

Lecture 1: A brief history of data visualization

Michael Lopez, Skidmore College

Earliest graphics

Began with geographic maps: colors on clay tablets (5000 years ago)

11th century China: Map of the Tracks of Yu The Great

- ▶ outline very accurate
- ▶ high precision of rivers
- ▶ scale is almost exact
- ▶ carved into 3-ft wide stone tablet

Tracks of Yu the Great

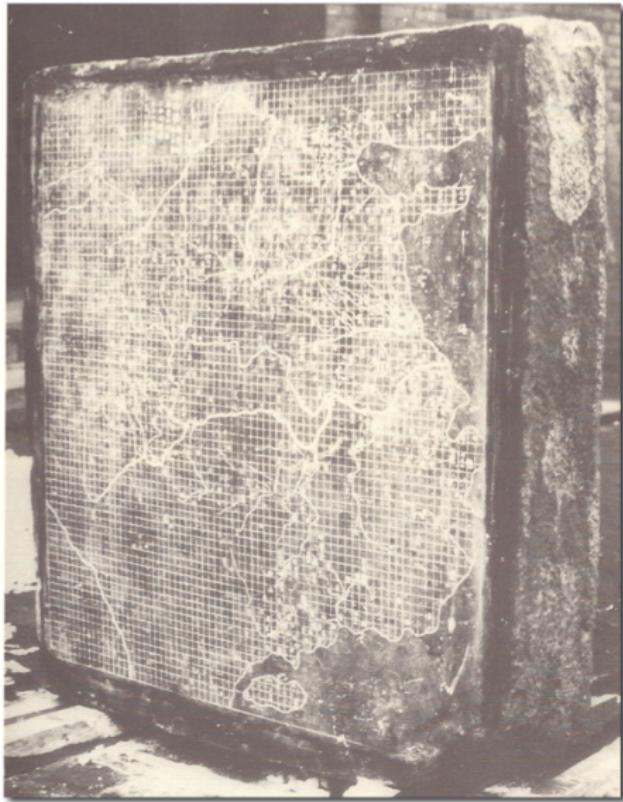


Figure 1: What do we see?

Tracks of Yu the Great

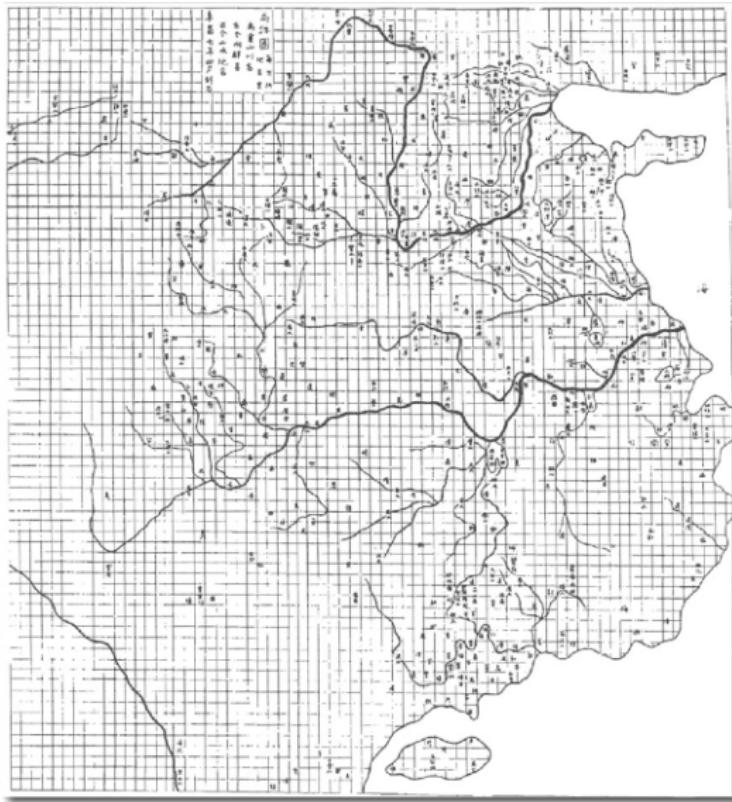


Figure 2: What do we see?

La Verdadera Longitud por Mar y Toledo

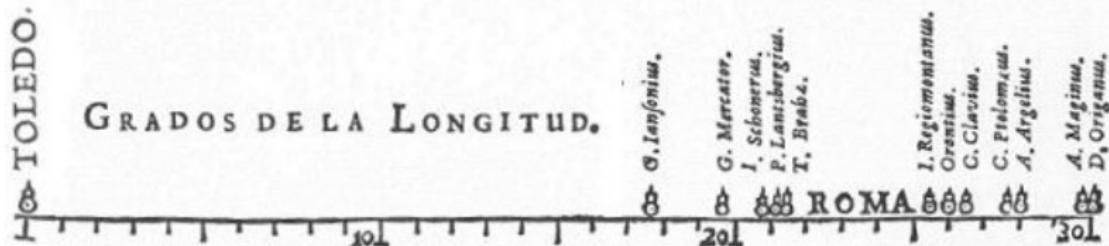


Figure 3: Estimates of distance from Rome to Toledo

Minard – Exports of French Wine

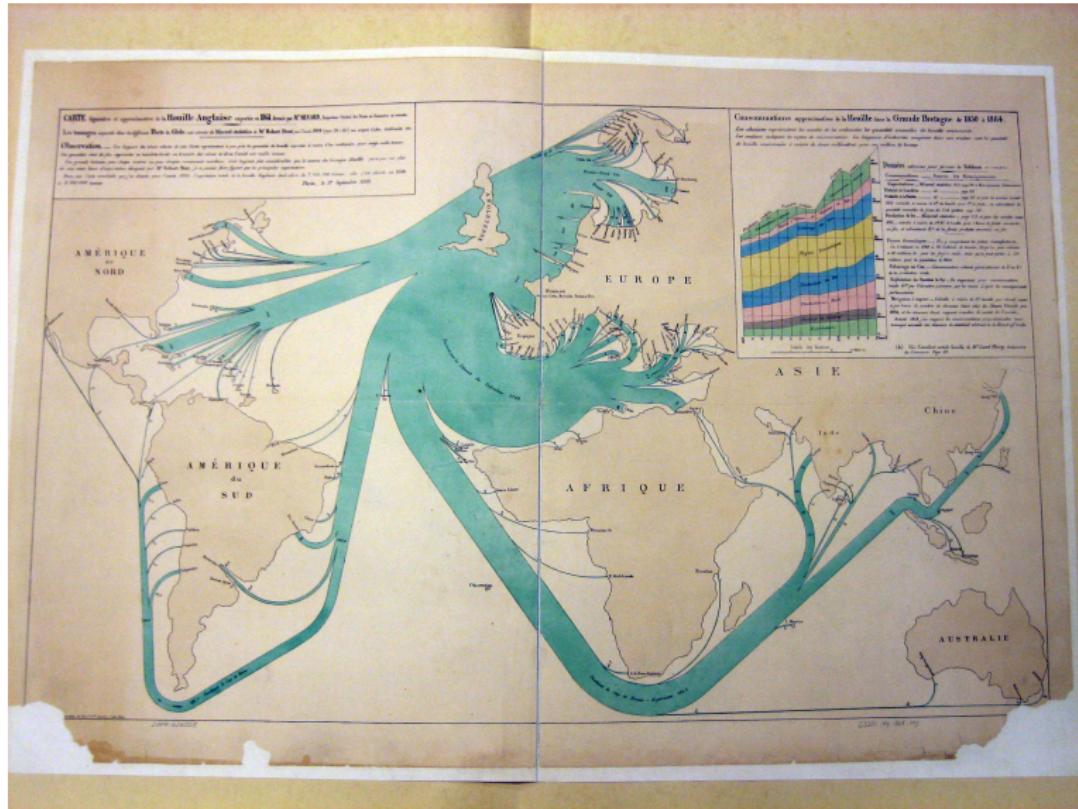
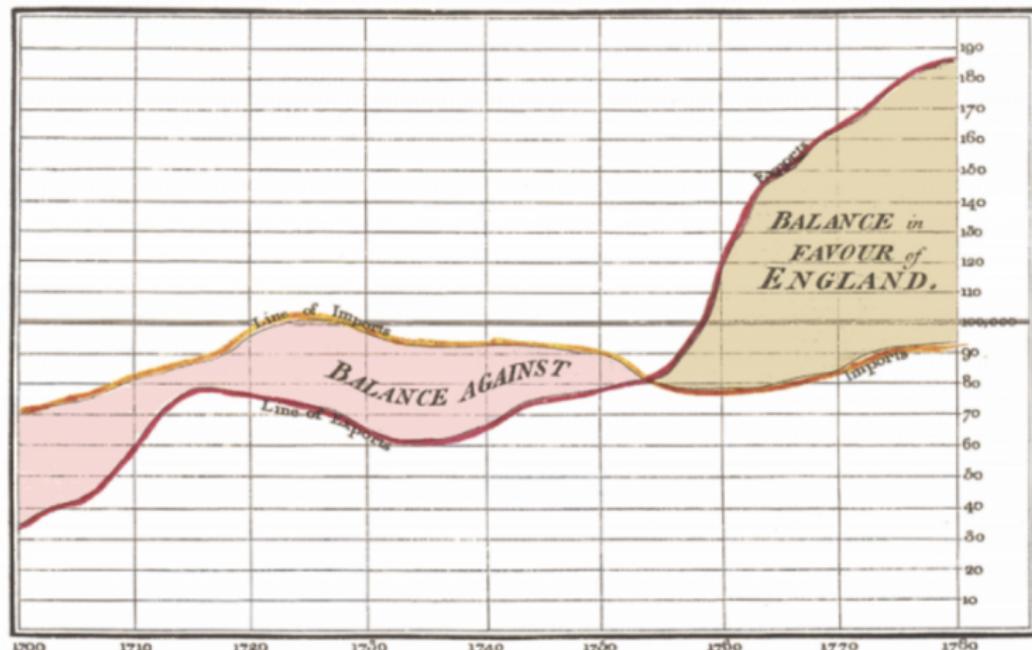


Figure 4: Minard – Exports of French Wine

England's Imports and Exports

Exports and Imports to and from DENMARK & NORWAY from 1700 to 1780.



The Bottom line is divided into Years, the Right hand line into £10,000 each.

Published as the Act directs, 1st May 1786, by W^m Playfair.

No. 60, Strand, London.

Figure 5: England's Imports and Exports

Cholera Mapping

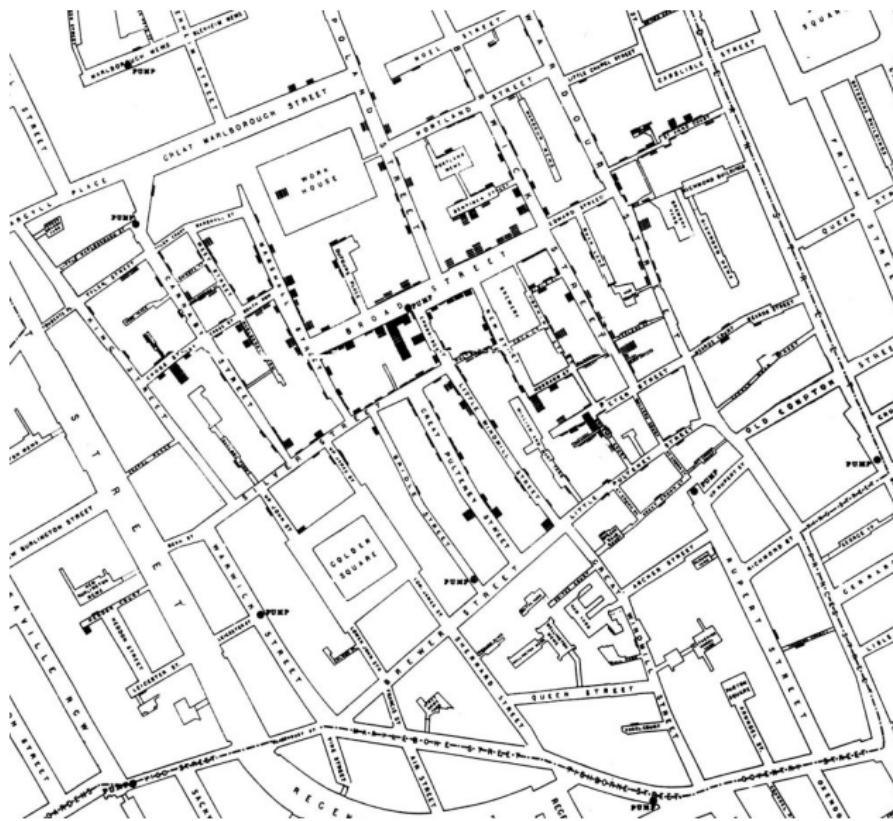
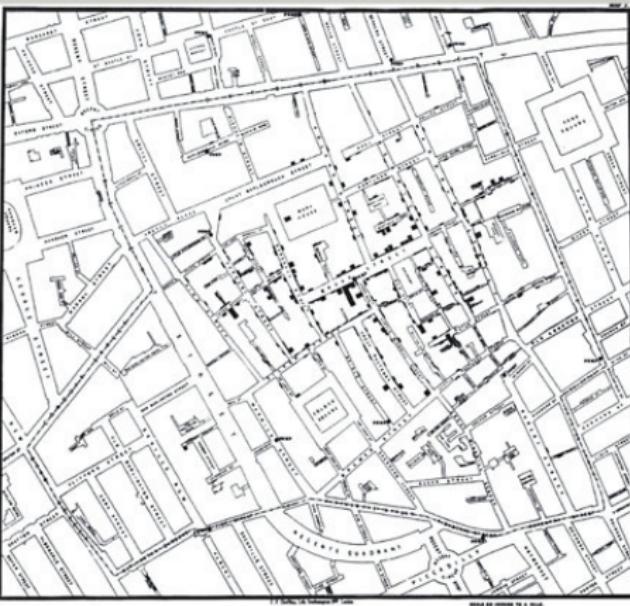


Figure 6: Cholera Mapping

Jon Snow



You know nothing (about cholera),
JOHN SNOW

Figure 7: Jon Snow

Most famous data viz

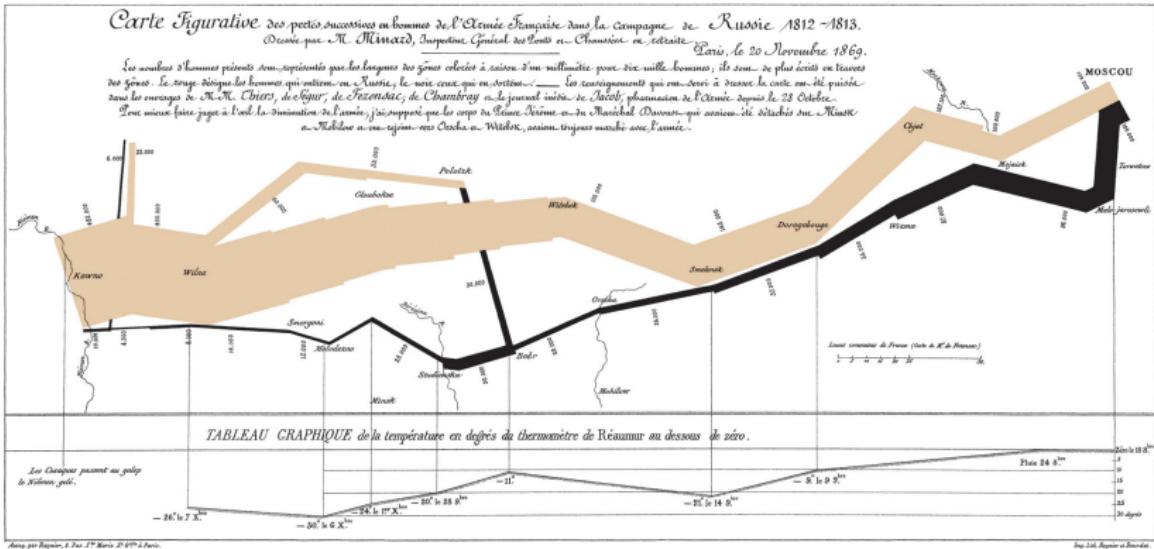


Figure 8: Napolean's March To Moscow

Winter Is Coming



Figure 9: Winter Is Coming

Diamonds

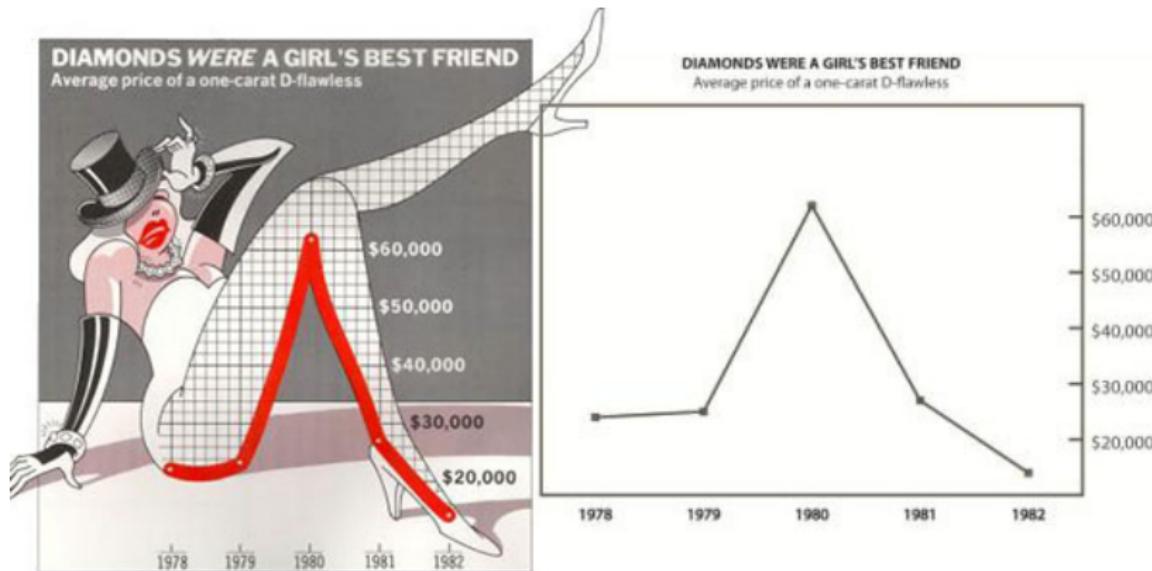
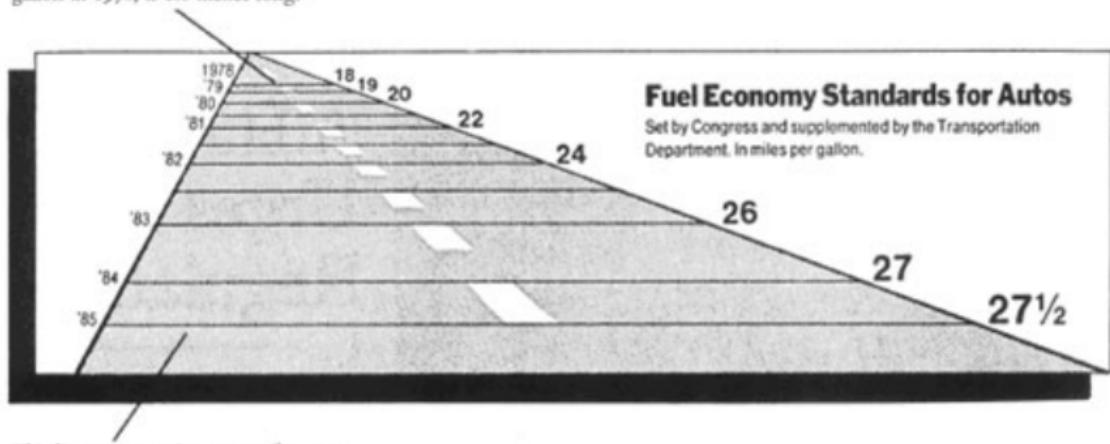


Figure 10: Diamonds Were A Girl's Best Friend

Fuel Economy

This line, representing 18 miles per gallon in 1978, is 0.6 inches long.



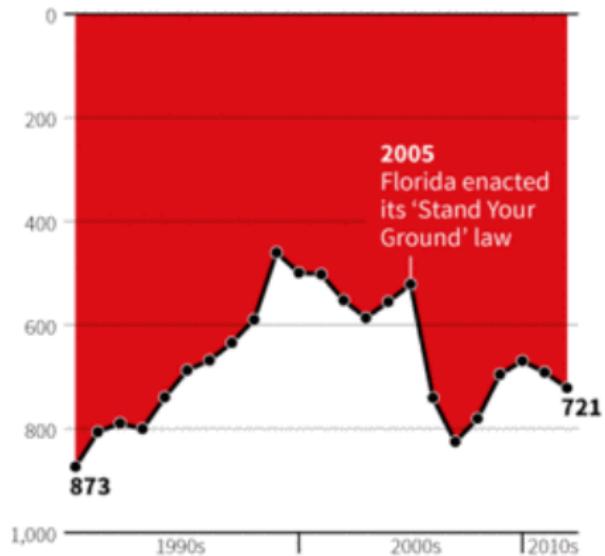
This line, representing 27.5 miles per gallon in 1985, is 5.3 inches long.

Figure 11: Fuel Economy

Gun Deaths

Gun deaths in Florida

Number of murders committed using firearms



Source: Florida Department of Law Enforcement

C. Chan 16/02/2014

REUTERS

Figure 12: Gun Deaths in Florida

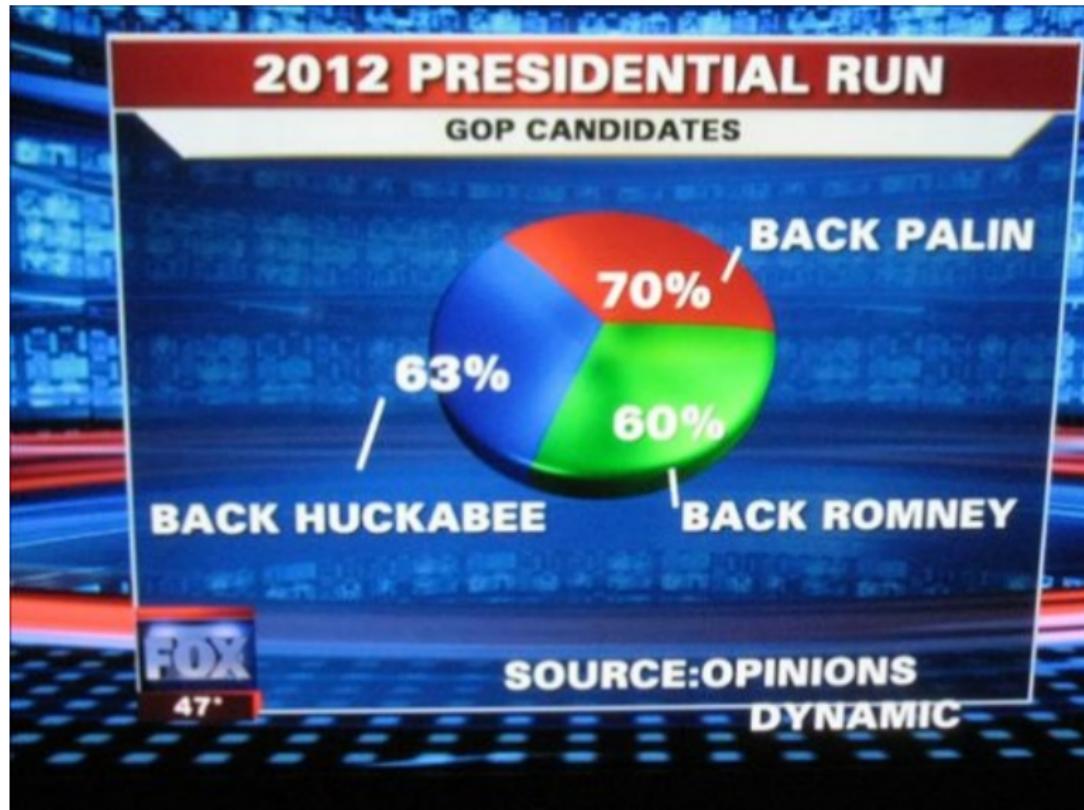


Figure 13: Presidential Candidates

Temperature in Arizona

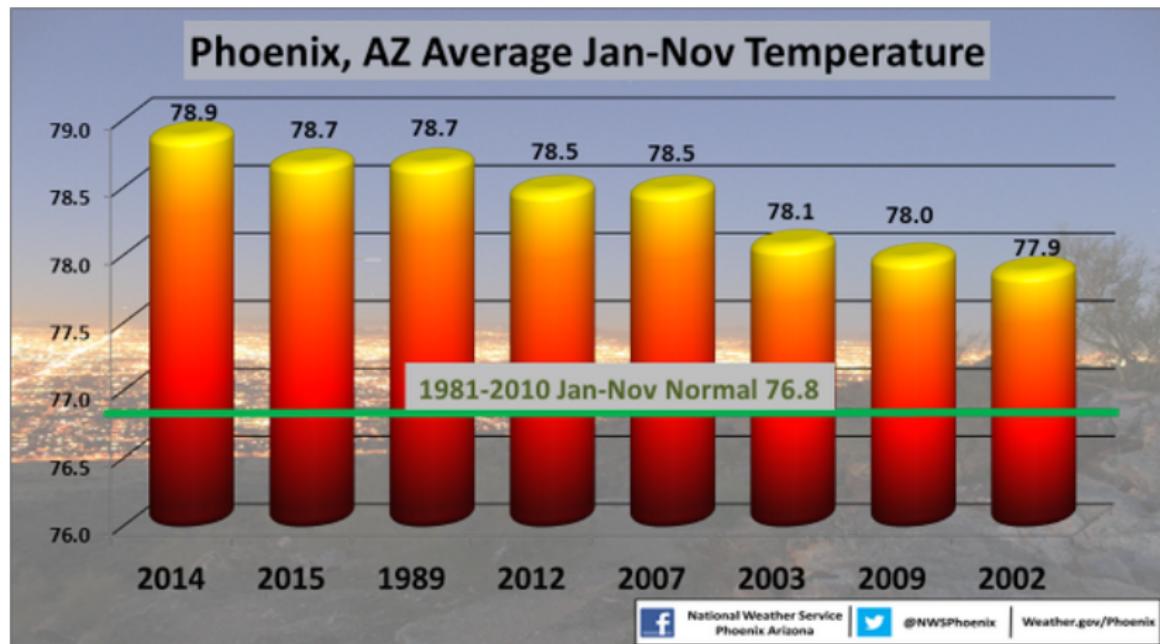


Figure 14: Temperature in Arizona

Temperature in Arizona

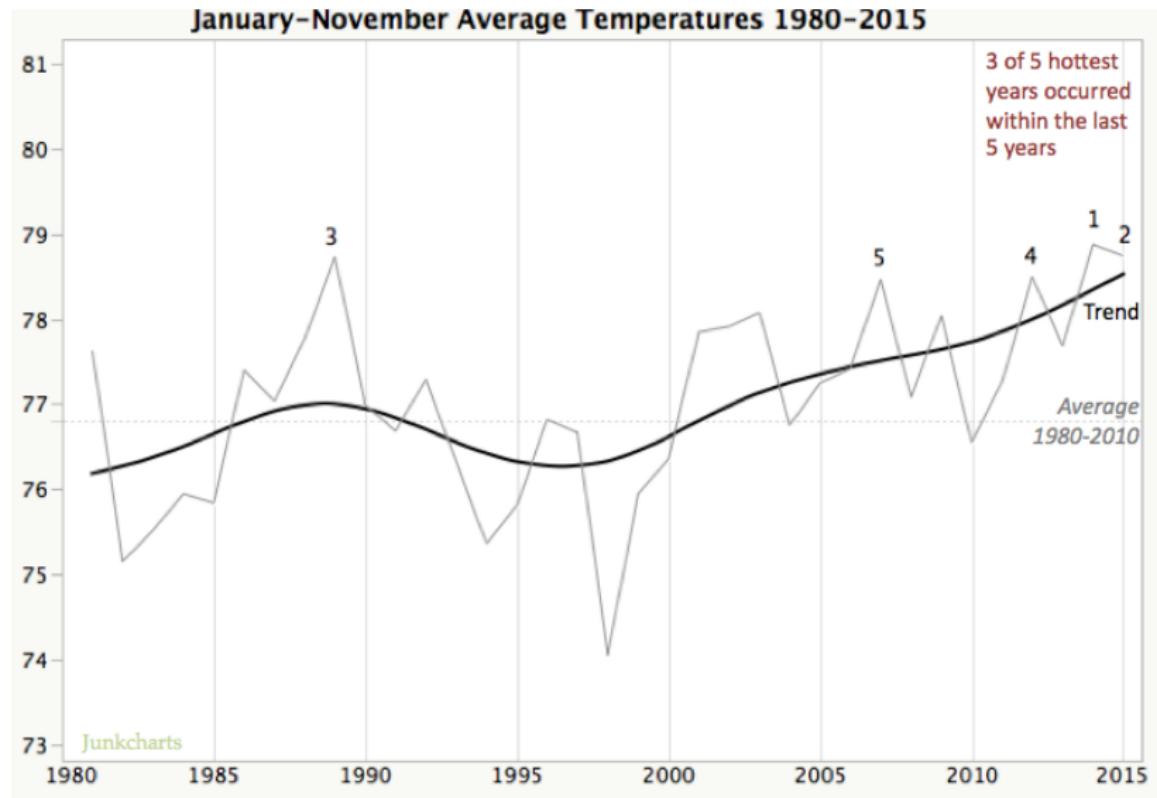
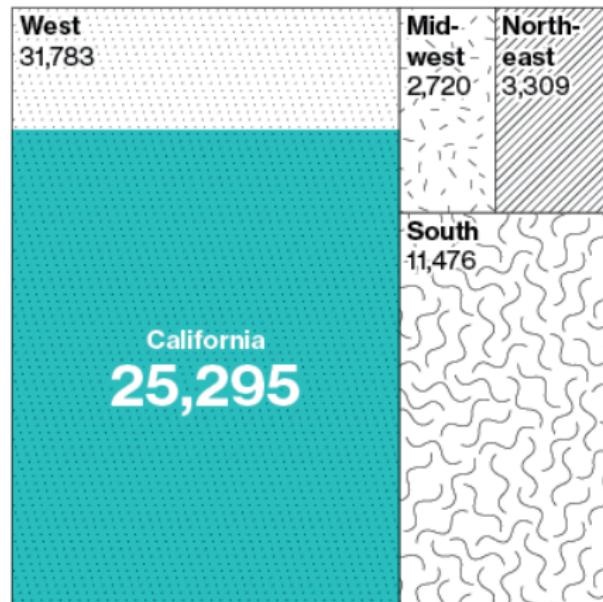


Figure 15: Temperature in Arizona

Electric Vehicle Sales

U.S. electric vehicle sales by region

January through September 2015



GRAPHIC BY BLOOMBERG BUSINESSWEEK
DATA: IHS AUTOMOTIVE

Figure 16: Electric Vehicle Sales

Wages

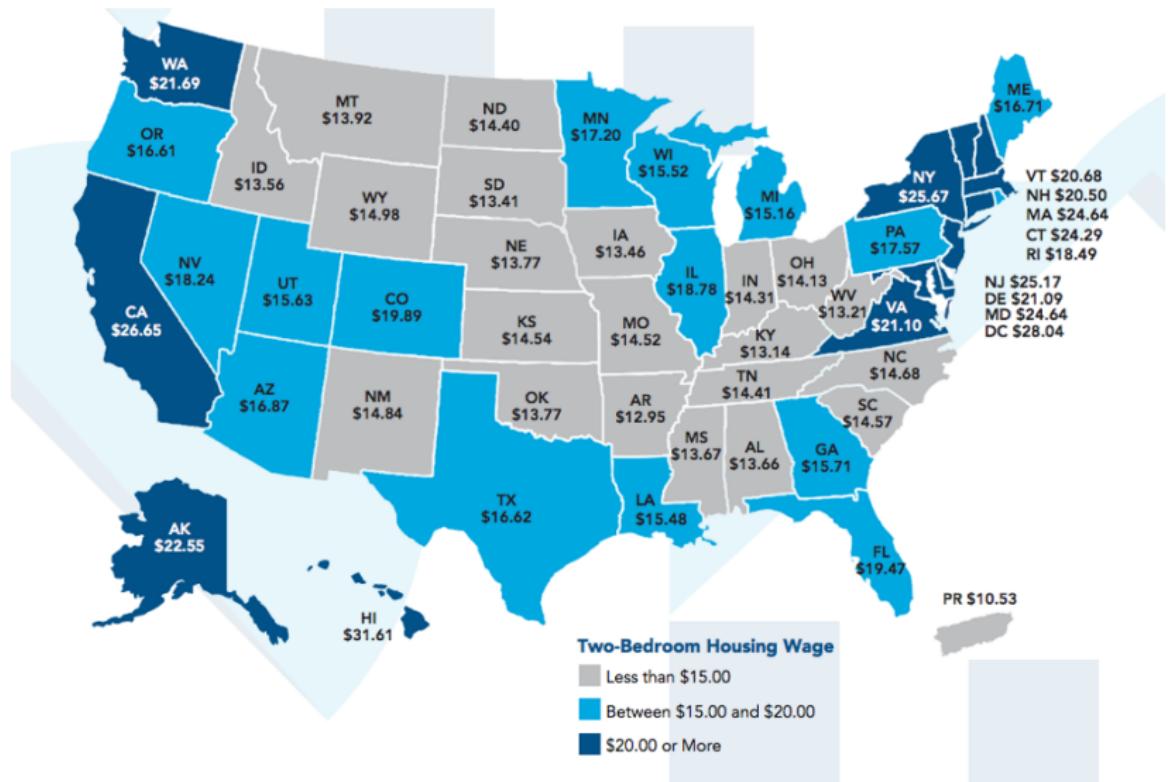


Figure 17: Hourly Wages to Afford Two-Bedroom Apartment

NFL Blindness



Figure 18: NFL game

NFL Blindness



Figure 19: NFL game

Twitter

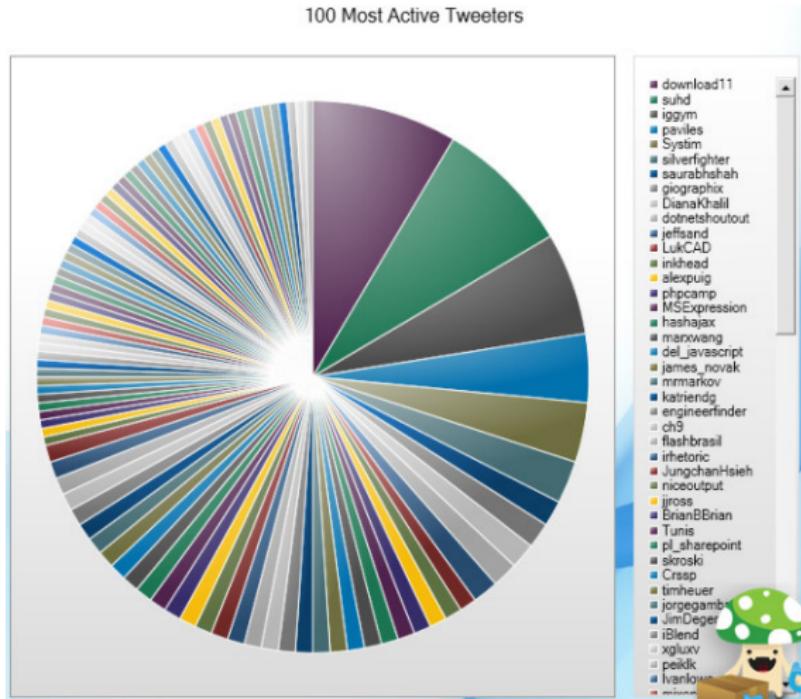


Figure 20: Top 100 tweeters

3d pie charts

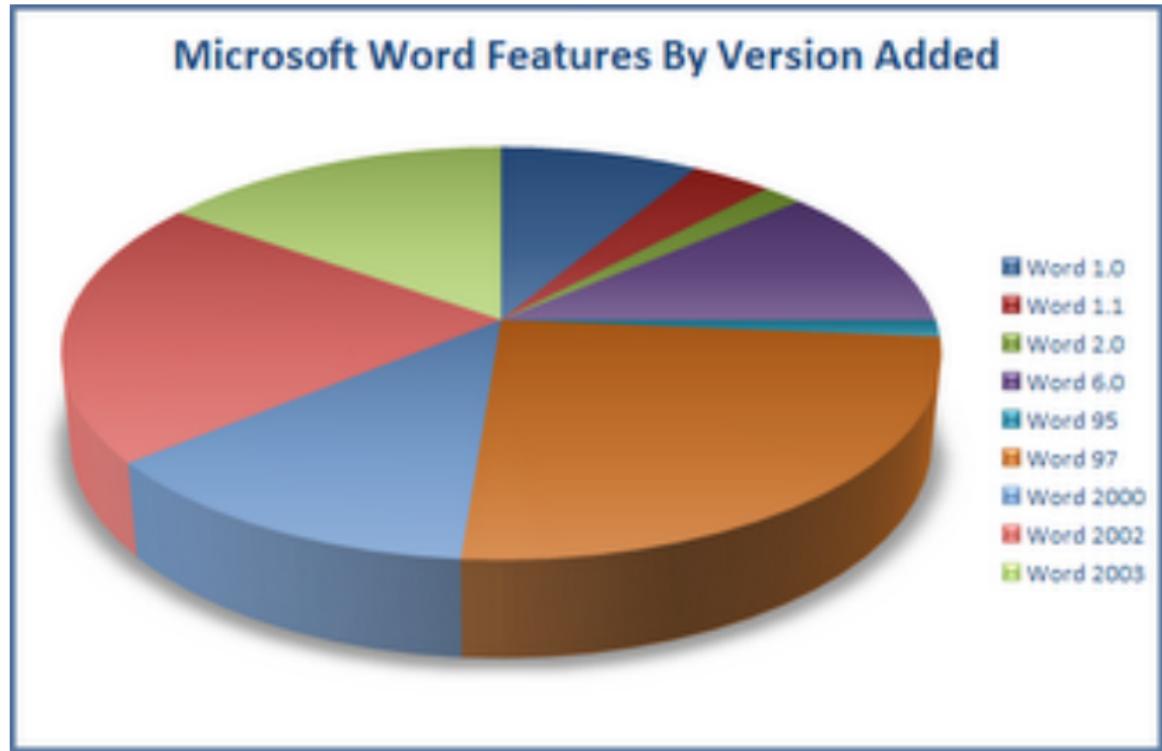


Figure 21: Never Make 3-D Pie Charts

Good pie chart



Figure 22:

Steelers-Bengals Win Probability

Win Probability

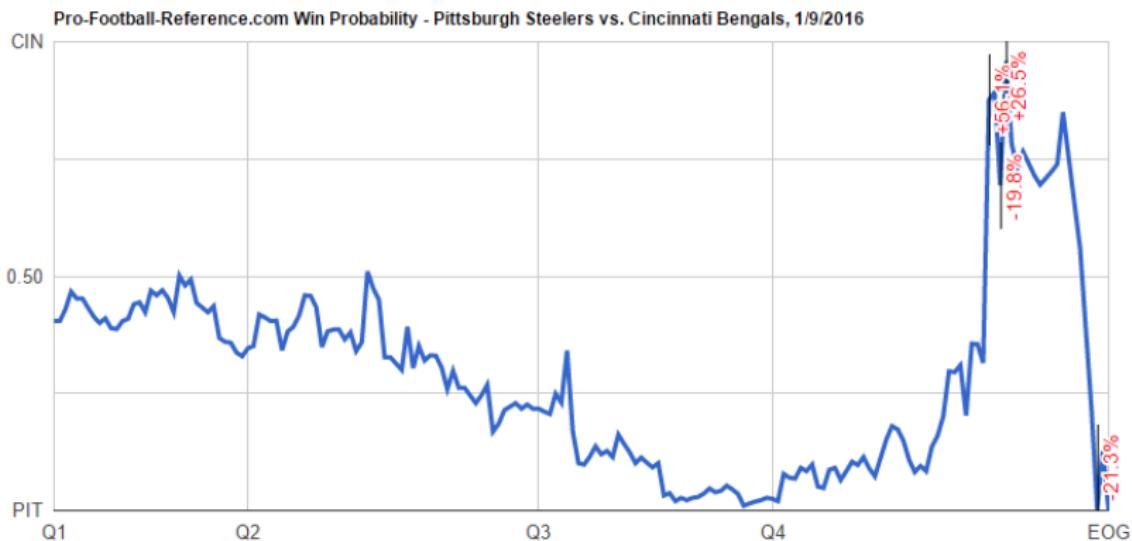


Figure 23: Win probability

David Bowie's Influence

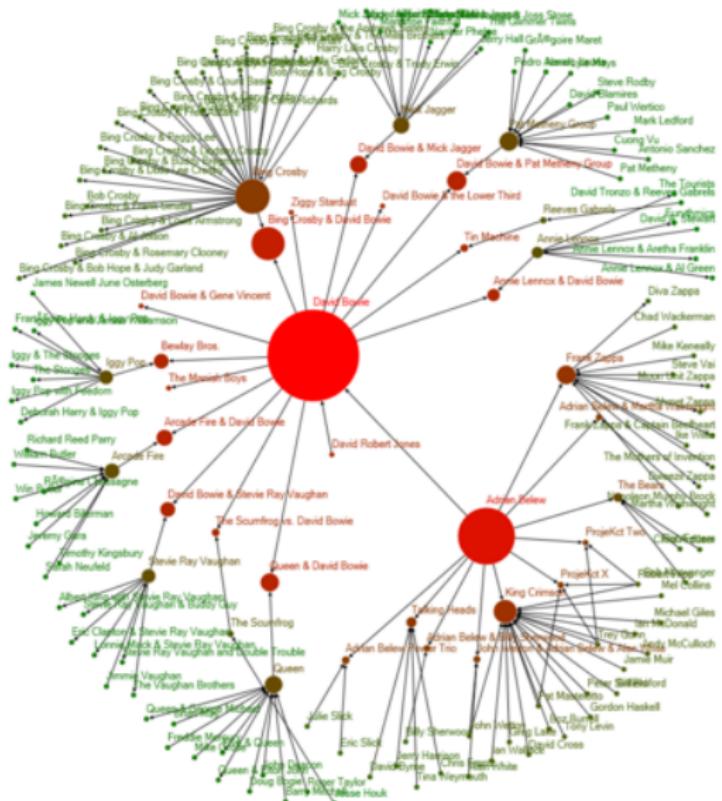


Figure 24: David Bowie

Interactive

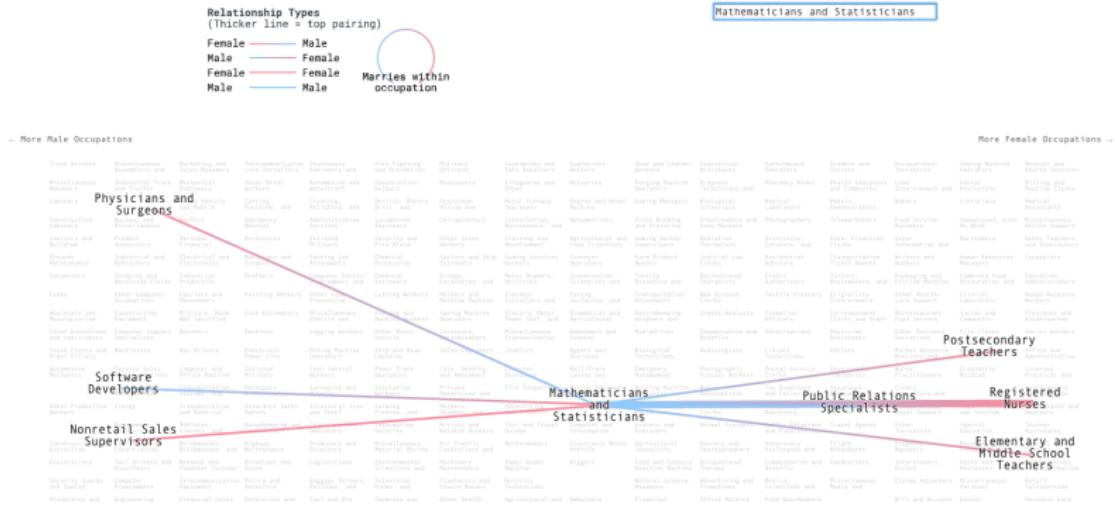


Figure 25: Who Marries Who