Tools2

Statistics 4868/6610 Data Visualization

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Introduction

Today we are going to add a few more tools to the list given in Chapter 3.

- Bubble Charts
- word clouds
- Google Charts from R
- More Tableau
- plot.ly
- Plotting maps with R and shape files
- Introduction to ggplot2

Microsoft buys Revolution Analytics

Last year Revolution Analytics was purchased by Microsoft.

David Smith's blog post Revolution Analytics joins Microsoft.

R coming to Visual Studio David Smith will be doing a webinar this week on Thursday about the release of RTVS.

This is very exciting!!!

Microsoft buys Revolution Analytics

Why?

David Smith's blog post Microsoft acquires Revolution Analytics - news roundup links to other posts that explain why.

What other R company might be next?

- RStudio
- ElasticR
- DataRobot
- MapR
- ????

Bubble Charts

Try the FlowingData Tutorial on Bubble Charts.

How to Make Bubble Charts

word cloud

Making word clouds in R is usually done with text mining.

See the class Handout webpage for wordcloud.R

Try it.

Get a book from Project Gutenberg

Hopefully we can get the R libraries to work.

If not, try wordle.net.

Google Charts from R

Check out the blog spatial.ly and the R Spatial Tips webpage. Lots of interesting links.

There is a very nice post about the R interface to Google Chart Tools

Tableau

Here is the link to the Tableau Training & Tutorials webapge and here is the link to the Live Training Resources webpage.

Give the Mapping Training a try. Listen to the past webcast and try to create the maps produced.

The putting pie charts onto the map is cool.

plot.ly

plot.ly a cloud based software platform for doing plots. The plots are very nice.

Check out the heatmaps.

Plotting maps with R

There are main libraries that are useful to make maps in R.

When working with maps you will start to use **shape files**.
These are .shp files.

Try to make the plot described on this Playing with R blog post, Plotting Maps in R

Slide With R Code

From the Quick-R website.

Advanced Graphs

Try some plots using ggplot2

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```
# ggplot2 examples
library(ggplot2)

# create factors with value labels
mtcars$gear <- factor(mtcars$gear,levels=c(3,4,5),
    labels=c("3gears","4gears","5gears"))
mtcars$am <- factor(mtcars$am,levels=c(0,1),
    labels=c("Automatic","Manual"))
mtcars$cyl <- factor(mtcars$cyl,levels=c(4,6,8),
    labels=c("4cyl","6cyl","8cyl"))
```

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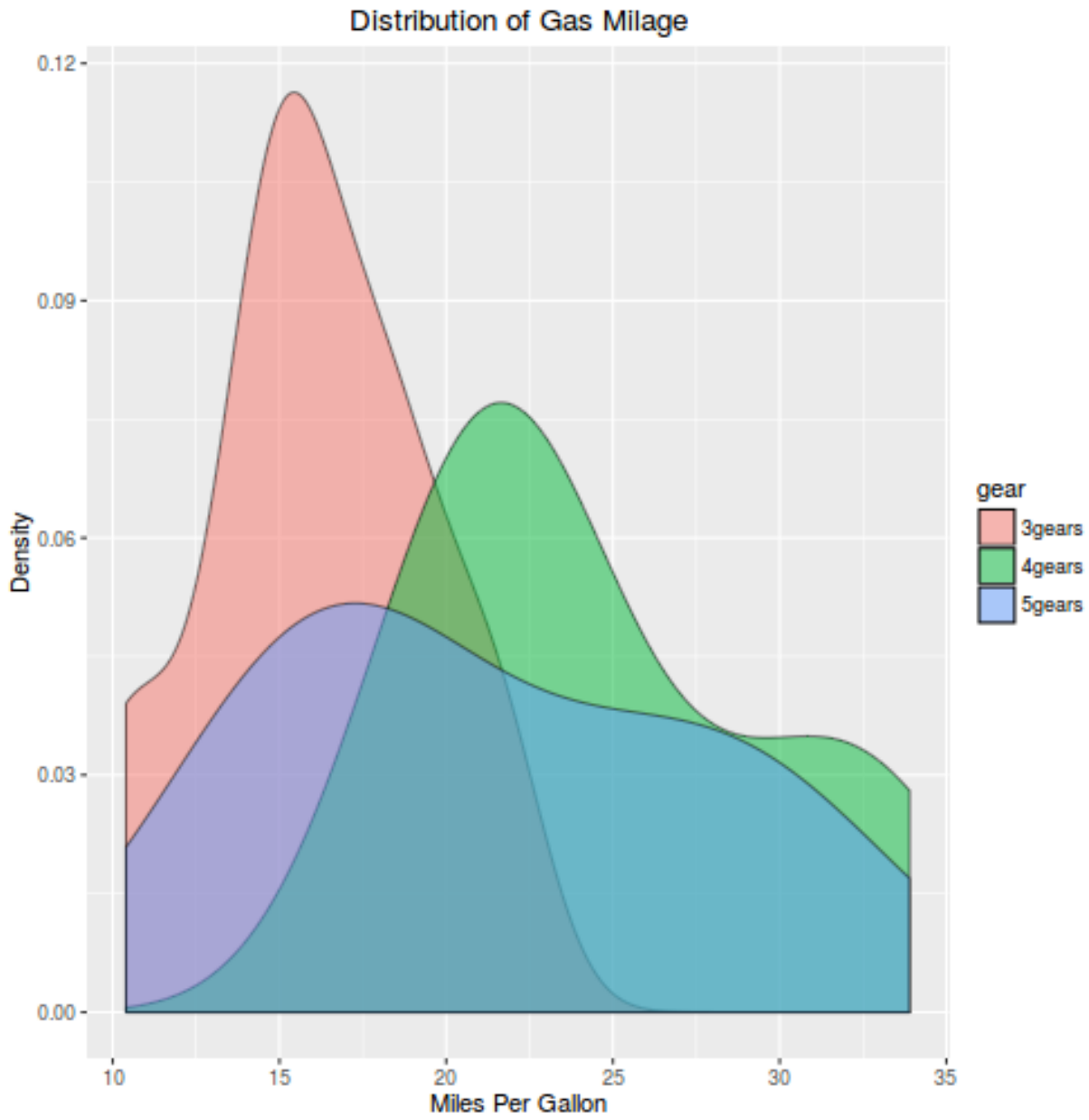
```
# Kernel density plots for mpg
# grouped by number of gears
# (indicated by color)
qplot(mpg, data=mtcars, geom="density", fill=gear, alpha=I(.5),
   main="Distribution of Gas Milage", xlab="Miles Per Gallon",
   ylab="Density")
```



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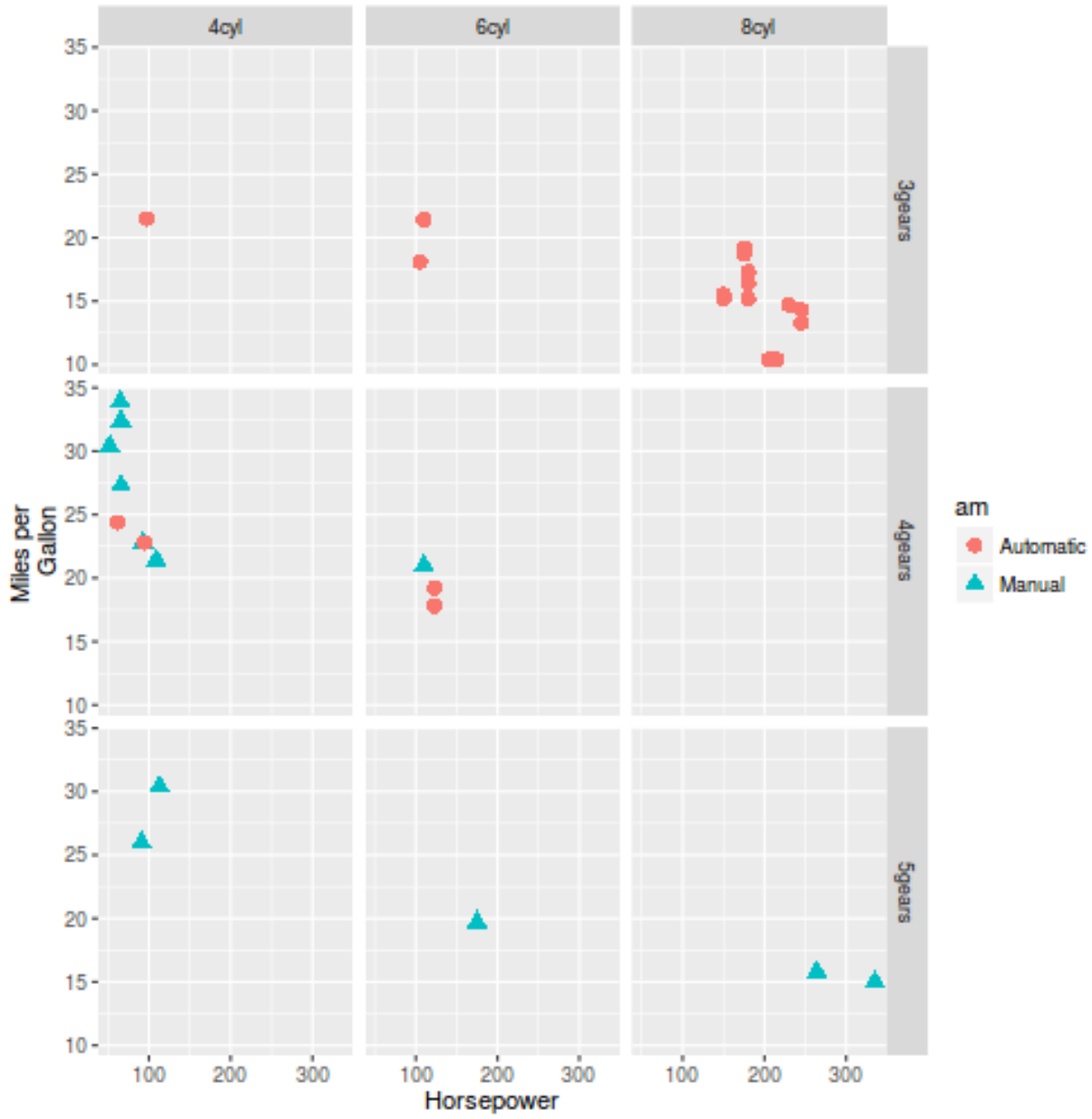
```
# Scatterplot of mpg vs. hp for each
# combination of gears and cylinders
# in each facet, transmition type is
# represented by shape and color
qplot(hp, mpg, data=mtcars, shape=am, color=am,
   facets=gear~cyl, size=I(3),
   xlab="Horsepower", ylab="Miles per
   Gallon")
```



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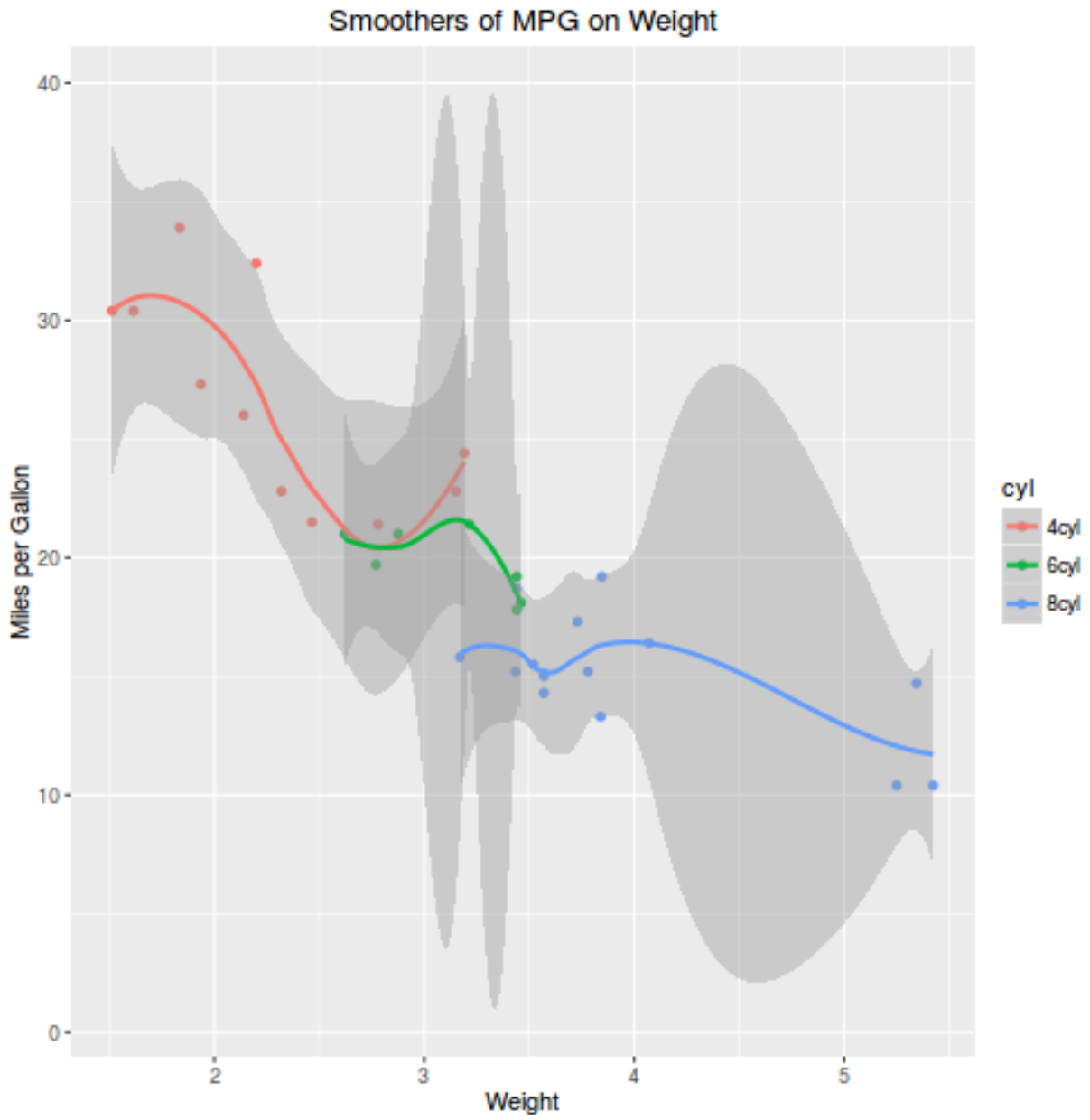
```
# Separate smoothers of mpg on weight for each number of cylinders
qplot(wt, mpg, data=mtcars, geom=c("point",
   "smooth"), color=cyl,
   main="Smoothers of MPG on Weight",
   xlab="Weight", ylab="Miles per Gallon")
```



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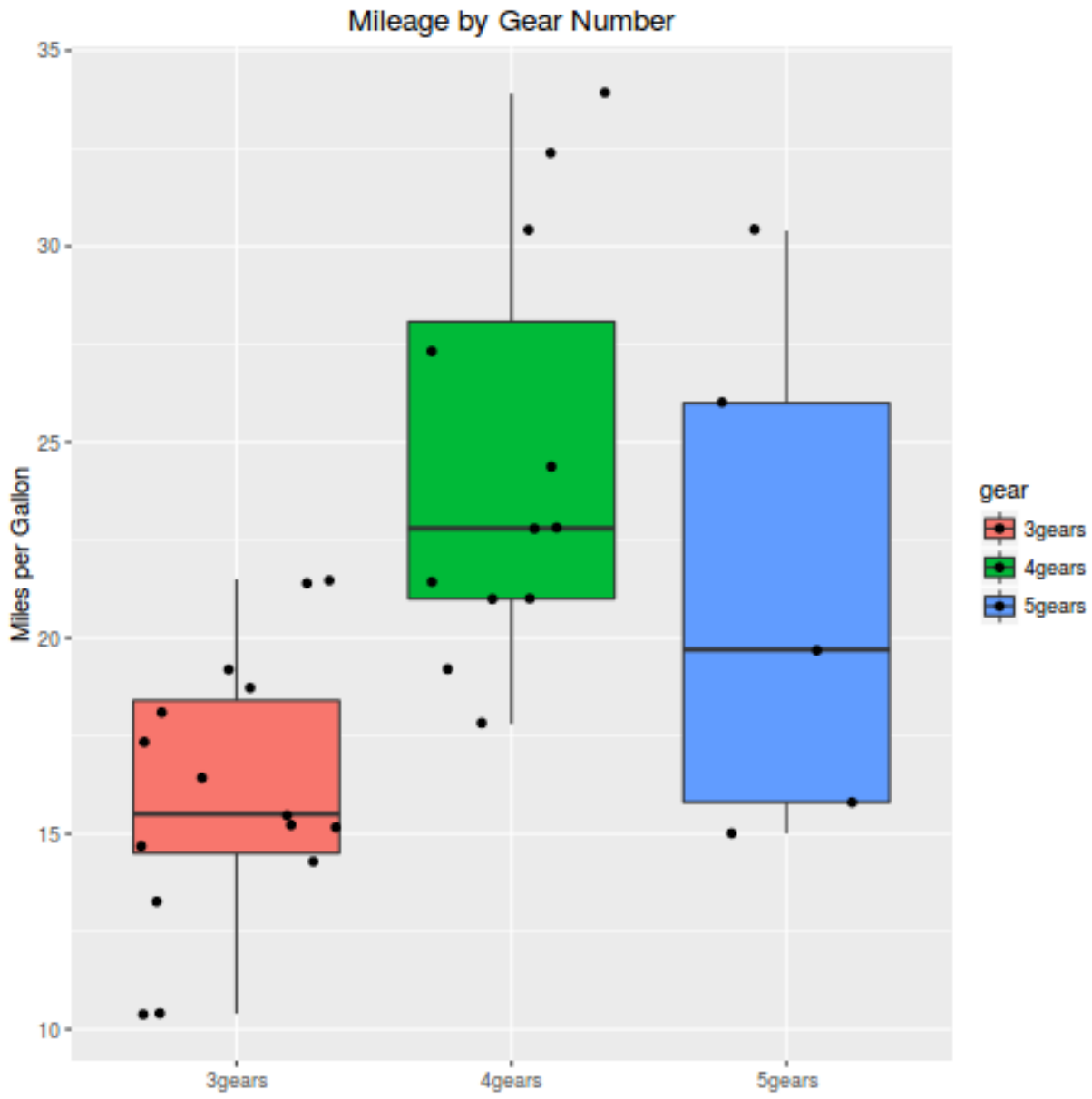
```
# Boxplots of mpg by number of gears
# observations (points) are overlayed and jittered
qplot(gear, mpg, data=mtcars, geom=c("boxplot", "jitter"),
   fill=gear, main="Mileage by Gear Number",
   xlab="", ylab="Miles per Gallon")
```


Mileage by Gear Number
Miles per Gallon
35
30
25
20
15
10
3gears
4gears
5gears
gear
3gears
4gears
5gears