# lme4ord model

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The matrix-valued linear predictor has entries given by,

$$\eta_{ij} = \sum_{k=1}^{p} x_{ik}\beta_k + b_{row,i} + b_{col,j} + \sum_{l=1}^{d} u_{il}v_{jl} \tag{1}$$

with random parameters,

$$b_{row,i} \sim \mathcal{N}(0, \theta_{row}) \tag{2}$$

$$b_{col,j} \sim \mathcal{N}(0, \theta_{col}) \tag{3}$$

$$v_{jl} \sim \mathcal{N}(0, \theta_{axes}) \tag{4}$$

and where the $x$'s are known and the $\beta$'s and $u$'s are constant parameters.