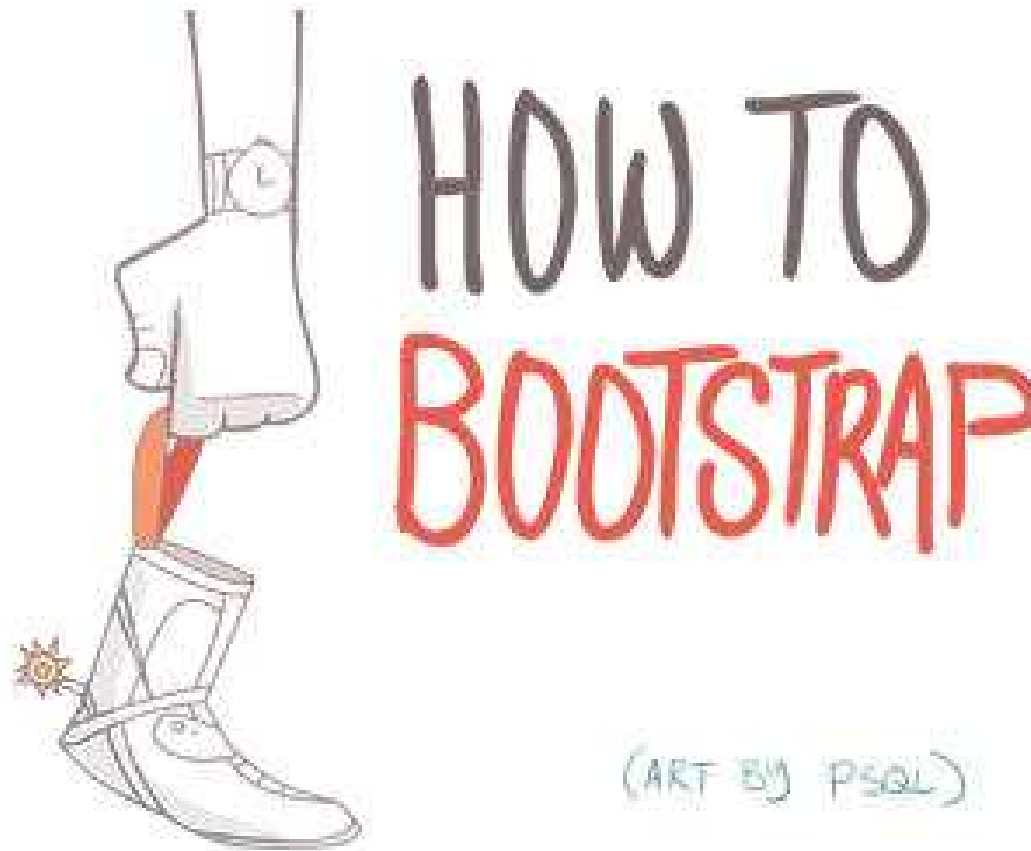# Métodos de reamostragem:
bootstrap e aleatorização

Brief etymology[2]

- Phrase "pull oneself up by one's bootstraps"
  - Misattributed (at latest in 1901!) to "The Surprising Adventures of Baron Munchausen" (1781, Rudolf Erich Raspe) : The baron pulls himself out of a swamp by his *hair* (pigtail).
  - The use of this phrase is found in 1834 in the U.S.
  - "[S]omeone is attempting or has claimed some ludicrously far-fetched or impossible task"

- In the 20th century, the "*possible task*" meaning has appeared
  - "To begin an enterprise or recover from a setback without any outside help; to succeed only on one's own effort or abilities"

bootstrap[3]

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[2] http://en.wiktionary.org/wiki/pull_oneself_up_by_one%27s_bootstraps
[3] http://en.wikipedia.org/wiki/Bootstrapping

A quick view of bootstrapping

- Introduced by Bradley Efron in 1979

- Named from the phrase "to pull oneself up by one's bootstraps", which is widely believed to come from "the Adventures of *Baron Munchausen*".

- Popularized in 1980s due to the introduction of computers in statistical practice.

- It has a strong mathematical background.

- While it is a method for improving estimators, it is well known as a method for estimating standard errors, bias, and constructing confidence intervals for parameters.

Bootstrap and Randomization Distributions

Bootstrap Distribution	Randomization Distribution
Our best guess at the distribution of sample statistics	Our best guess at the distribution of sample statistics, if H_0 were true
Centered around the observed sample statistic	Centered around the null hypothesized value
Simulate sampling from the population by resampling from the original sample	Simulate samples assuming H_0 were true

- Big difference: a randomization distribution assumes H_0 is true, while a bootstrap distribution does not

https://slideplayer.com/slide/6365781/22/images/39/Bootstrap+and+Randomization+Distributions.jpg