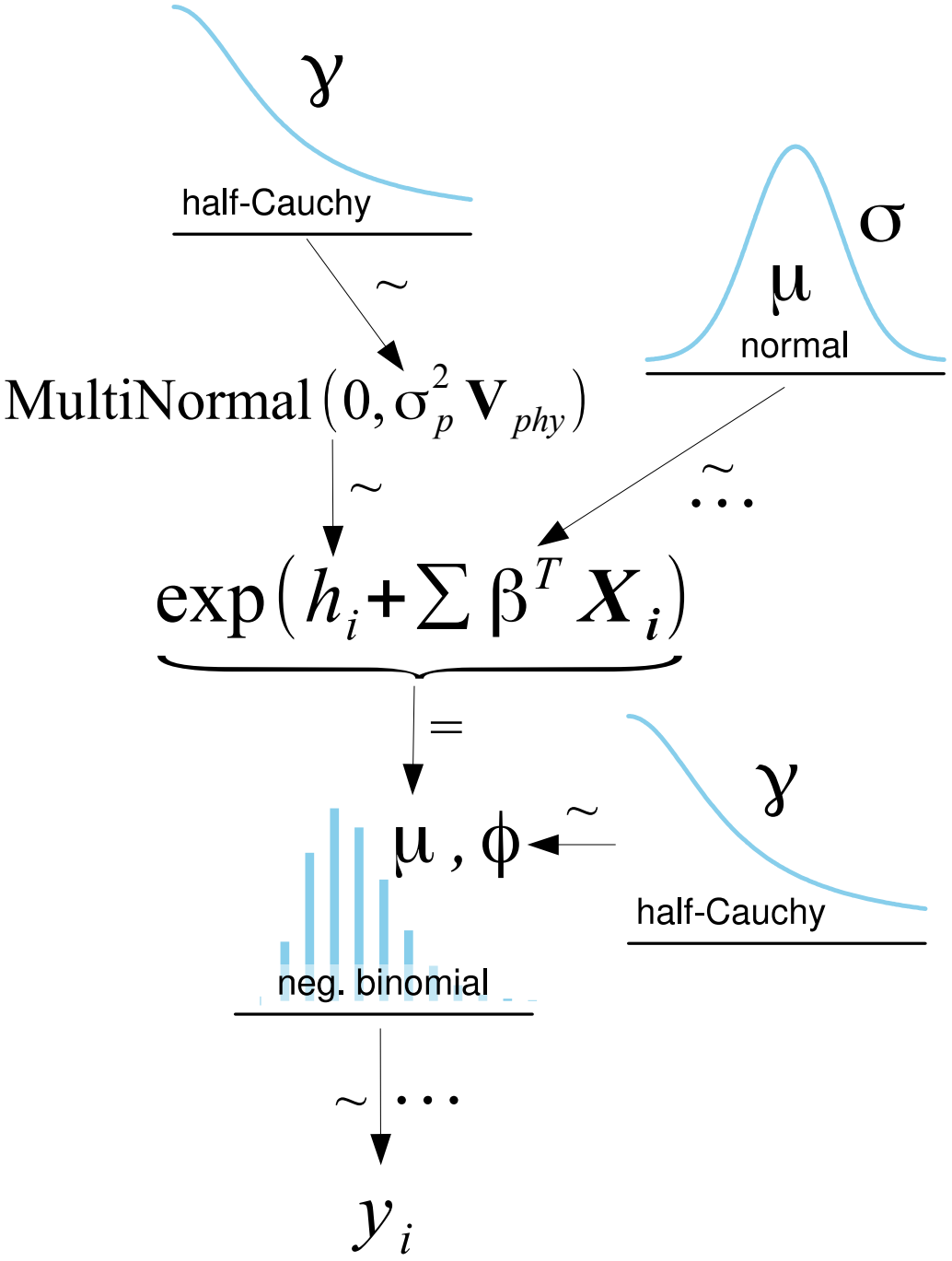

$$y_i \sim \text{NegBinom}(\mu, \phi)$$
$$\phi \sim \text{half-Cauchy}(2.5)$$
$$h_i \sim \text{MultiNormal}(0, \Sigma_p)$$
$$\Sigma_p = \sigma_p^2 \mathbf{V}_{phy}$$
$$\sigma_p \sim \text{half-Cauchy}(2.5)$$
$$\beta \sim \text{Normal}(0, 10)$$