#### Scales and Data Transformations

datascience@berkeley

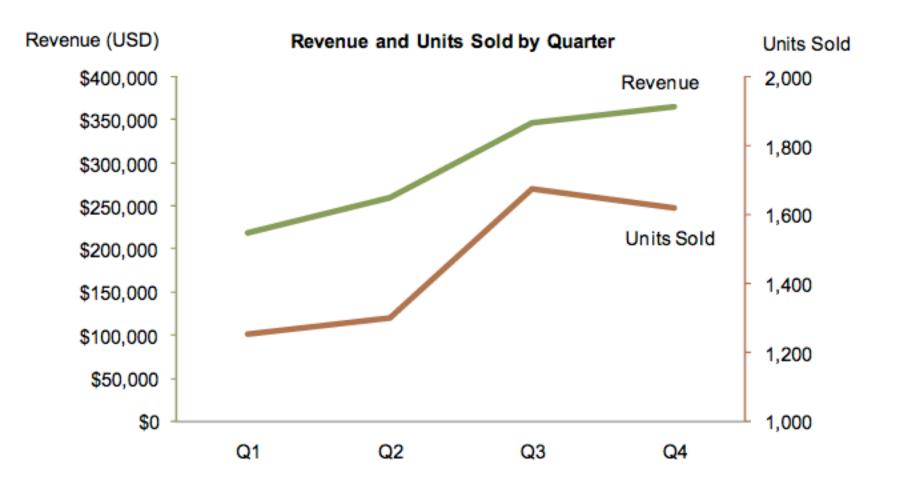
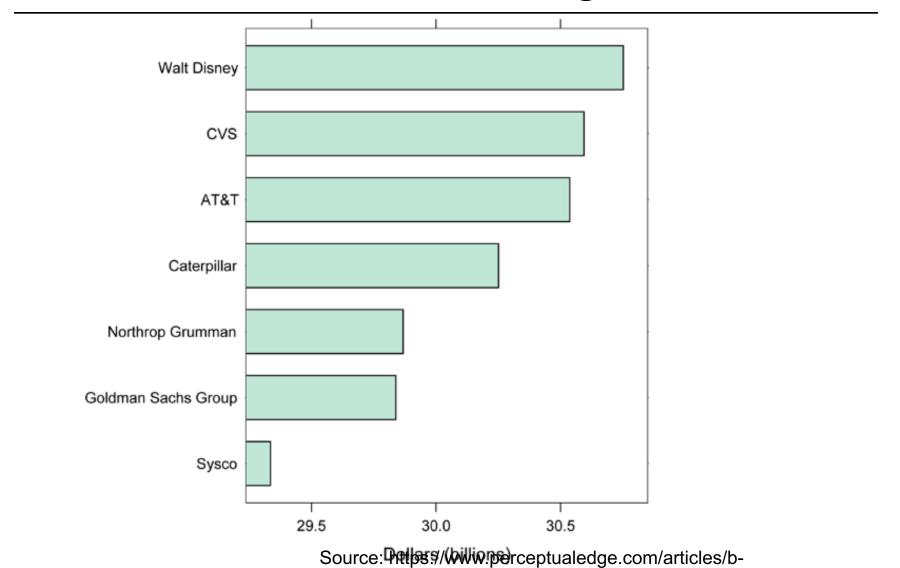


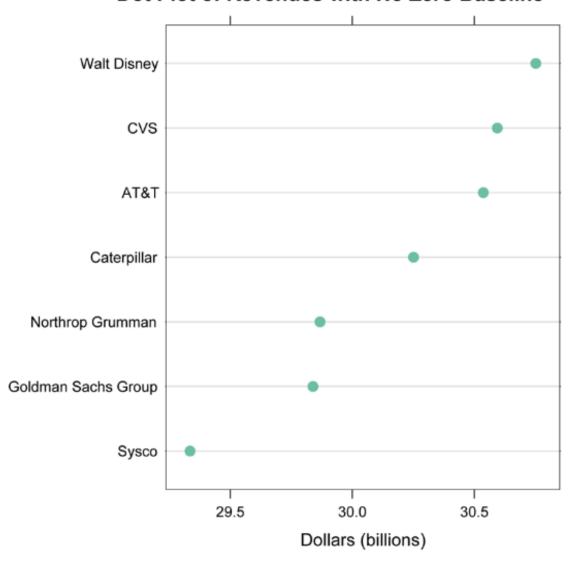
Image from https://www.perceptualedge.com

## What's missing?



eye/dot plots.pdf

#### Dot Plot of Revenues with No Zero Baseline



Source: https://www.perceptualedge.com/articles/b-eye/dot\_plots.pdf

#### Scale impacts perception

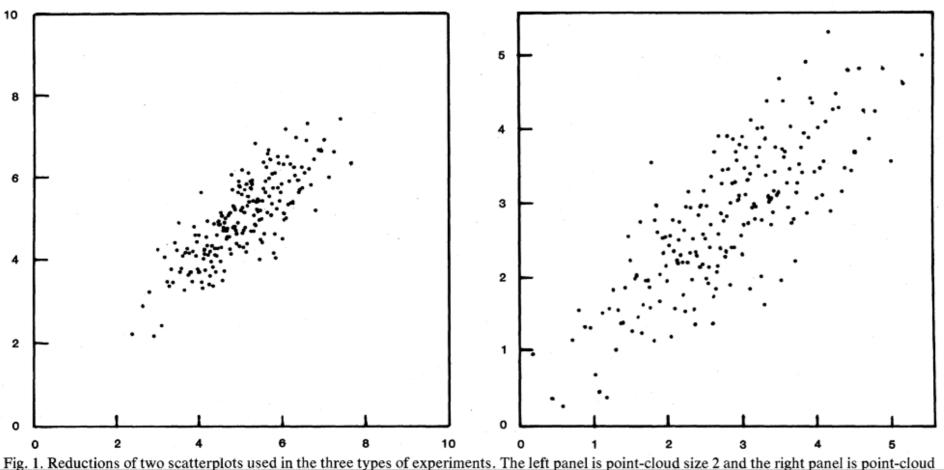
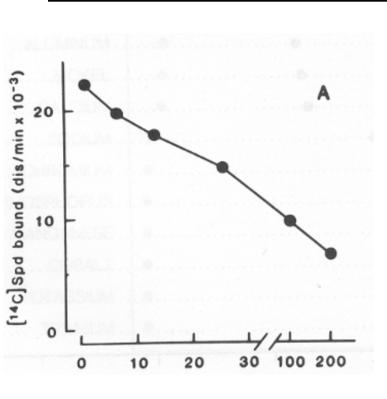
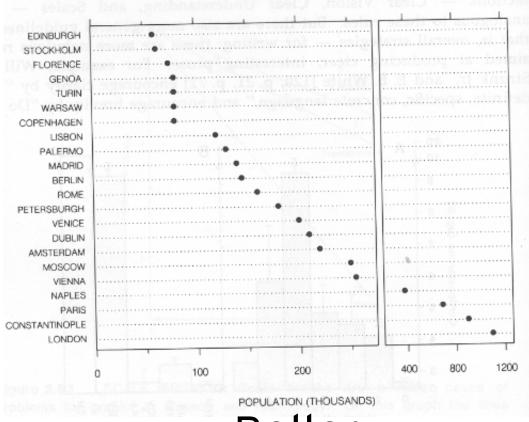


Fig. 1. Reductions of two scatterplots used in the three types of experiments. The left panel is point-cloud size 2 and the right panel is point-cloud

[Cleveland et al., 1982]

#### Scale Breaks



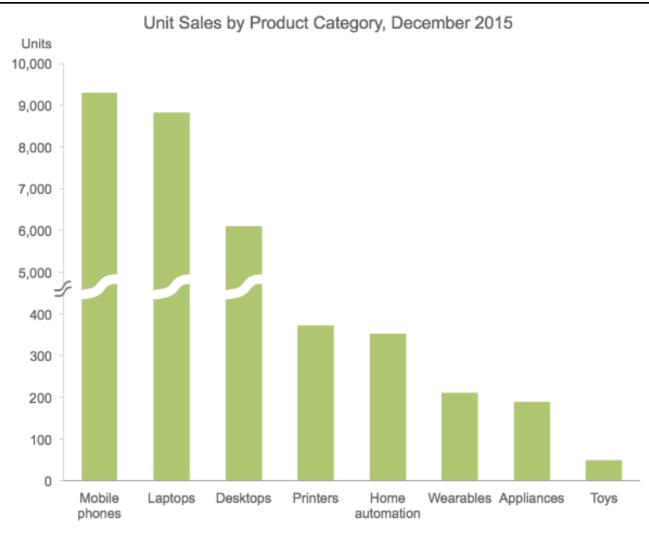


Poorly marked

Better

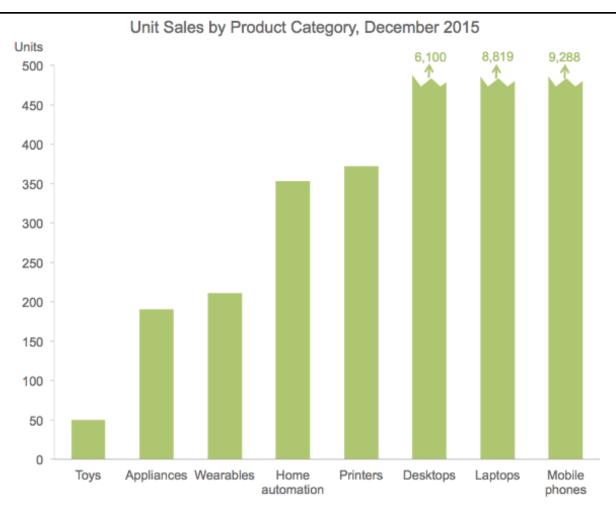
[Cleveland et. al., 1985]

#### Scale Breaks

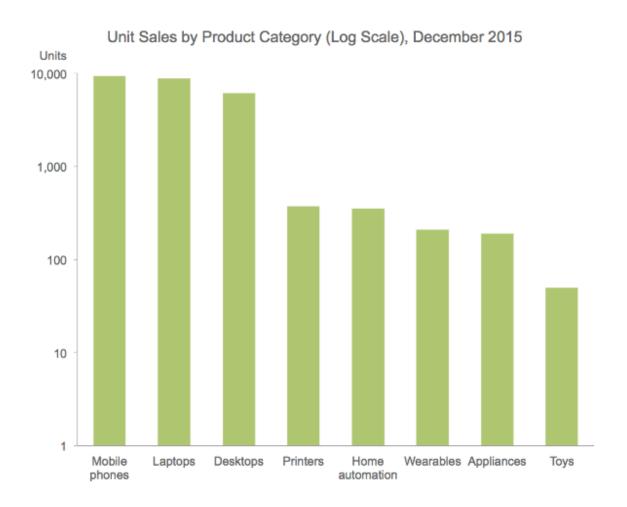


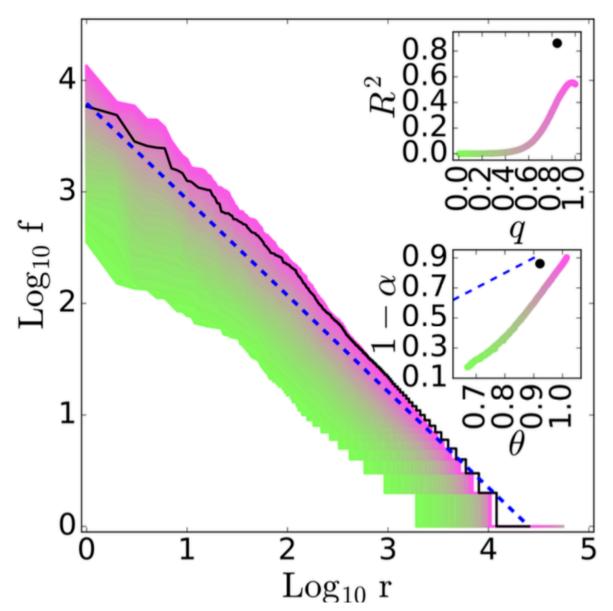
https://www.perceptualedge.com/

# Truncate Larger Values



# Log Scale





[Williams, et. al.. 2016]

### What Is the "Correct" Aspect Ratio?

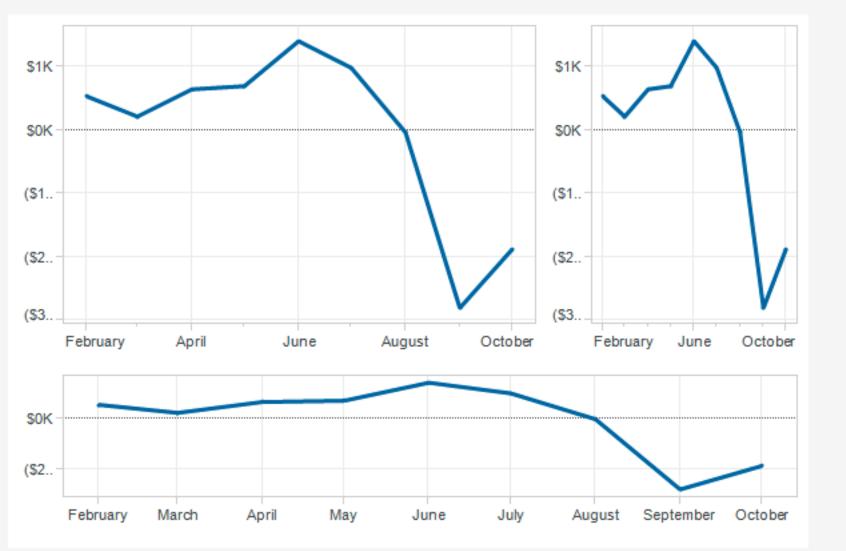
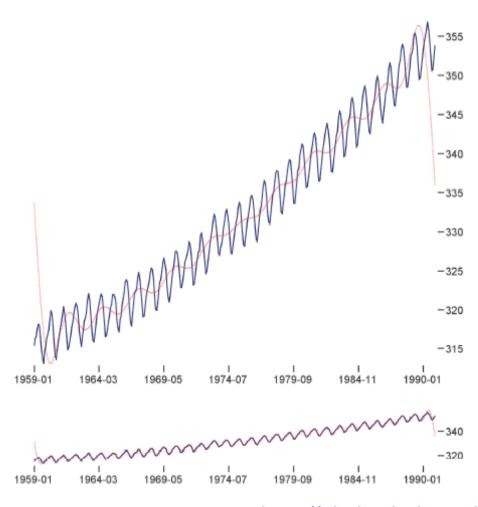


Image source: https://eagereyes.org/

# **Banking Techniques**



http://vis.berkeley.edu/papers/banking/

# Berkeley school of information