Introducción a Markov-Chain Monte Carlo y visualización con seaborn

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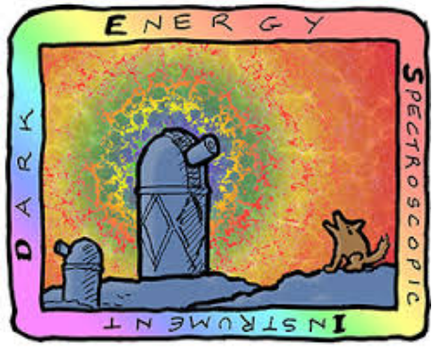
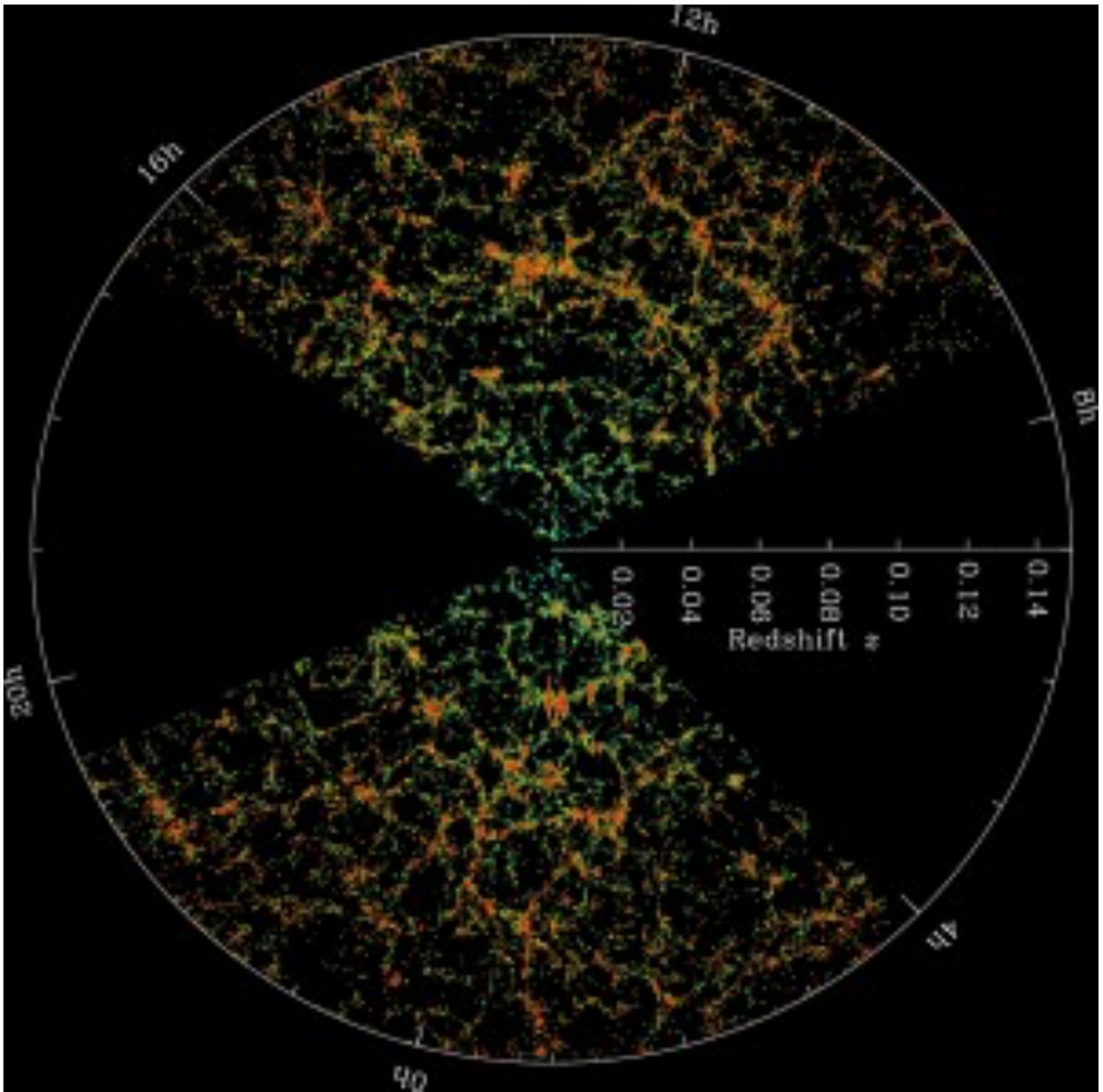
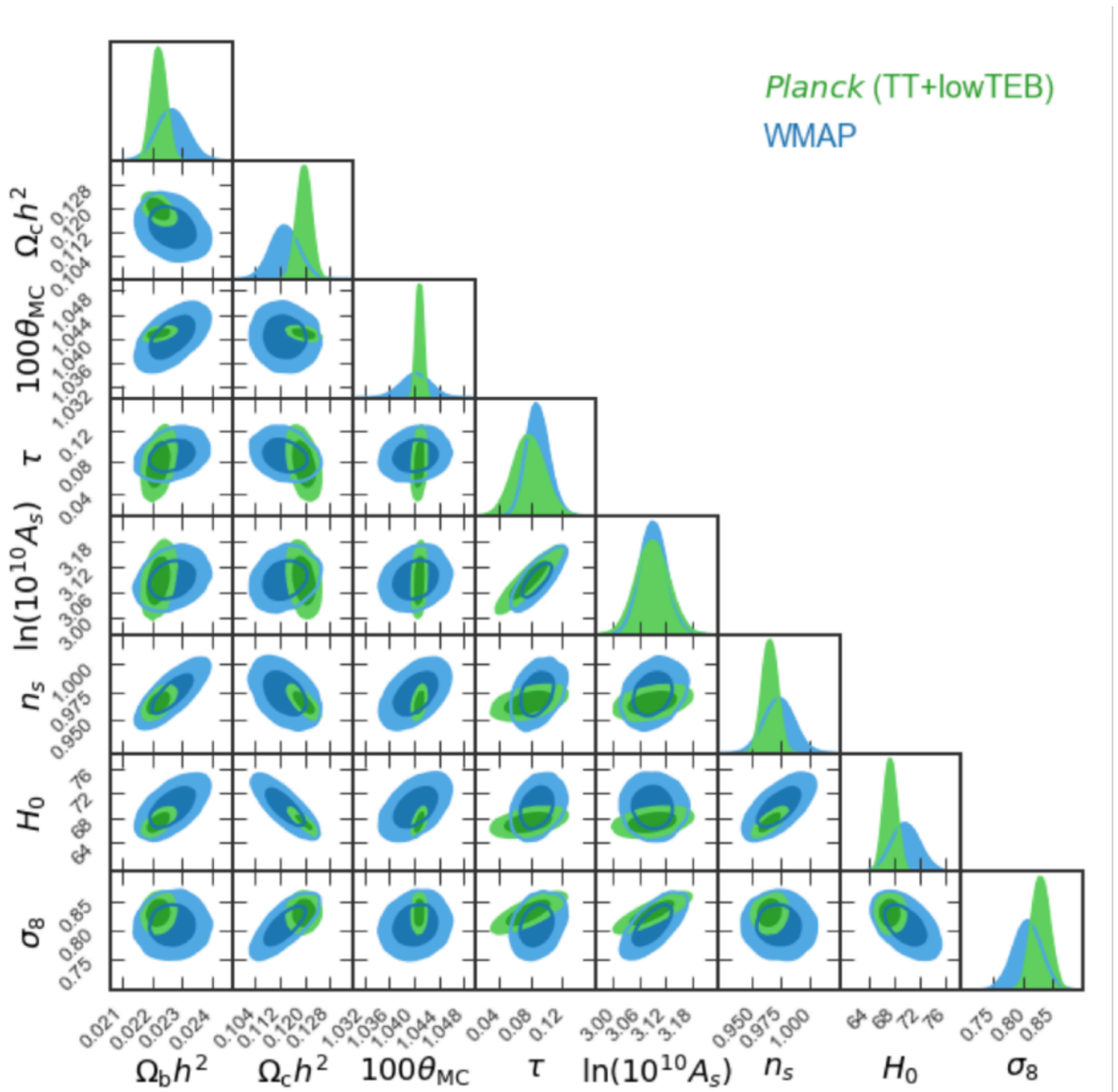


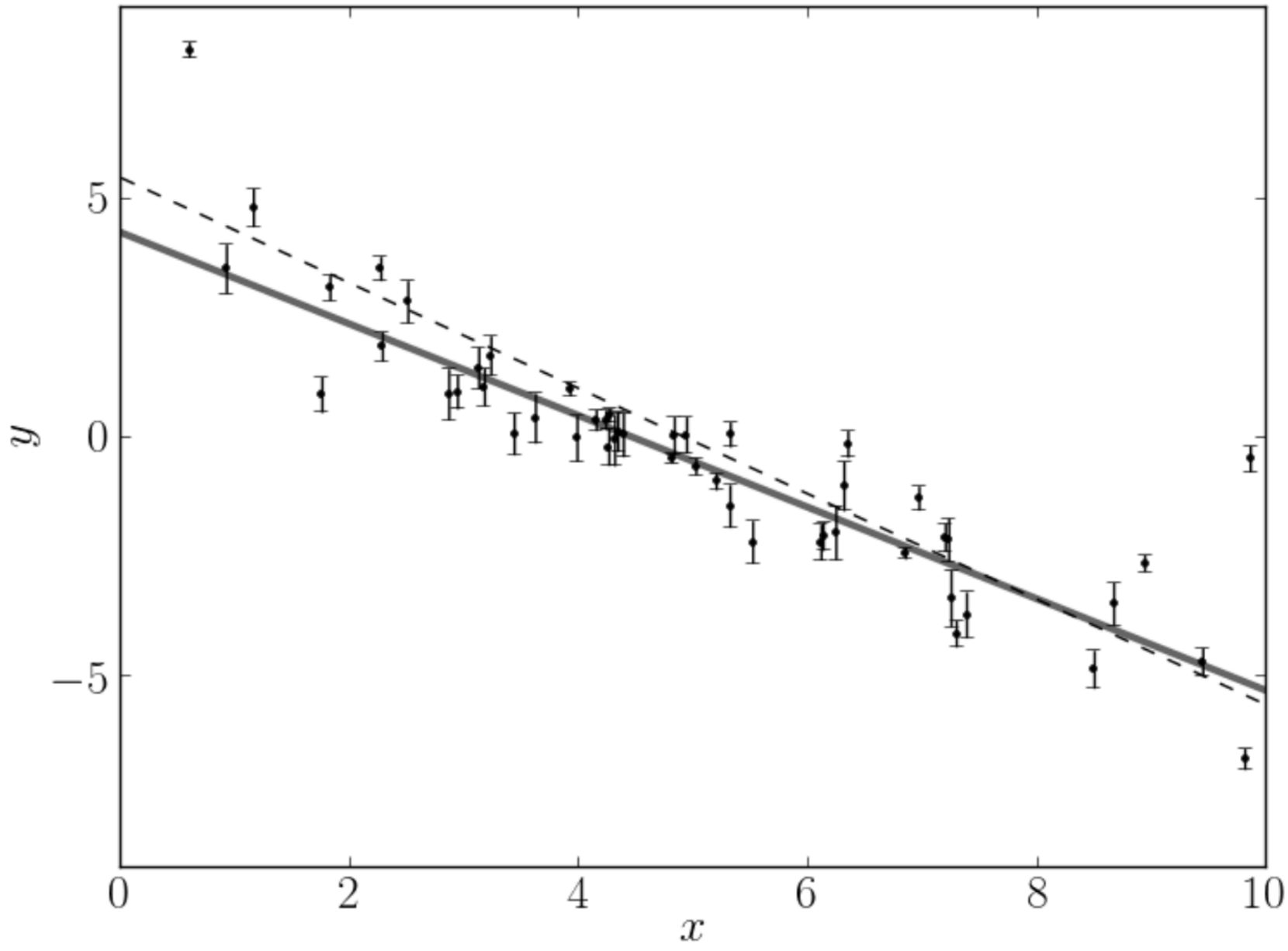
Un poco en lo que trabajo

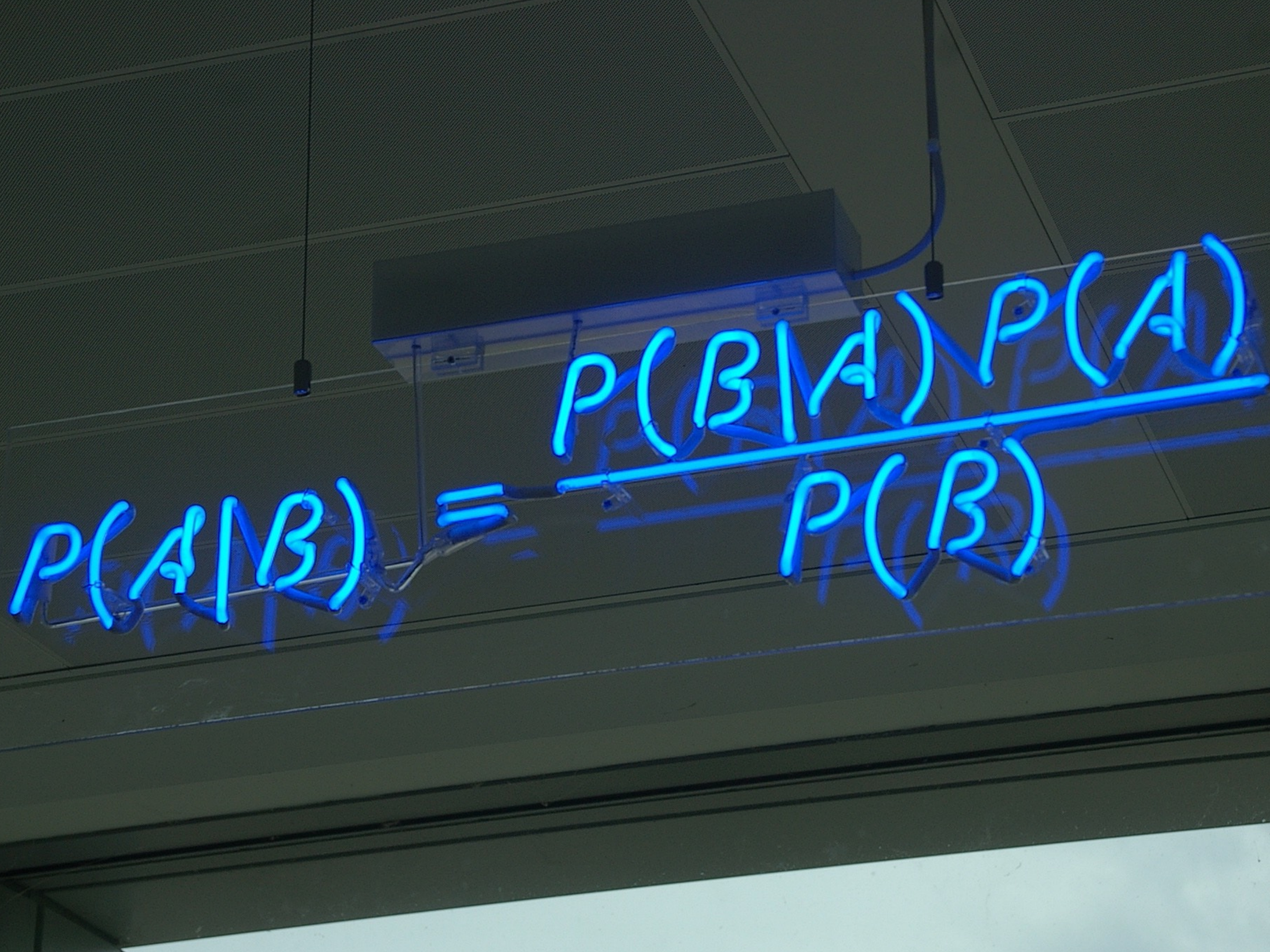


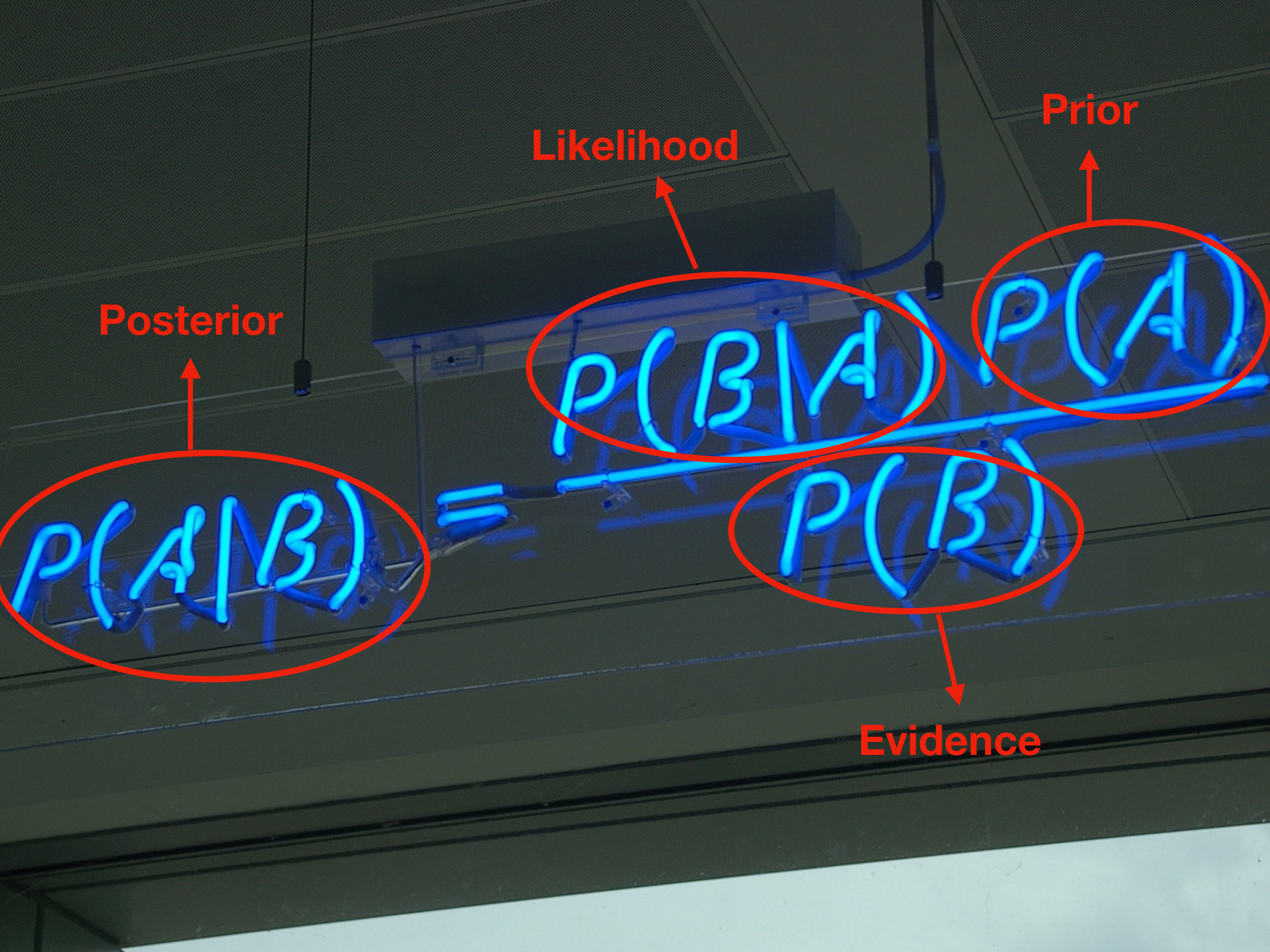


Cual es el problema que queremos resolver?

Ahora imaginen que solo tienen una medición

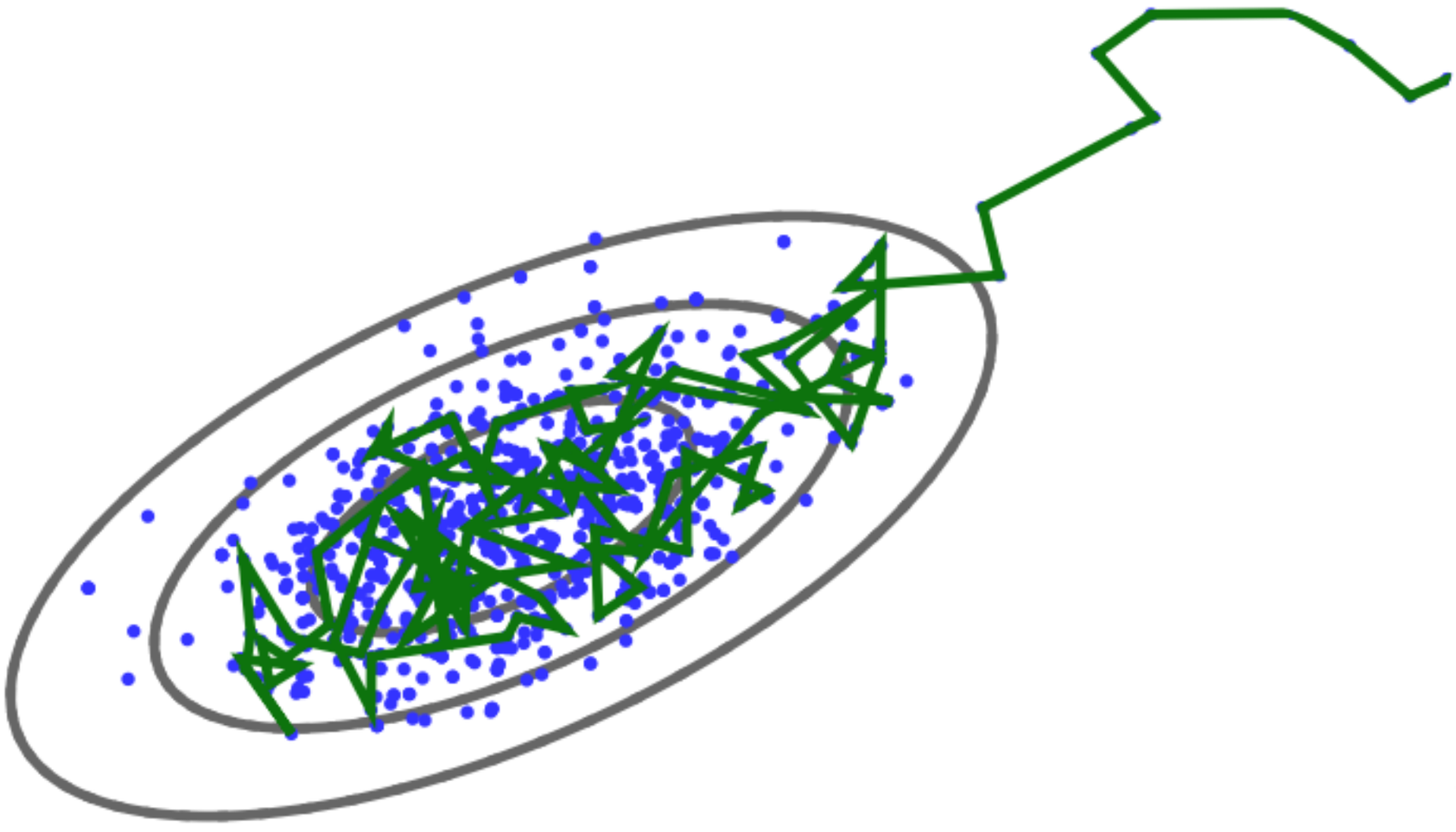



P(B|A) P(A)
P(A|B) = P(B)


Likelihood
Prior
Posterior
P(B|A)
P(A)
P(A|B)
=
P(B)
Evidence

Markov Chain Monte Carlo

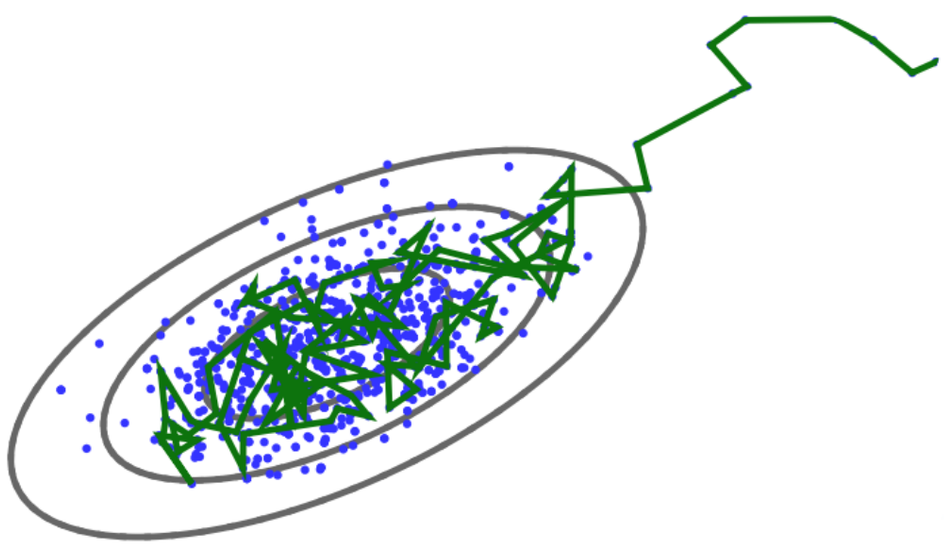
$$P(\theta|Datos, M) = \frac{P(Datos|\theta, M) \times P(\theta|M)}{P(Datos|M)}$$



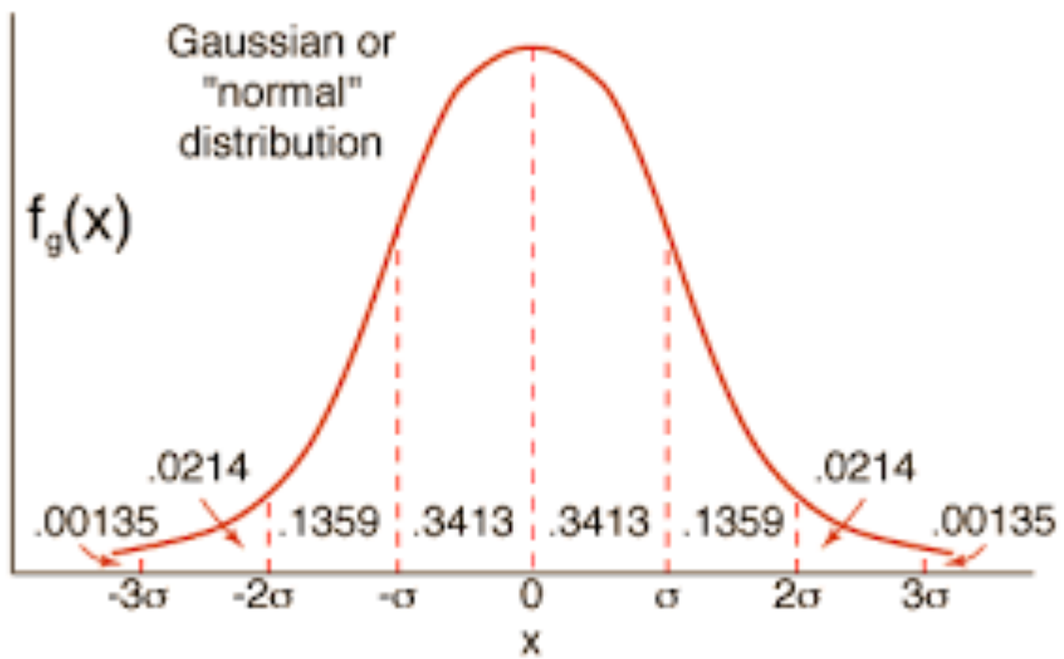
Markov Chain Monte Carlo

$$P(\theta|Datos, M) = \frac{P(Datos|\theta, M) \times P(\theta|M)}{P(Datos|M)}$$

$$p_i = \frac{1}{\sqrt{2\pi\sigma^2(\nu_i)}} \exp\left(-\frac{(T_{meas}(\nu_i) - T_{mod}(\nu_i))^2}{2\sigma^2(\nu_i)}\right)$$

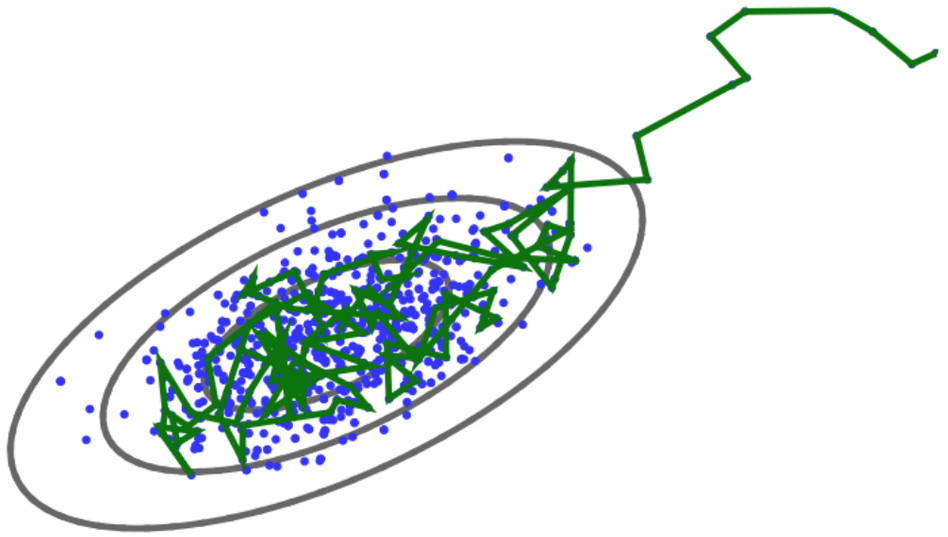


$$L(T|\theta) = \prod_i p_i$$

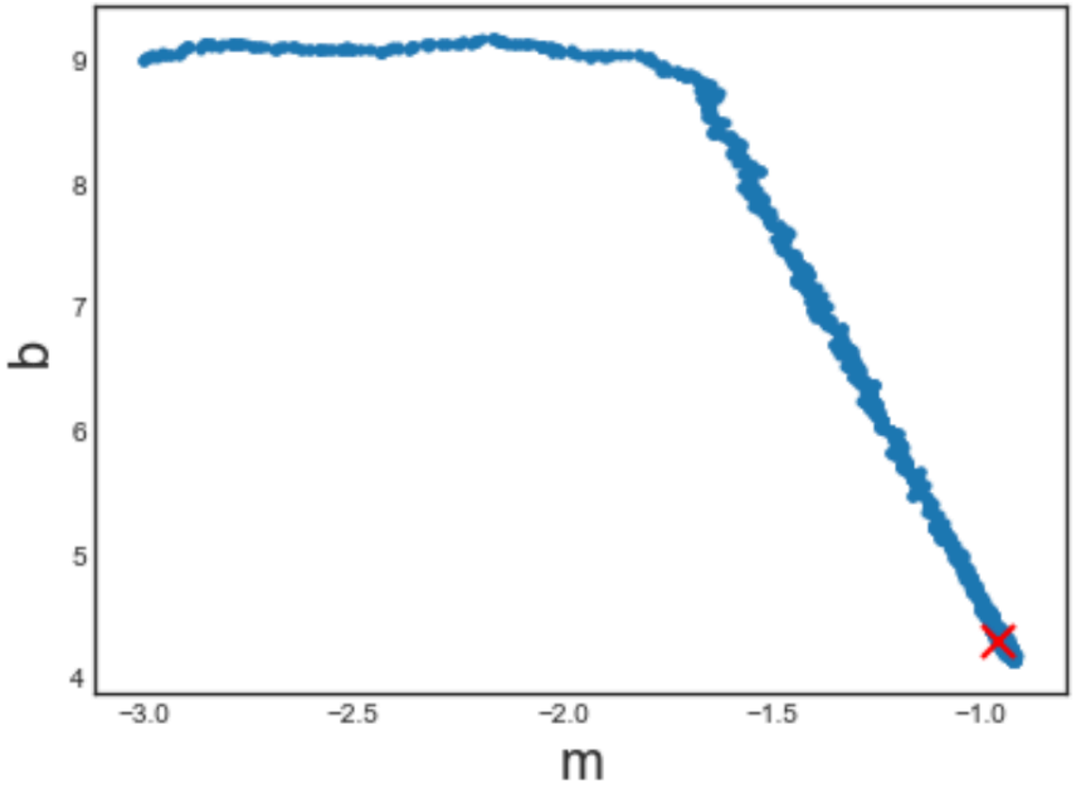


Usemos el log10 del likelihood

Samplers



M-H (5000 steps)



emcee (500 steps, 100 walkers)