

**long to wide or wide to long**

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**2/16/2019**

```
library(gapminder)
library(tidyverse)
```

```
## — Attaching packages ————— tidyverse 1.3.0 —

## ✓ ggplot2 3.3.2      ✓ purrr 0.3.3
## ✓ tibble 3.0.0       ✓ dplyr 0.8.5
## ✓ tidyr 1.0.2        ✓ stringr 1.4.0
## ✓ readr 1.3.1        ✓ forcats 0.5.0

## Warning: package 'ggplot2' was built under R version 3.6.2

## Warning: package 'tibble' was built under R version 3.6.2

## — Conflicts ————— tidyverse_conflicts() —
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
```

```
library(flipbookr)
knitr::opts_chunk$set(cache = F, comment = "")
```

# Exercise: *spread data, gather data*

Sometimes, we need to transform the shape of our data. The wide form of data is an efficient way to store data - especially time-series data. However, we often need data in a long for for data analysis, so shape transformations are important.

```
gapminder %>%  
  select(country, continent,  
         lifeExp, year) %>%  
  pivot_wider(names_from = year,  
              values_from = lifeExp) ->  
gapminder_life_exp_wide
```

```
gapminder_life_exp_wide %>%  
  pivot_longer(`1952`:`2007`, # backtick.  
# column names look like number values with  
    names_to = "year",  
    values_to = "lifeExp") %>%  
  mutate(year = as.numeric(year)) ->  
gapminder_life_exp_long
```