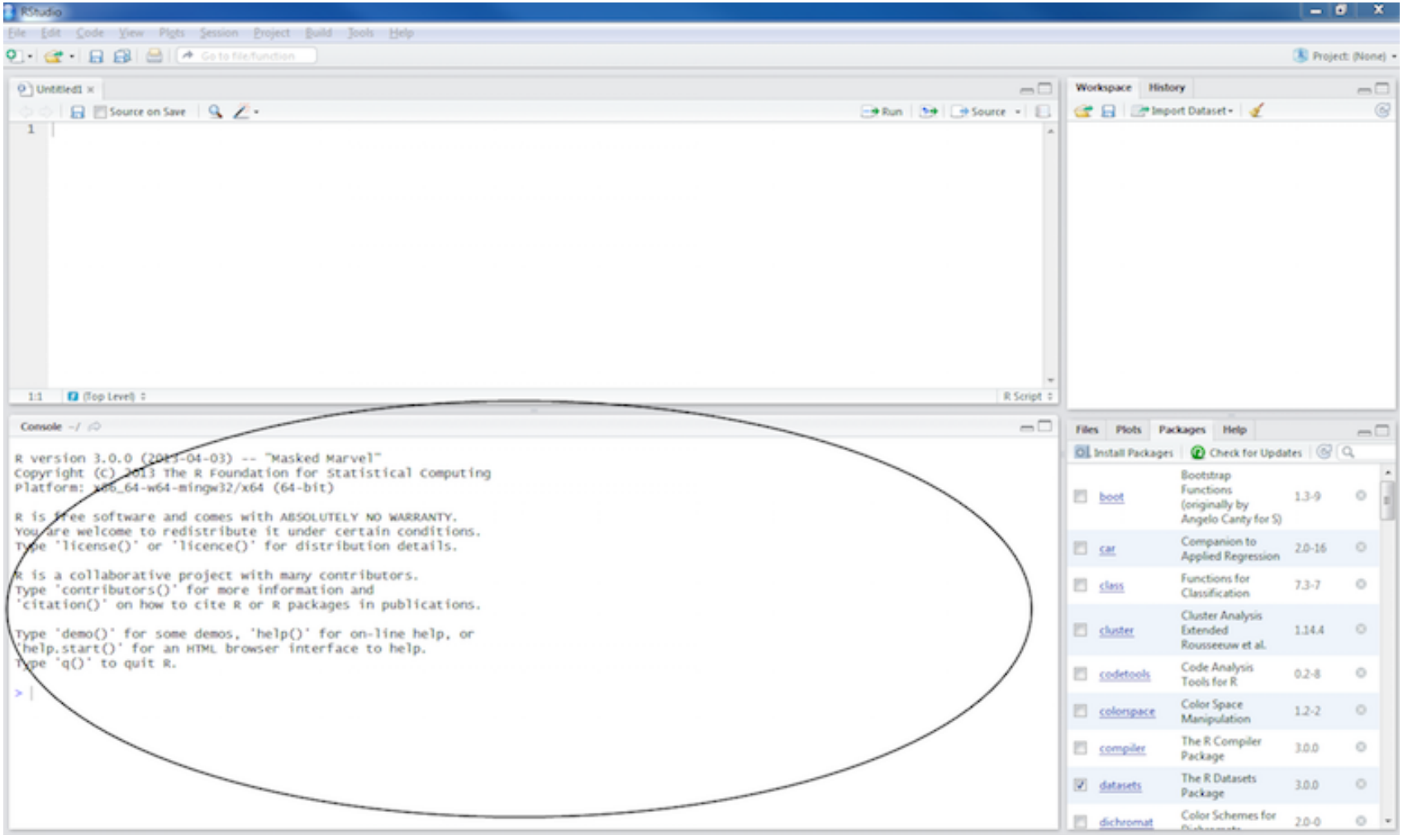
RStudio

Introduction to R for Public Health Researchers

RStudio

- "RStudio is an integrated development environment (IDE) for R."
- It helps the user use R.
- R, in essence is just the a console that takes commands from you typing into it
- Is NOT dropdown statistical tools (such as Stata)
- Snapshots taken from `http://ayeimanol-r.net/2013/04/21/289/`

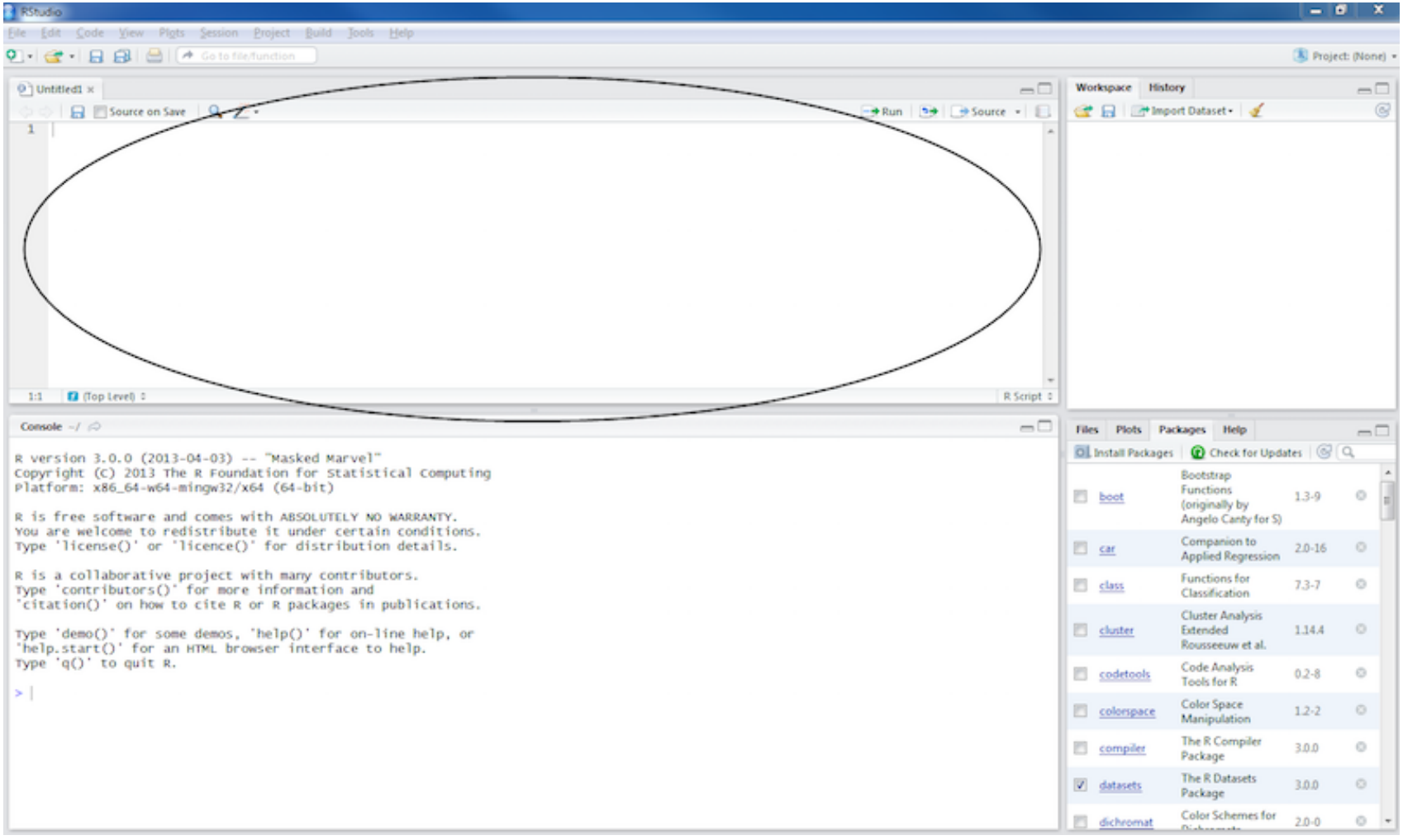
RStudio/R Console



RStudio/R Console

- Where code is executed (where things happen)
- You can type here for things interactively
- Code is **not saved** on your disk

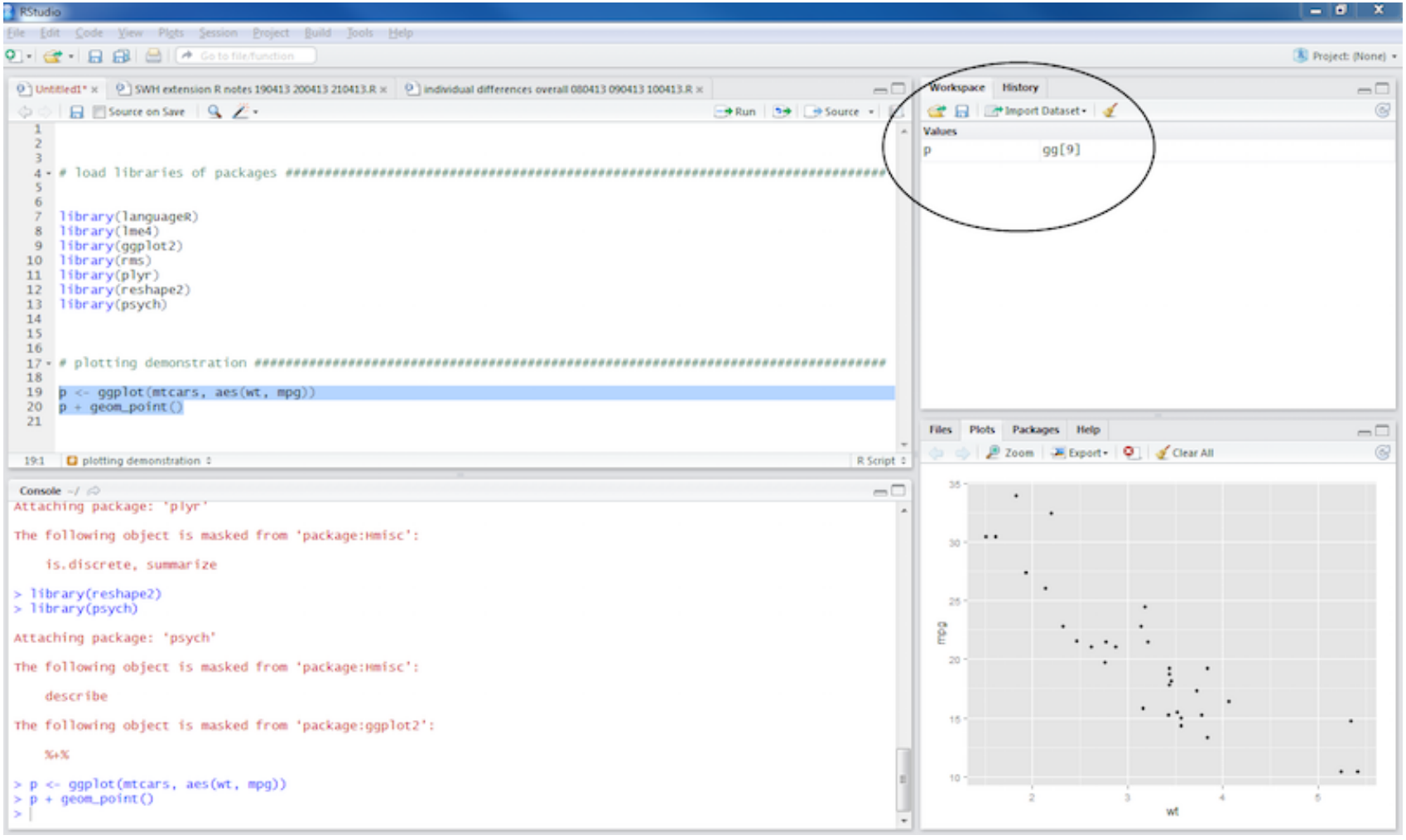
Script/Editor



RStudio/R Script/Rmarkdown files

- Where files open to
- Have R code and comments in them
- Can highlight and press (CMD+Enter (Mac) or Ctrl+Enter (Windows)) to run the code
- Code is saved on your disk

Workspace/Environment



Workspace/Environment

Workspace/Environment

- Tells you what **objects** are in R
- What exists in memory

History

- Shows previous commands. Good to look at for debugging, but **don't rely** on it as a script. Make a script!

Other Panes

- **Files** - shows the files on your computer of the directory you are working in
- **Viewer** - can view data or R objects
- **Help** - shows help of R commands
- **Plots** - pretty pictures

Other Panes - packages

- **Packages** - list of R packages that are loaded in memory
  - Packages are a set of functions written by R users
  - We write packages - some are good, some are not so good
- Think of them as "R Extensions"
- If they extend R, when you download R from CRAN, we (and others) refer to things as "base R"
  - We will show you how to do some things in base R, but also show you some newer (and more intuitive) ways to do things
  - You need base R, however, because when you Google for answers, they are commonly answered without any additional packages.

Hadey Wickham

- Previous Assistant Professor of Statistics at Rice University
- Writes many R packages
- One authority on all things R
- Employee and Developer at RStudio
- I (John) trust almost all his packages
  - How to trust an R package:
    `http://simplystatistics.org/2015/11/06/how-i-decide-when-to-trust-an-r-package/`