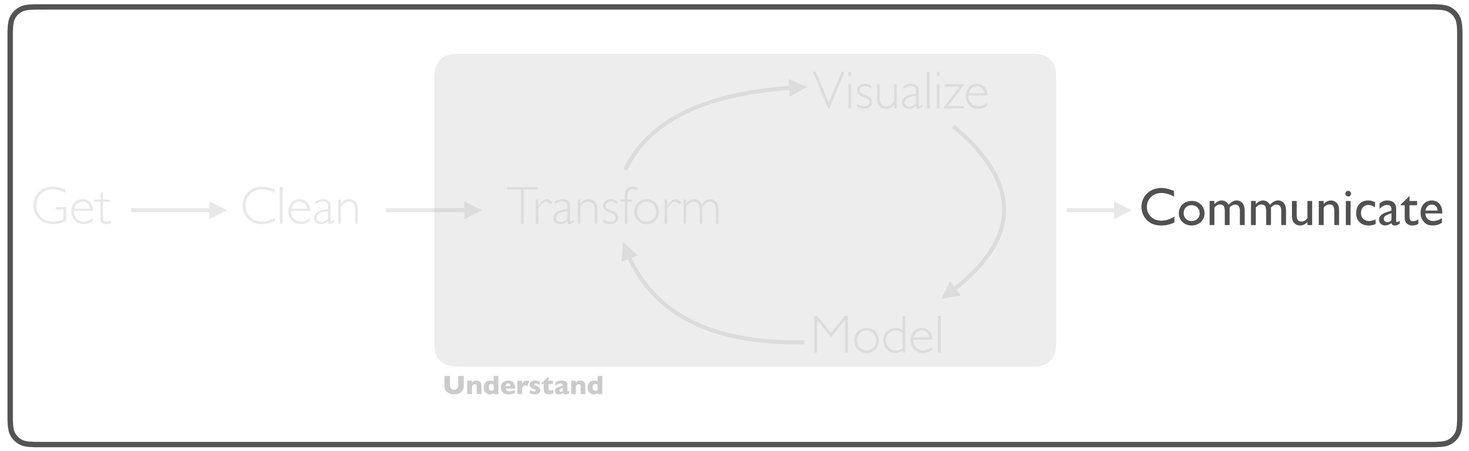
WORKING IN A REPRODUCIBLE ENVIRONMENT



†A modified version of Hadley Wickham's analytic process

"Organization is what you do before you do something, so that when you do it, it is not all mixed up."

- A. A. Milne

YOU WILL LEARN ABOUT…

1. RStudio Projects
2. R Markdown
3. R Notebooks

All 3 have the goal of streamlining your workflow!

RSTUDIO PROJECTS

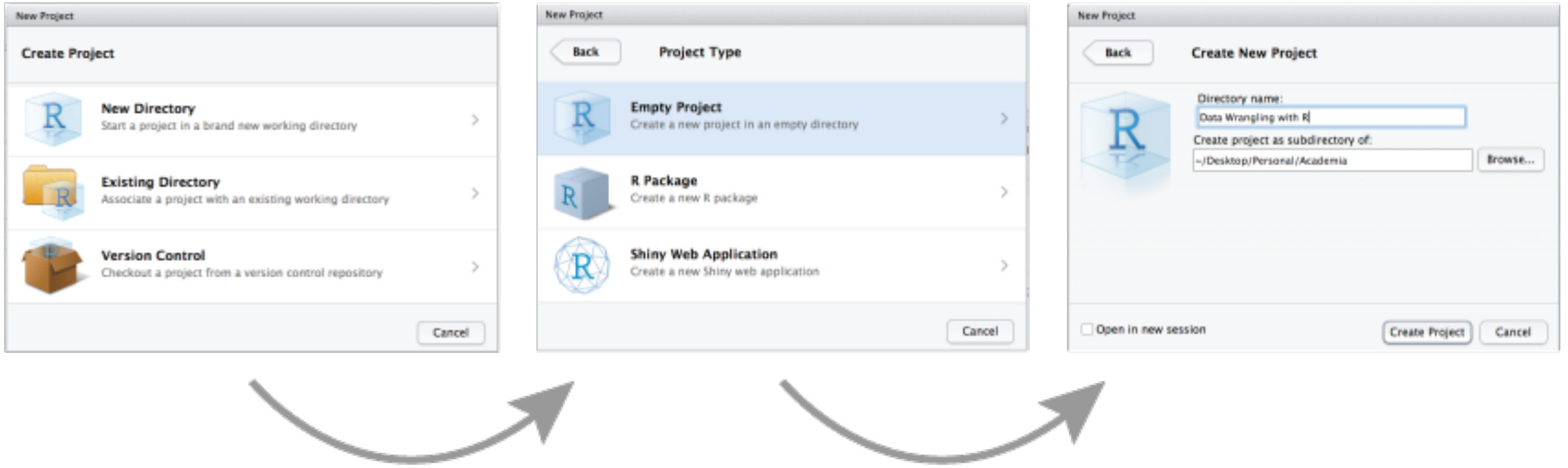
USING PROJECTS

RStudio projects make it straightforward to divide your work into multiple contexts, each with their own:

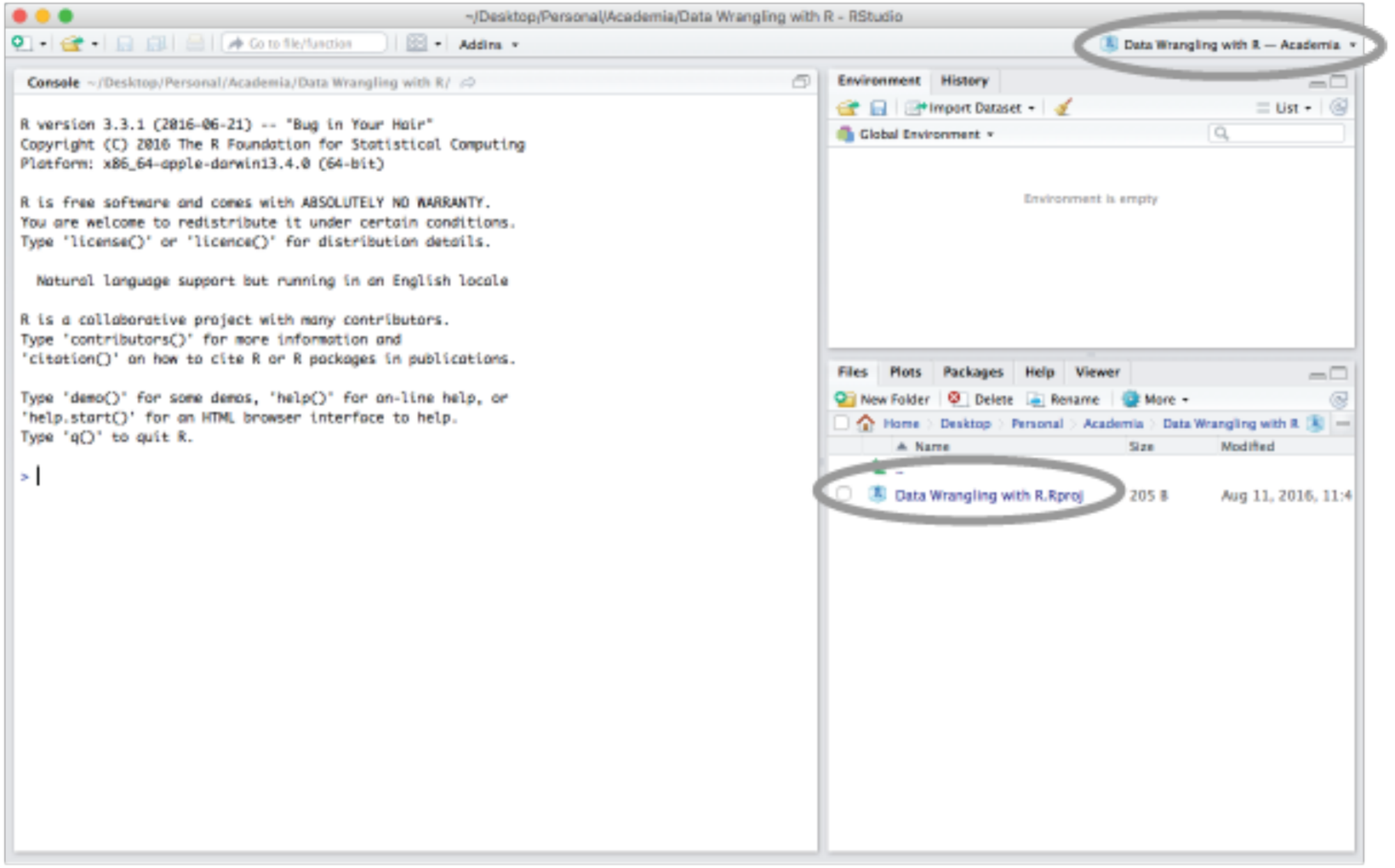
- working directory
- workspace
- history
- source documents

HOW TO CREATE A PROJECT

File » New Project



SO WHAT'S DIFFERENT?



SO WHAT'S DIFFERENT?

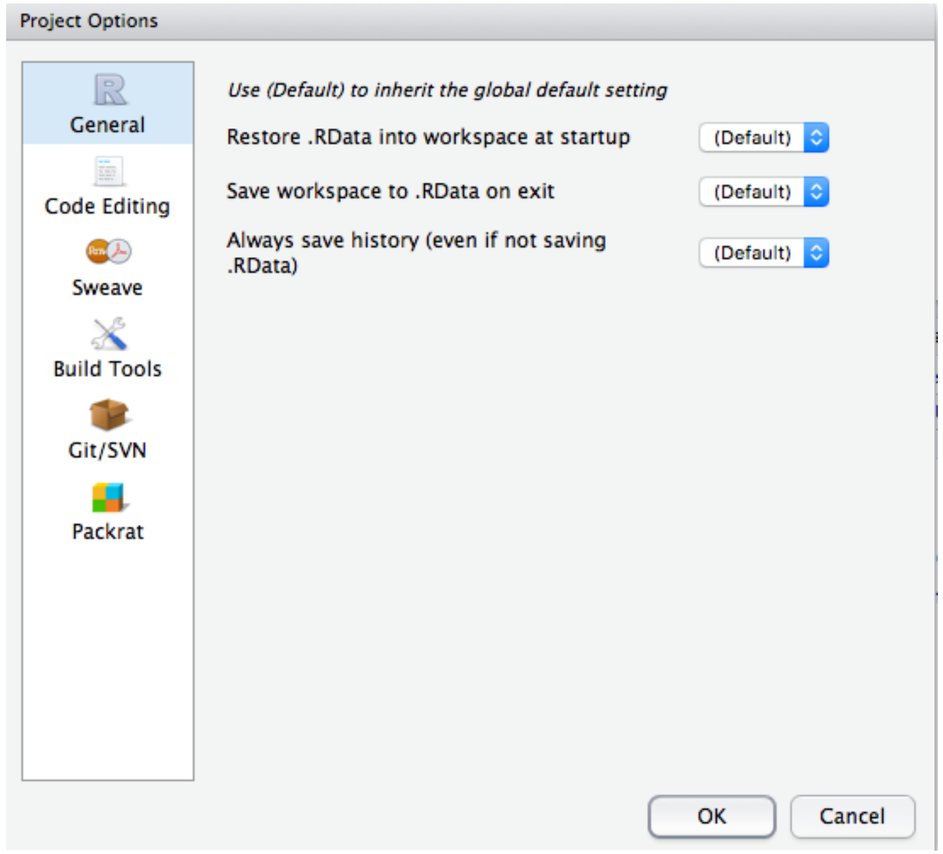
When a project is opened:

- A new R session is started
- The .Rprofile file in the project's main directory is sourced
- ~~The .RData file in the project's main directory is loaded~~
- The .Rhistory file in the project's main director is loaded
- The current working directory is set to the project directory
- Previously edited source docs are restored to the editor tab
- Other RStudio settings (active tabs, splitter positions, etc) are restored

We can also work with multiple projects at one time

SET PROJECT OPTIONS

Tools » Project Options



YOUR TURN

If you have not already done so, create a project for this class.

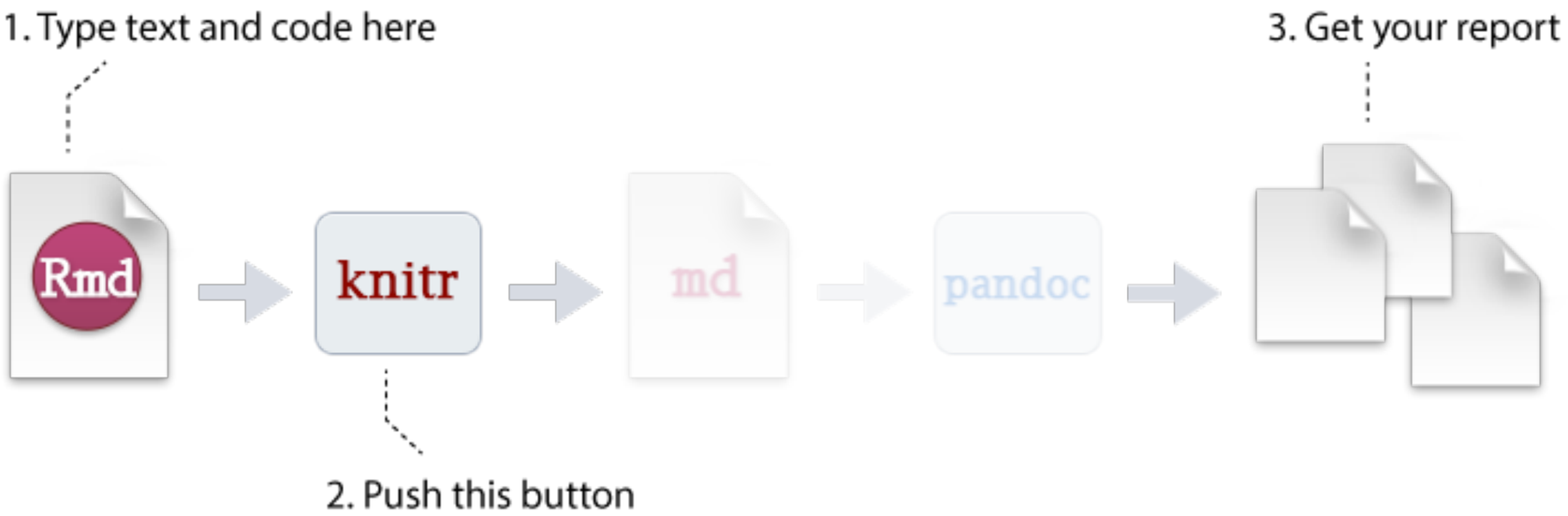
R MARKDOWN

USING R MARKDOWN

R Markdown allows you to turn your analyses into high quality documents, reports, presentations, and dashboards

- *HTML*
- *PDF*
- *LaTex*
- *ePUB*
- *etc.*

HOW DOES IT WORK?



Demonstration

R NOTEBOOK

WHY SO SPECIAL?

An R Markdown document that allows for independent and interactive execution of code chunks.

1. *Creates greater interactivity while creating your document*
2. *Easy to share your notebook directly*
3. *When complete, knit to the publication format desired*

Demonstration

WHAT TO REMEMBER

FUNCTIONS YOU SHOULD KNOW

Topic	Description
R project	Conveniently organizes files pertaining to specific analytic projects
R Markdown	Allows user to combine prose, code, and metadata into one file for to increase reproducibility and reporting capabilities
R Notebook	An R Markdown document that allows for independent and interactive execution of code chunks.