

- A specific n-gram  $\alpha$  occurs with (unknown) probability  $p$  in the corpus
- Assumption: all occurrences of an n-gram  $\alpha$  are independent of each other
- Number of times  $\alpha$  occurs in corpus follows binomial distribution

$$p(c(\alpha) = r) = b(r; N, p_i) = \binom{N}{r} p^r (1 - p)^{N-r}$$