LOOK AT FOR EXAMPLE Q_{12}

RATE AT WHICH A CHAIN MOVES FROM STATE 1 TO STATE 2:

$$Q_{12} = \lim_{h \to 0} \frac{P(h)_{12}}{h} = \lim_{h \to 0} \frac{P(h)_{12} - P(0)_{12}}{h} = P'(0)_{12}$$

$$-Q_1 = -Q_{12} - Q_{13} - \cdots - Q_{1k} = \lim_{h \to 0} \frac{-P(h)_{12} - P(h)_{13} - \cdots - P(h)_{1k}}{h}$$

$$= \lim_{h \to 0} \frac{P(h)_{11} - 1}{h} = \lim_{h \to 0} \frac{P(h)_{11} - P(0)_{11}}{h} = P'(0)_{11}$$