3.1

Why Meta-Viz

Goal

🎨 Illustrate the problem with a story

EXPECTATION

- About 30.000 individuals
- From 1998 to 2017 (19 waves)
- Children and Adults

photo: unsplash

EXPECTATION

- About 30.000 individuals
- From 1998 to 2017 (19 waves)
- Children and Adults

REALITY

- Some people didn't answer
- Just a few waves available
- Only adults

photos: unsplash

3.1

Why Meta-Viz

Recap

😈 The devil is in the detail

🥳 Data Viz can help to get a quick overview on data availability

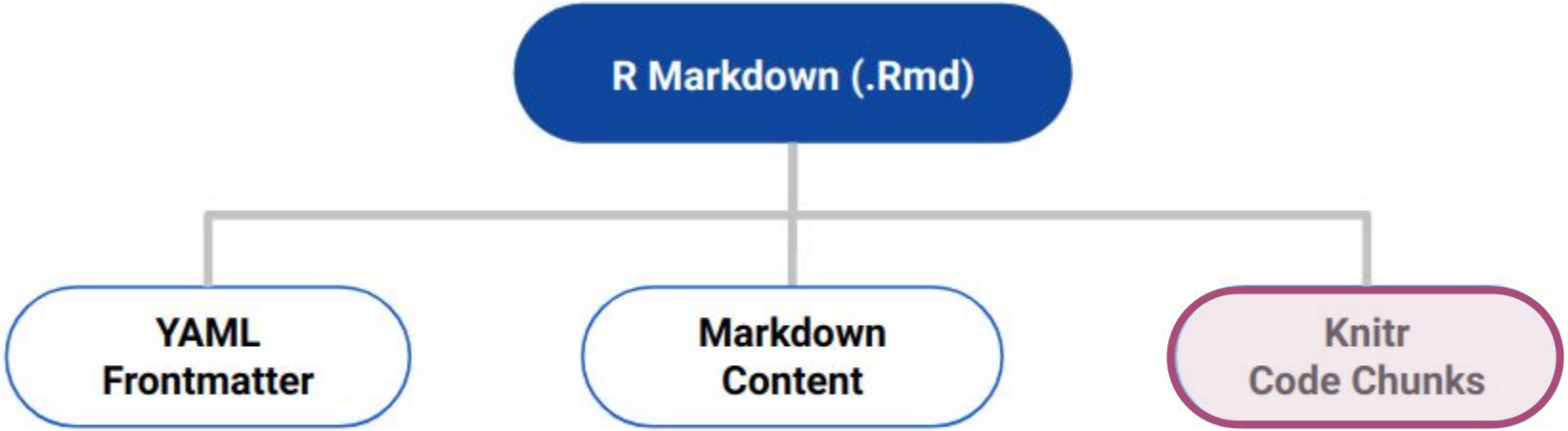
3.2

R Markdown Code

Goal

👀 How to code in R Markdown ?

Writing Code with R Markdown

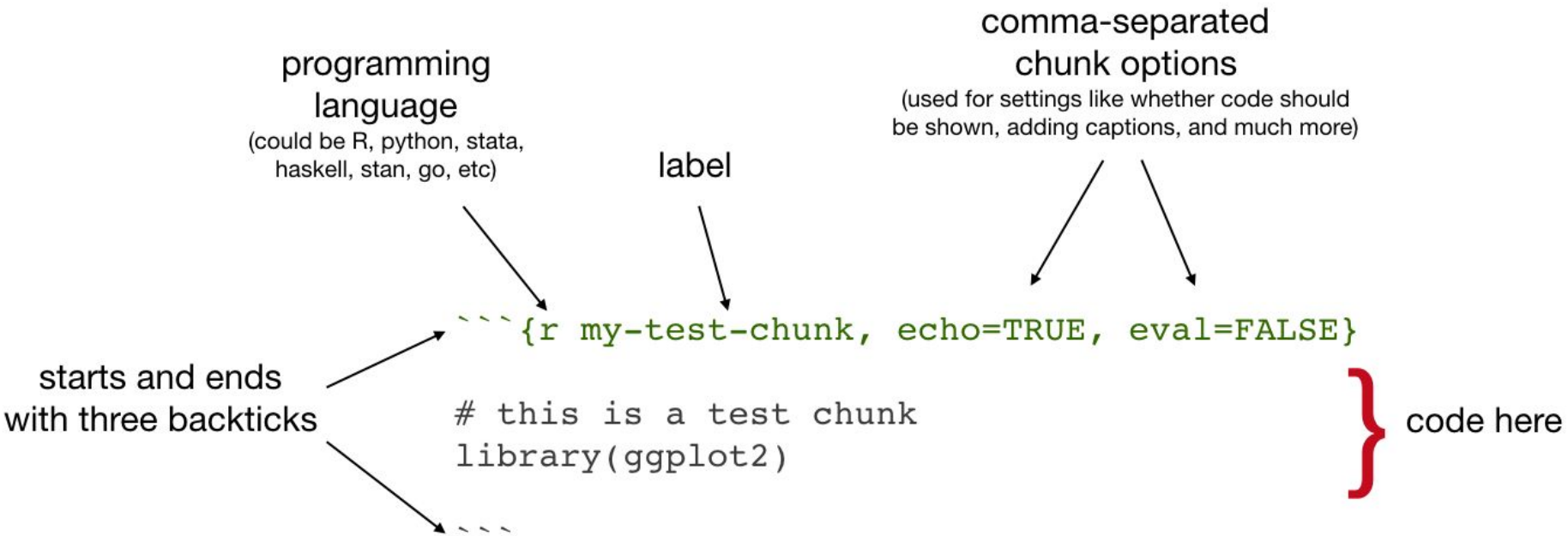


Writing Code with R Markdown

- Insert chunk of R code
- R Markdown runs code and includes results.

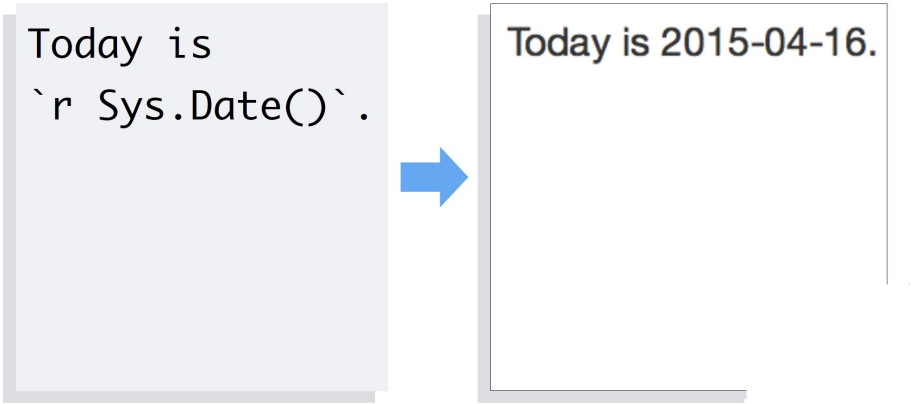
````
```{r}
# some code

```
````

Code Chunks


programming language
(could be R, python, stata, haskell, stan, go, etc)
label
comma-separated chunk options
(used for settings like whether code should be shown, adding captions, and much more)
starts and ends with three backticks
```{r my-test-chunk, echo=TRUE, eval=FALSE}
# this is a test chunk
library(ggplot2)
```
code here

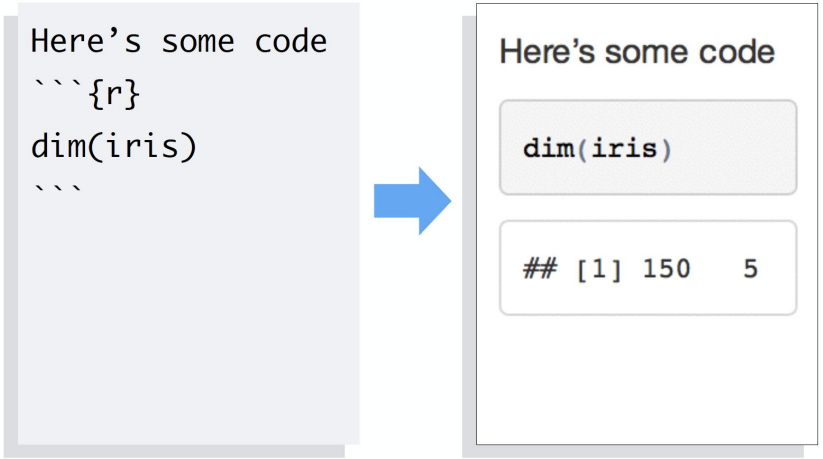
Inline Code

- Place code in a sentence with
- R Markdown replaces code with results



Writing Code with R Markdown

- By default, R markdown includes both code and results



Chunk Options: echo

- Add options between brackets after r.
- echo = FALSE hides code.

````
Here's some code
```{r echo=FALSE}
dim(iris)
```
````

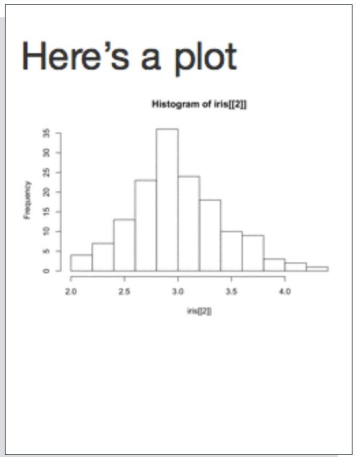
Here's some code

```
## [1] 150   5
```

Chunk Options: echo

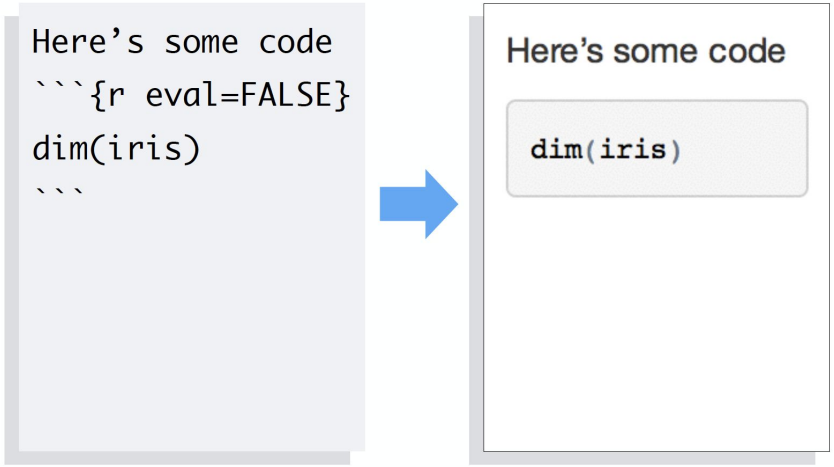
- Add options between brackets after r.
- echo = FALSE hides code.

````
Here's a plot
```{r echo=FALSE}
hist(iris[[2]])
```
````



Chunk Options: eval

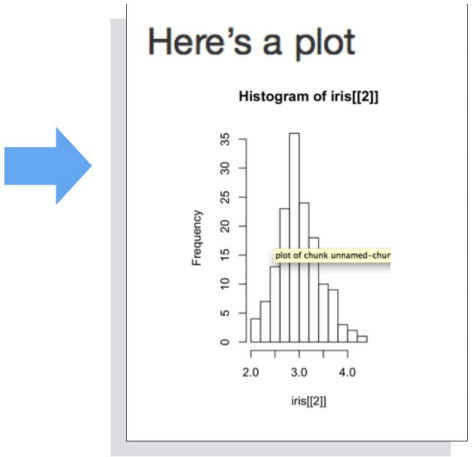
- eval = FALSE prevents code from being run
- No results is displayed, only code



Chunk Options: fig.height, fig.width

- Specify dimension of plots (in inches) with fig.width and fig.height
- Separate multiple arguments with commas.

````
Here's a plot
```{r echo=FALSE, fig.width=3, fig.height=5}
hist(iris[[2]])
```
````



Default Chunk Options

- Repeating chunk options can be painful
- If you have echo = FALSE in every single chunk, how to set the default chunk option to echo = FALSE ?
- Use knitr::opts_chunk$set(echo = FALSE)
- You may overwrite the default for each chunk
- For chunk options, check out

More options

Including Tables

```
# cars is a built-in-to-R data set of cars
# and their stopping distances
cars %>%
  head(5) %>%
  knitr::kable(format = "html", caption = "A kable table")
```

- The kable package is often used with the kableExtra package
- A number of other packages are available for making pretty tables, see rmarkdown.rstudio.com

A kable table

speed	dist
4	2
4	10
7	4
7	22
8	16

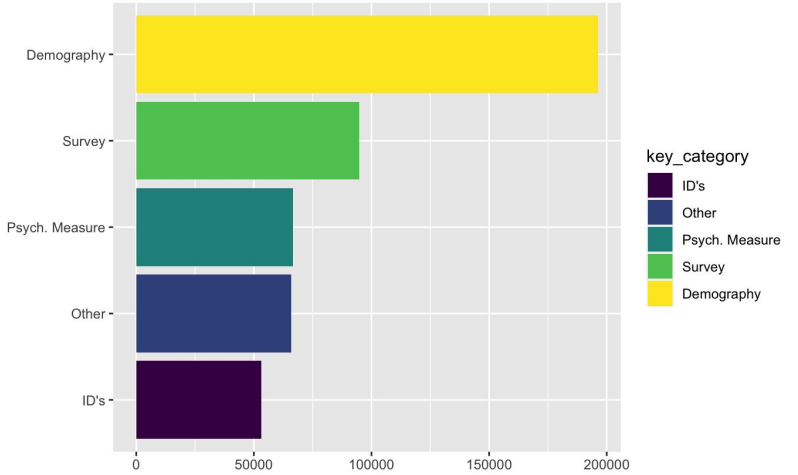
Including Plots

````
```{r}
my_plot <- metaviz_long %>%
  drop_na(value) %>%
  count(key_category) %>%
  mutate(key_category = fct_reorder(key_category, n)) %>%
  ggplot(aes(x = key_category, y = n, fill = key_category)) +
  geom_col() +
  coord_flip() +
  labs(x = "", y = "")
```
````

Output?

Including Plots

```r
metaviz_long %>%
  drop_na(value) %>%
  count(key_category) %>%
  mutate(key_category = fct_reorder(key_category, n)) %>%
  ggplot(aes(x = key_category, y = n, fill = key_category)) +
  geom_col() +
  coord_flip() +
  labs(x = "", y = "")
```



R Markdown Reference Guide

Learn more about R Markdown at rmarkdown.rstudio.com
Learn more about Interactive Docs at shiny.rstudio.com/articles

Contents:

Syntax	Becomes
Make a code chunk with three back ticks followed by an r in braces. End the chunk with three back ticks: ```{r} paste("Hello", "World!") ```	Make a code chunk with three back ticks followed by an r in braces. End the chunk with three back ticks: `paste("Hello", "World!")` `## [1] "Hello World!"`
Place code inline with a single back ticks. The first back tick must be followed by an R, like this `r paste("Hello", "World!")`.	Place code inline with a single back ticks. The first back tick must be followed by an R, like this Hello World!.
Add chunk options within braces. For example, `echo=FALSE` will prevent source code from being displayed: ```{r eval=TRUE, echo=FALSE} paste("Hello", "World!") ```	Add chunk options within braces. For example, `echo=FALSE` will prevent source code from being displayed: `## [1] "Hello World!"`

Hands-on

15:00

Your Turn

- Let’s head over to RStudio Cloud to try this out

3.2

ggplot2

Recap

👀 Knitr renders R code and output

🌱 We know how to write and execute code

3.3

Meta-Viz: ggplot2

Goal

👀 How to visualize data availability ?

🤓 Learning by doing

🧩 Building the next part of our website

RStudio Cloud Time

3.

Meta-Viz

Recap

😈 The devil is in the detail (codebook)

🎨 Meta-viz can give you a quick overview

💡 We know how to code in R Markdown

🧩 We build the data-viz part of our website

Lunch Time

Thursday	Friday (half-day)
09:00 - 10:30 Welcome & RStudio Intro	09:00 - 10:30 Git + GitHubPages
10:30 - 11:00 Break	10:30 - 11:00 Break
11:00 - 12:30 R Markdown Intro	11:00 - 12:30 Putting all the pieces together
12:30 - 13:30 Lunch	12:30 - 13:00 Wrap-up
13:30 - 15:00 Meta-Viz and ggplot2	
15:00 - 15:30 Break	
15:30 - 17:00 R Markdown: website features	

Review: Reproducible Research Reports