Many Different Retrieval Models

- **Probabilistic models**: f(d,q) = p(R=1|d,q),   R $\in$ {0,1}
  - Classic probabilistic model ➡ BM25
  - **Language model ➡ Query Likelihood**
  - Divergence-from-randomness model ➡ PL2

$$p(R=1|d,q) \approx p(q|d,R=1)$$

If a user likes document d, how likely would the user enter query q (in order to retrieve d)?