

Data Visualization Strategies

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Clark Data Labs 2015

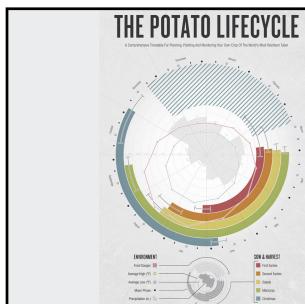
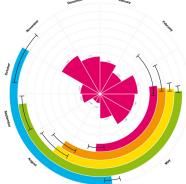
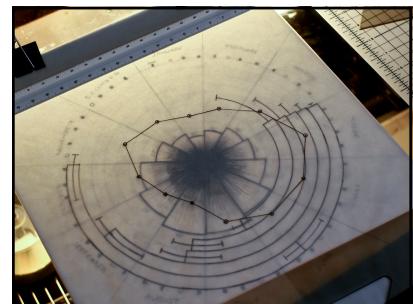
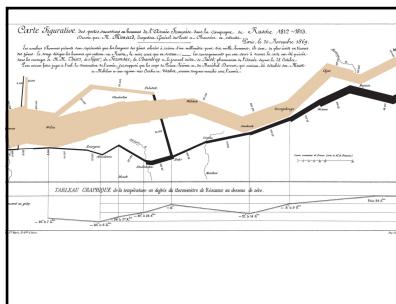
Overview

- Introduction
- Types of visualizations
 - Example I
- Thinking about complex data
- Dealing with complex data
 - Example II
- More types of visualizations
 - Example III
- Problems and exotic solutions
- Conclusions

Introduction

Starting out

- What are you trying to show?
- What relationships are you interested in?
- What information is unnecessary?
- What do you know about your data?
- Who is your audience?
- What have other people done?



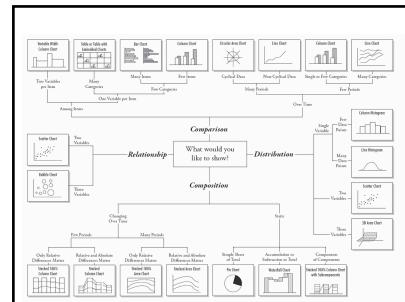
Aesthetics



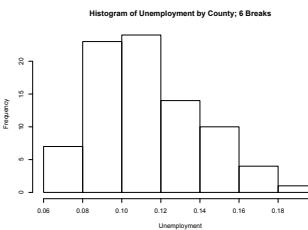
Approaching Visualization

- Organize your data for your analysis or visualization
- Design your visualization around your research question
- If your visual is boring, get better data

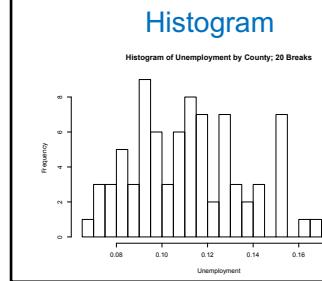
Types of Visualizations



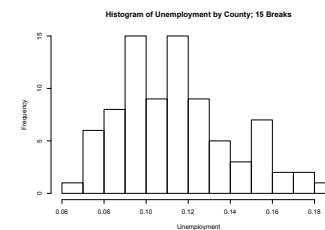
Histogram



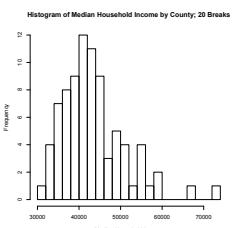
Histogram



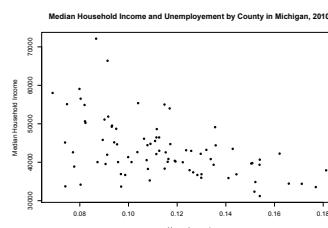
Histogram



Histogram



Scatterplot



What is R?

- Free!
- Framework for 'data programming'
- Can either use scripts or commands
- Uses commands/functions with parameters
- Both = and <- assign data to a variable/data frame
- Large user group has created lots of plug-ins

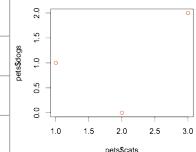
Example I

Use R to create [histograms](#) and [scatterplots](#)

Thinking about Data

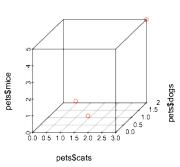
Dimensionality

	cats	dogs
Jane	2	0
John	1	1
Moe	3	2



Dimensionality

	cats	dogs	mice
Jane	2	0	1
John	1	1	1
Moe	3	2	4

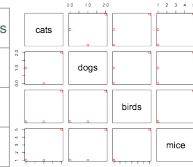


Dimensionality

	cats	dogs	mice	birds
Jane	2	0	1	1
John	1	1	1	1
Moe	3	2	4	5

Dimensionality

	cats	dogs	mice	birds
Jane	2	0	1	1
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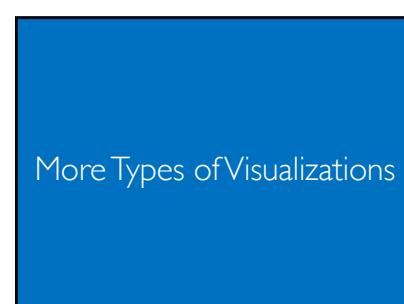
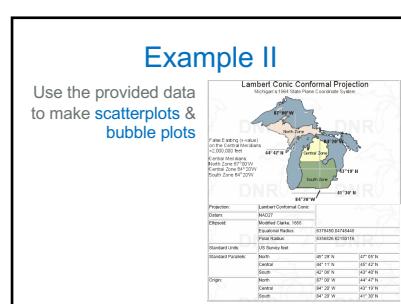
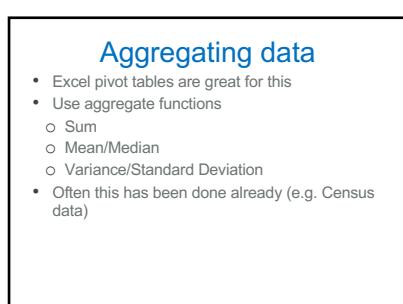
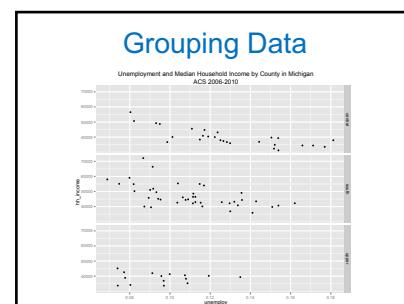
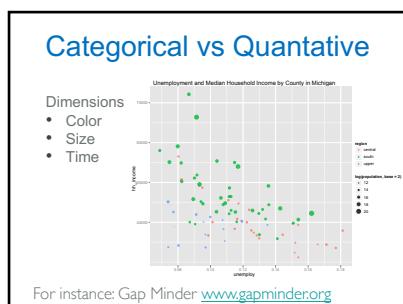
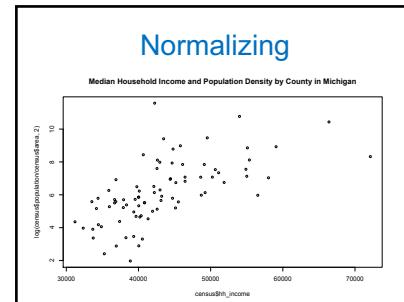
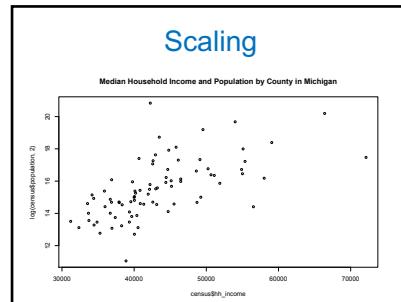
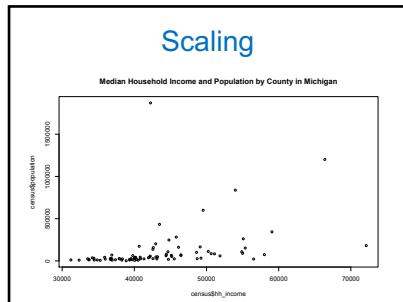
Dimensionality

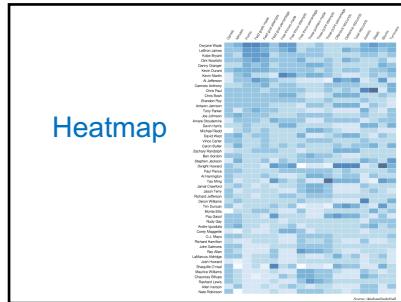
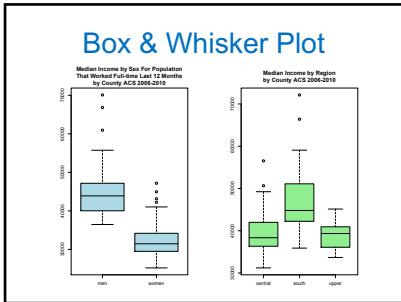
	cats	dogs	mice	birds
Jane	2	0	1	1
John	1	1	1	1
Moe	3	2	4	5

Pets



Dealing with Complex Data





Example III

Use the same data to create
boxplots & heatmaps

Problems & Exotic Solutions

