

# Visualization

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Apr 16 2014

**Rule 1: The first plot you do  
should never be the one you  
present**

# Drawing Good Graphs

- If the “story” is simple, keep it simple.
- If the “story” is complex, make it look simple.
- Tell the truth – don’t distort the data.

– Ross Ihaka

<https://www.stat.auckland.ac.nz/~ihaka/120/Lectures/lecture03.pdf>

The three stages of a telling a story with graphics

# Data Exploration

What is the story to tell?

- you don't care about the little plotting details
- plots are answering and raising questions

# Visualization exploration

Which plot(s) tell the story best?

- different ways of mapping variables to aesthetics
- different subsets? summaries?

Match perceptual and data topology: e.g. shape is unordered, so it should be used for unordered variable

Make comparisons as easy as possible:

- Position on a common scale (Easiest)
- Position along identical, non-aligned scales
- Length
- Angle / Slope
- Area
- Volume
- Colour properties (Hardest)

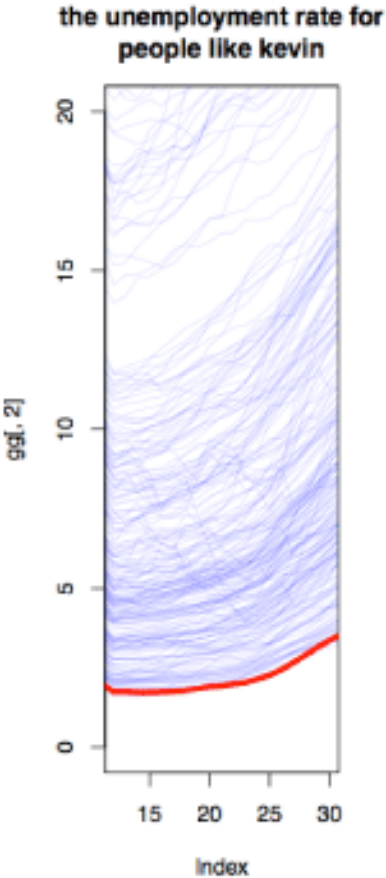
# Polishing

How can I make it easy for the viewer?

- nice labeling,
- careful color choice,
- captions? annotations?
- version for screen or print?
- tweaks to axes, grid lines etc.

# Raw R

<http://simplystatistics.org/2012/06/01/interview-with-amanda-cox-graphics-editor-at-the-new/>





# Polished NYT

## The Jobless Rate for People Like You

Not all groups have felt the recession equally.

All races >	Men and Women >	All ages	All education levels
White	Men	Ages 15 to 24 >	Not a high school graduate
Black	Women	Ages 25 to 44	High school graduate >
Hispanic		Age 45 and older	College graduate
All other races			

UNEMPLOYMENT RATE,  
12 MONTH AVG. ENDING SEPT. '09

# 14.7%

For all men and women ages 15 to 24  
with a high school degree

