

$$\begin{array}{l} \cdot \\ \cdot \\ \cdot \\ x = \\ -A+ \\ n, H_1 : \\ x = \\ A+ \\ n \\ H_0 : \\ x_k = \\ -A+ \\ n_k, H_1 : \\ x_k = \\ A+ \\ n_k \\ k = \\ 1, 2, \dots, N, x = \\ (x_1, x_2, \dots, x_N)^T \\ P(H_i|H_j) = \\ \int_{R_i} p(x|H_j)dx \\ P(H_j|H_j)P(H_i|H_j)(i \neq \\ j) \\ P(H_i|H_j) \\ p(x|H_j)(j = \\ 0, 1) \\ H_j \\ RR_0R_1 \\ P(H_i|H_j)(i, j = \\ 0, 1) \\ P_e = P(0)P(1|0)+P(1)P(0|1) \\ [P(1|0), P(0|1)] \\ [P(0), P(1)] \\ (H_0|H_0)(H_1|H_0)(H_1|H_1)(H_0|H_1) \\ \downarrow \downarrow \downarrow \downarrow \\ c_{00} \quad c_{10} \quad c_{11} \quad c_{01} \end{array}$$

$$\begin{array}{l} c_{ij}H_j \\ H_i \\ c_{10} > \\ c_{00}, c_{01} > \\ c_{11} \\ C \\ H_0 \\ C(H_0) \\ H_1 \\ C(H_0) \end{array}$$

$$C = P(H_0)C(H_0)+P(H_1)C(H_1)$$

$$\begin{array}{l} P_e = P(0)P(1|0)+P(1)P(0|1) \\ (H_0|H_0)(H_1|H_0)(H_1|H_1)(H_0|H_1) \\ \downarrow \downarrow \downarrow \downarrow \\ c_{00} \quad c_{10} \quad c_{11} \quad c_{01} \end{array}$$

$$\begin{array}{l} c_{ij}H_j \\ H_i \\ 0) = \\ c_{00}P(H_0|H_0)+ \\ c_{10}P(H_1|H_0) \\ C(H_1) = \\ c_{01}P(H_0|H_1)+ \\ c_{11}P(H_1|H_1) \\ C = \\ P(H_0)C(H_0)+ \\ P(H_1)C(H_1) \\ 0)C(H_0)+ \\ P(H_1)C(H_1) \\ C(H_0) = \\ c_{00}P(H_0|H_0)+ \\ c_{10}P(H_1|H_0) \\ C(H_1) = \\ c_{01}P(H_0|H_1)+ \\ c_{11}P(H_1|H_1) \\ \downarrow \\ 0)c_{00}P(H_0|H_0)+ \\ c_{10}P(H_1|H_0)+ \\ 1)c_{01}P(H_0|H_1)+ \\ c_{11}P(H_1|H_1) \\ 0)c_{00}P(H_0|H_0)+ \\ c_{10}P(H_1|H_0)+ \\ P(H_1)c_{01}P(H_0|H_1)+ \\ c_{11}P(H_1|H_1) \end{array}$$

$$\mathbb{E}(N+1) = \int_0^1 (1-\tau) \mathbb{E}(N) d\tau$$