Basic Spatial Arrangements

CS444
Techniques, Lecture 1
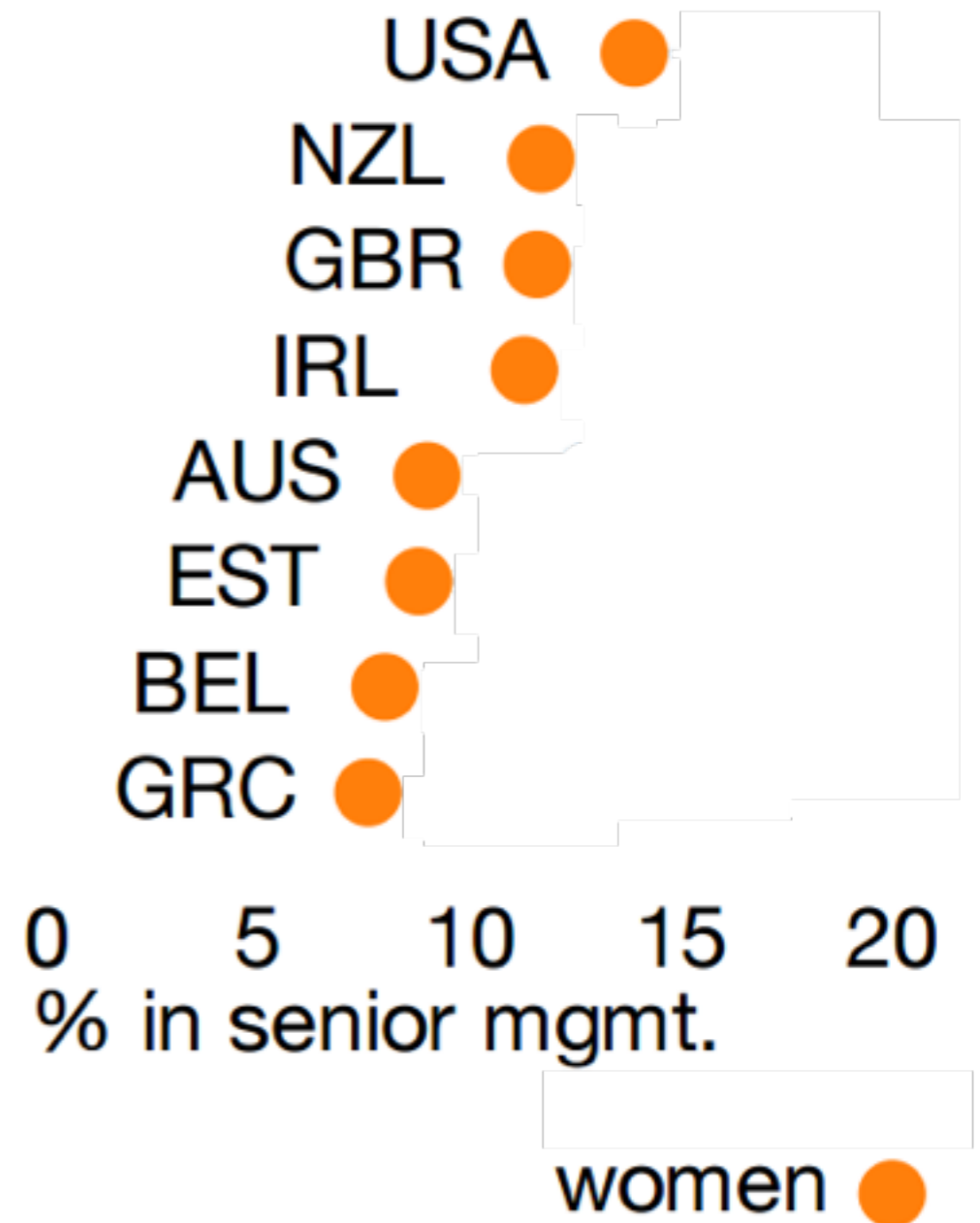
Suggested reading:
Munzner's Visualization Analysis and Design, **Chapter 7**

Few dimensions
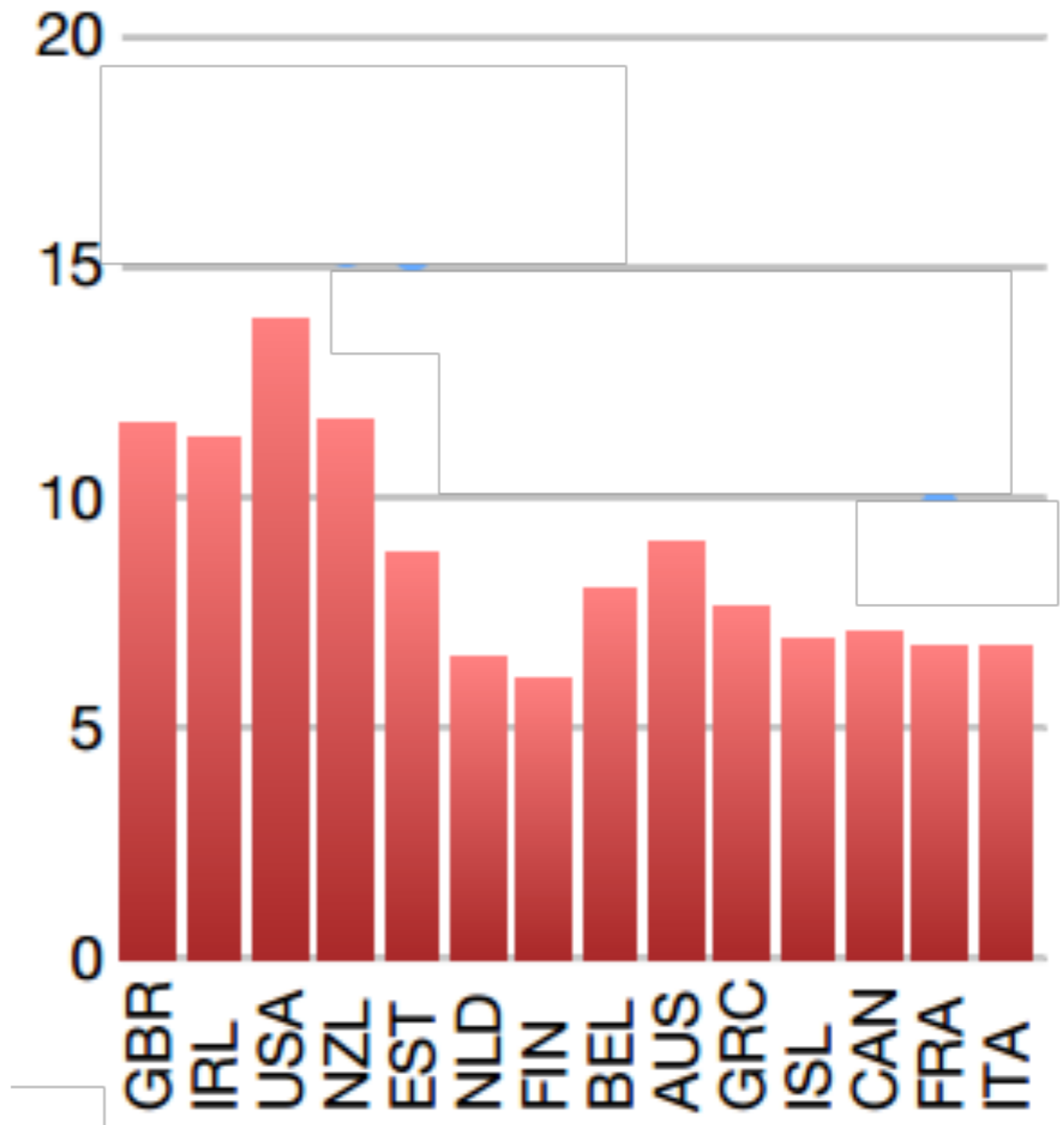
Dot Plots

- One categorical attribute (usually a "key")

- One quantitative attribute (usually a "value")
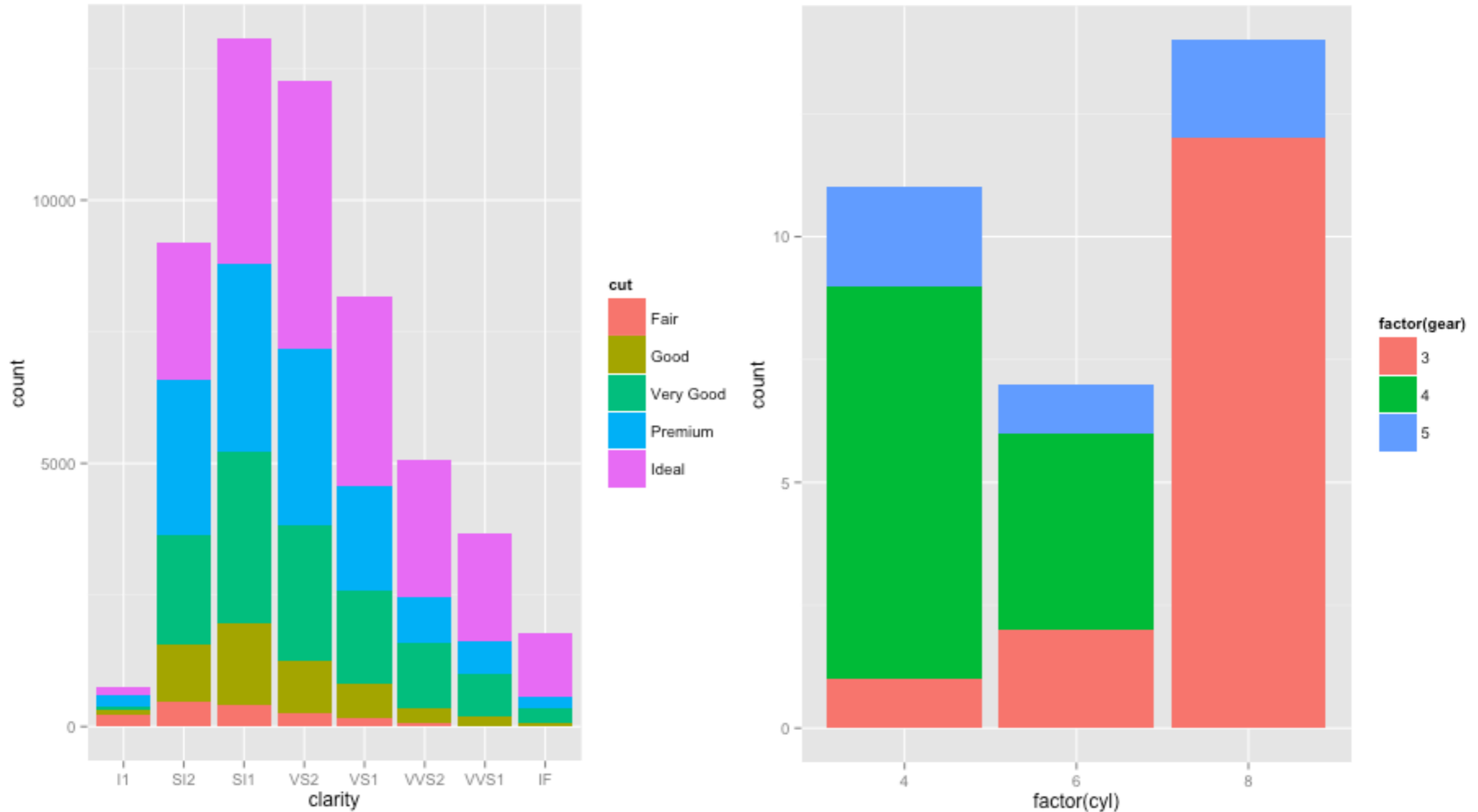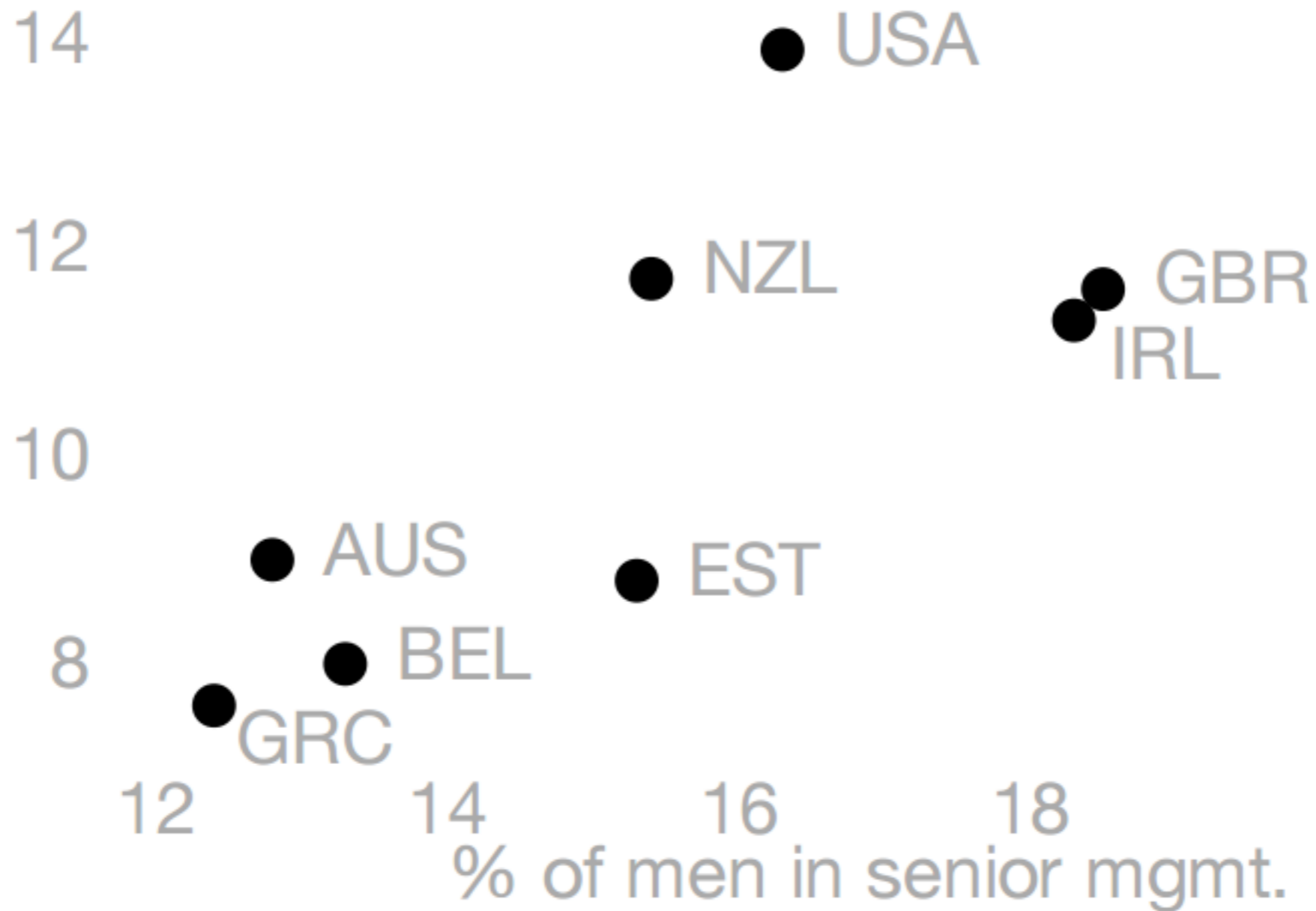
Bar Charts

- One categorical attribute (usually a "key")

- One quantitative attribute (usually a "value")

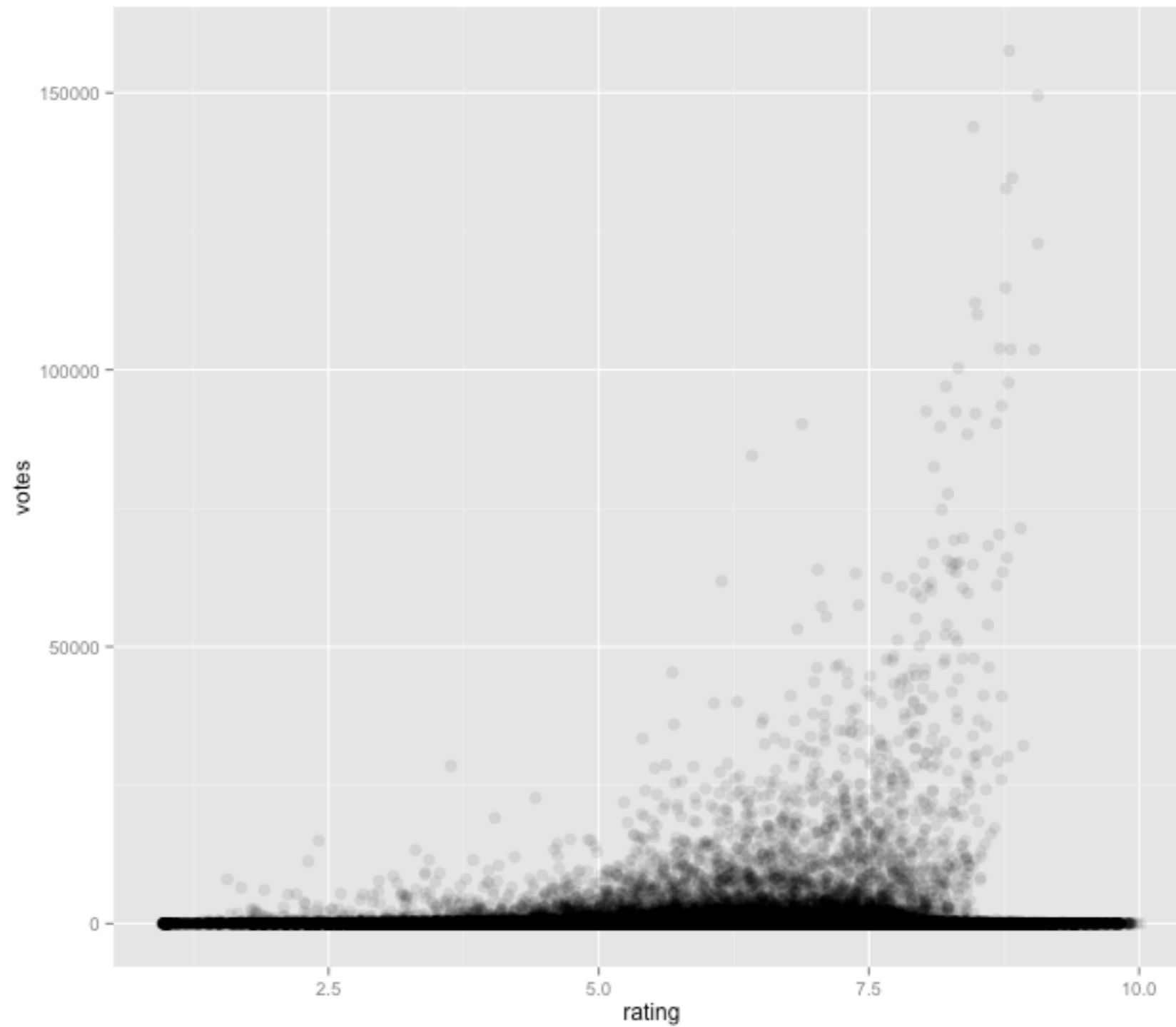- But usually not the best option, given Cleveland and McGill
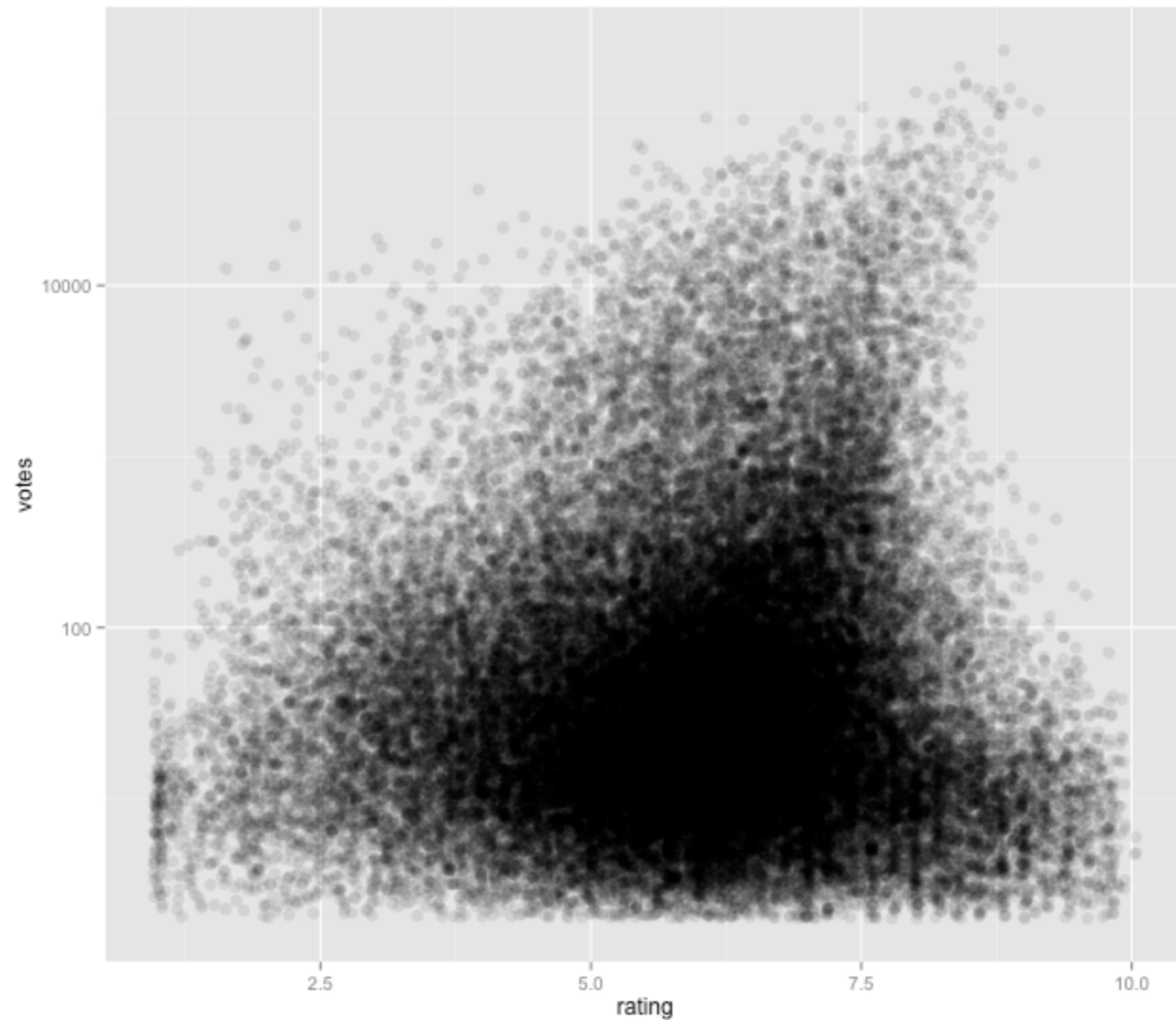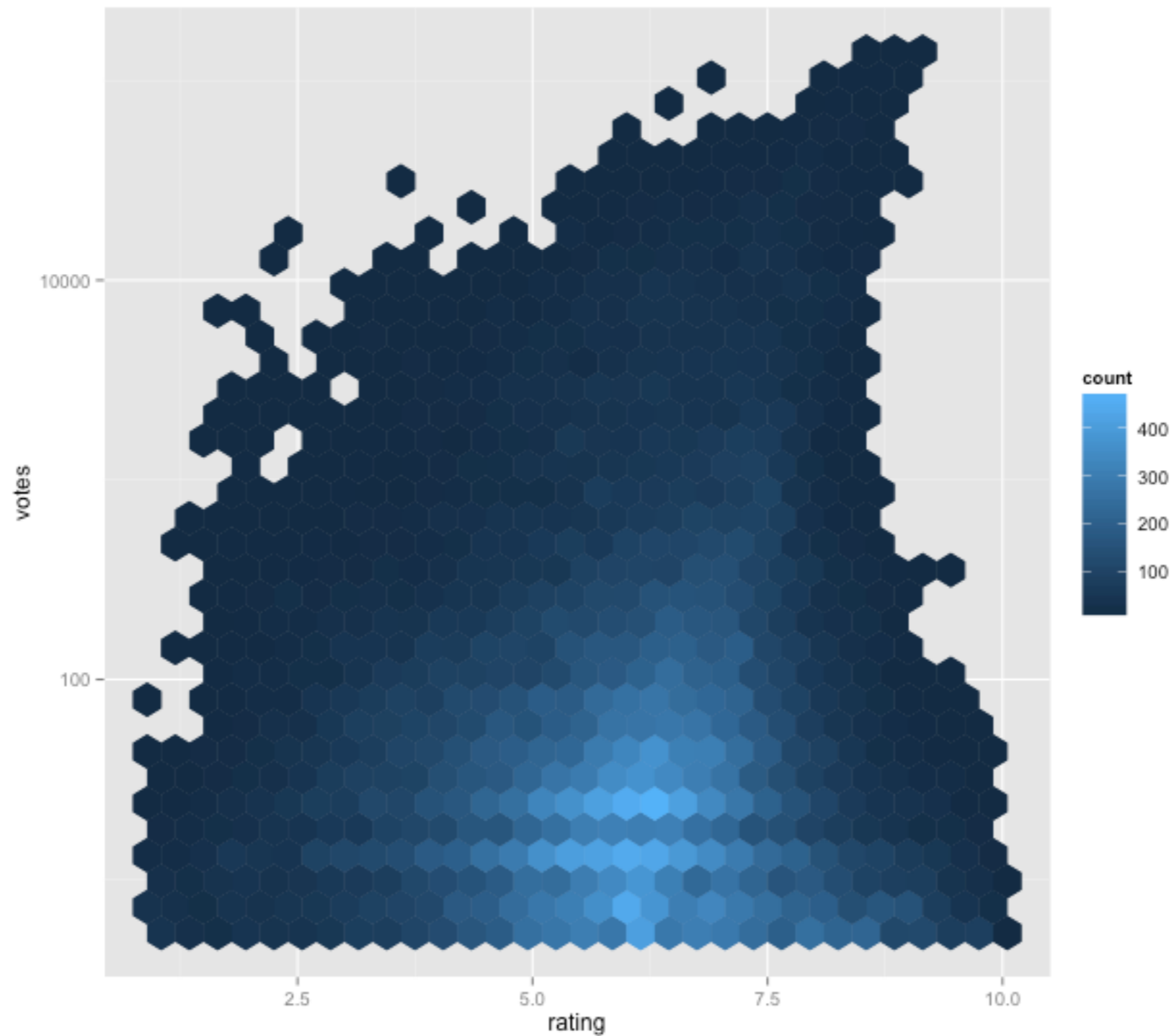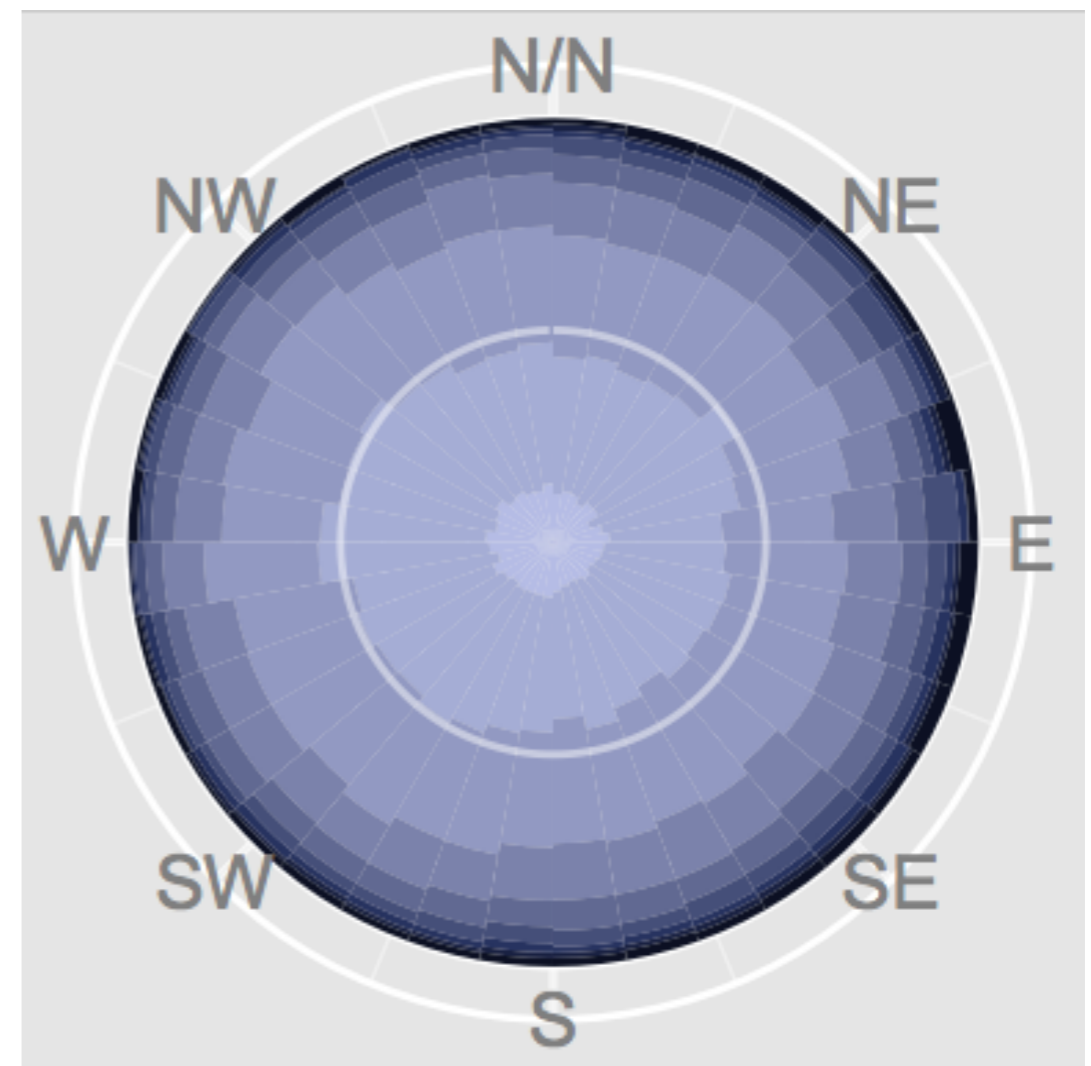
Stacked Bar Charts
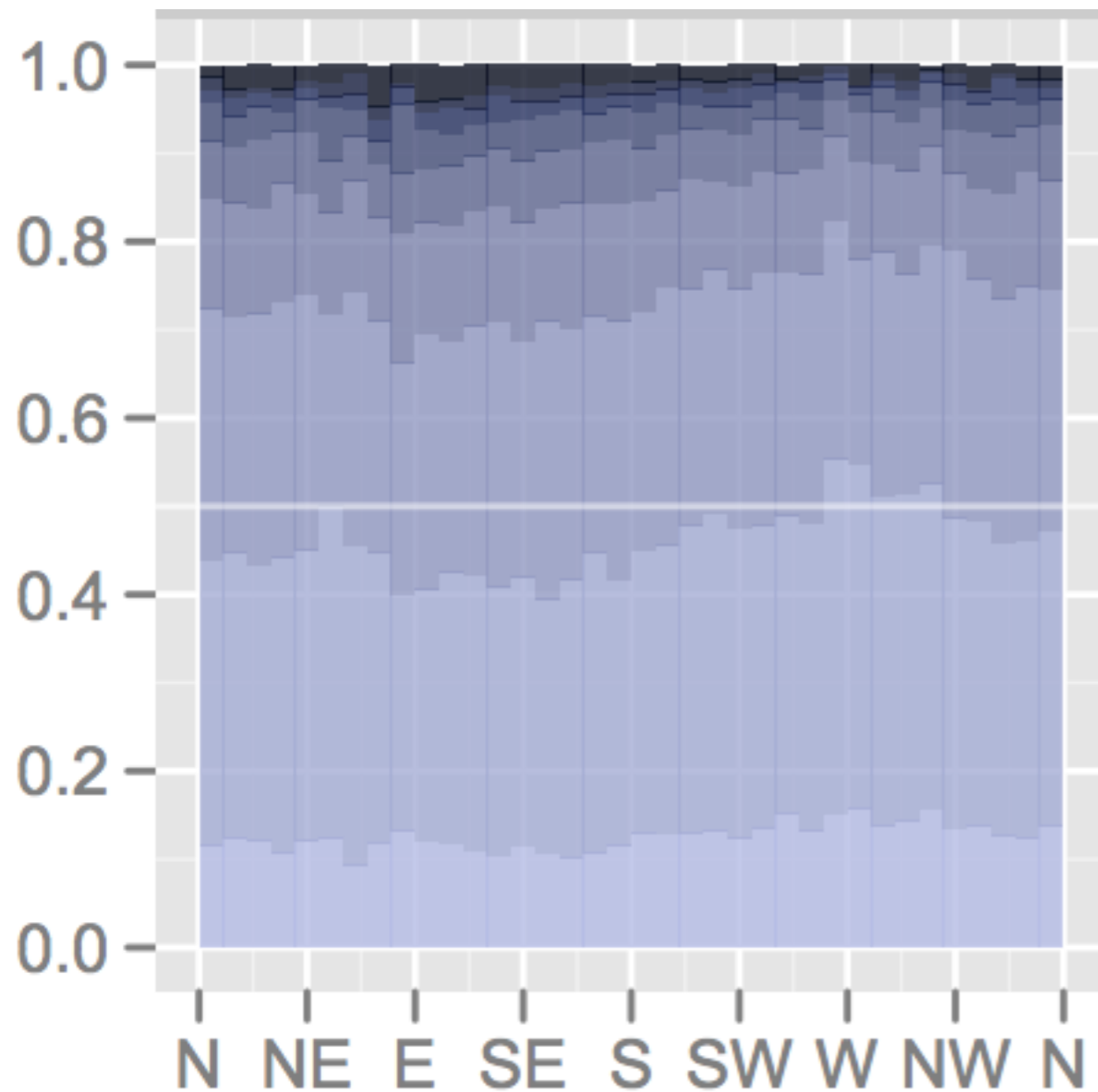
Scatterplots

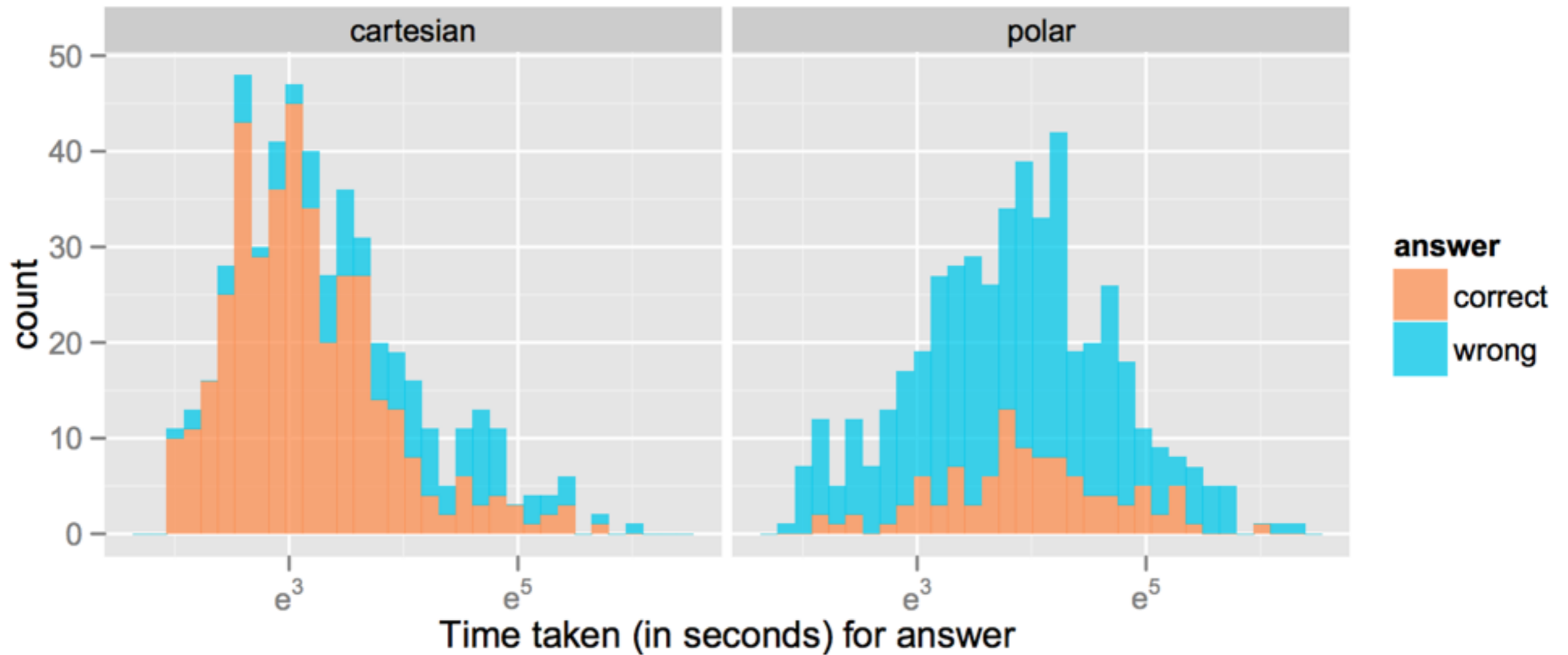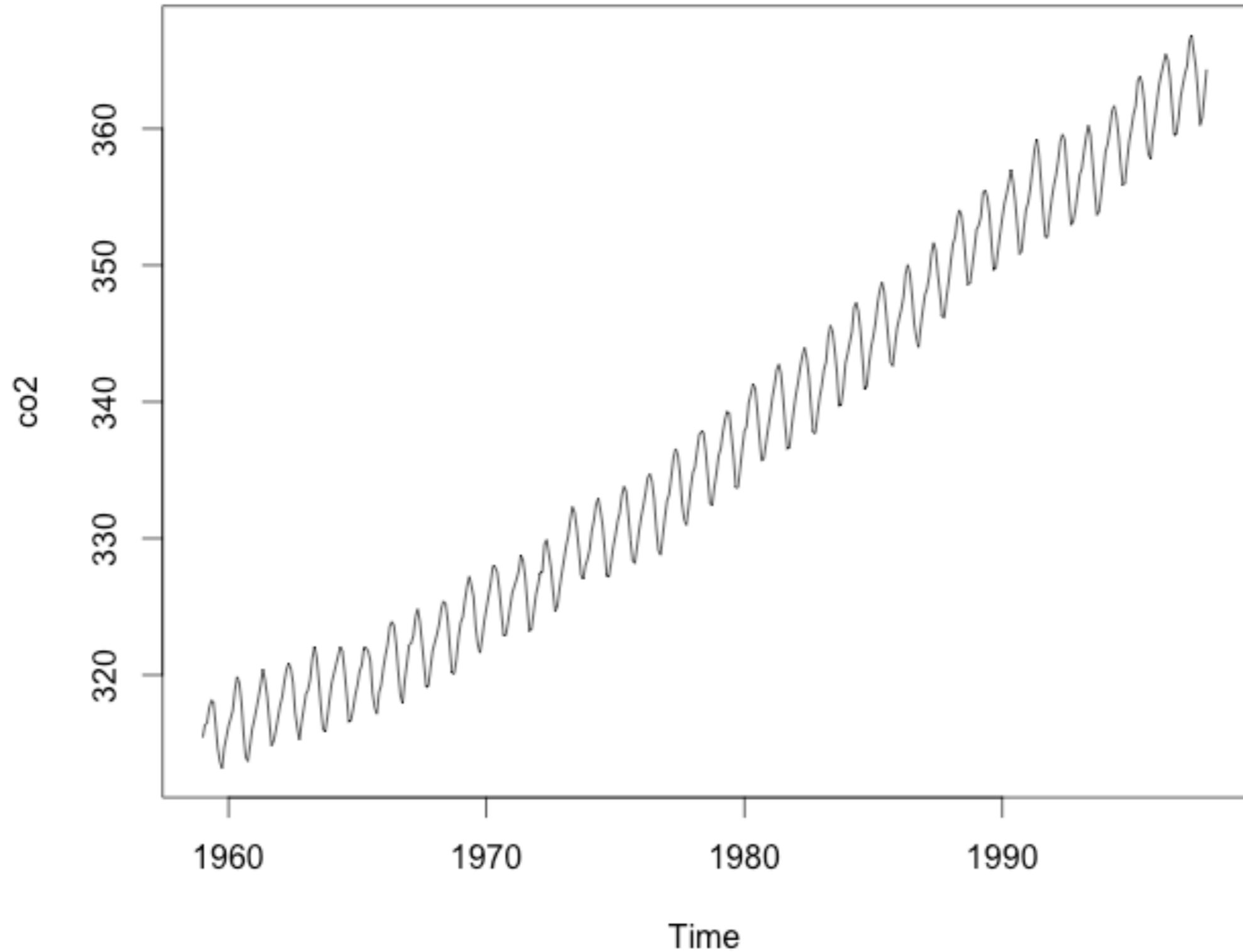# Transformations

Transformations

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Hoffman et al., TVCG 2012

BUT

Transformations

Hoffman et al., TVCG 2012
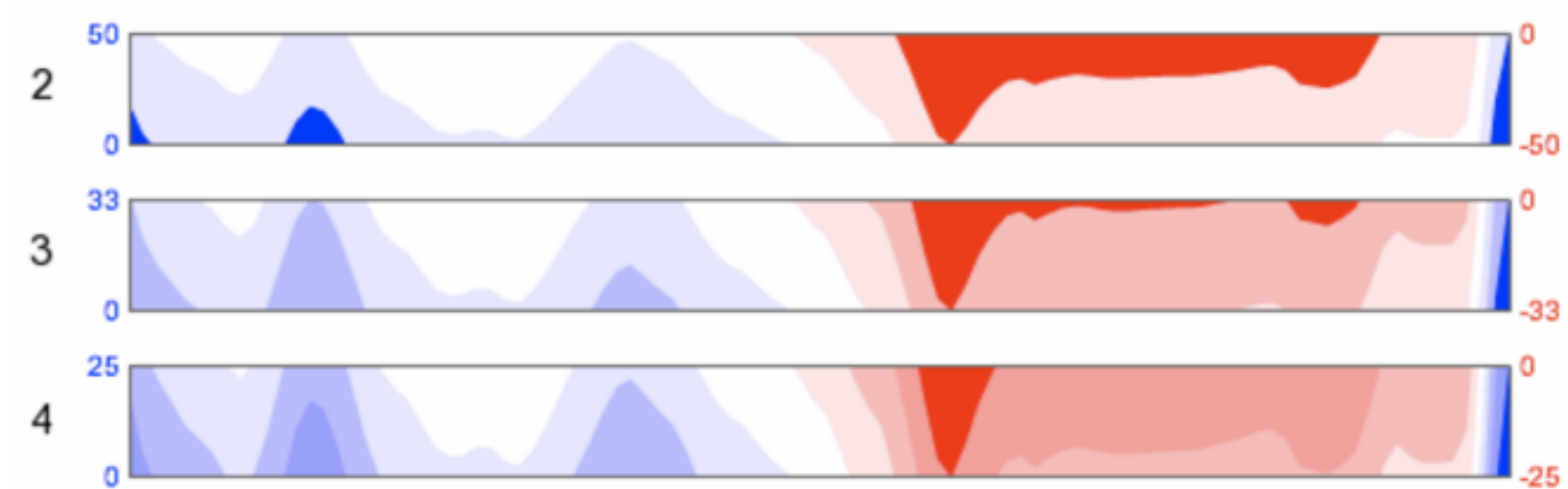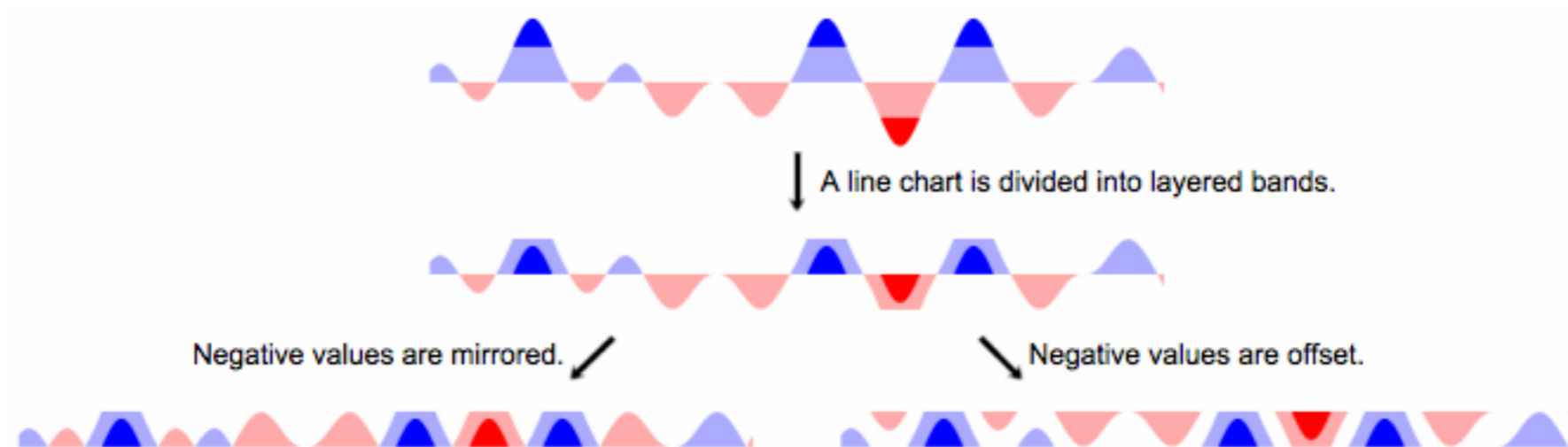
Line Charts

Bank to 45 degrees

Horizon Charts

A line chart is divided into layered bands.

Negative values are mirrored.

Negative values are offset.

http://bl.ocks.org/mbostock/1483226
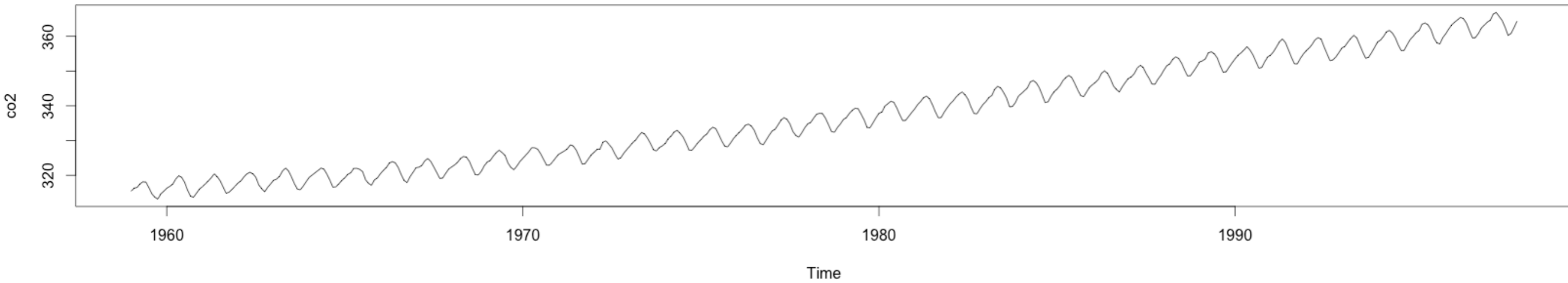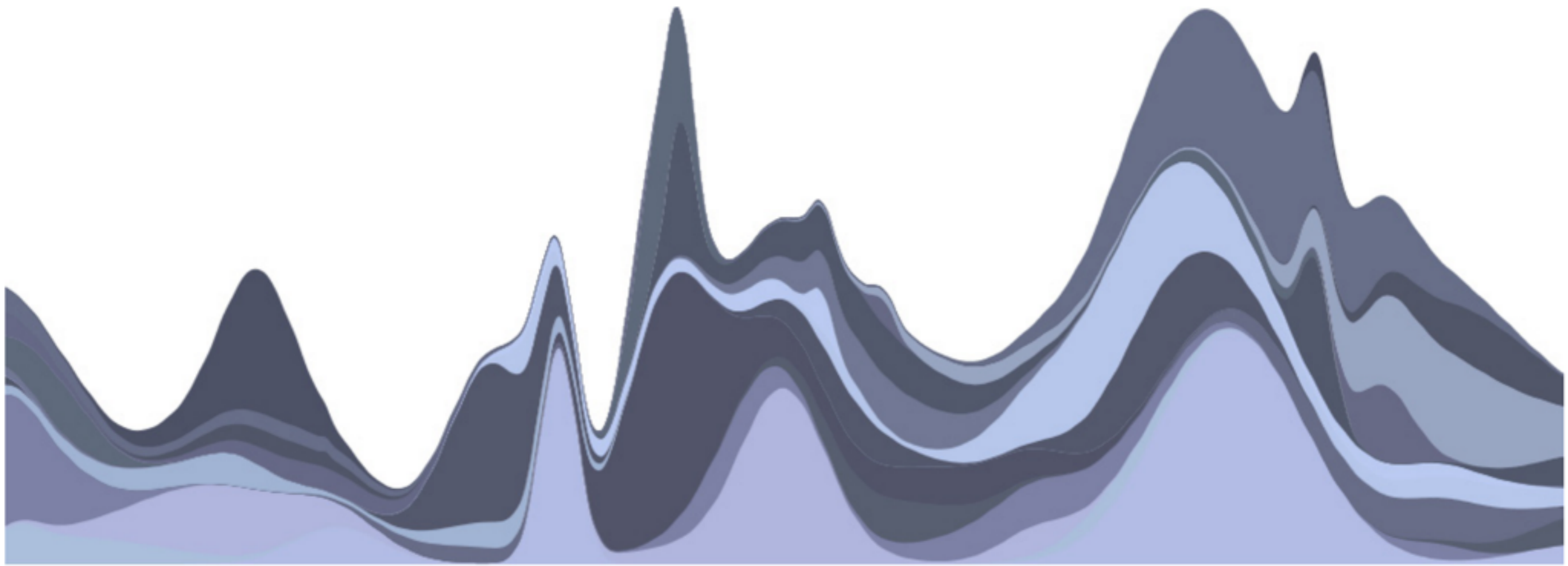
Streamgraphs

Streamgraphs
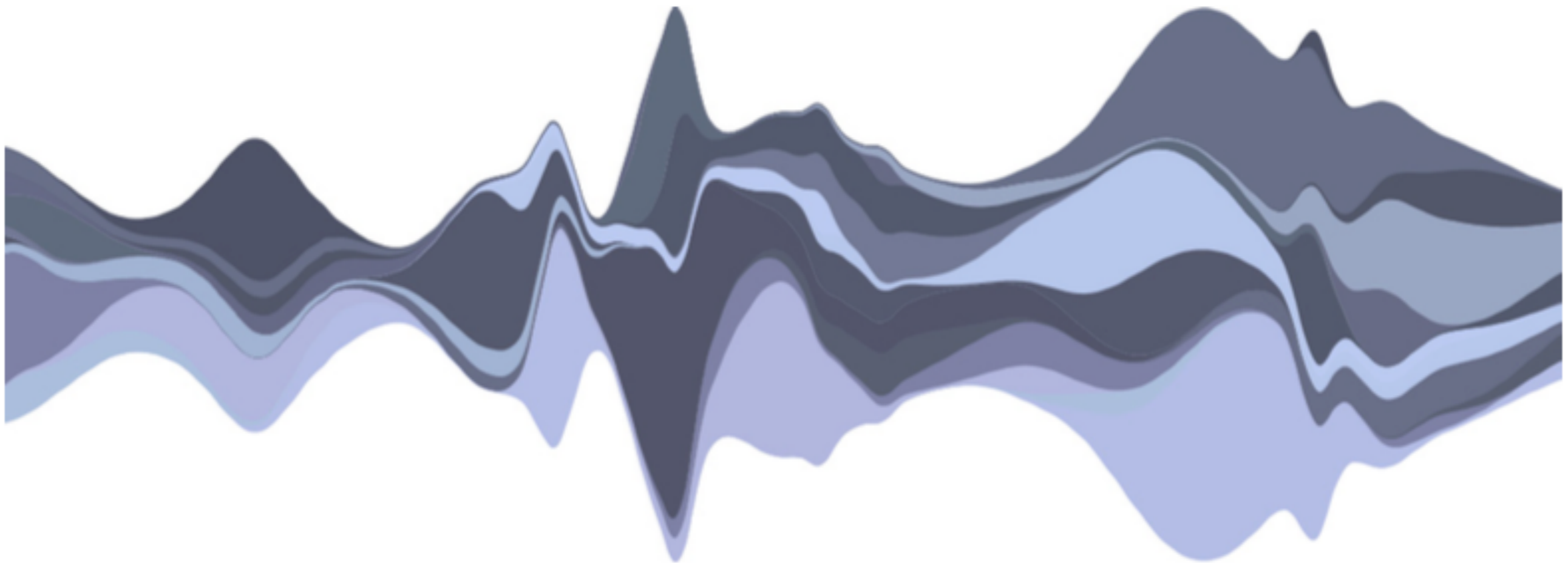
fig 6 – the same data set using the ThemeRiver layout algorithm

http://www.leebyron.com/else/streamgraph/
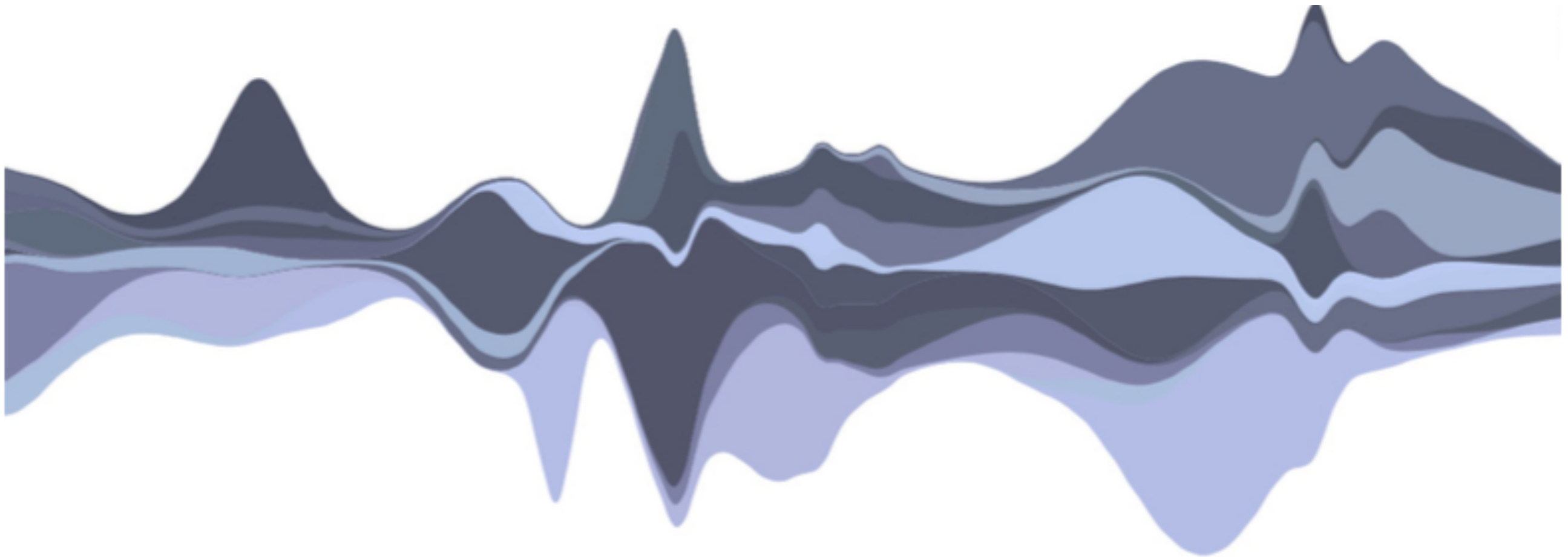
Streamgraphs

fig 7 – the same data set optimized to reduce the "wiggle" function, or overall variation in slope

http://www.leebyron.com/else/streamgraph/
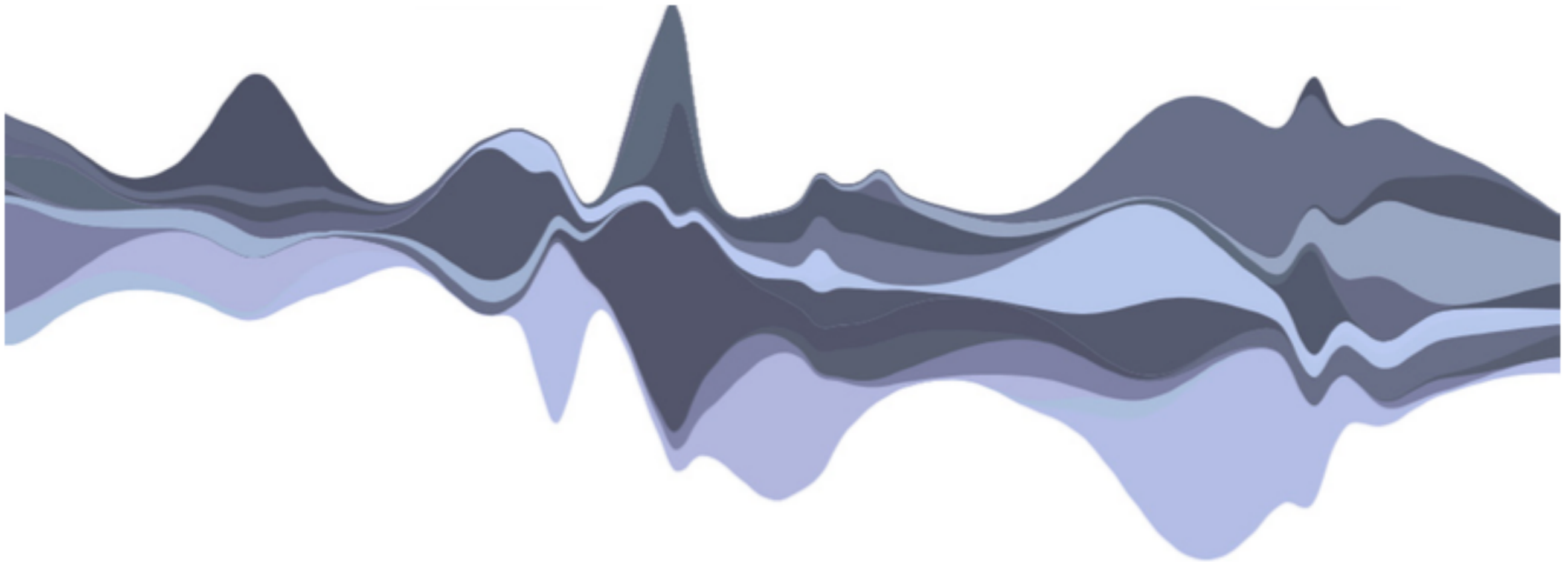
Streamgraphs

fig 8 – the same data set optimized to reduce the "weighted_wiggle," the algorithm used in Streamgraph

http://www.leebyron.com/else/streamgraph/

Streamgraphs

CHART of EXPORTS and IMPORTS to and from the EAST INDIES
From the Year 1700 to 1780 by W. Playfair
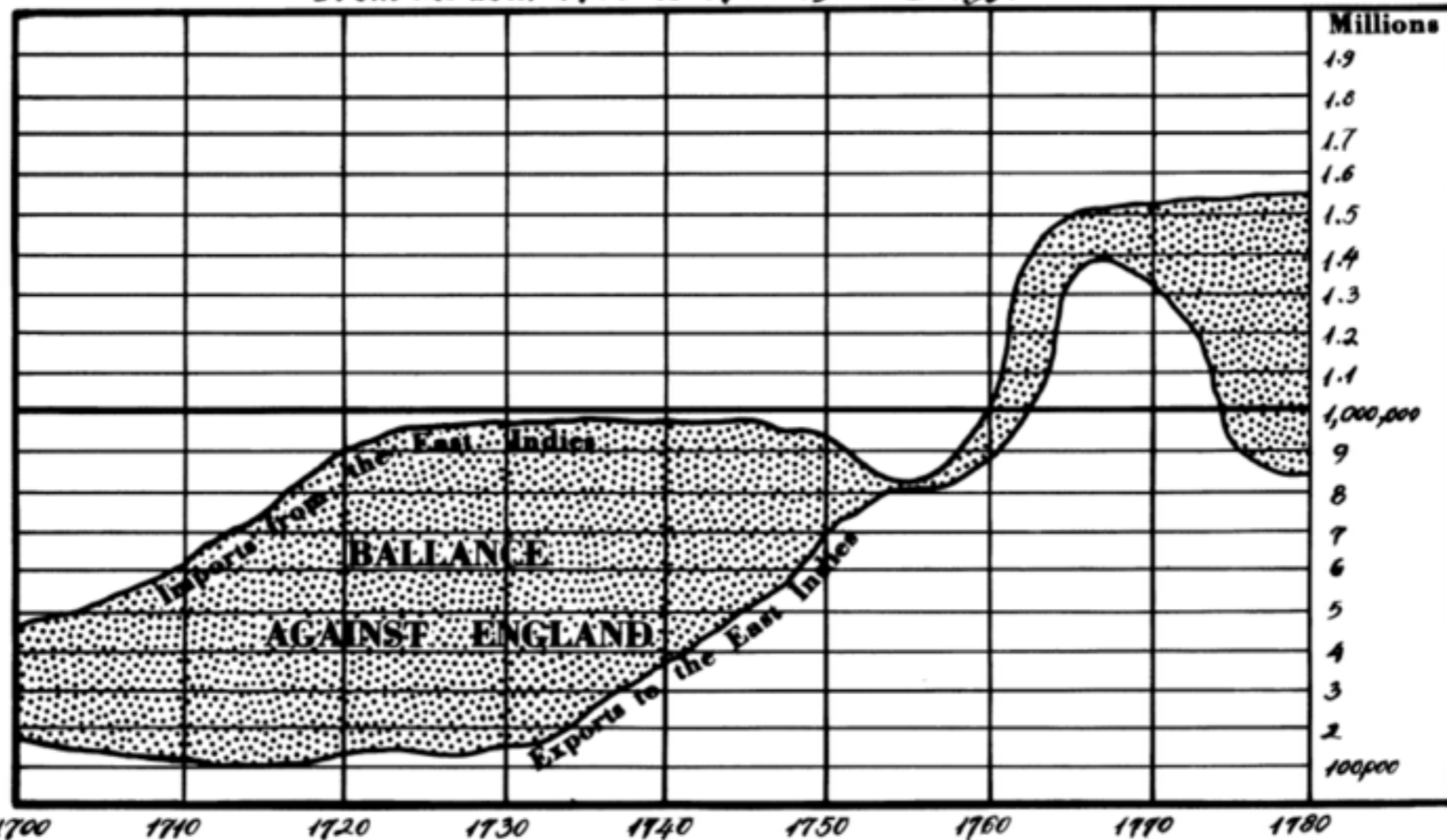
The Bottom Line is Divided into Years the Right hand Line into HUNDRED THOUSAND POUNDS

Streamgraphs

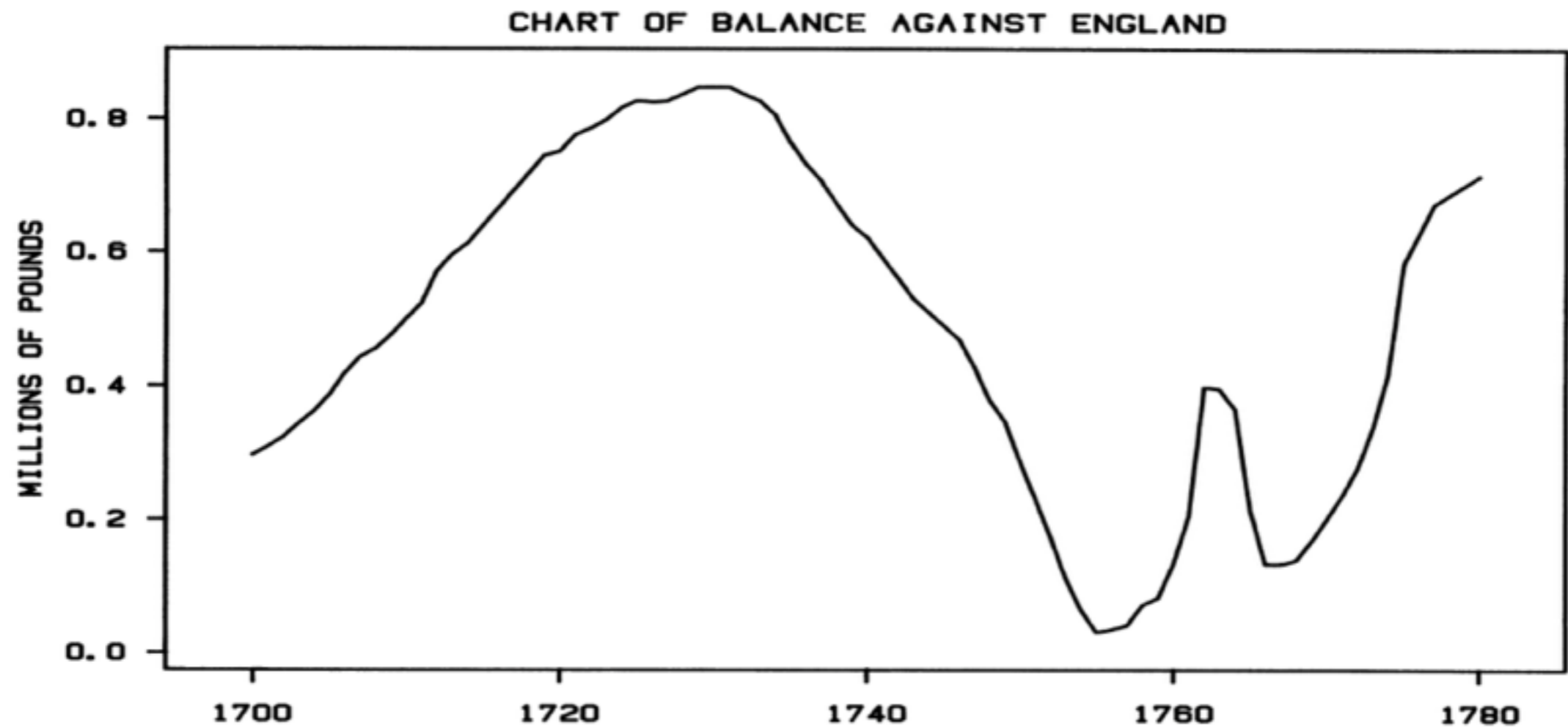CHART OF BALANCE AGAINST ENGLAND
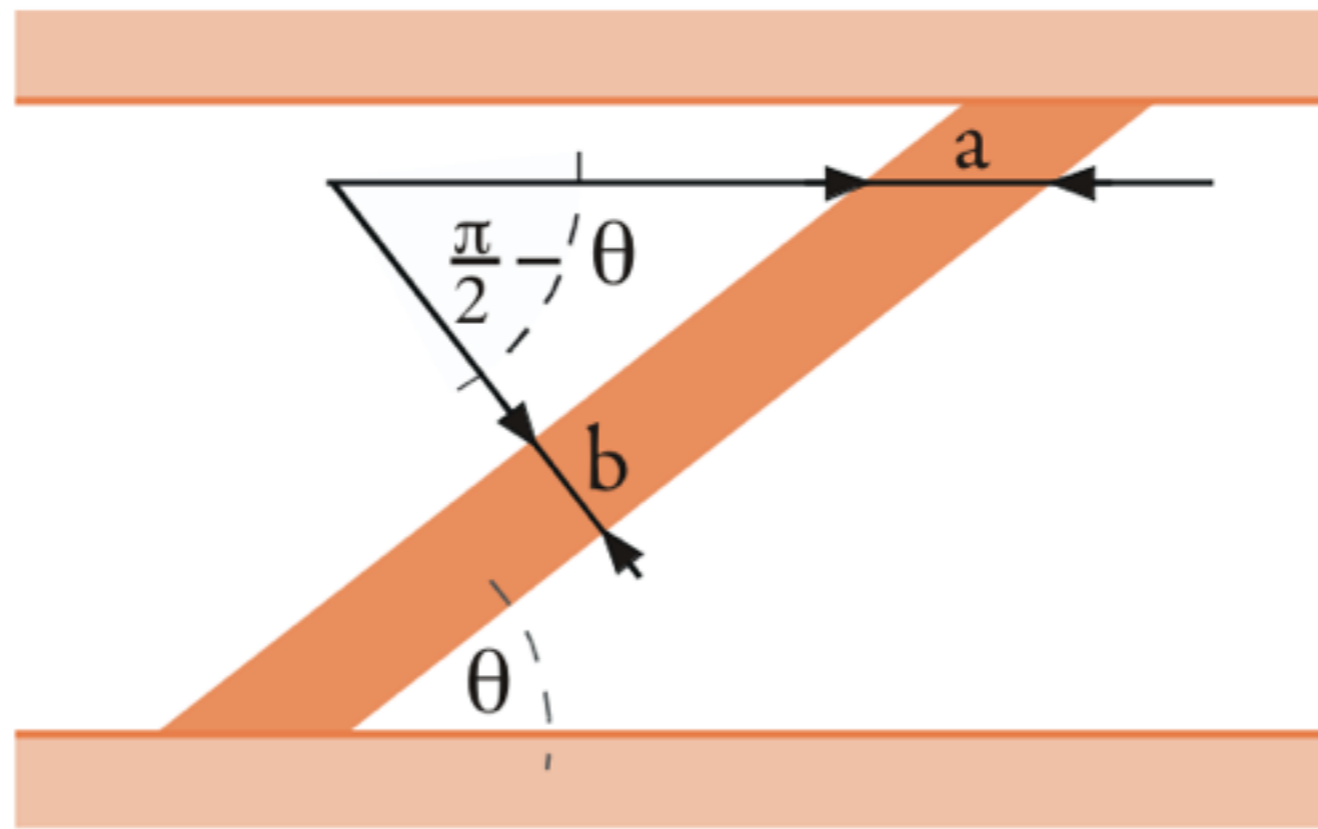
Figure 28. Playfair data.
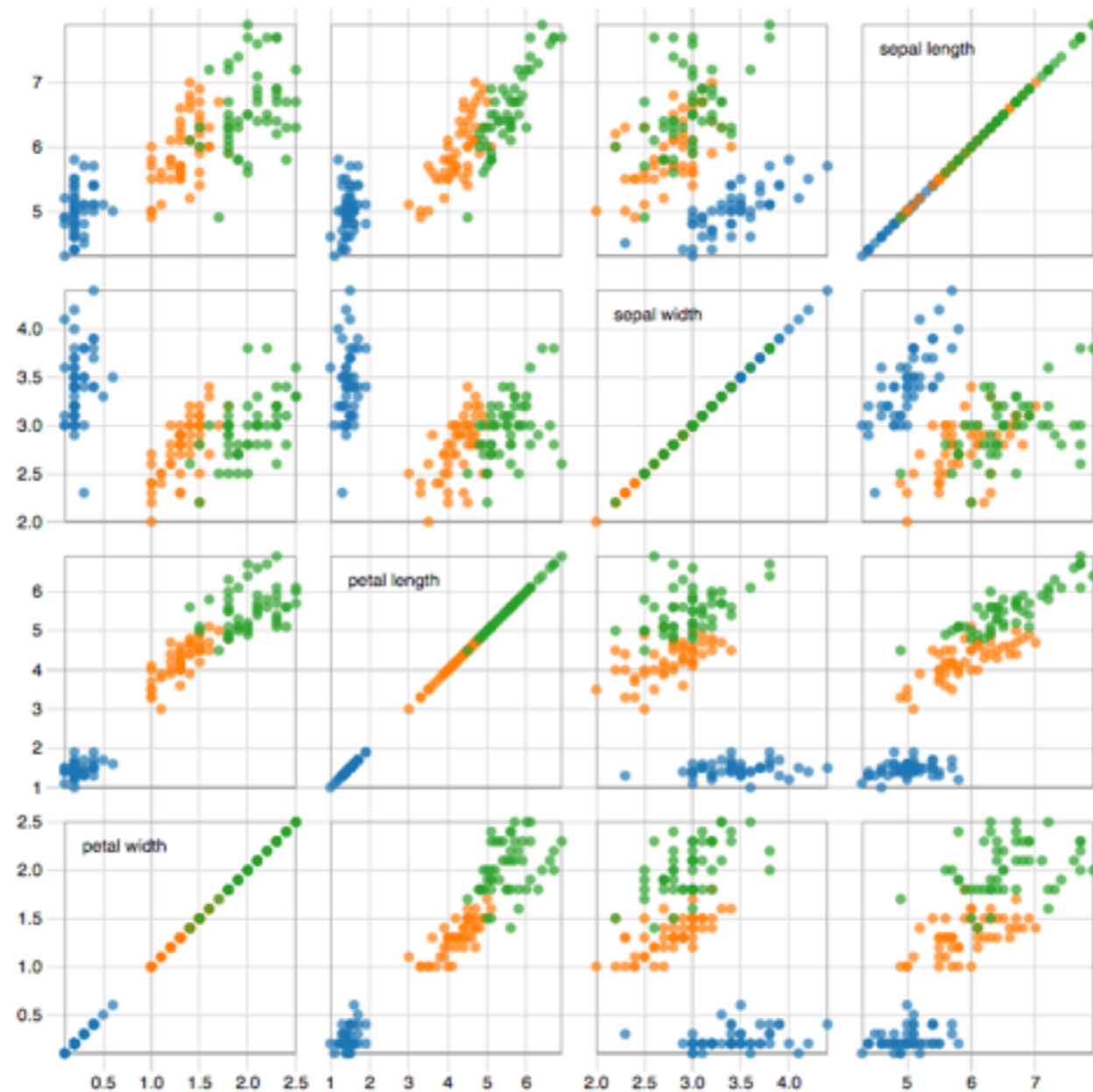
Hoffman and Vendettuoli

Fig. 5. Sketch of line width assessments: (a) is showing horizontal width, (b) shows width orthogonal to the slope. Survey results in section 4.2 indicate that observers associate line width more with orthogonal width w_o (b) than horizontal width w_h (a).
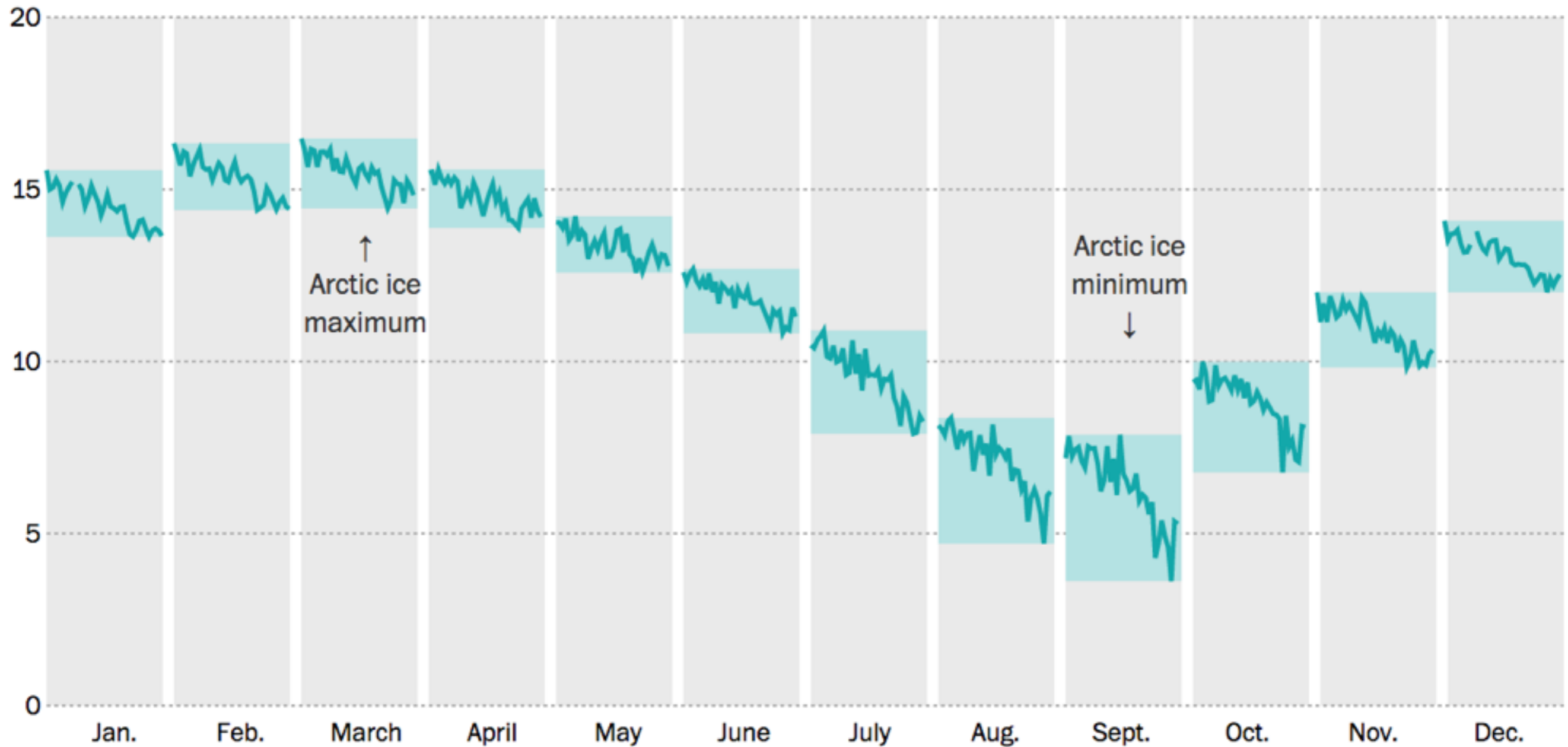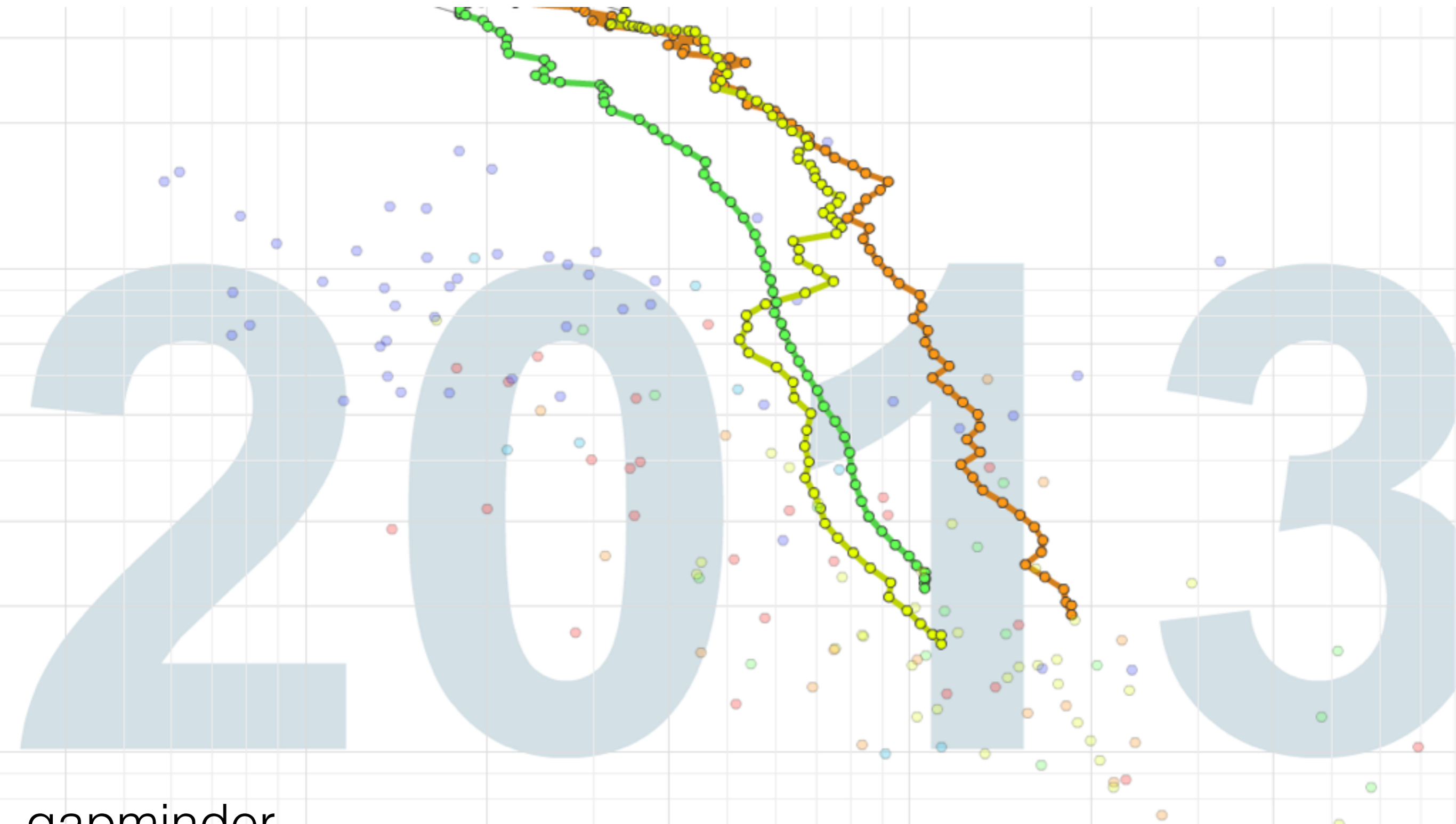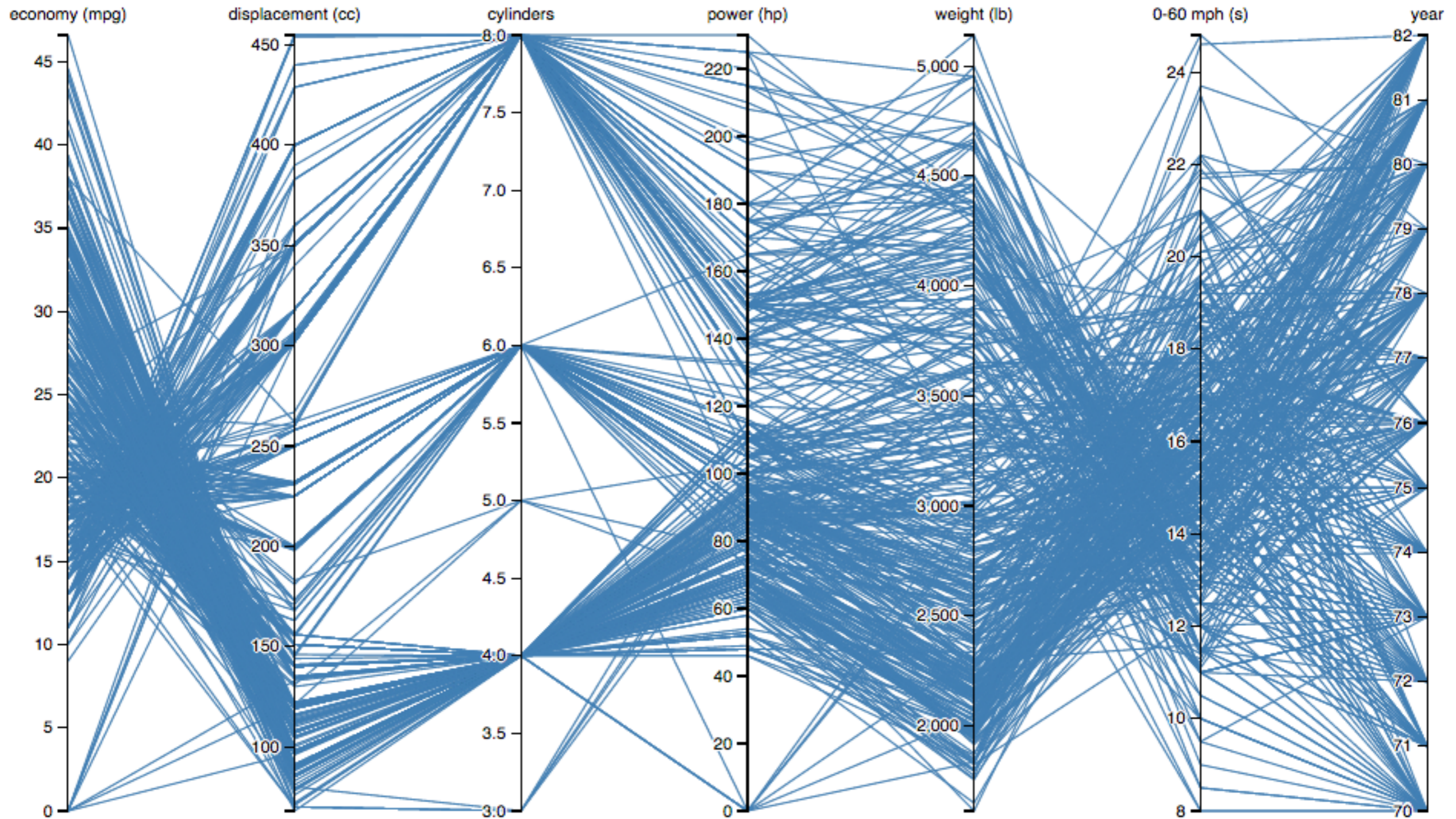
Many dimensions

Small Multiples

Small Multiples

Multivariate Time Series

Parallel Coordinates

http://bl.ocks.org/jasondavies/1341281

Next Class:
Dimensionality Reduction

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Dimensionality Reduction
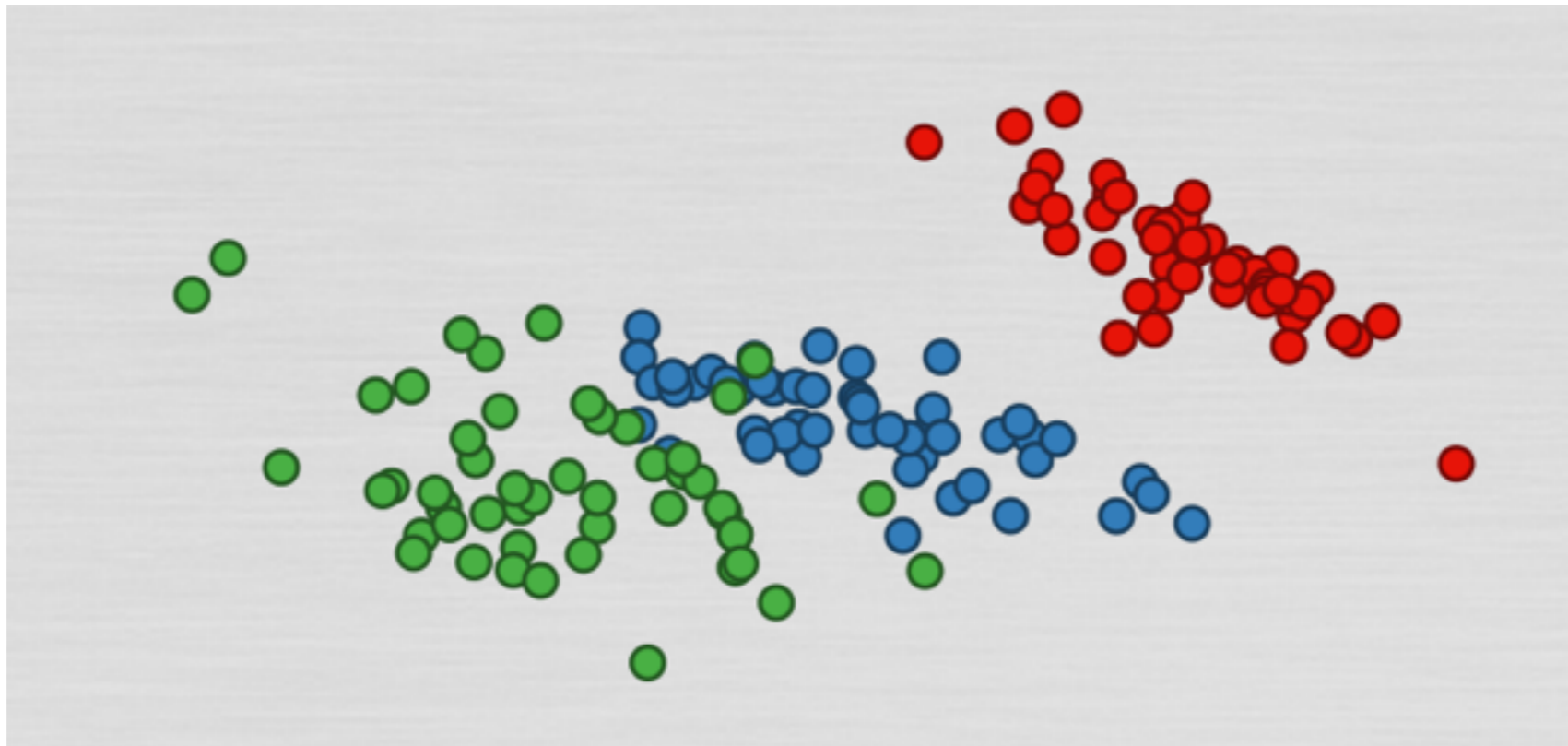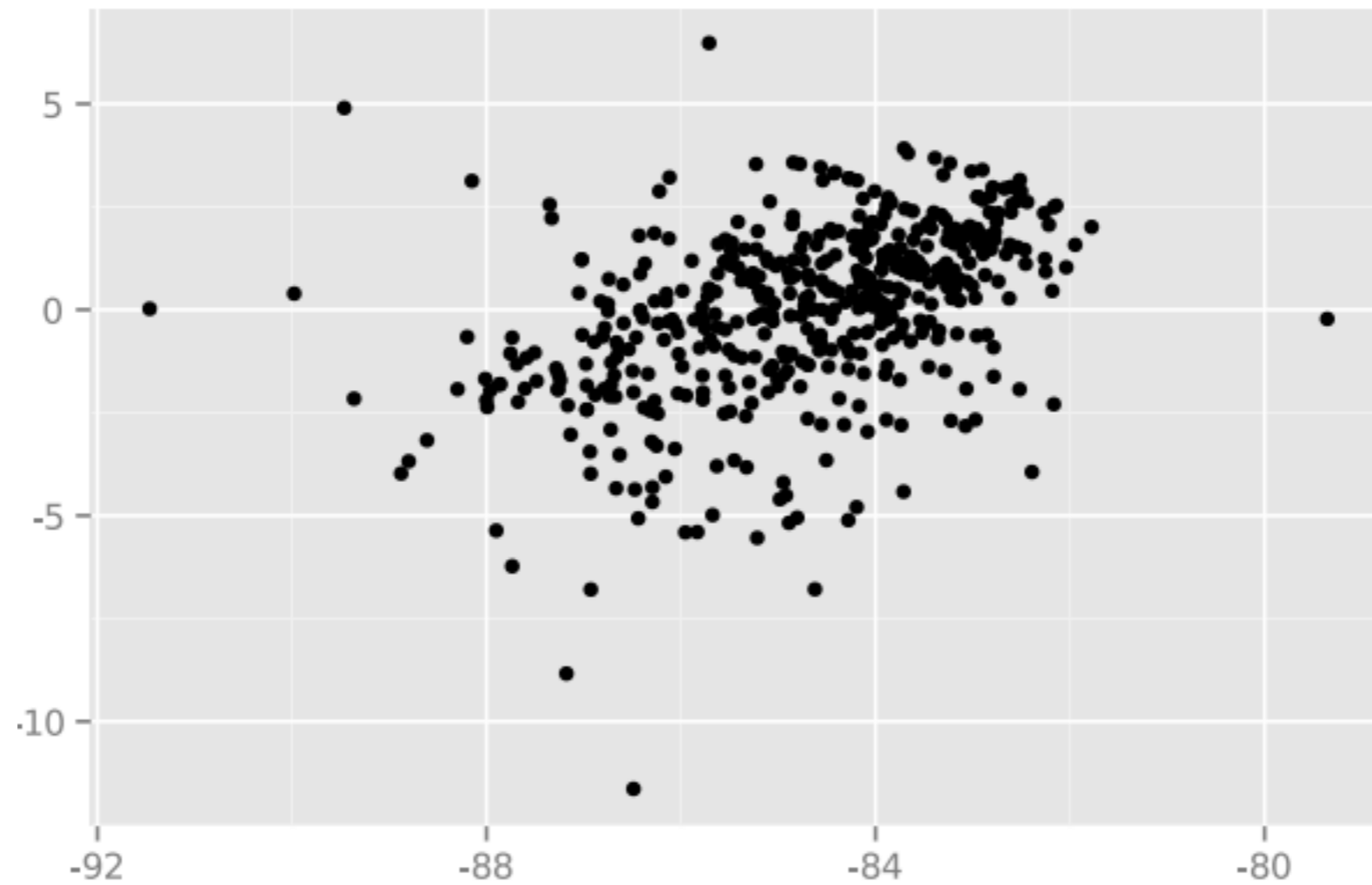

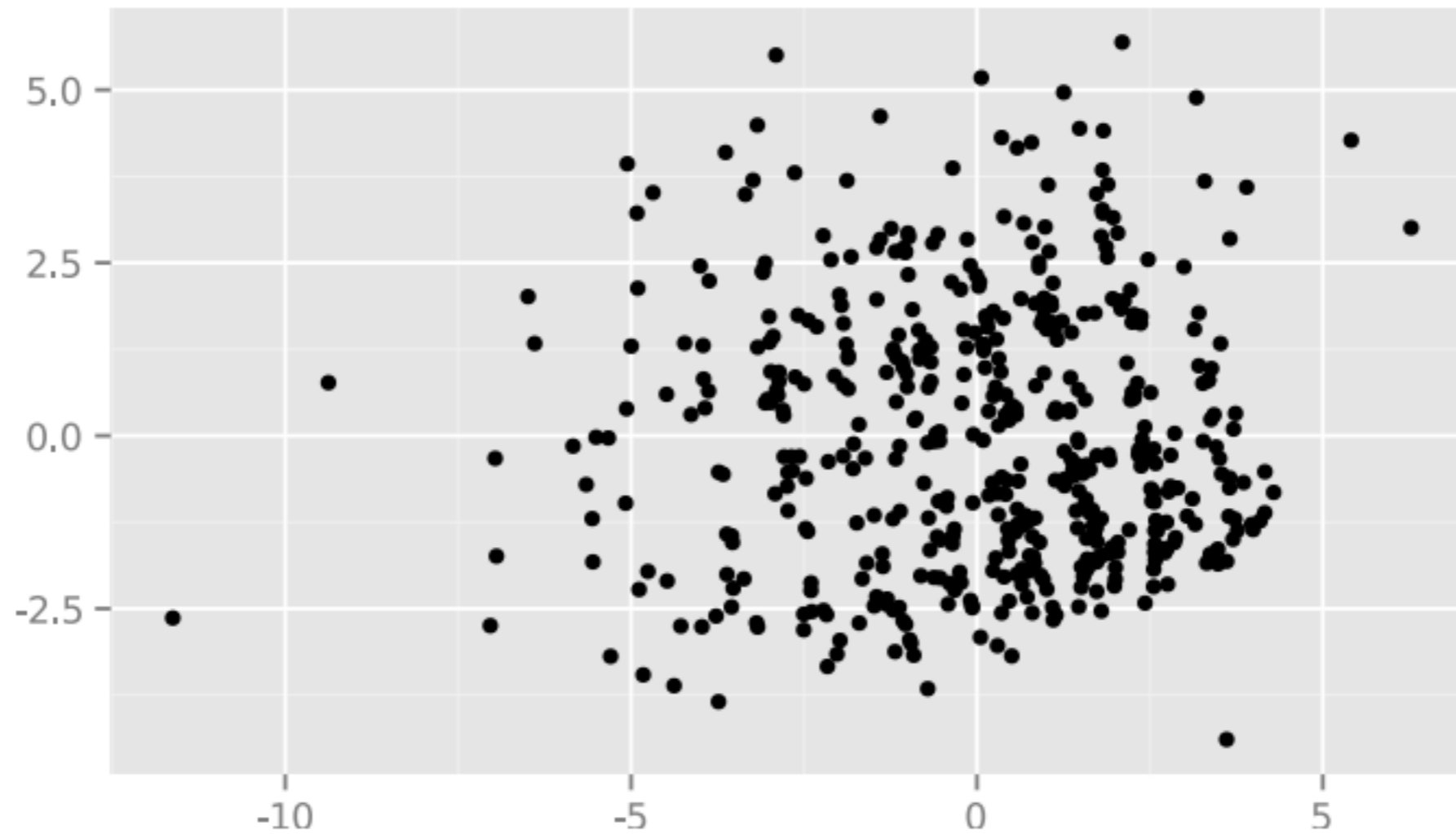http://cscheid.github.io/lux/demos/tour/tour.html

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