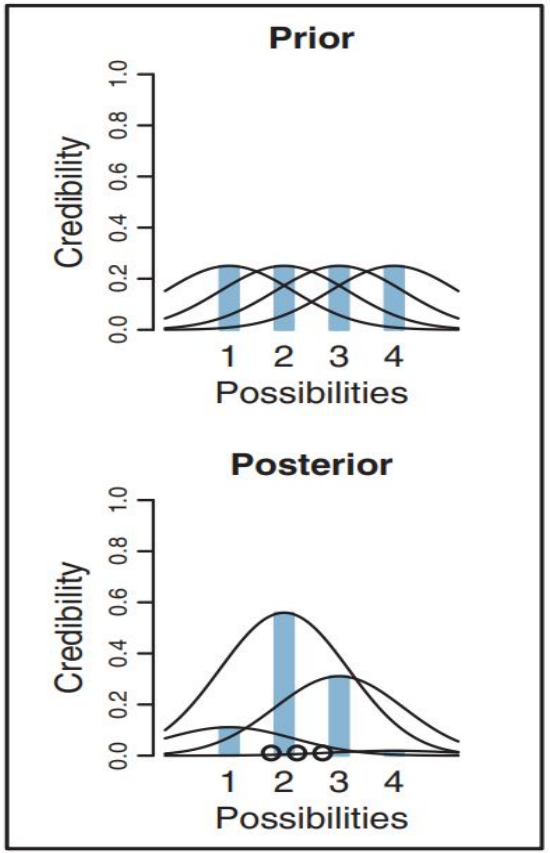
About Priors...

- The prior distribution is what we believed about the data before actually seeing it
- There are several types of prior distributions, according to how much it influences the parameters of the posterior distribution:
  - Non informative:
    - Vague
    - Default
    - Objective
    - Reference
  - Weakly informative prior
  - Informative prior

$$p(y) = \int_{\theta \in \Theta} p(y, \theta)\, d\theta = \int_{\theta \in \Theta} p(y|\theta)p(\theta)d\theta$$

Example

- Suppose there is a manufacturer of inflated bouncy balls, and the balls are produced in four discrete sizes, namely diameters of 1.0, 2.0, 3.0, and 4.0
- The manufacturing process is variable, thus a ball of size 3 might have diameters of 1.8 or 4.2



Source: *"Doing Bayesian Data Analysis, Kruschke, 2013"*

1. https://youtu.be/R9NQY2Hyl14 (intro)

2. https://youtu.be/25-PpMSrAGM (more info)

3. https://youtu.be/FFYXmZN2jZQ (this is a hard one, you have to be brave)

4. https://youtu.be/ZxR3mw-Znzc (for the final activity)