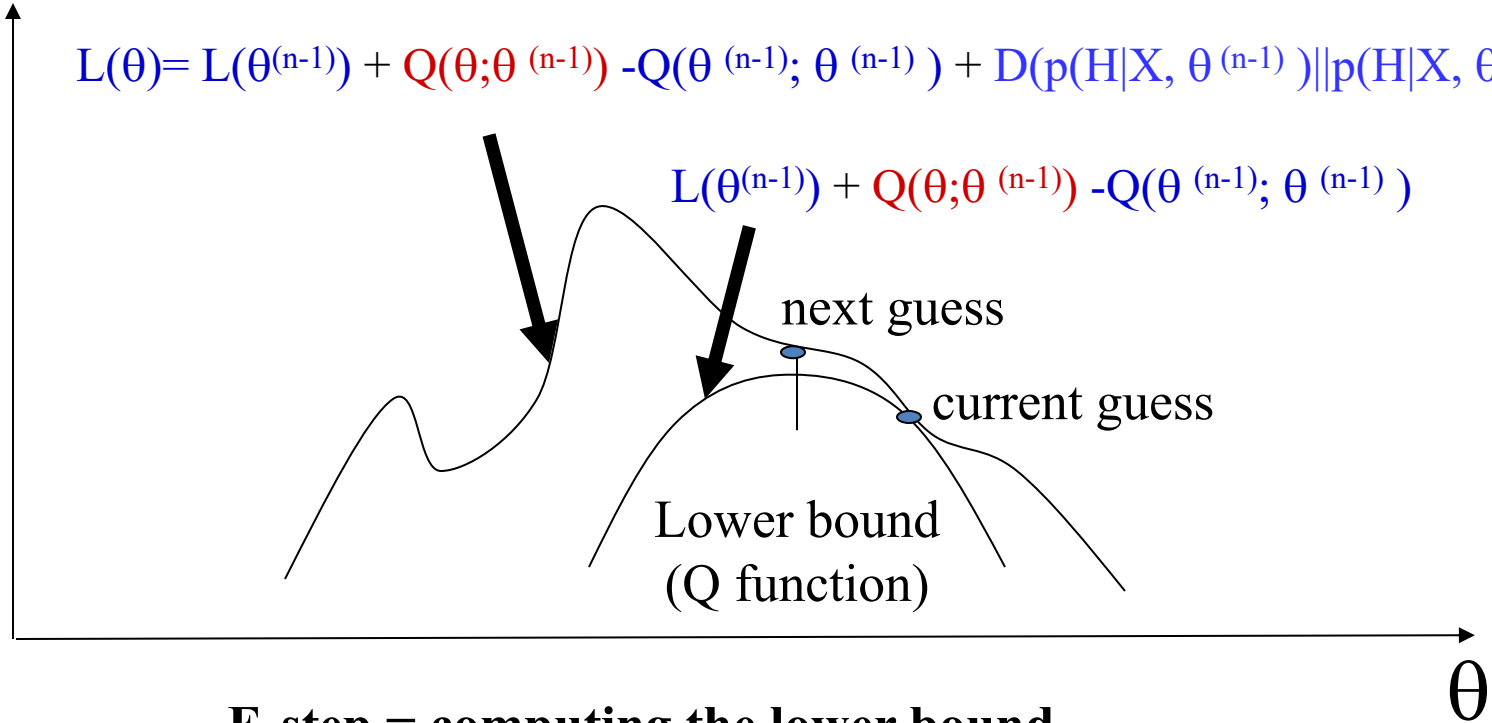


EM as Hill-Climbing: converging to a local maximum

Likelihood $p(X|\theta)$

$$L(\theta) = L(\theta^{(n-1)}) + \color{red}Q(\theta; \theta^{(n-1)}) - \color{red}Q(\theta^{(n-1)}; \theta^{(n-1)}) + \color{blue}D(p(H|X, \theta^{(n-1)}) || p(H|X, \theta))$$



E-step = computing the lower bound
M-step = maximizing the lower bound