

Smoothing Methods based on Interpolation (cont.)

- Method 4 Dirichlet Prior/Bayesian (McKay): **Assume pseudo counts $\mu p(w | REF)$**

$$p(w | d) = \frac{c(w, d) + \mu p(w | REF)}{|d| + \mu} = \frac{|d|}{|d| + \mu} \frac{c(w, d)}{|d|} + \frac{\overset{\text{parameter}}{\mu}}{|d| + \mu} p(w | REF)$$

What would happen if we increase/decrease μ ? What if $|d| \rightarrow +\infty$