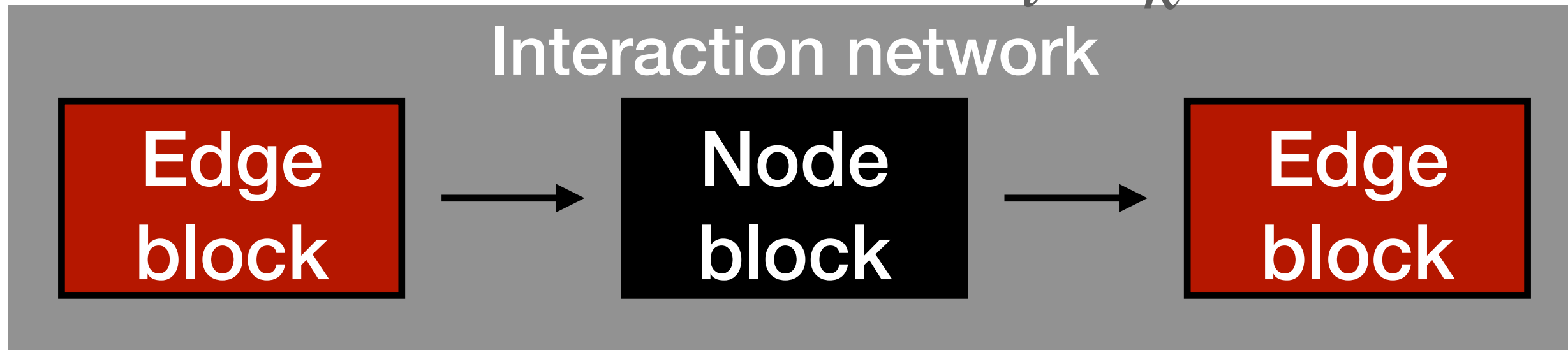
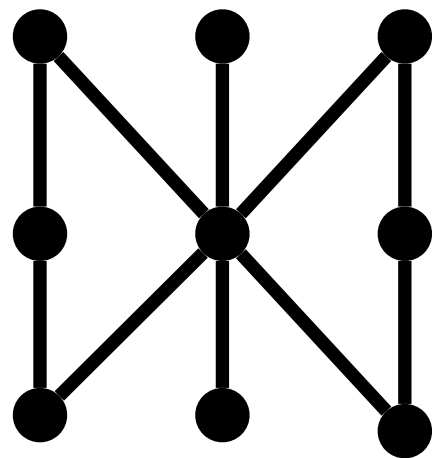
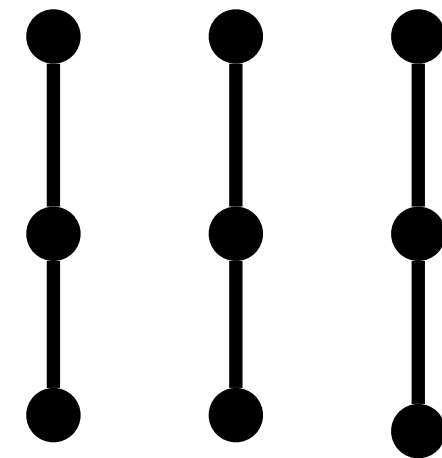


$(\mathbf{v}_i, \mathbf{e}_k)$ 

 $(\mathbf{v}'_i, \mathbf{e}'_k)$ 
 $(\mathbf{e}''_k)$ 


$$\mathbf{e}'_k = \phi_2^e(\mathbf{e}_k, \mathbf{v}_{r_k}, \mathbf{v}_{s_k})$$

$$\bar{\mathbf{e}}'_i = \rho^{e \rightarrow v}(E_i)$$

$$\mathbf{v}'_i = \phi_2^v(\bar{\mathbf{e}}'_i, \mathbf{v}_i)$$

$$\mathbf{e}''_k = \phi_2^e(\mathbf{e}'_k, \mathbf{v}'_{r_k}, \mathbf{v}'_{s_k})$$