



Onzekerheid in schattingen

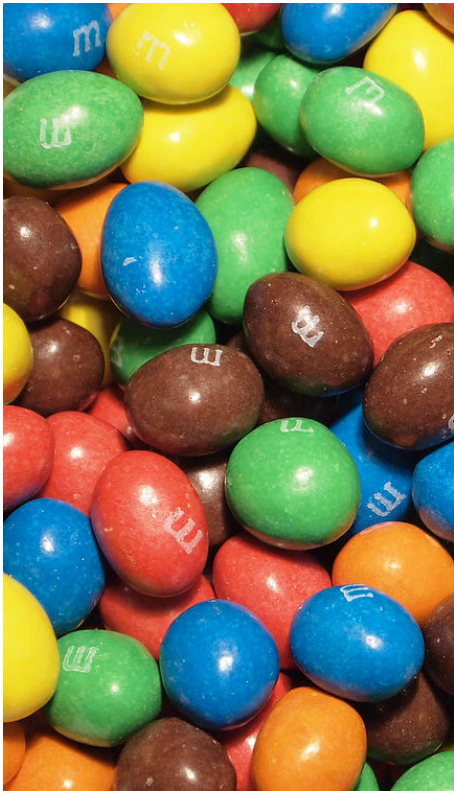
Zie ook:
Cursusboek hoofdstuk 21

Inhoud

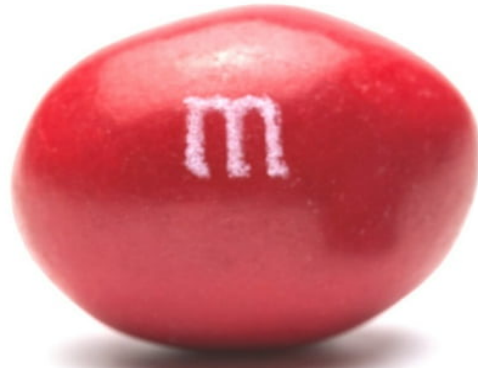
1. Herhaling: begrippen
2. Onzekerheid in schattingen uit steekproeven
3. Onzekerheid in metingen
4. Precies versus nauwkeurig
5. Eenvoudige aselechte steekproeven
6. Oorzaken van bias
7. Wat nu?

Populaties, eenheden, variabele, verdeling

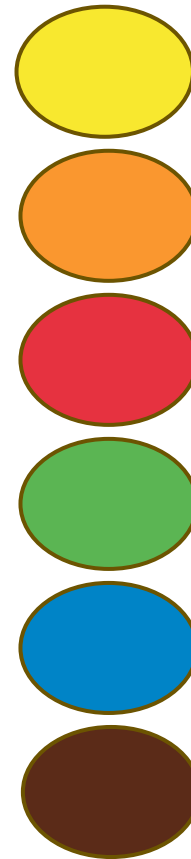
Populatie



Eenheid van de populatie



Variabele



Verdeling

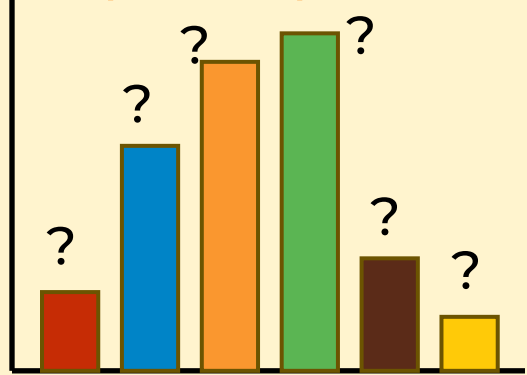


Schattingen uit steekproeven

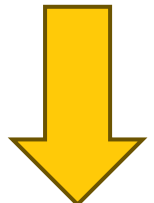
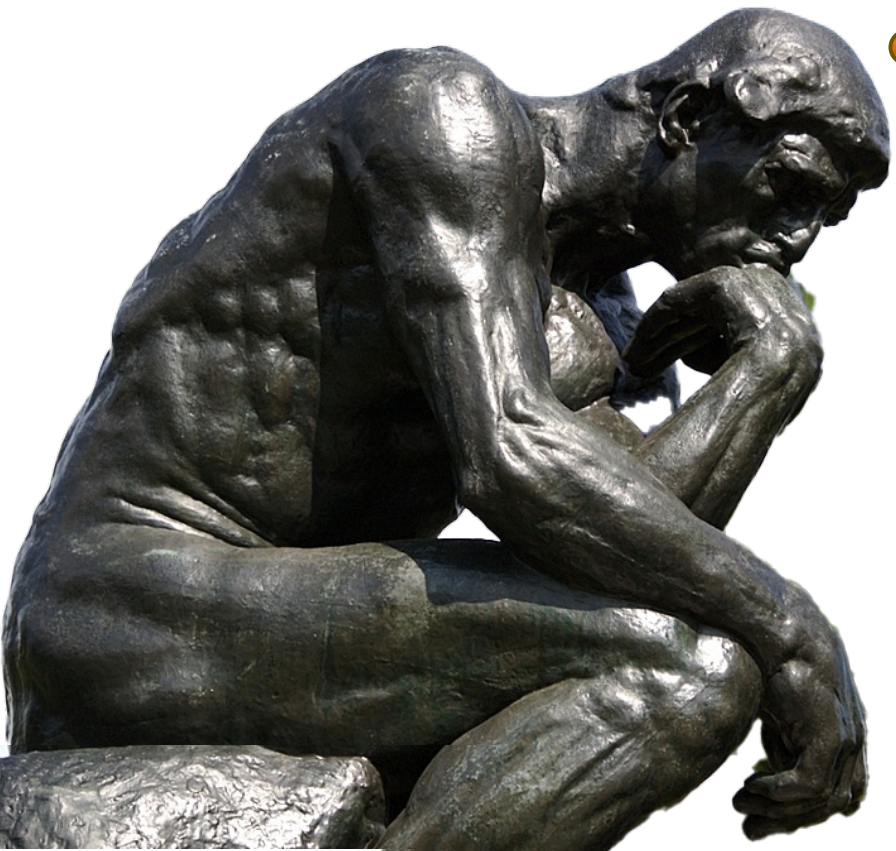
Populatie



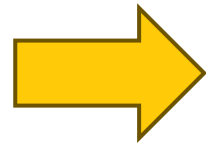
Populatieparameters



Kleur



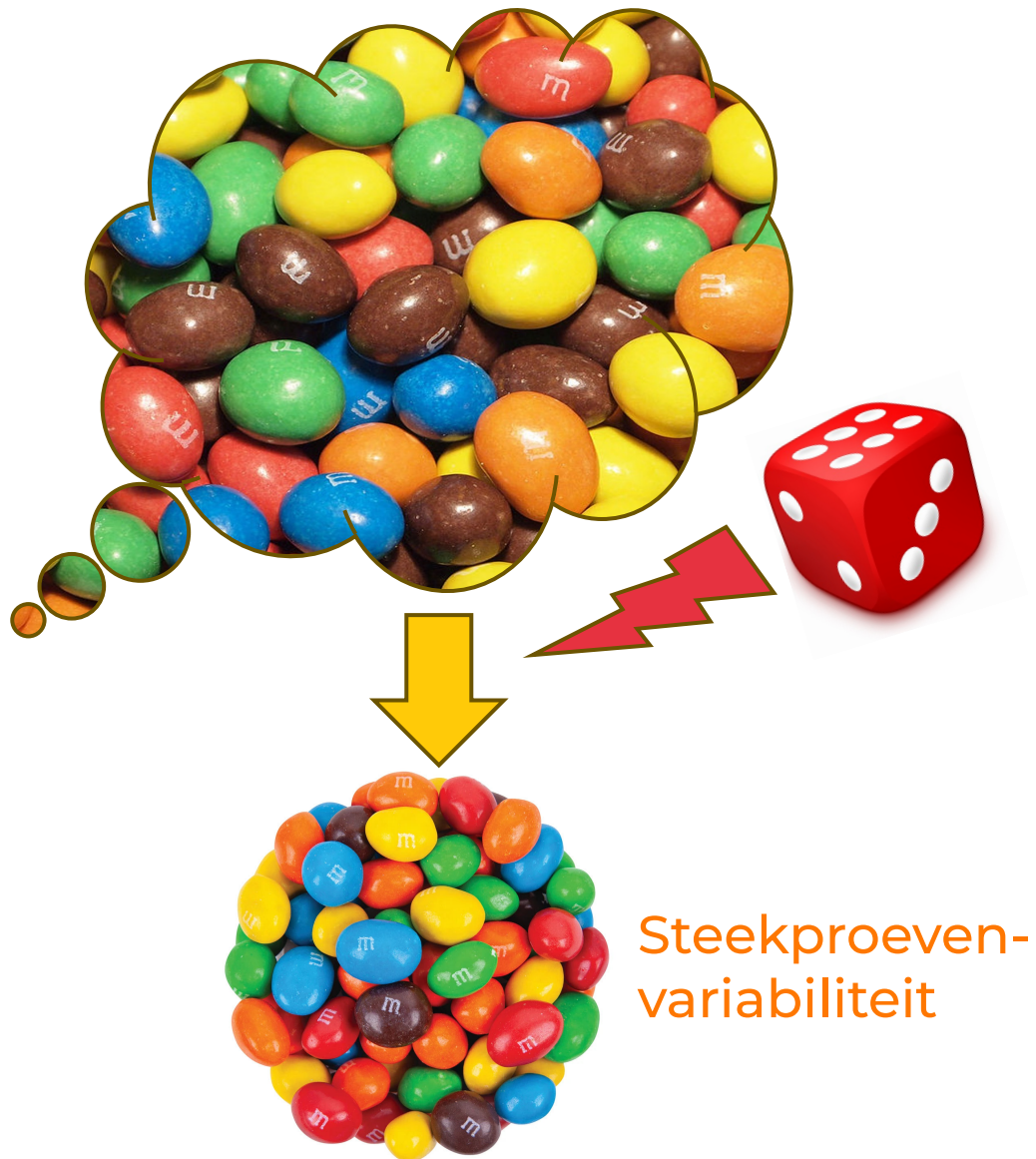
Steekproef



Schatting

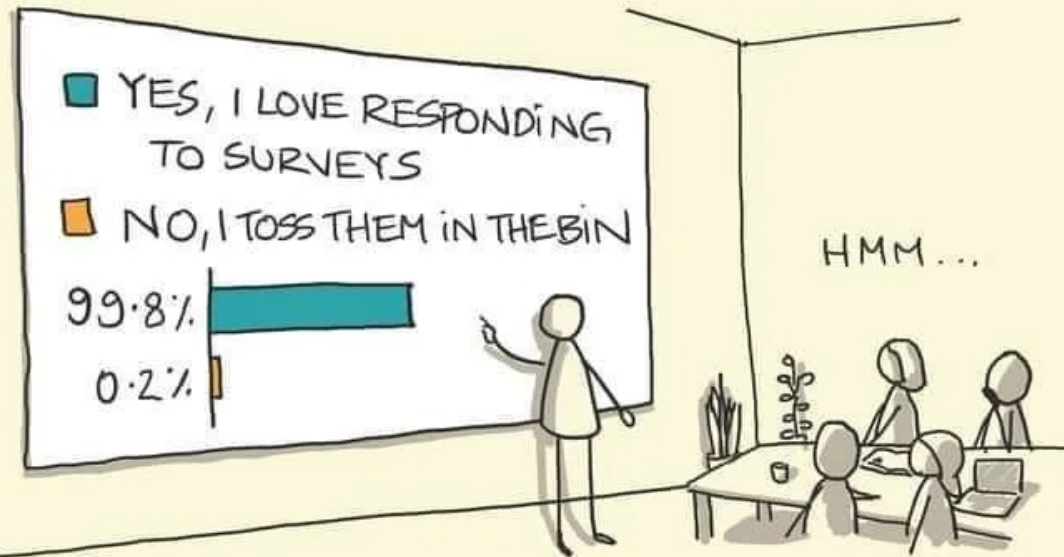


Onzekerheid in steekproeven



Bias in de Caracal-enquete

SAMPLING BIAS



"WE RECEIVED 500 RESPONSES AND FOUND THAT PEOPLE LOVE RESPONDING TO SURVEYS"

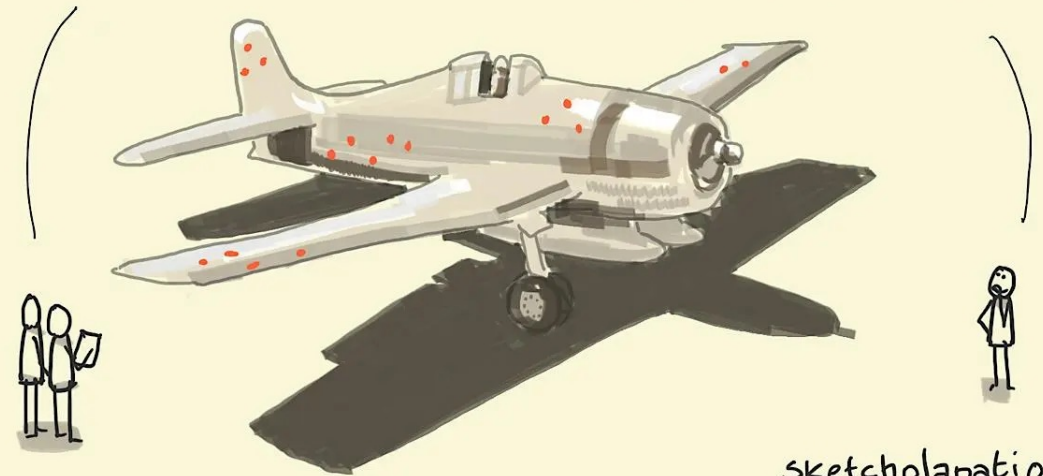
sketchplanations

SURVIVORSHIP BIAS

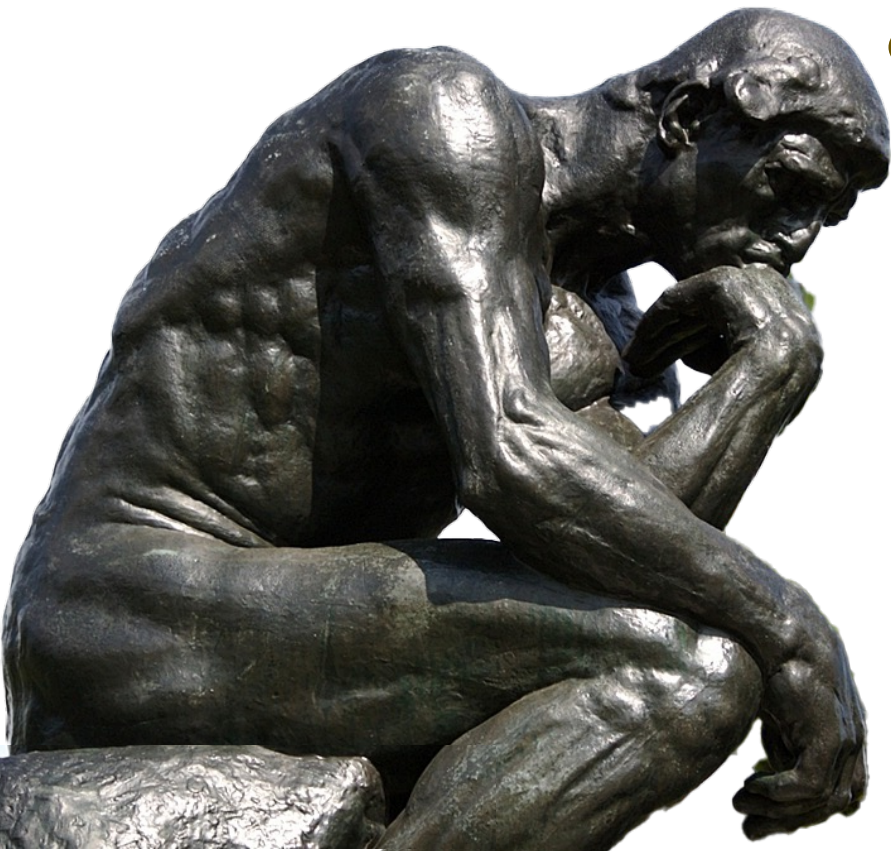
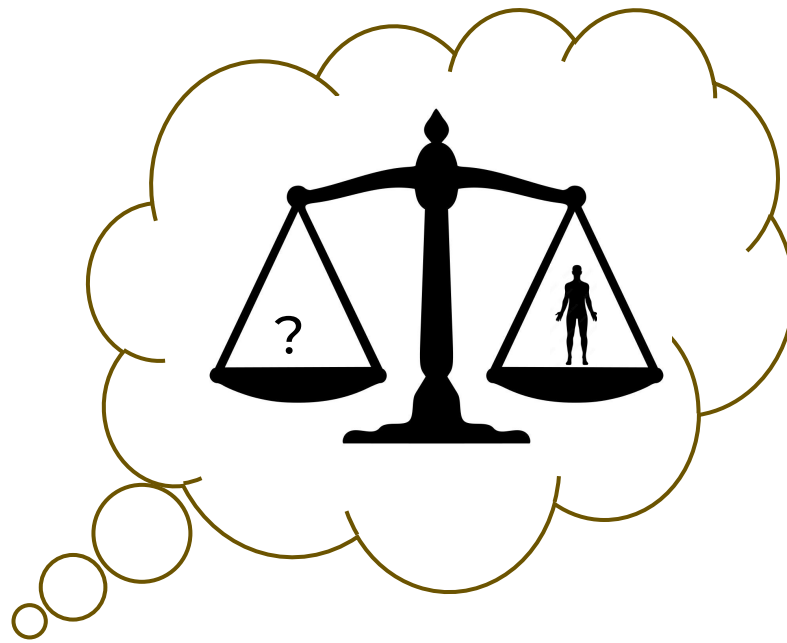
WE OFTEN OVERLOOK THE "SILENT EVIDENCE" OF HISTORY'S LOSERS

WE'LL NEED HEAVIER ARMOUR WHERE THEY'RE GETTING HIT MOST.

OR PERHAPS THEY GET HIT EVENLY AND PLANES HIT IN THE MOST VULNERABLE PARTS DON'T TEND TO RETURN.



Schattingen uit metingen

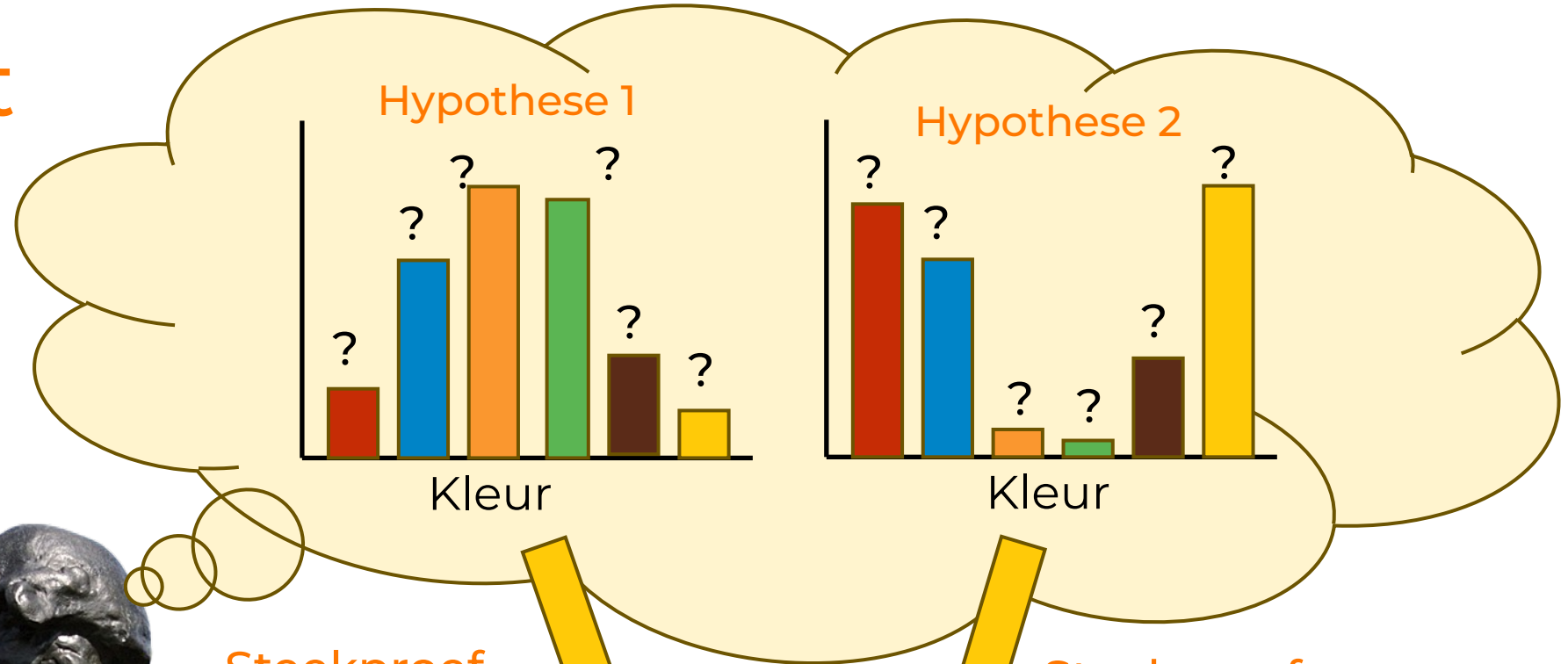
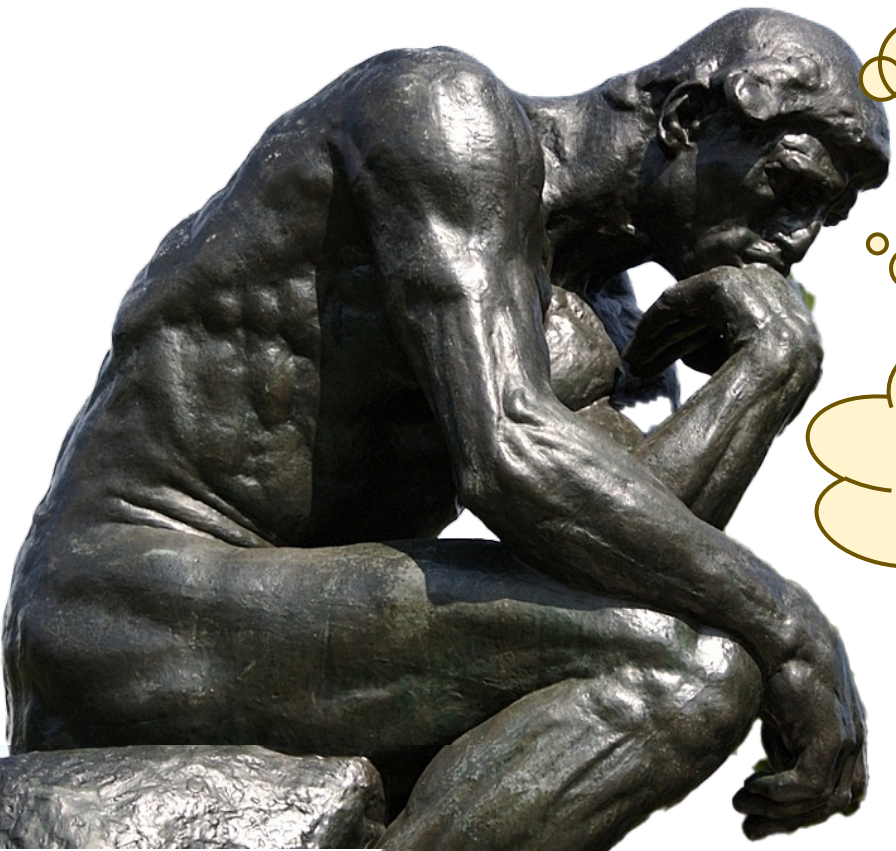


Meetfouten

- Systematisch
- Toevallig



Omgaan met onzekerheid



Steekproef
waarschijnlijk

Steekproef
onwaarschijnlijk

Stel dat hypothese 2
waar is, wat zou dan
 $\Pr[25 \text{ keer oranje}]$ zijn?

