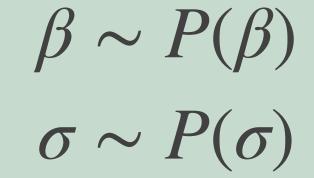
# How do we choose the priors?!

$$\alpha \sim P(\alpha)$$



Agnostic choices

Laplace and the Principle of indifference

"Uninformative" priors

Maximum entropy priors

 priors that encode the least amount of information given constraints

Jeffreys priors

invariant under a change of coordinates

Hard constraints

 restricted domains (e.g. variance must be positive)

#### Good prior choices:

Use domain expertise!

Knowledge of scale (height by weight example)

- Experimental design (more in the hierarchical models class)
- Using simulations to understand the implications of priors

## How do we choose the priors?!

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$$\beta \sim P(\beta)$$

$$\sigma \sim P(\sigma)$$

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### Priors can be used to encode scale information

