Project organization:
Learning Github and R studio

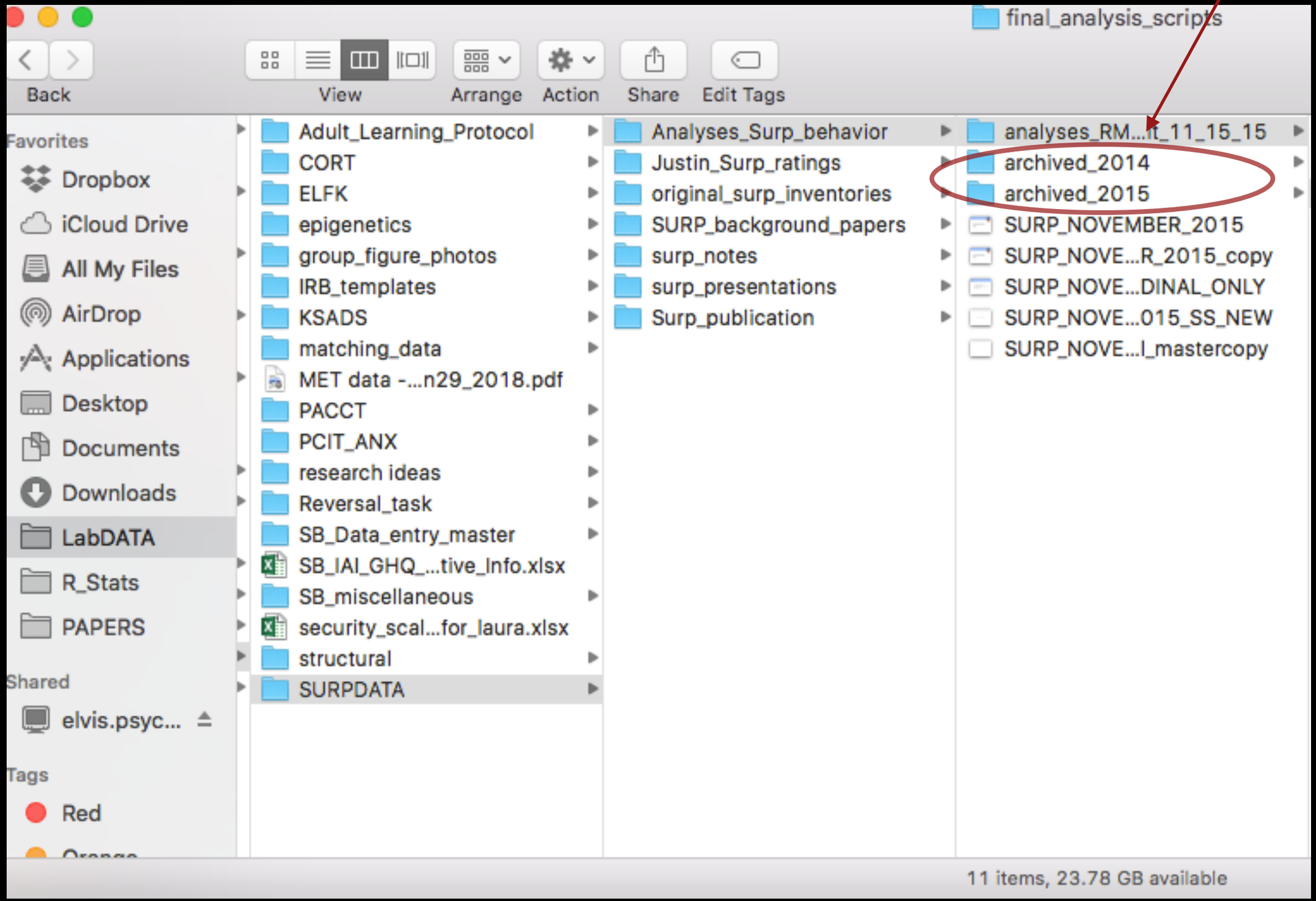
Why?

Organizing your projects
Sharing code with PI, lab members, collaborators
Reproducibility /Preregistration /Replications
open source methods/packages

You will thank yourself 6 months, or 6 years from now!

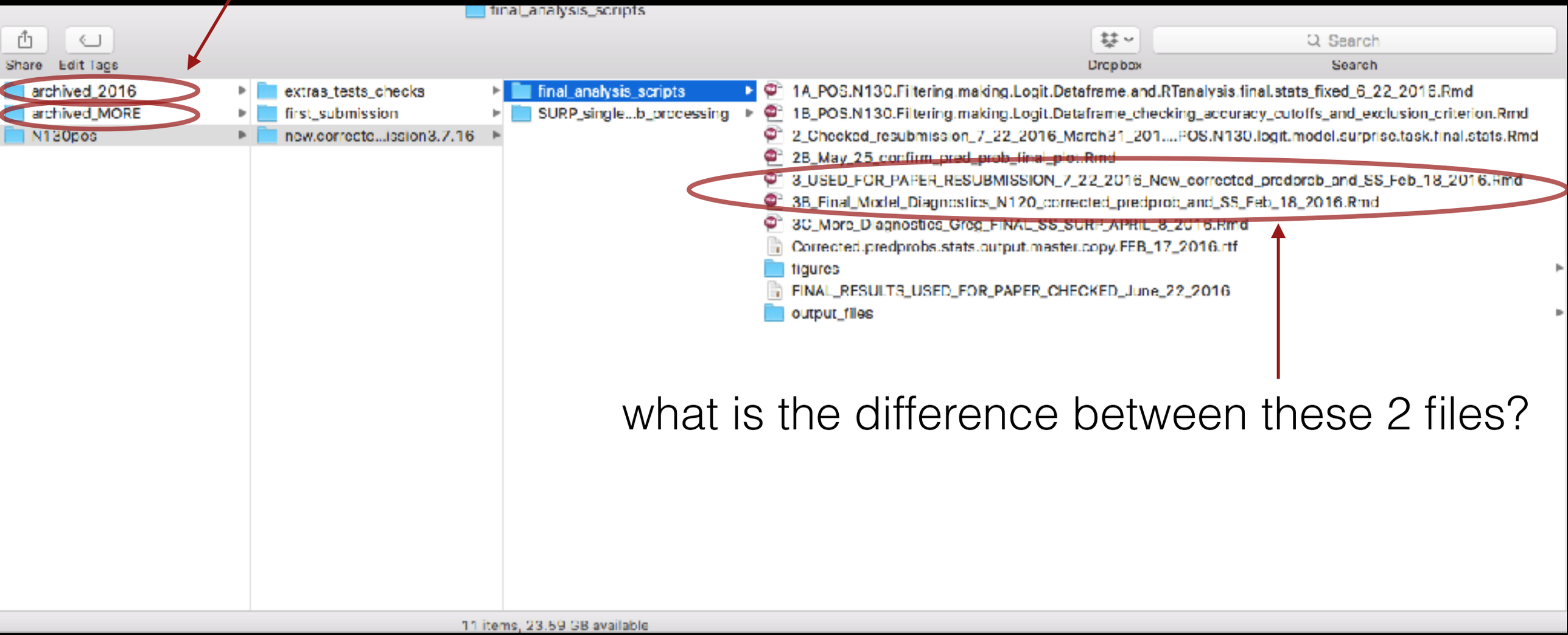
What not to do....

how many years was I working on this project?!



What not to do…. Part 1

another year?!



what is the difference between these 2 files?

Solution: Version Control!

Github: widely used version control system

Pros:
- Available for free online
- very helpful for organizing project workflow
- generates history of any changes to files in a project
- you can easily share code/projects with anyone
- you can easily contribute to other people's projects

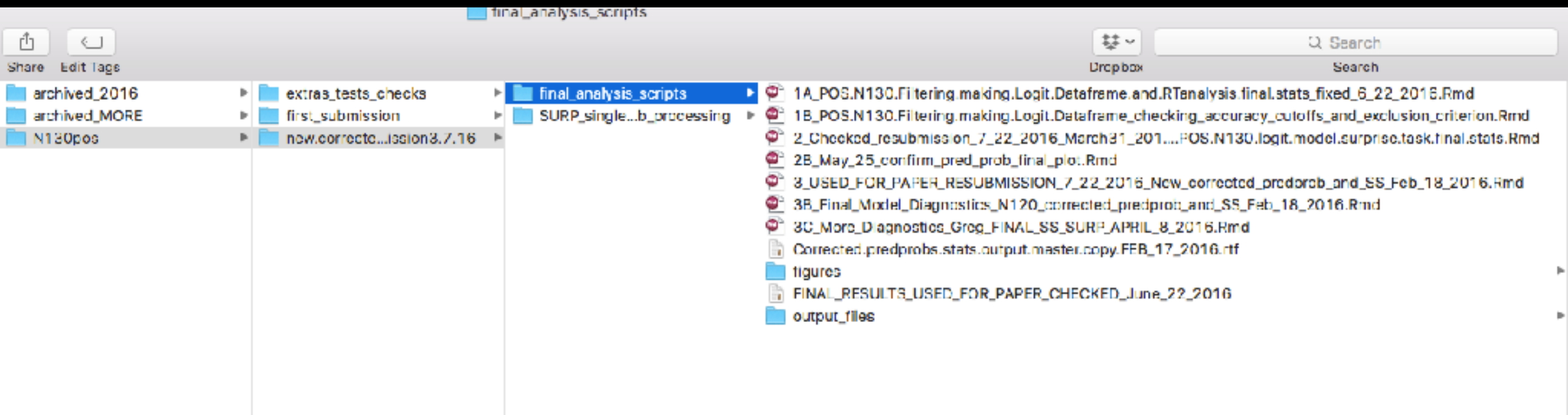
Cons:
- takes some time to set up, and practice

What not to do….Part 2

My current self asks my past self:

where is the data associated with these scripts?

We need some workflow organization!



Solution: R projects

magically organizes your life (ok, maybe just your workflow)

Pros:

- if you change path (folder names), scripts won't break!
- all files (script, data, output, figures) linked to project
  - easier to organize many files
  - easier to share with others, or make copies on lab server
  - easier to keep track of files that you used a year ago and can't remember where you saved them

Remember to open the R project before beginning to work on your project.

Using Github with R studio

When you write your manuscript, your data, code, and results documents will be in the R project

You can access previous versions of scripts & keep track of the changes that have been made through github.

enhance your workflow!

Github student account

Student account provides *free* access to private github repositories. You decide whether each project (repository) is public or private.

https://help.github.com/articles/applying-for-a-student-developer-pack/

Happy Git + R tutorial

Steps to get set up:

1. signup for student github account
2. install git / introduce yourself to git
3. connect R studio to git & github

http://happygitwithr.com/rstudio-git-github.html

Workflow

Steps for new project:

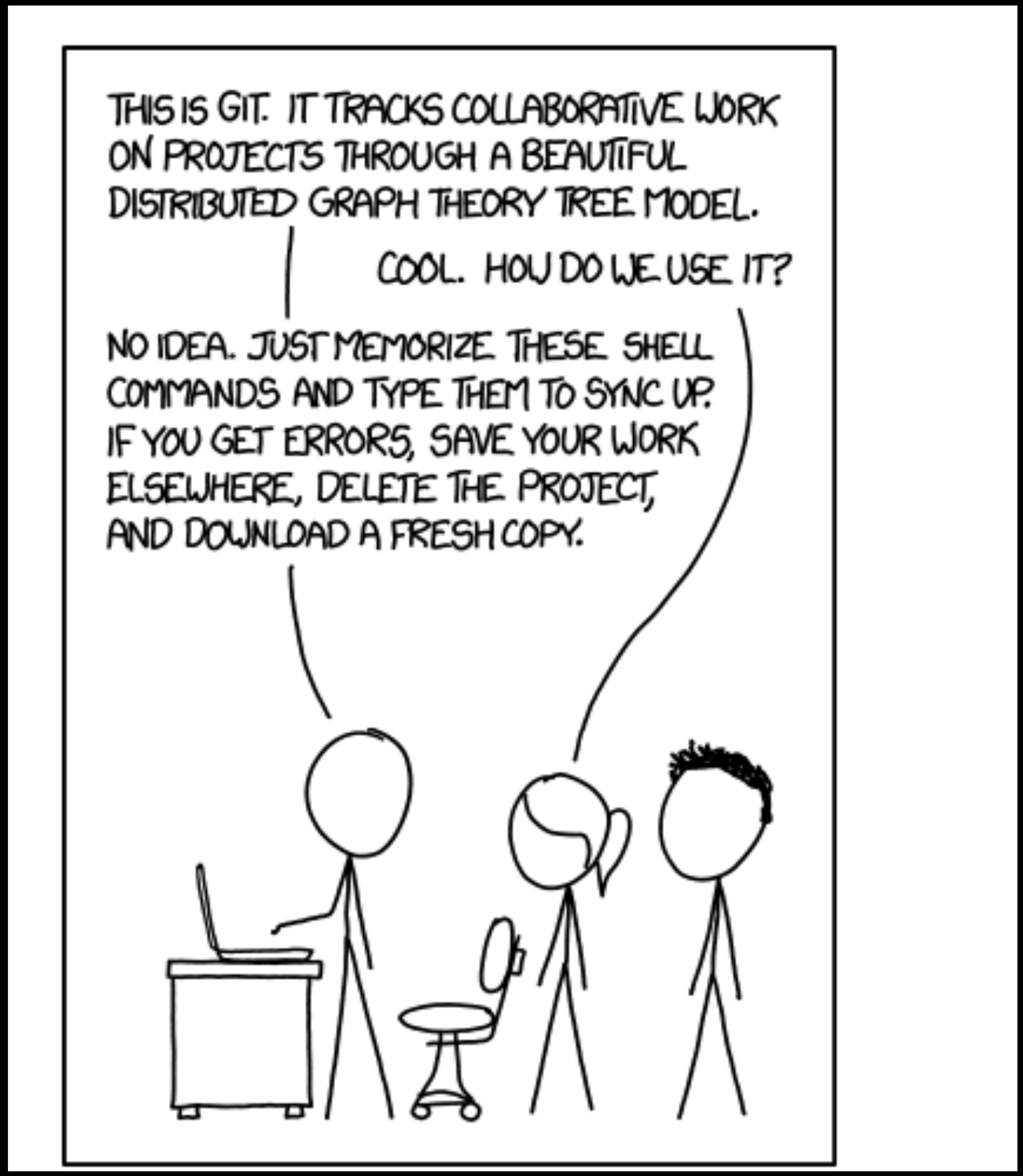
1. Make a new github repository
2. Make a new R-project for your github repository
3. work on your project
    - clean your data
    - analyze you data
    - make pretty figures
4. save your changes by ‘pushing’ to github
5. repeat steps 3 & 4 until you have your final product

What if you already have an R project?

Start here instead:

http://happygitwithr.com/existing-github-last.html

Trouble-shooting



http://happygitwithr.com/burn.html