Sparsity of documents

$$p(W, Z, \Theta) = \prod_{d=1}^{D} p(\theta_d) \prod_{n=1}^{N_d} p(z_{dn}|\theta_d) p(w_{dn}|z_{dn})$$

$$p(\theta_d) \sim \text{Dir}(\alpha)$$

$\alpha \uparrow \quad \Rightarrow$ **More** topics for each document

$\alpha \downarrow \quad \Rightarrow$ **Less** topics for each document

α can be selected as $p(W|\alpha) \rightarrow \max_{\alpha}$