# A Naïve Gibbs Sampler

- Put standard conjugate prior on the $N_H$ haplotype frequencies:

$$\text{Dirichlet}(\alpha, \ldots, \alpha)$$

- Gives simple conditional distribution:

$$\Pr(H_{n+1} \mid H_1, H_2, \ldots, H_n) = \frac{\#\{i : H_i = H_{n+1}\} + \alpha}{n + N_H \alpha}$$

- Uses frequencies, but ignores near misses.