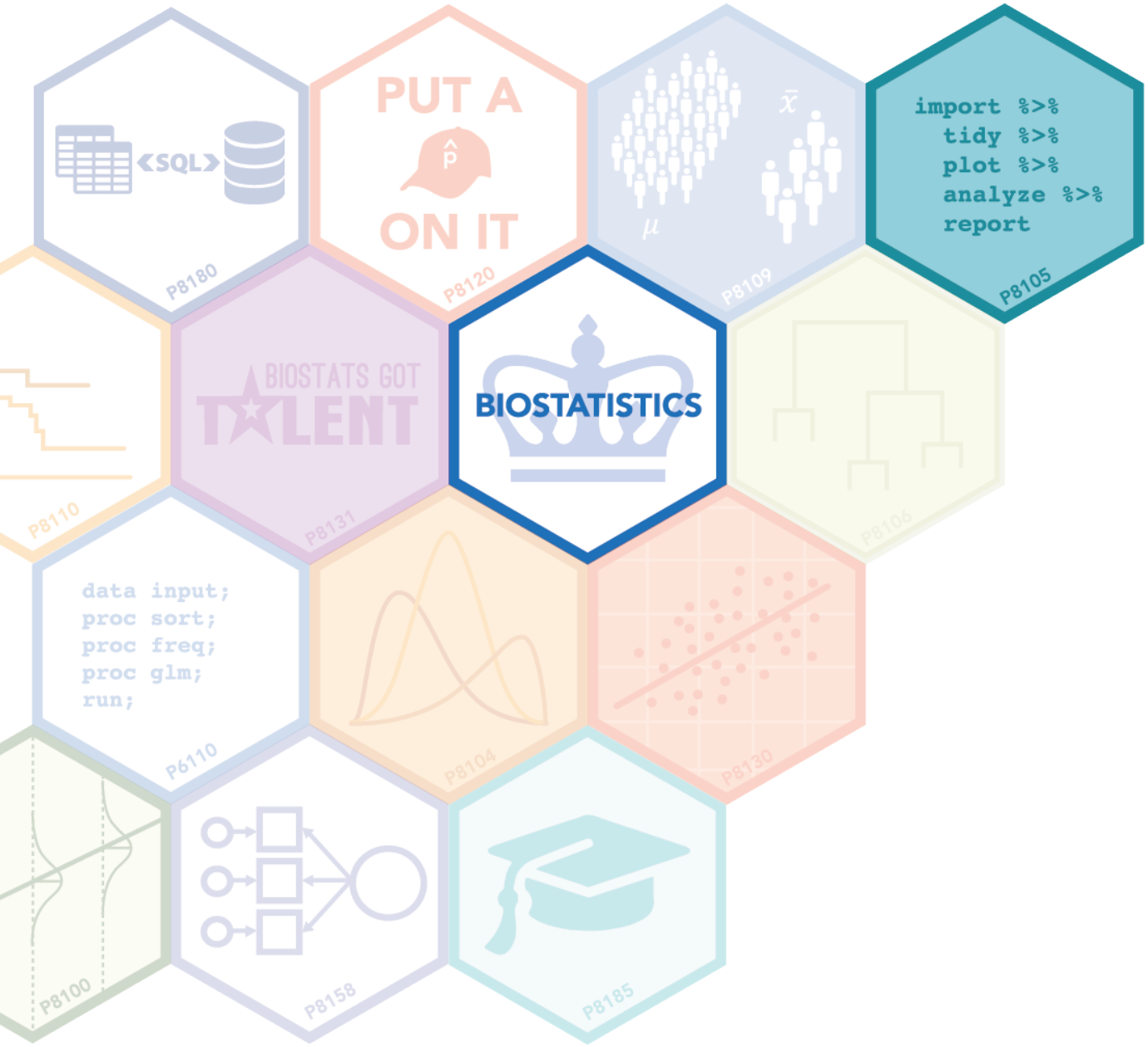


DATA IMPORT

Jeff Goldsmith, PhD
Department of Biostatistics

Data wrangling

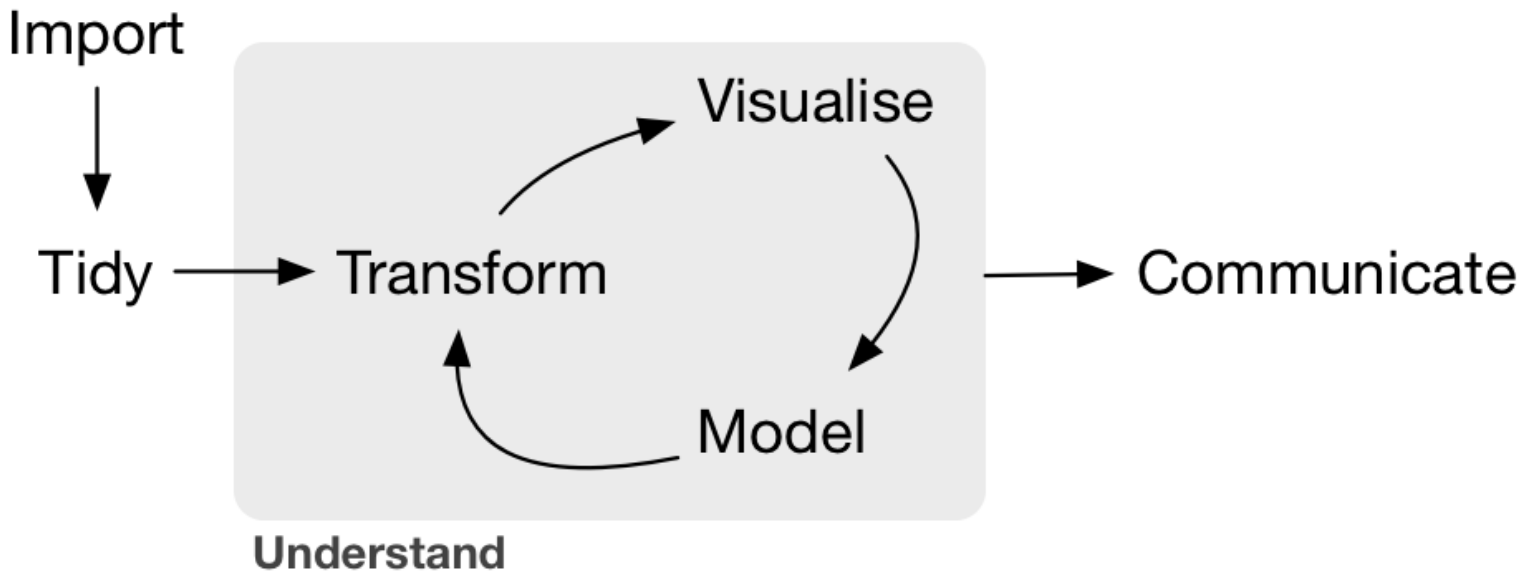
- Data don’t magically appear in your R session
- They’re rarely even in the form you need
- The process of taking data in whatever form they exist and transforming them to the form you need is “wrangling”

You're going to have to wrangle

- Call it what you want – there really isn't a way around the need to load, organize, and transform data
- If you expect someone to do this for you, that person will also do the rest of your job

Import

- "Import" is the first step to "wrangle"



R for Data Science

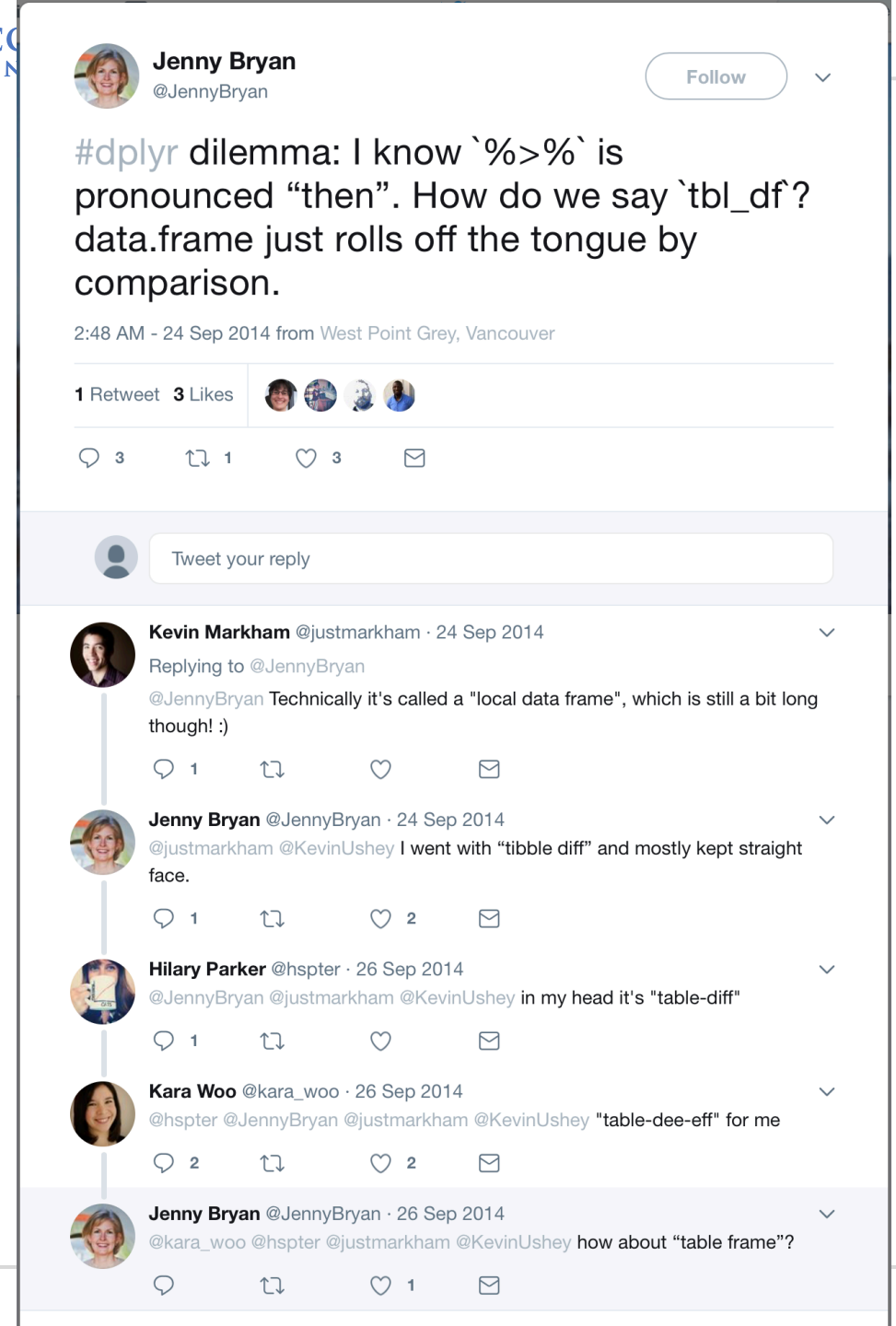
Data tables

- Data often come in tables
  - Row = subject
  - Column = variable

- The variables may be of different types
- In R, `data.frames` are designed to hold this kind of dataset
  - Looks like a matrix
  - Actually a very specific list

Tibbles

... formerly tbl_df ...



Jenny Bryan
@JennyBryan

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#dplyr dilemma: I know `%>%` is pronounced “then”. How do we say `tbl_df`? data.frame just rolls off the tongue by comparison.

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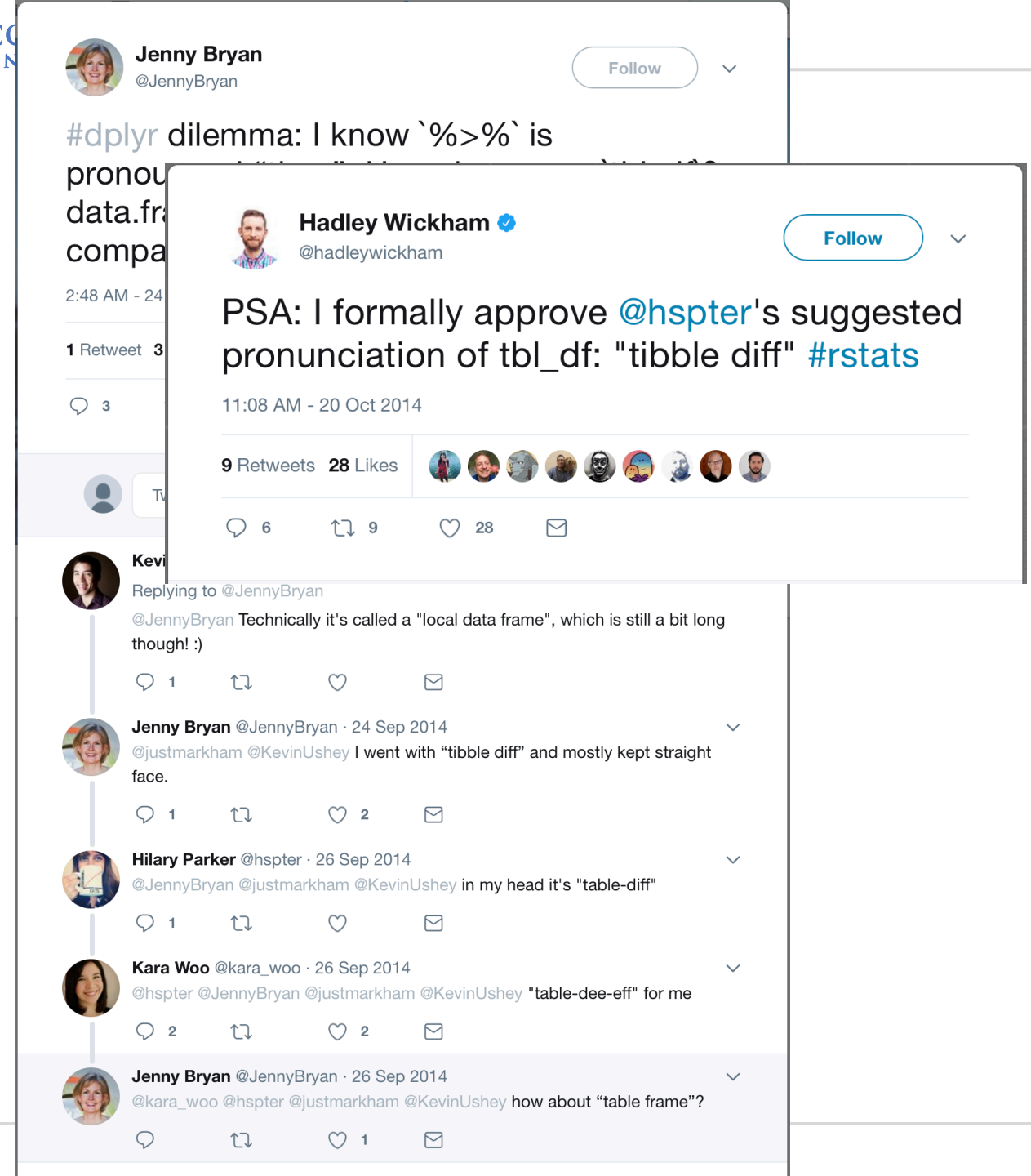
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1 Retweet 3
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Hadley Wickham
@hadleywickham
Follow
PSA: I formally approve @hspter's suggested pronunciation of tbl_df: "tibble diff" #rstats
11:08 AM - 20 Oct 2014
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Kevi
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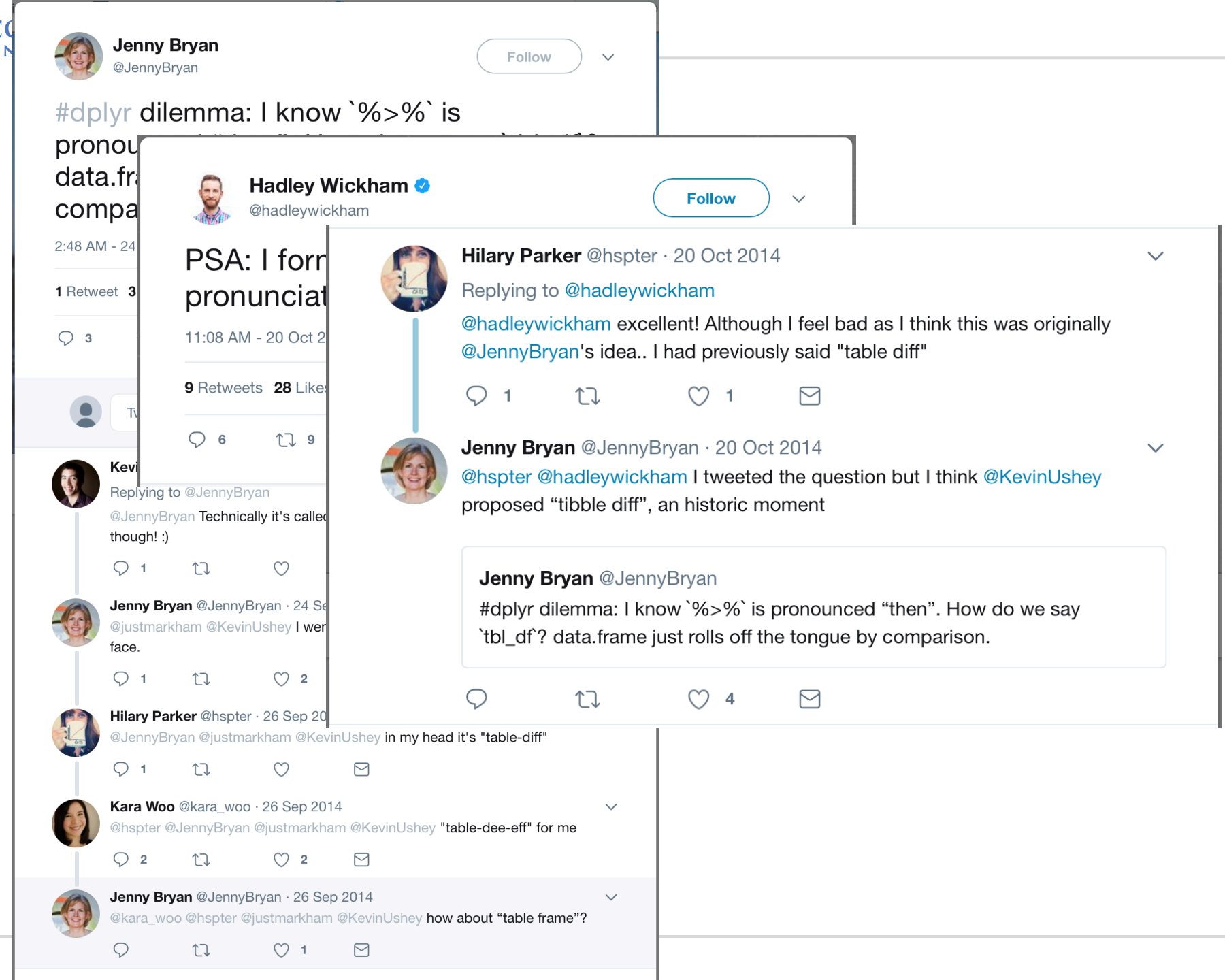
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@hspter @hadleywickham I tweeted the question but I think @KevinUshey proposed “tibble diff”, an historic moment
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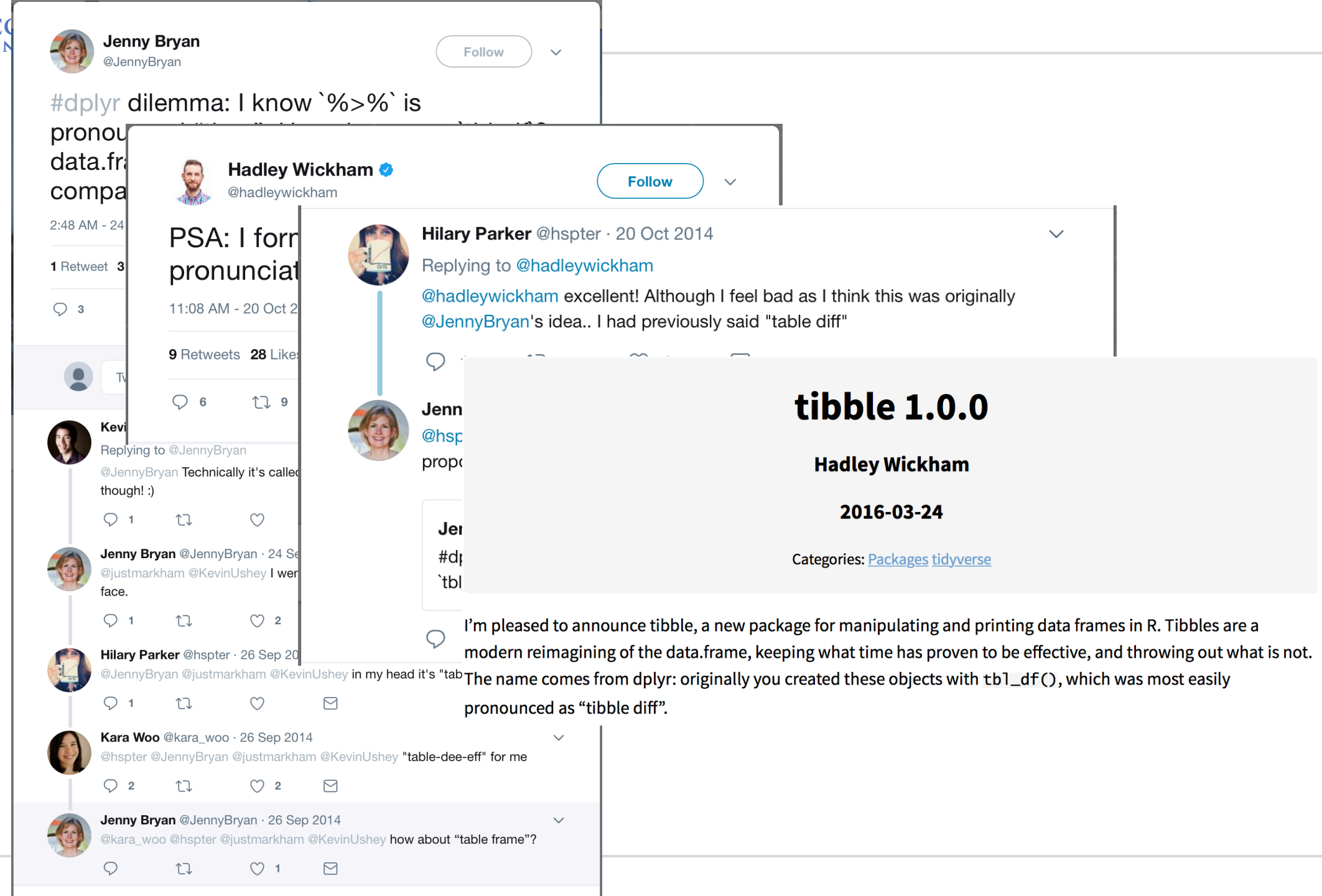
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tibble 1.0.0
Hadley Wickham
2016-03-24
Categories: Packages tidyverse
I’m pleased to announce tibble, a new package for manipulating and printing data frames in R. Tibbles are a modern reimagining of the data.frame, keeping what time has proven to be effective, and throwing out what is not. The name comes from dplyr: originally you created these objects with tbl_df(), which was most easily pronounced as “tibble diff”.

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Why tibbles?

- `data.frames` have been around since R was introduced
- Some things change; base R is not one of those things
- Tibbles are data frames, just slightly different
  - They keep you from printing everything by accident
  - They make you type complete variable names

80/20 applies to data import

- Most data import is “easy”; the few hard cases will take up a lot of time
- You still have to learn to handle the easy cases
  - `readr, haven, readxl`
  - Parsing columns can be helpful
  - Watch out for inconsistencies in columns
  - Be sure you know what missing data looks like

"Raw" data

- You generally want the least-processed version of the data possible
- This gives you the ability to transform the data yourself

- This does not mean you are less likely to make mistakes in cleaning data than someone else
  - Your mistakes should be transparent
  - Fixing them shouldn't hurt your analysis pipeline

- Cleaning data is also how you really get to know it