

- For a particular n-gram  $\alpha$ , we know its actual count  $r$
- Any of the n-grams  $\alpha_i$  may occur  $r$  times
- Probability that  $\alpha$  is one specific  $\alpha_i$

$$p(\alpha = \alpha_i | c(\alpha) = r) = \frac{p(c(\alpha_i) = r)}{\sum_{j=1}^s p(c(\alpha_j) = r)}$$

- Expected count of this n-gram  $\alpha$

$$E(c^*(\alpha) | c(\alpha) = r) = \sum_{i=1}^s N p_i p(\alpha = \alpha_i | c(\alpha) = r)$$