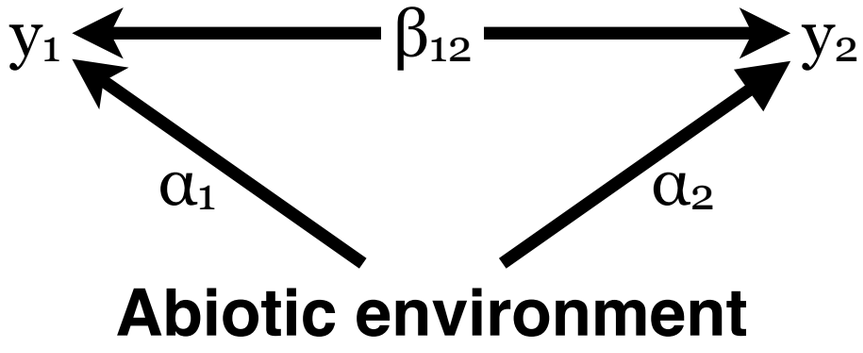
A. Defining a small network



$\alpha_1 = +1$
$\alpha_2 = +2$
$\beta = -1$

B. Solving the network

$$\begin{array}{lll} & \underline{\alpha_1 y_1} \quad \underline{\alpha_2 y_2} \quad \underline{\beta y_1 y_2} & \\ P[0\ 0] = e^{(+0 \quad +0 \quad +0)} / Z & = e^{(0)} / Z \\ P[y_1\ 0] = e^{(+1 \quad +0 \quad +0)} / Z & = e^{(1)} / Z \\ P[0\ y_1] = e^{(+0 \quad +2 \quad +0)} / Z & = e^{(2)} / Z \\ P[y_1 y_2] = e^{(+1 \quad +2 \quad -1)} / Z & = e^{(2)} / Z \end{array}$$

$$(e^0 + e^1 + e^2 + e^2) / Z = 1$$

C. Expected co-occurrence rates

Species 2		**Species 1** Absent	**Species 1** Present
	Absent	5%	15%
	Present	40%	40%

D. Expected co-occurrence without competition ($\beta_{12}=0$)

Species 2		**Species 1** Absent	**Species 1** Present
	Absent	3%	9%
	Present	24%	64%