$$p(e,a|f) = \exp(\lambda_\phi \sum_{i=1}^{I} \log \phi(\bar{f}_i|\bar{e}_i) +$$

$$\lambda_d \sum_{i=1}^{I} \log d(a_i - b_{i-1} - 1) +$$

$$\lambda_{LM} \sum_{i=1}^{|\mathbf{e}|} \log p_{LM}(e_i|e_1 ... e_{i-1}))$$