

- Optimal discounting parameters  $D_1, D_2, D_{3+}$  can be computed quite easily

$$Y = \frac{N_1}{N_1 + 2N_2}$$

$$D_1 = 1 - 2Y \frac{N_2}{N_1}$$

$$D_2 = 2 - 3Y \frac{N_3}{N_2}$$

$$D_{3+} = 3 - 4Y \frac{N_4}{N_3}$$

- Values  $N_c$  are the counts of n-grams with exactly count  $c$