Viterbi-Algorithmus

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- Ziel: Finde wahrscheinlichste Sequenz von *Zuständen* ***t*** (z.B. **Wortarten-Tags**), wenn eine Sequenz von *Beobachtungen* ***w*** (z.B. **Wörter**) gegeben ist.
- Markov-Annahme:
$$P(t_i|t_1 \dots t_{i-1}) = P(t_i|t_{i-1})$$
d.h. Wortarten vor Position *i-1,* sind für Position i irrelevant.
- Idee:
  - Finde beste Wortarten-Sequenz für Wort-Sequenz der Länge i
  ⇔ (s. anderer Foliensatz)
  maximiere $P(w_1 \dots w_i|t_1 \dots t_i)P(t_1 \dots t_i)$
  - Wegen der Markov-Annahme müssen wir nur alle möglichen Kombinationen von t_i und t_{i-1} durchprobieren
  - Die beste (wahrscheinlichste) Wahl von t_{i-1} maximiert:
  $P(w_1 \dots w_{i-1}|t_1 \dots t_{i-1})P(t_1 \dots t_{i-1})\ P(w_i|t_i)P(t_i|t_{i-1})$

$P(w|t)$

t \ w	Mary	cake	makes
N	0.4	0.4	0.2
V	0.1	0.1	0.8

$P(t|t')$

t \ t'	Start	N	V
N	0.6	0.3	0.8
V	0.4	0.7	0.2

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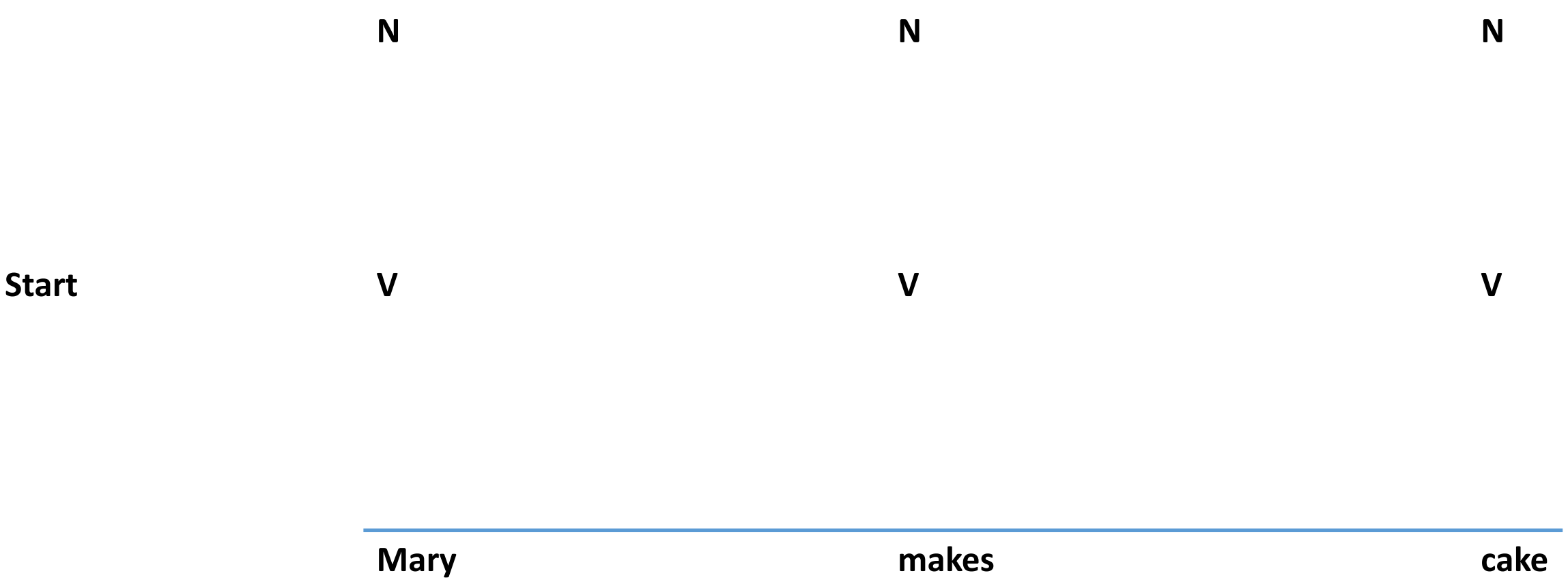

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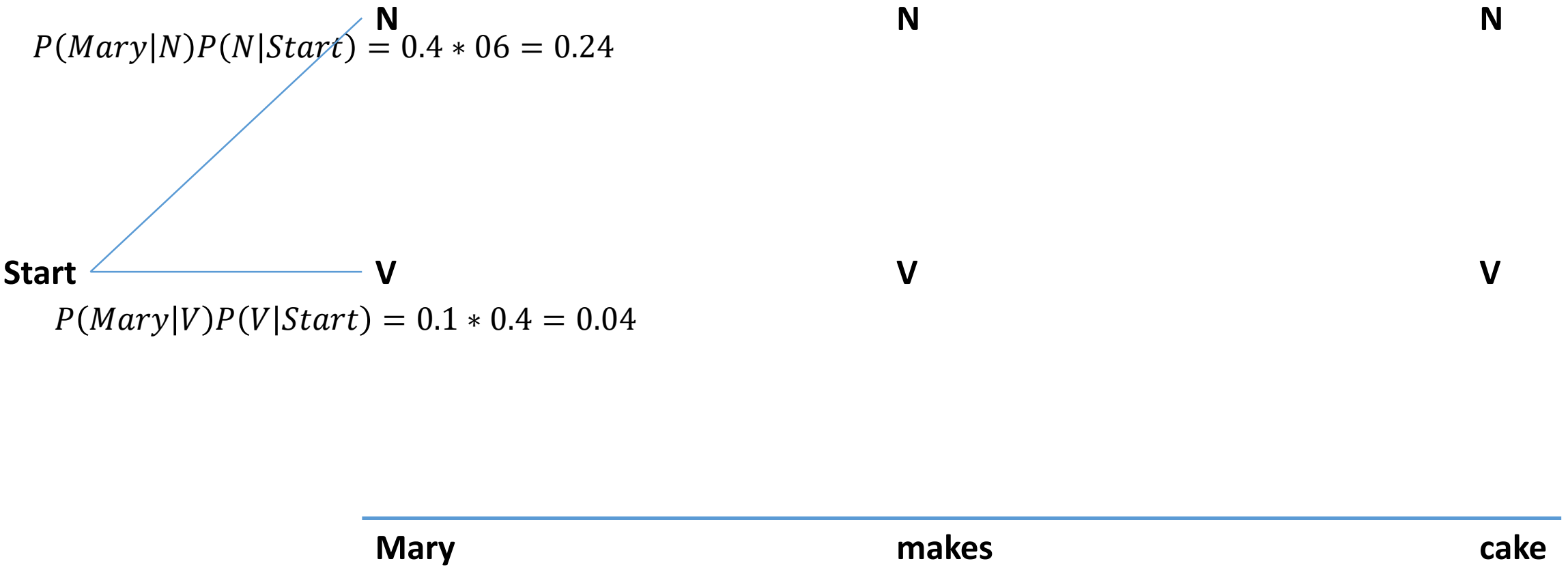

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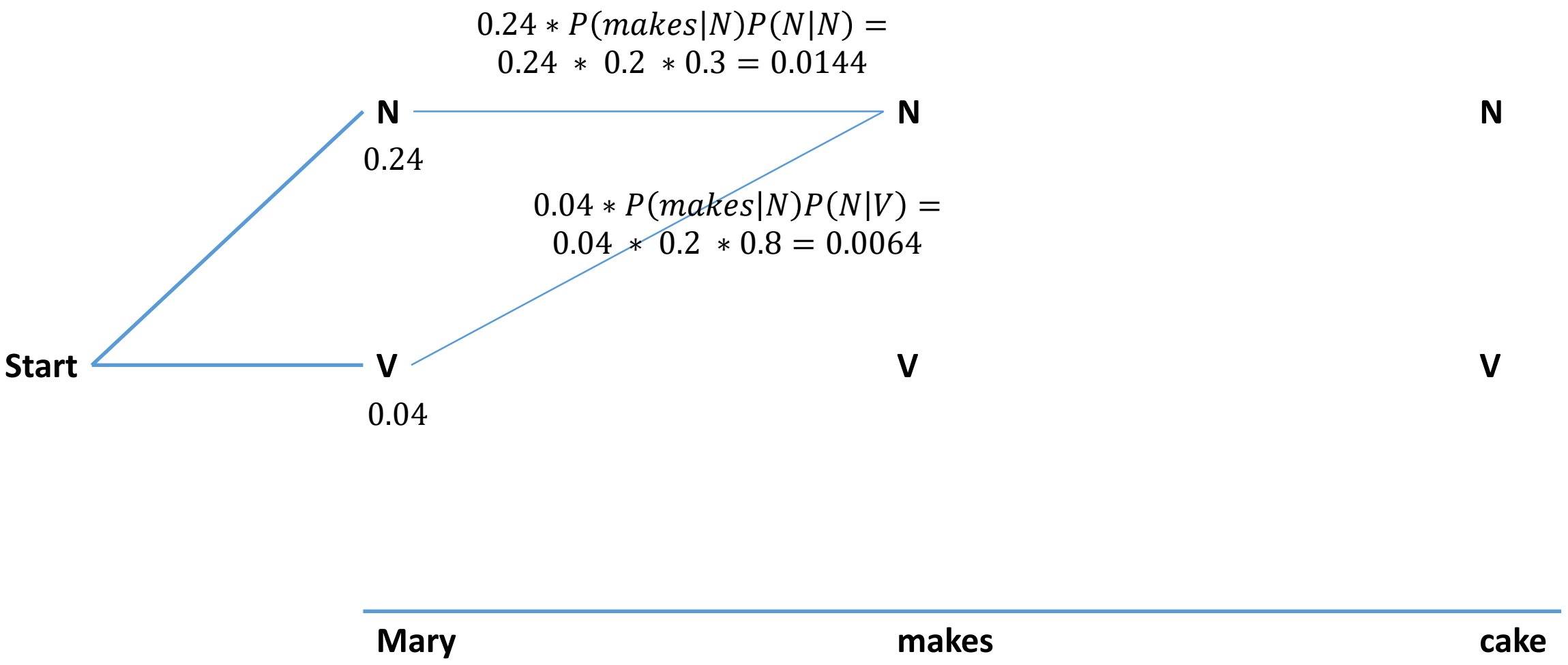

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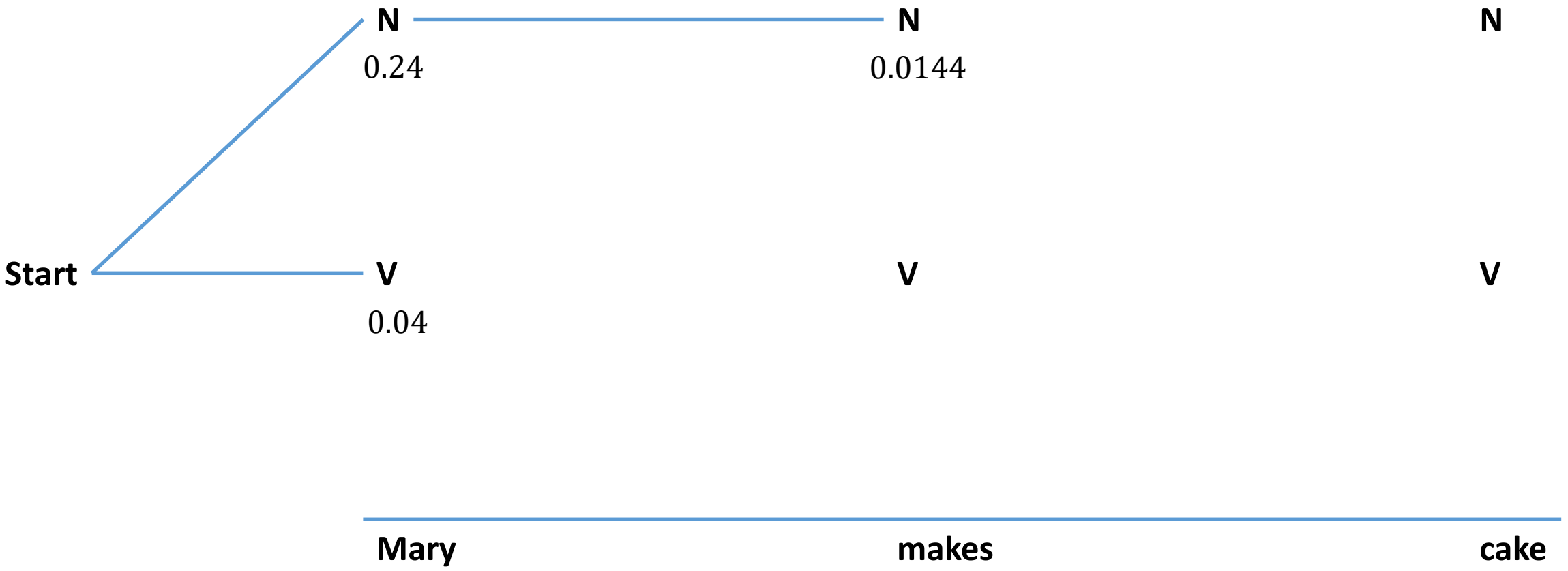

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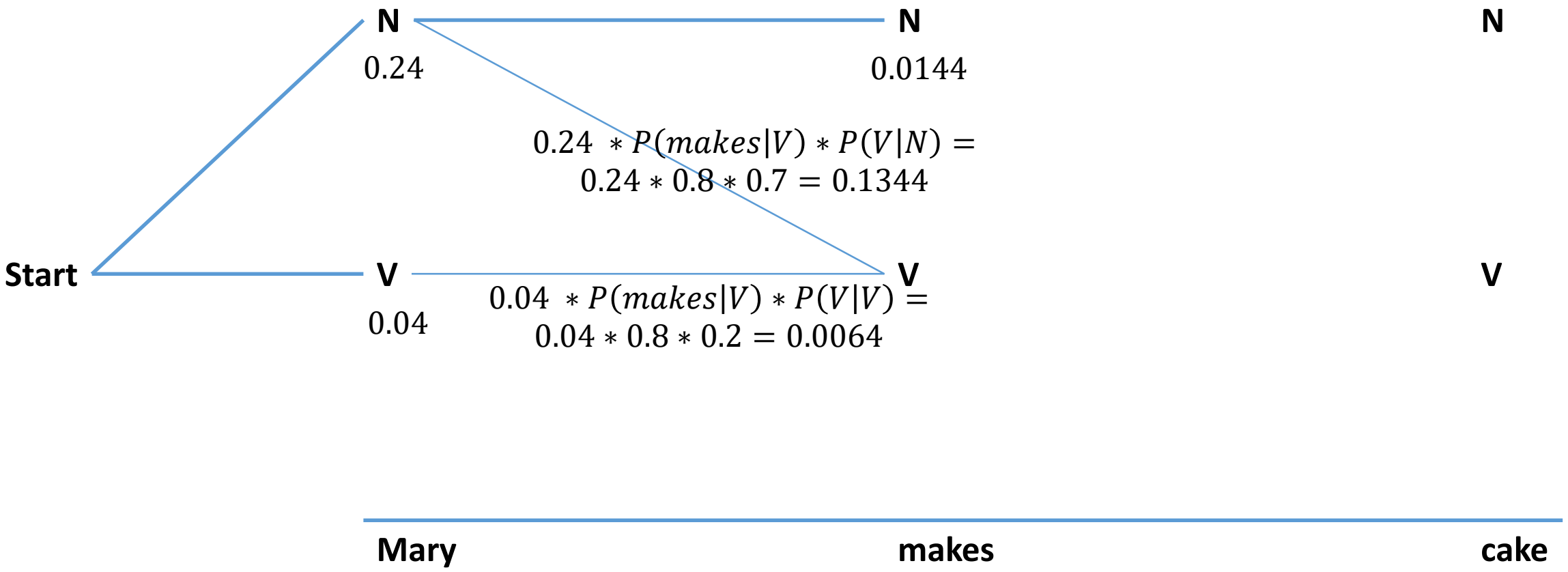

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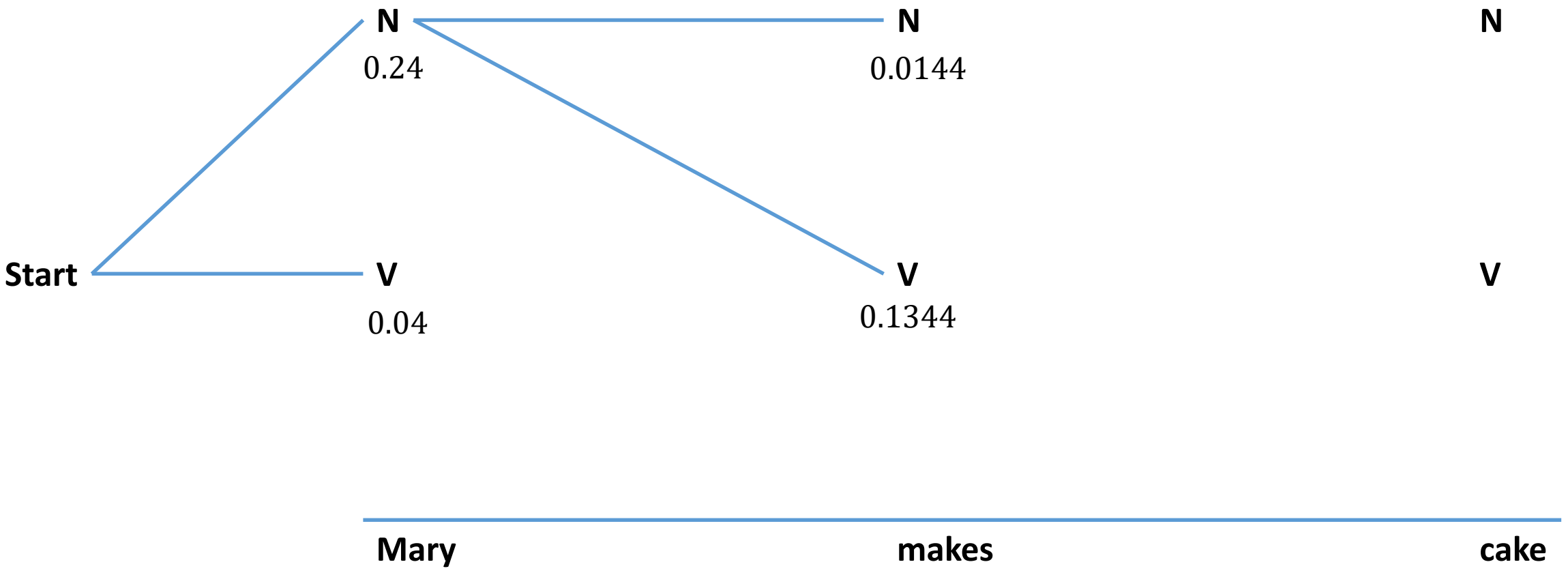

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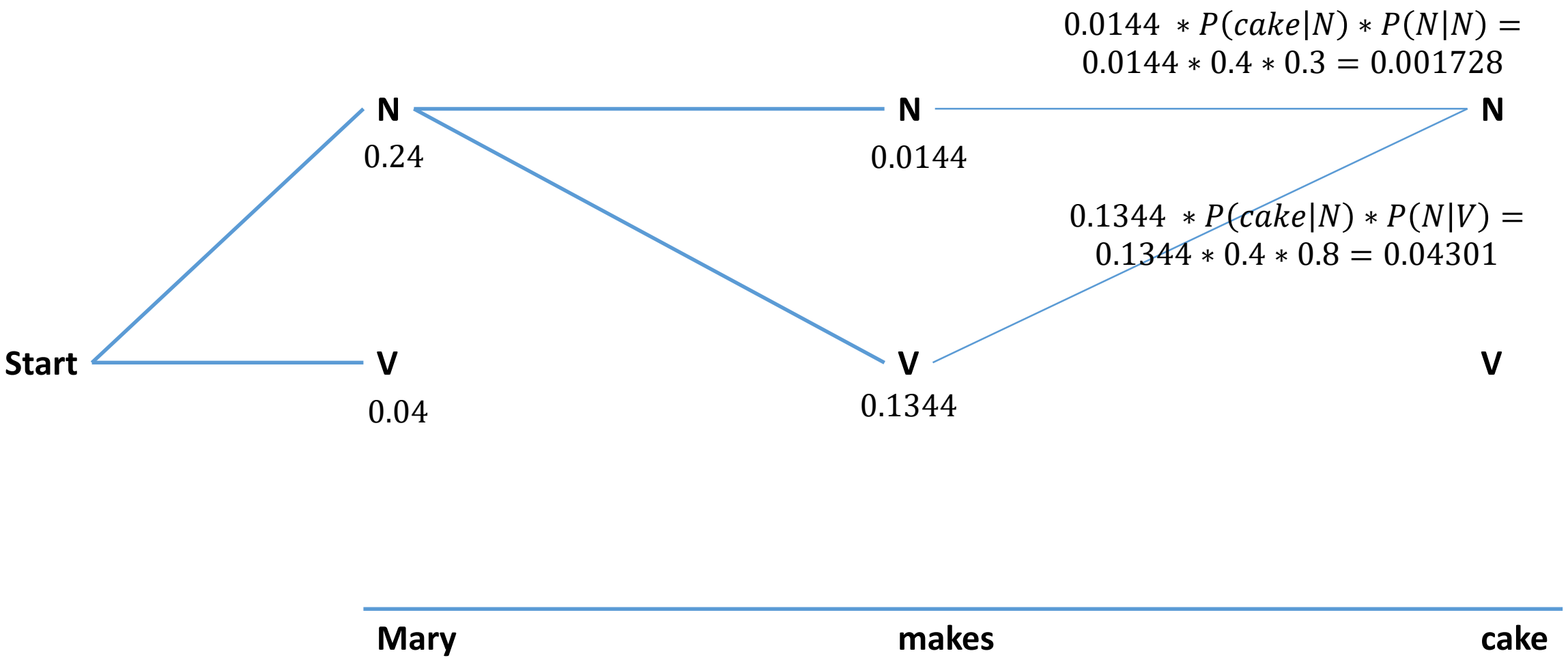

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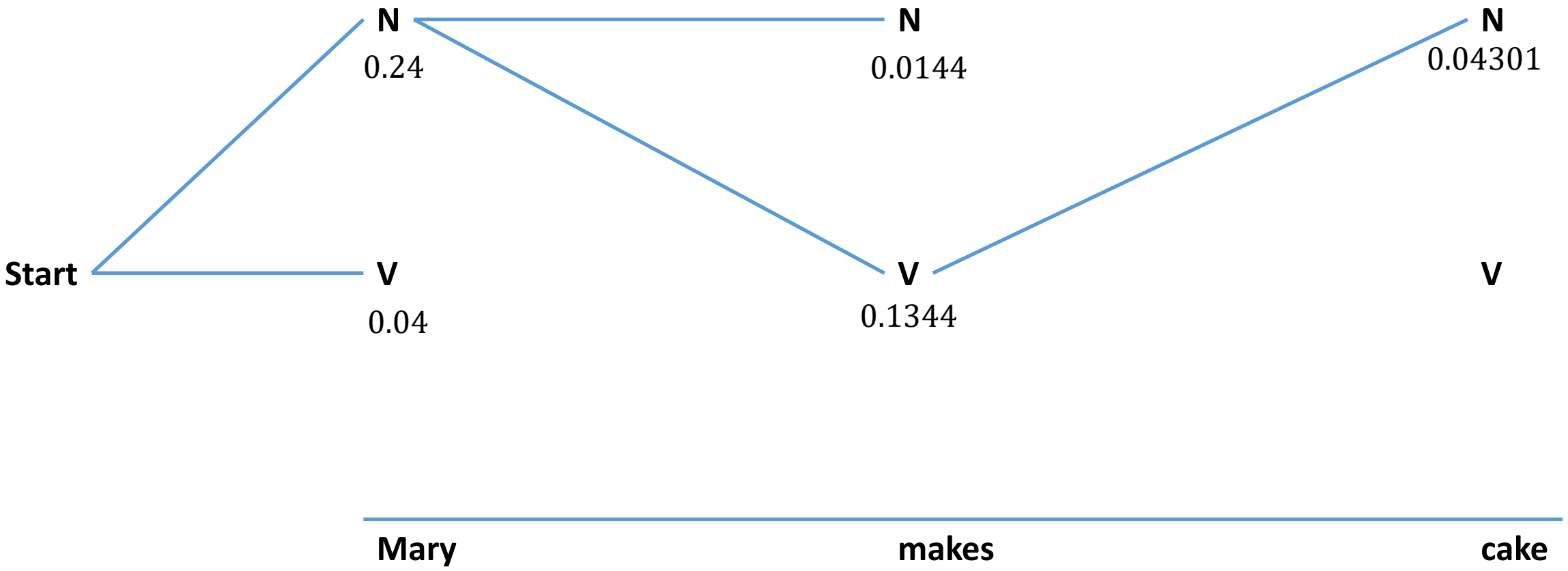

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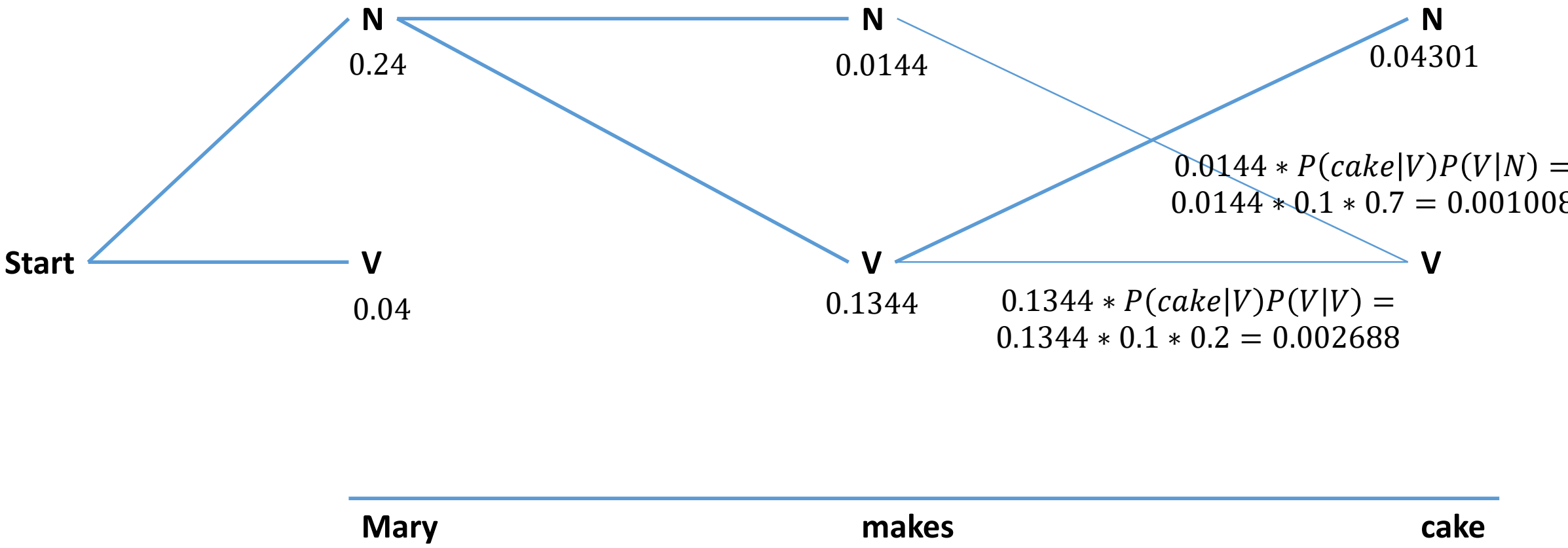

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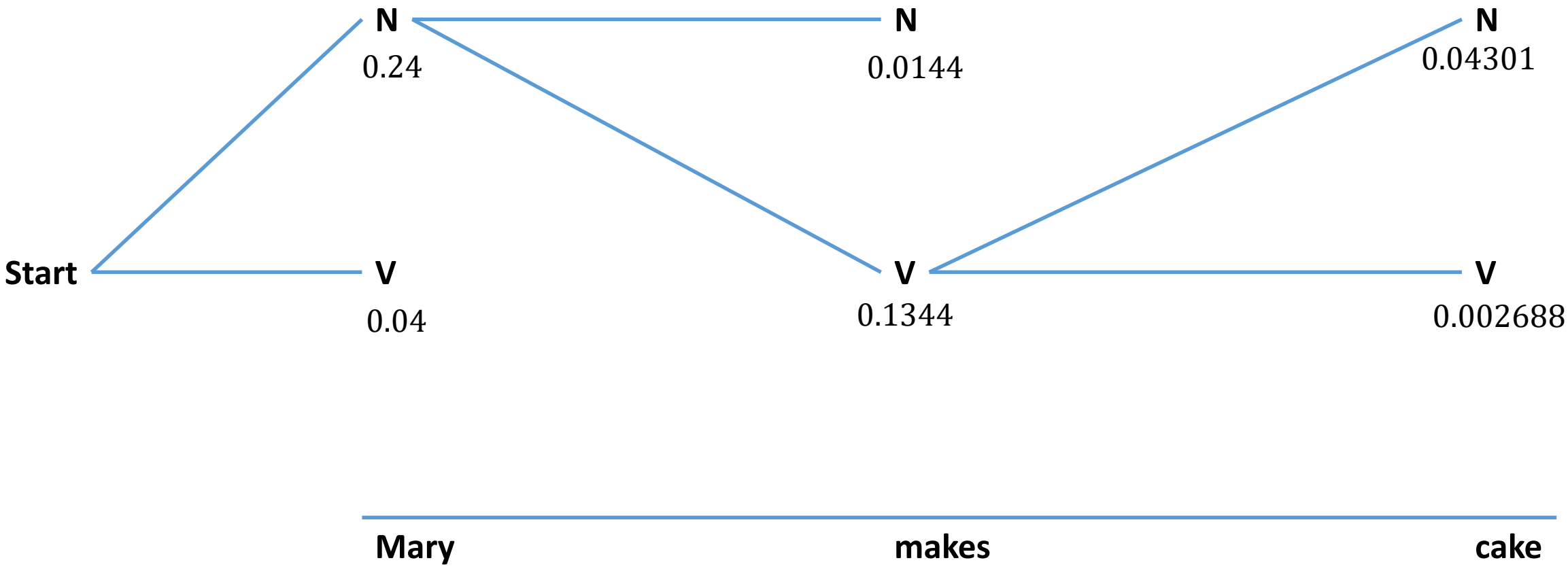

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