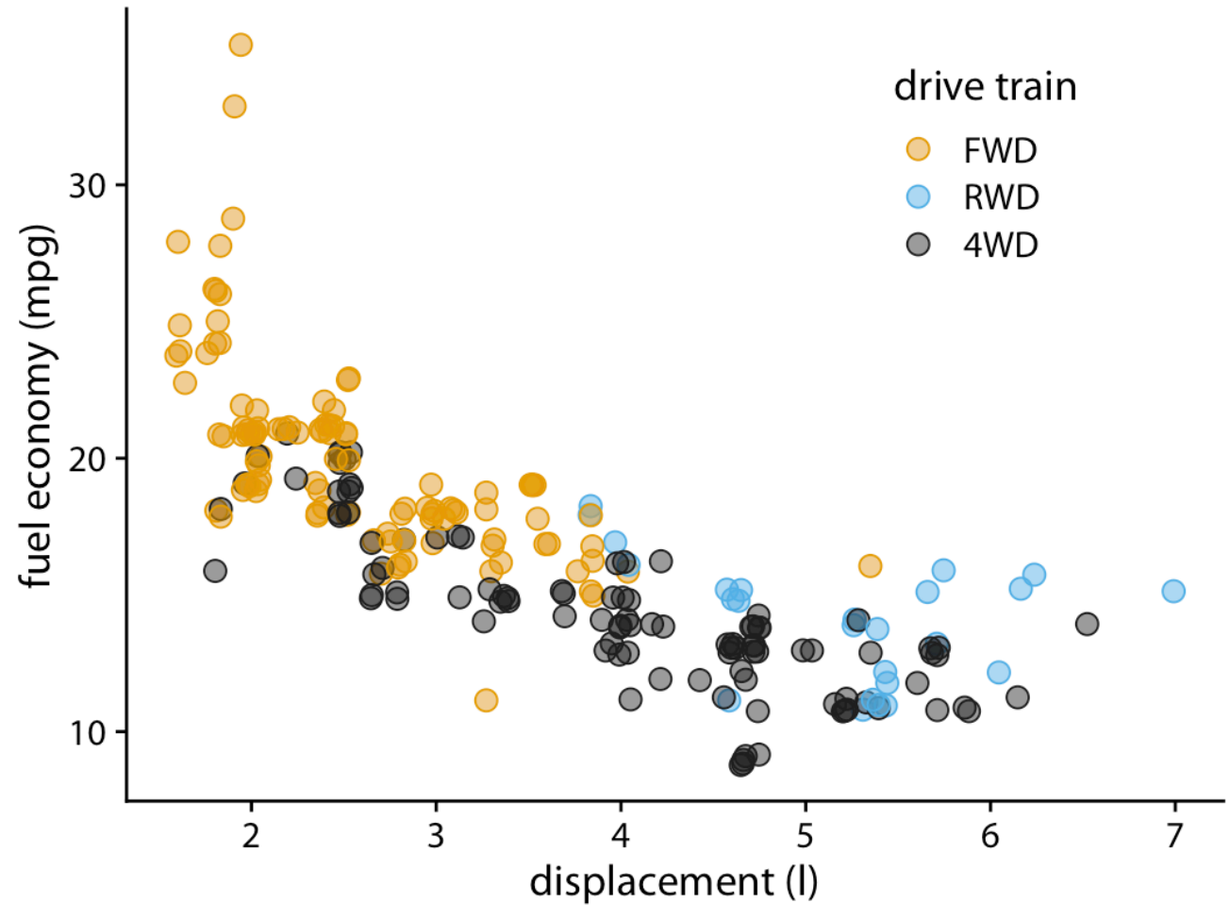
Overplotting

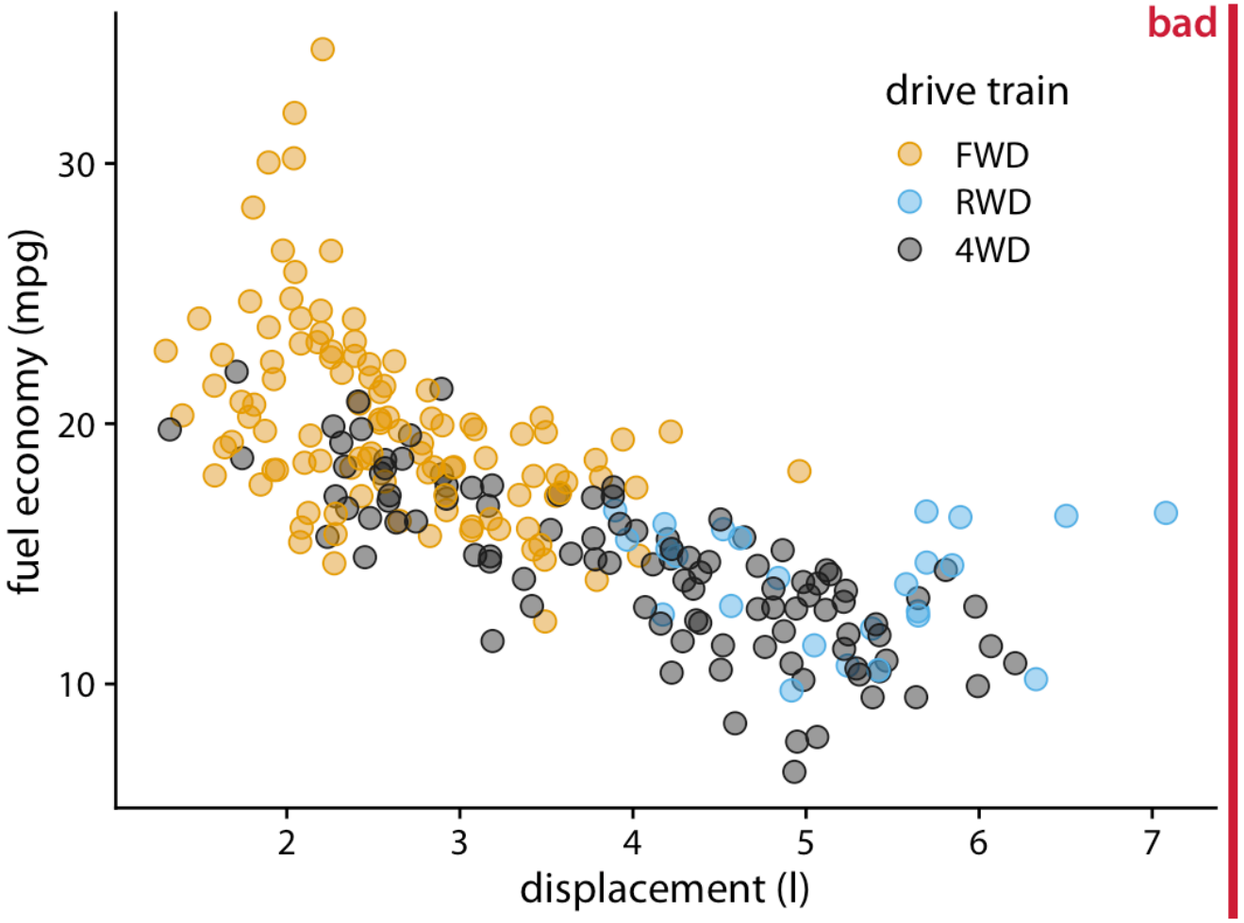
One way to fix overplotting is partial transparency (alpha blending)



Overplotting

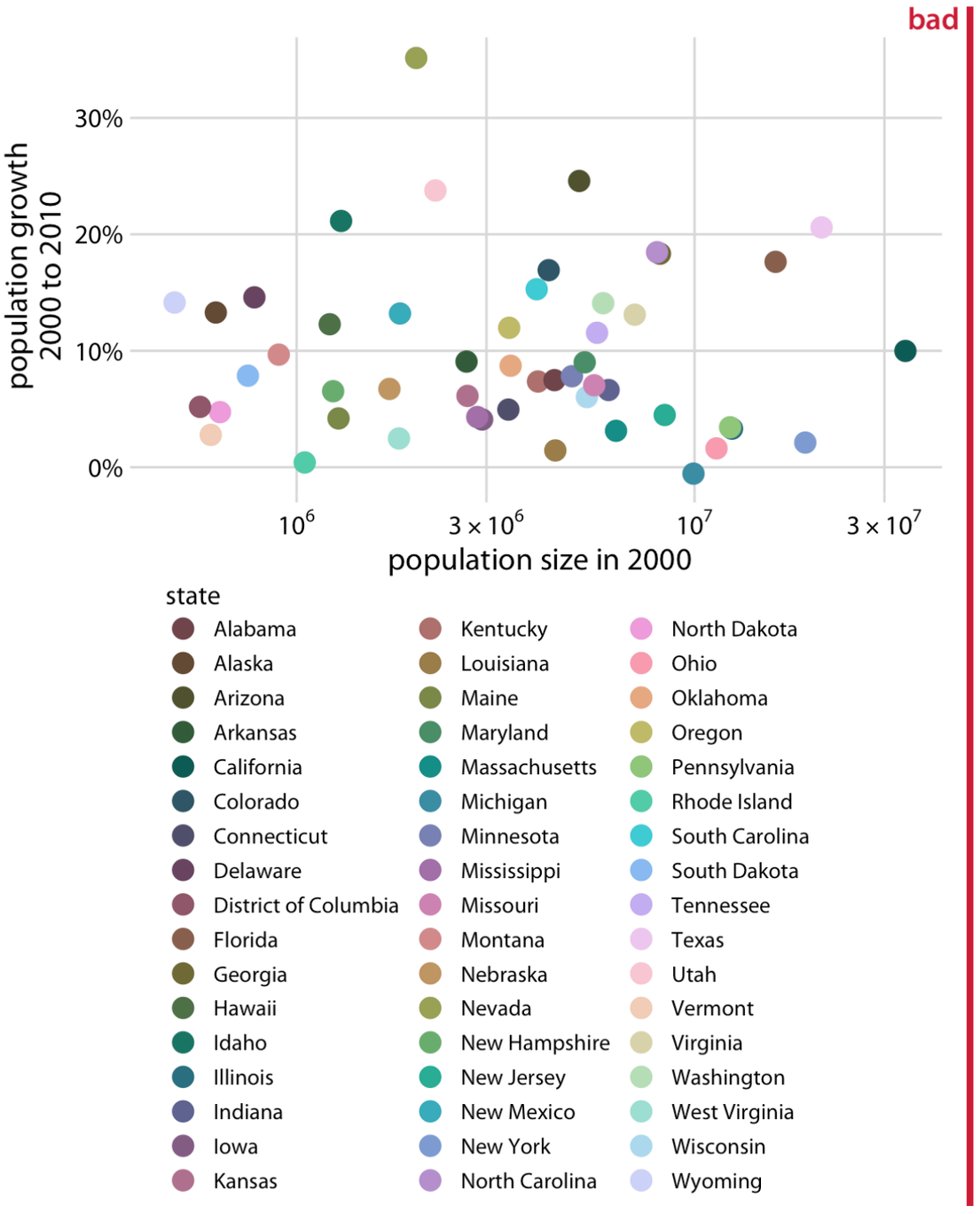
Also point jittering (adding some random noise to each point)

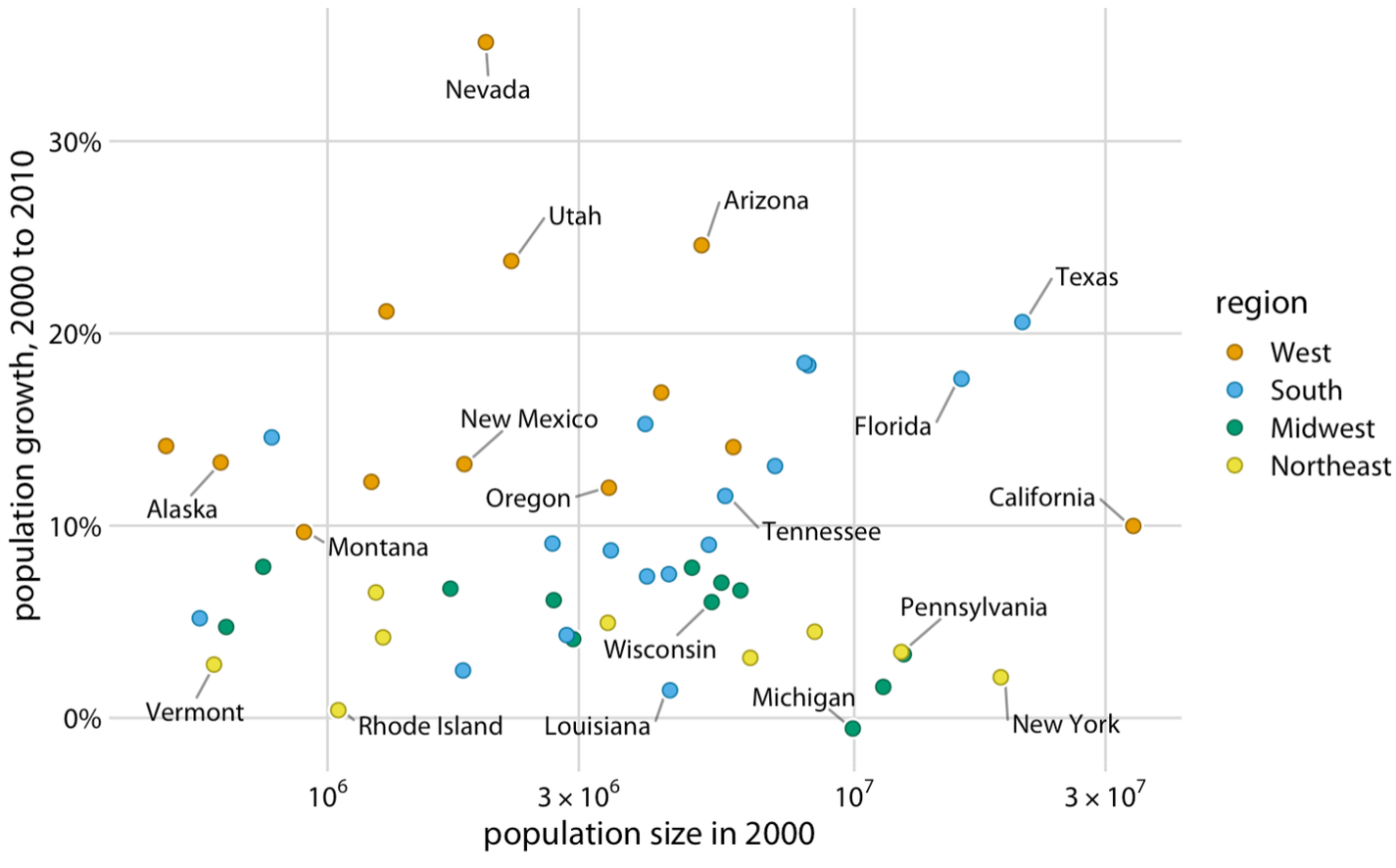




Pitfalls Of Color Use

Sometimes too much color can be a bad thing!





Pitfalls Of Color Use

Sometimes too much color can be a bad thing!