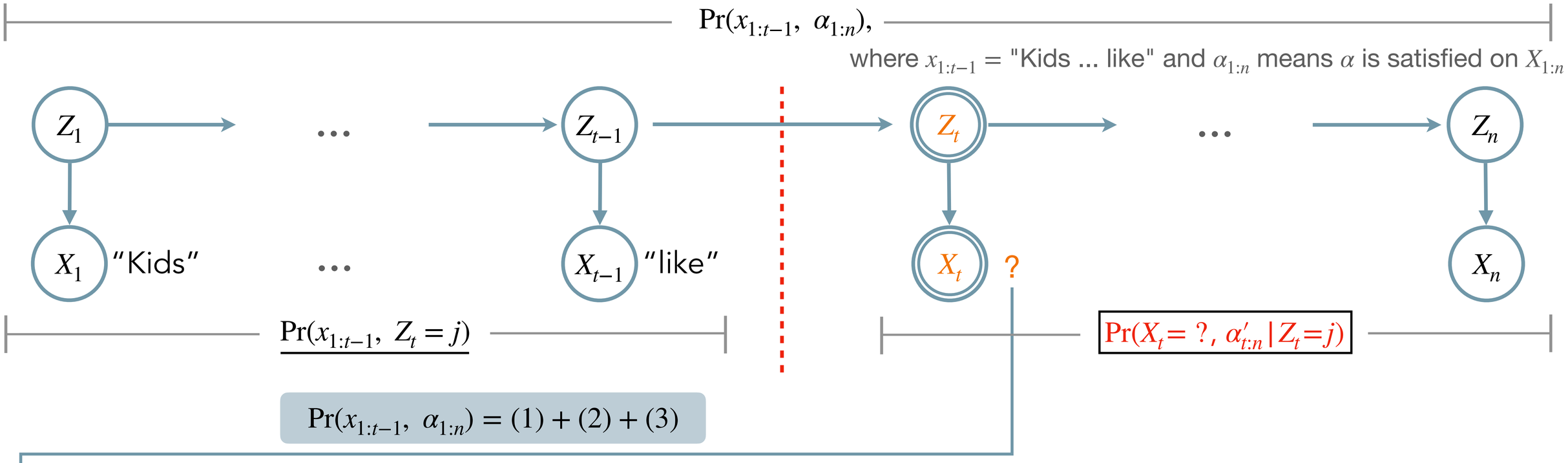
Lexical Constraint $\alpha = \big(I(\text{like eating}) \vee I(\text{soccer})\big) \wedge I(\text{like working})$



X_t	Recurrence	α'
"eating"	(1) $\Pr(x_{1:t-1}, X_t = \text{"eating"}, \alpha'_{t:n}) = \sum_j \Pr(x_{1:t-1}, Z_t = j) \cdot \Pr(X_t = \text{"eating"}, \alpha'_{t:n} \mid Z_t = j)$	I(like working)
"working"	(2) $\Pr(x_{1:t-1}, X_t = \text{"working"}, \alpha'_{t:n}) = \sum_j \Pr(x_{1:t-1}, Z_t = j) \cdot \Pr(X_t = \text{"working"}, \alpha'_{t:n} \mid Z_t = j)$	I(like eating) $\vee$ I(soccer)
else	(3) $\Pr(x_{1:t-1}, X_t \neq \text{"eating"}, X_t \neq \text{"working"}, \alpha'_{t:n})$ $= \Pr(x_{1:t-1}, \alpha'_{t:n}) - \Pr(x_{1:t-1}, X_t = \text{"eating"}, \alpha'_{t:n}) - \Pr(x_{1:t-1}, X_t = \text{"working"}, \alpha'_{t:n})$ $= \sum_j \Pr(x_{1:t-1}, Z_t = j) \cdot \Big(\Pr(\alpha'_{t:n} \mid Z_t = j) - \Pr(X_t = \text{"eating"}, \alpha'_{t:n} \mid Z_t = j) - \Pr(X_t = \text{"working"}, \alpha'_{t:n} \mid Z_t = j)\Big)$	$\big(I(\text{like eating}) \vee I(\text{soccer})\big)$ $\wedge\ I(\text{like working})$