Data 8R
Summer 2017

Intro to Visualizations

Discussion 1: June 27, 2017

1 Similarity and Randomization

Austen is running an experiment to determine the effects of various drugs on sleeping patterns. He puts up flyers around Berkeley, and accepts the first 200 applicants into his study. Each applicant agrees to take either a sample of a drug or a placebo, without knowing which they are receiving.

1.1 Will Austen be able to conduct a randomized controlled trial? Why or why not?

1.2 Austen wants to test the effects of alcohol on sleep. He gives his treatment group drinks, but gives nothing to his control group. Is this a blind study? Why or why not?

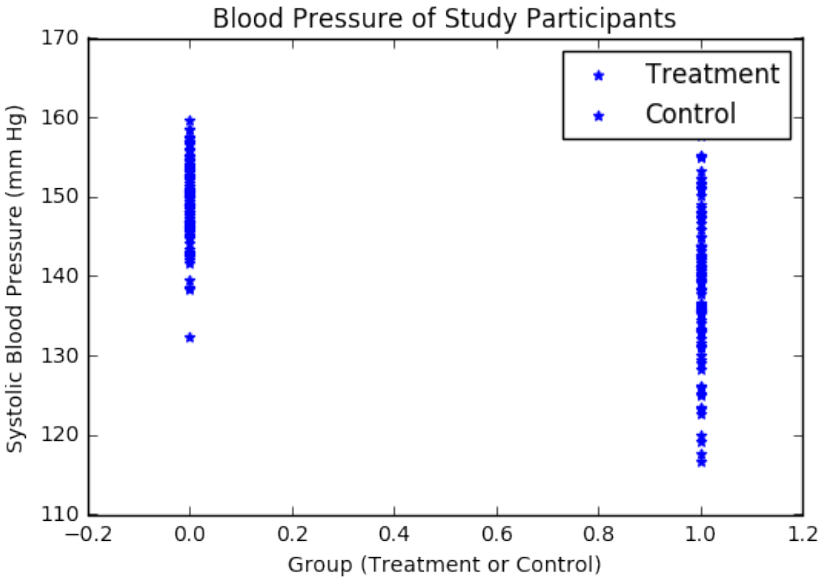
Ani is a political scientist who wants to study whether democratic countries tend to have higher average incomes.

1.3 Will she be able to conduct a randomized controlled trial? Why or why not?

1.4 What might be some confounding factors in her experiment?

2 Drug Effectiveness

A pharmaceutical company wishes to measure the effectiveness of a new drug designed to lower blood pressure for people with hypertension. They perform a randomized controlled trial and are attempting to summarize the results. They have produced the plot below:

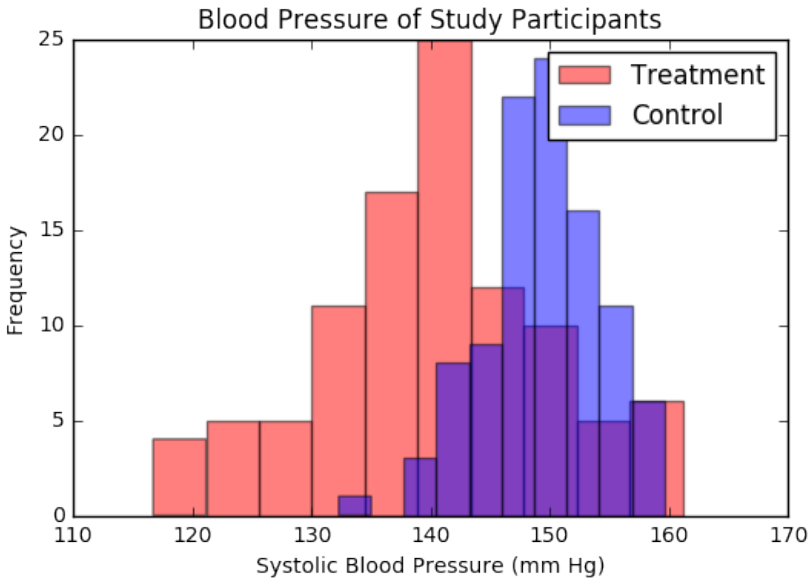


2.1 What is the purpose of this visualization? What is it trying to communicate?

2.2 What are some problems with this plot?

2.3 How might this data be better represented? What changes would you make?

Here's an attempt to improve the plot, using the same data:

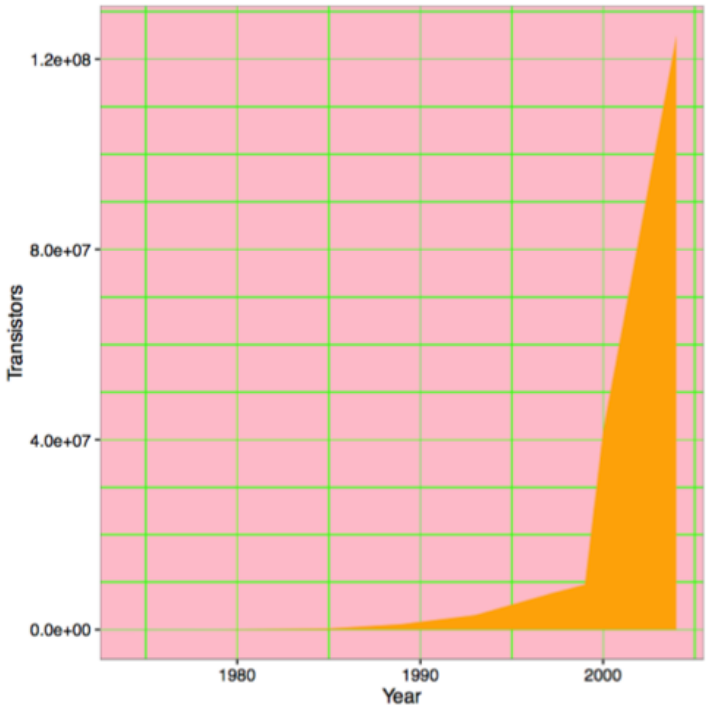


2.4 What changes were made? What is better about this plot compared to the previous one?

3 Intel Chips

The chips that are present in your computer contain electrical components called transistors. Intel is one of the leading manufacturers of these chips; they released the first chip for home computers in 1979.

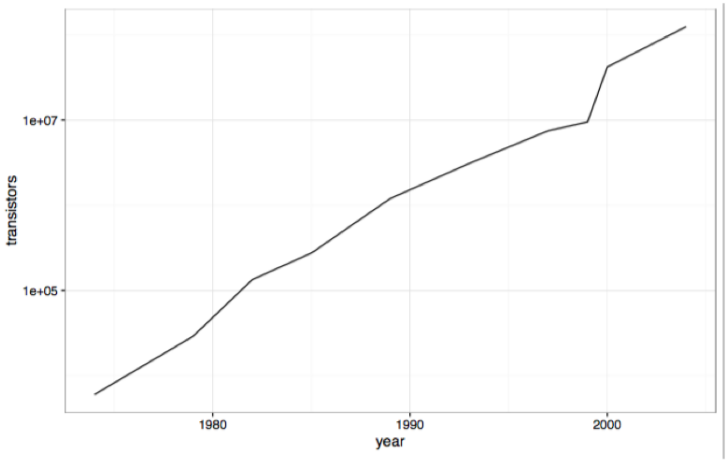
We'd like to visualize the improvements in chips that Intel has made since 1979. We have the following plot:



3.1 What is the plot trying to communicate?

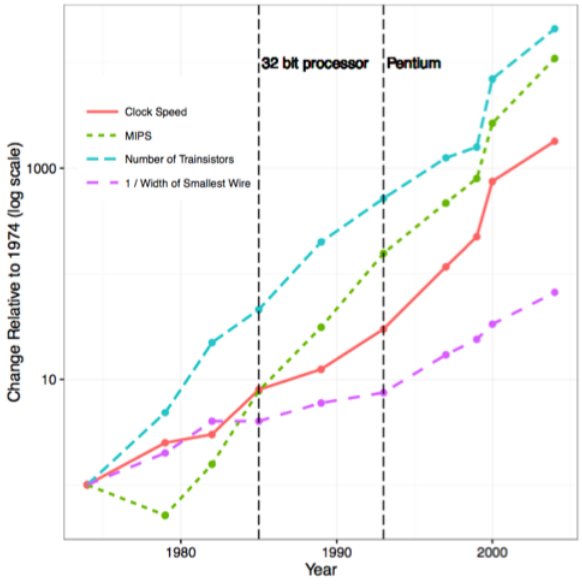
3.2 What are the problems with this plot? (There are quite a few.)

Here's an attempt to improve the plot:



3.3 What is clear from this plot that isn't clear in the previous one?

Here's another attempt to improve the plot:



3.4 What is better about this plot compared to the previous one?

4 Cooking Oils

This plot on the next page shows information about common cooking oils.

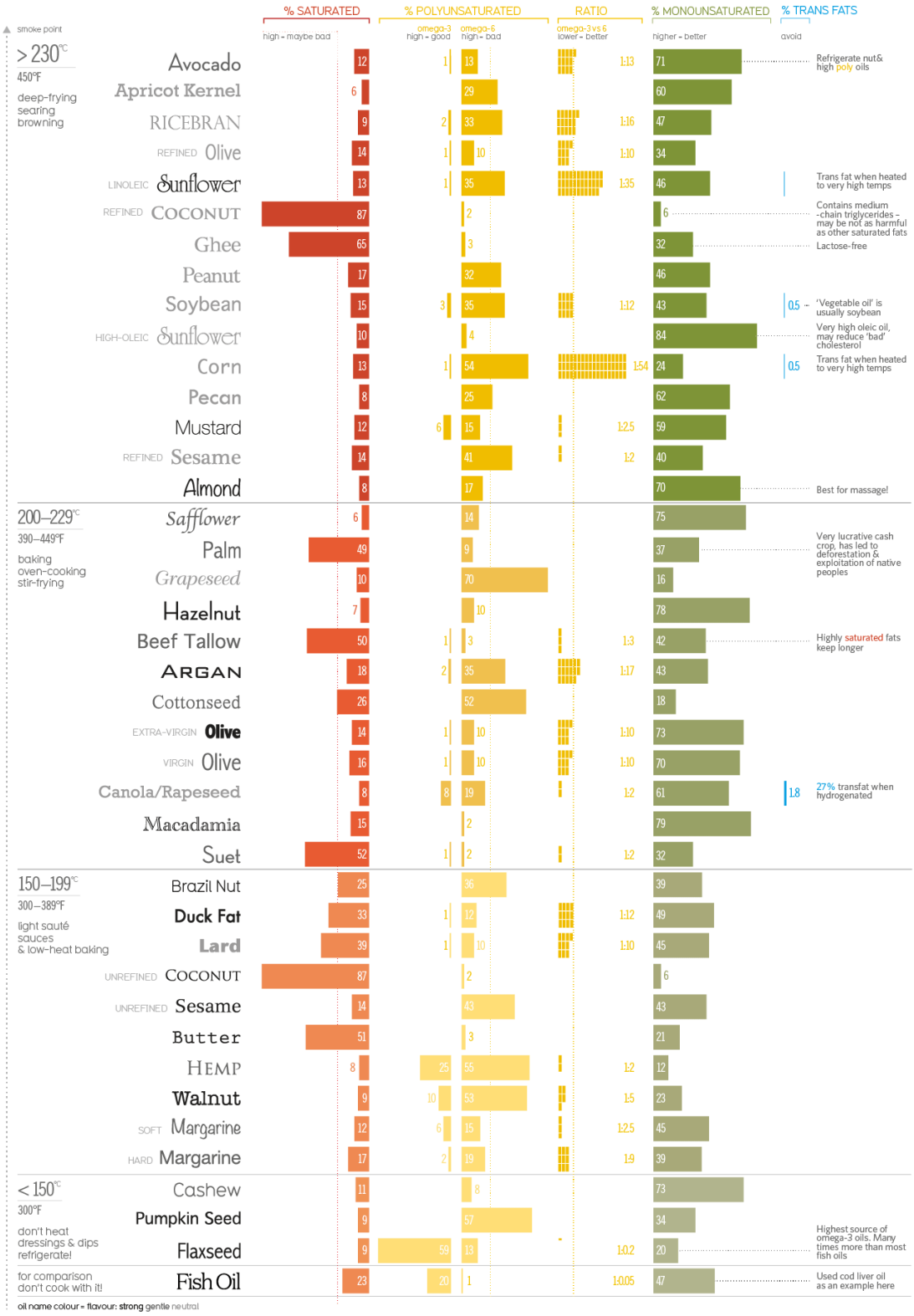
4.1 What is the purpose of this visualization? What is it trying to communicate?

4.2 What does the visualization convey well? What are problems with this visualization?

4.3 Suggest an alternative visualization that would better communicate what the original visualization was going for.

Oil Well

Omega 6 will 'steal' Omega 3 channels in the body & can block absorption & storage of this vital nutrient



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taken from the new, infographic mega-book
Knowledge is Beautiful
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