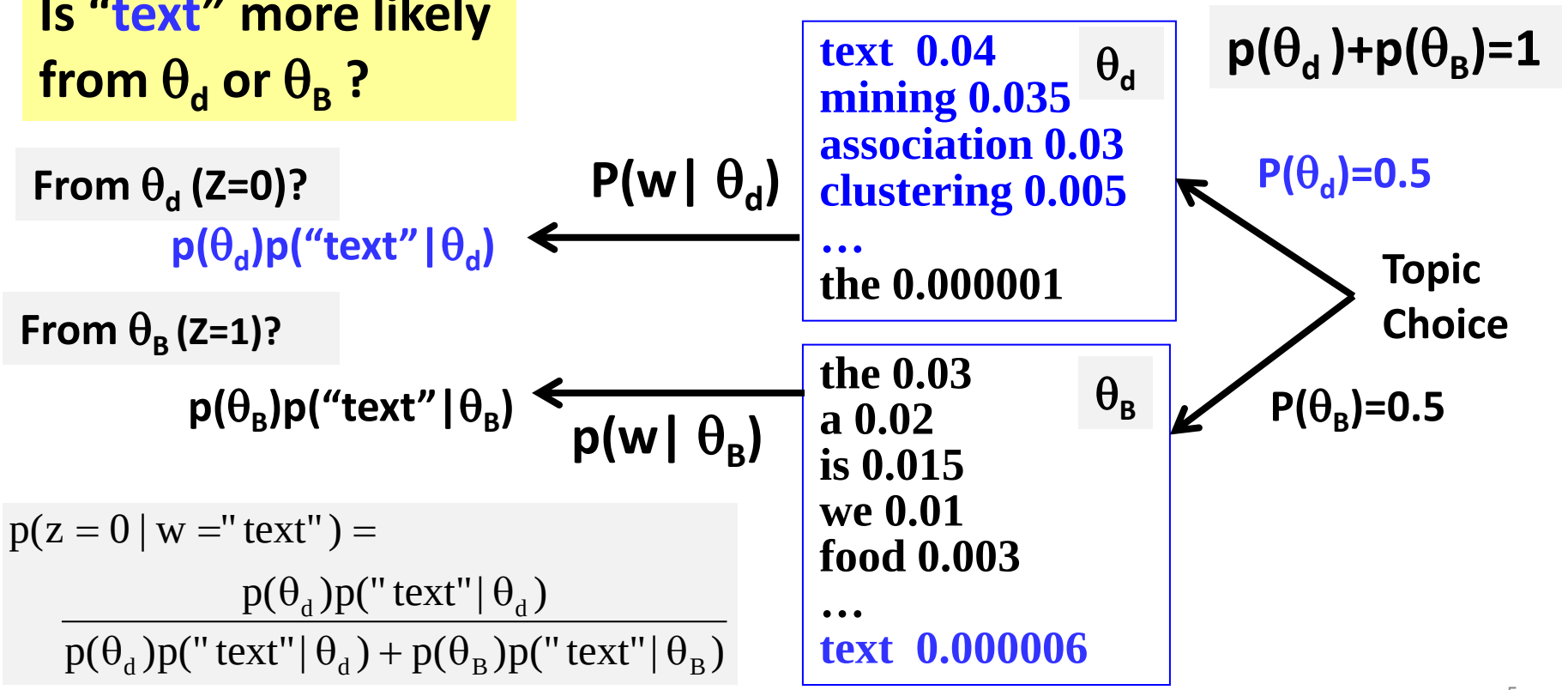
Given all the parameters, infer the distribution a word is from…

Is "text" more likely from θ_d or θ_B ?



$$p(z=0 \mid w=\text{"text"}) = \frac{p(\theta_d)p(\text{"text"}|\theta_d)}{p(\theta_d)p(\text{"text"}|\theta_d)+p(\theta_B)p(\text{"text"}|\theta_B)}$$