

Transformations

quite often effects (and errors too) are multiplicative,
i.e.

$$\mu_{ij} = M \cdot \exp\{\alpha_i\} \cdot \exp\{\beta_j\}$$

↳ factorial model would need interaction term

However:

$$\log(\mu_{ij}) = \log(M) + \alpha_i + \beta_j$$

⇒ main-effects model will work well.

⇒ Interaction is often a question of the scale
of the data.