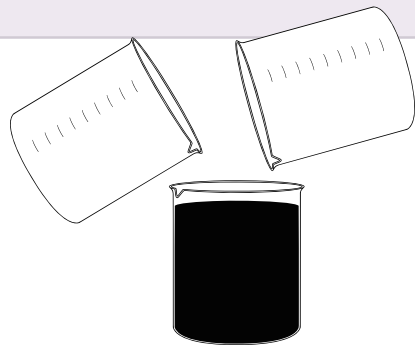
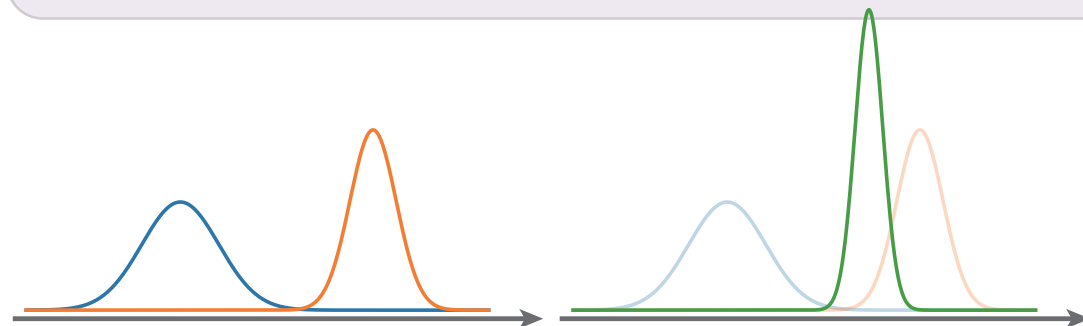


# Macroscopic Processes

$$\begin{matrix} V_t^A & T_t^A \\ V_t^B & T_t^B \end{matrix} \xrightarrow[T_{t+1}^{A \times B} = f_T^{macro}(T_t^A, V_t^A, T_t^B, V_t^B)]{V_{t+1}^{A \times B} = f_V^{macro}(V_t^A, V_t^B)} \begin{matrix} V_{t+1}^{A \times B} & T_{t+1}^{A \times B} \end{matrix}$$



$$\begin{matrix} \mu_t^A & \sigma_t^A \\ \mu_t^B & \sigma_t^B \end{matrix} \xrightarrow[\sigma_{t+1}^{A \times B} = f_\sigma^{macro}(\sigma_t^A, \sigma_t^B)]{\mu_{t+1}^{A \times B} = f_\mu^{macro}(\mu_t^A, \sigma_t^A, \mu_t^B, \sigma_t^B)} \begin{matrix} \mu_{t+1}^{A \times B} & \sigma_{t+1}^{A \times B} \end{matrix}$$



$$\begin{matrix} \vec{v}_t^{A4} & m_t^{A4} \\ \vec{v}_t^{A3} & m_t^{A3} \\ \vec{v}_t^{A2} & m_t^{A2} \\ \vec{v}_t^{A1} & m_t^{A1} \end{matrix} \quad \begin{matrix} \vec{v}_t^{B3} & m_t^{B3} \\ \vec{v}_t^{B4} & m_t^{B4} \\ \vec{v}_t^{B1} & m_t^{B1} \\ \vec{v}_t^{B2} & m_t^{B2} \end{matrix} \xrightarrow[m_{t+1}^{A \times B} = f_m^{micro}(m_t^A, \vec{v}_t^A, m_t^B, \vec{v}_t^B)]{v_{t+1}^{A \times B} = f_v^{micro}(m_t^A, \vec{v}_t^A, m_t^B, \vec{v}_t^B)} \begin{matrix} v_{t+1}^{A \times B} & m_{t+1}^{A \times B} \end{matrix}$$

$$\vec{v}_t^A = \{\vec{v}_t^{A1}, \vec{v}_t^{A2}, \vec{v}_t^{A3}, \dots\} \quad \vec{v}_t^B = \{\vec{v}_t^{B1}, \vec{v}_t^{B2}, \vec{v}_t^{B3}, \dots\}$$

$$m_t^A = \{m_t^{A1}, m_t^{A2}, m_t^{A3}, \dots\} \quad m_t^B = \{m_t^{B1}, m_t^{B2}, m_t^{B3}, \dots\}$$



$$x_t^A = \{x_t^{A1}, x_t^{A2}, x_t^{A3}, \dots\} \quad x_t^B = \{x_t^{B1}, x_t^{B2}, x_t^{B3}, \dots\}$$

$$x_{t+1}^{A \times B}$$

# Microscopic Processes