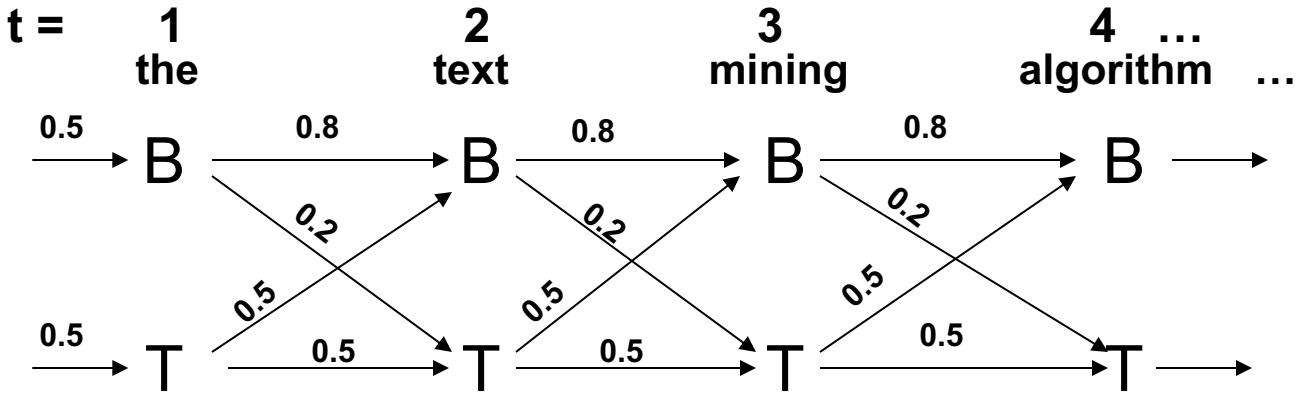
# Data Likelihood: p(O|λ)




In general, $p(O|\lambda) = \sum_{S_1 S_2 \ldots S_T} p(O|S_1 S_2 \ldots S_T) p(S_1 S_2 \ldots S_T)$ enumerate all paths

$$p("the\ \ text\ldots"|\lambda) = p("the\ text\ldots"|BB\ldots B)\,p(BB\ldots B) \quad \Leftarrow BB\ldots B$$
$$+\, p("the\ text\ldots"|BT\ldots B)\,p(BT\ldots B) \quad \Leftarrow BT\ldots B$$
$$+\ldots+\, p("the\ text\ldots"|TT\ldots T)\,p(TT\ldots T) \quad \Leftarrow TT\ldots T$$

Complexity of a naïve approach?