



$$q \sim \mathcal{U}(0, 1)$$

$$e_k \sim \mathcal{U}(0, .2)$$

$$\mathbf{p}_k \sim \text{unbiased Dirichlet}$$

$$\mathbf{t}_k = \text{as described in text}$$

$$\text{obs}_k \sim \text{Multinomial}(\mathbf{t}_k, n_k)$$