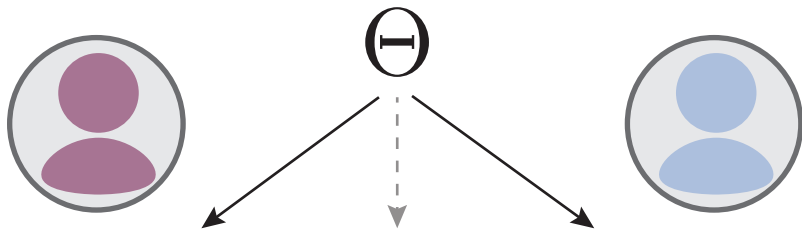shared representation Θ

lexical prior for novel partner $P(\phi_1|\Theta) \cdots P(\phi_i|\Theta)$

partner-specific predictions $P(D_1|\phi_1) \cdots P(D_i|\phi_i)$