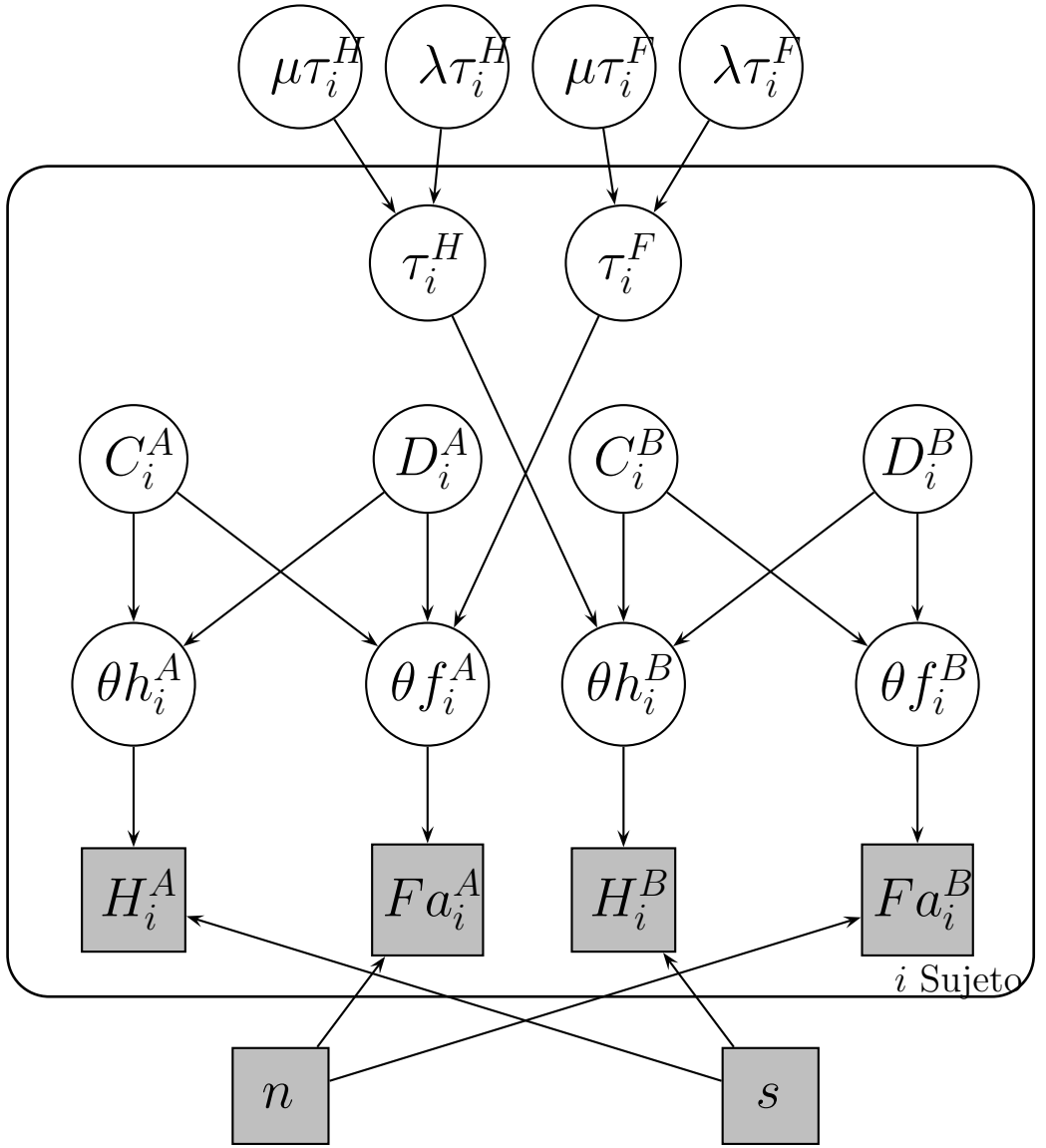

$$H_i^A \sim \text{Binomial}\big(\theta h_i^A, s\big)$$
$$Fa_i^A \sim \text{Binomial}\big(\theta f_i^A, s\big)$$
$$H_i^B \sim \text{Binomial}\big(\theta h_i^B, s\big)$$
$$Fa_i^A \sim \text{Binomial}\big(\theta f_i^B, s\big)$$

$$\theta h_i^A \leftarrow \phi(\tfrac{1}{2} D_i^A - C_i^A)$$
$$\theta f_i^A \leftarrow \phi(-\tfrac{1}{2} D_i^A - C_i^A) - \tau_i^F$$
$$\theta h_i^B \leftarrow \phi(\tfrac{1}{2} D_i^B - C_i^B) - \tau_i^H$$
$$\theta f_i^B \leftarrow \phi(-\tfrac{1}{2} D_i^B - C_i^B)$$

$$D_i^A, D_i^B \sim \text{Gaussian}\big(0, 0.5\big)$$
$$C_i^A, C_i^B \sim \text{Gaussian}\big(0, 2\big)$$

$$\tau_i^H \sim \text{Uniform}\big(-0.5, 0.5\big)$$
$$\tau_i^F \sim \text{Uniform}\big(-0.5, 0.5\big)$$