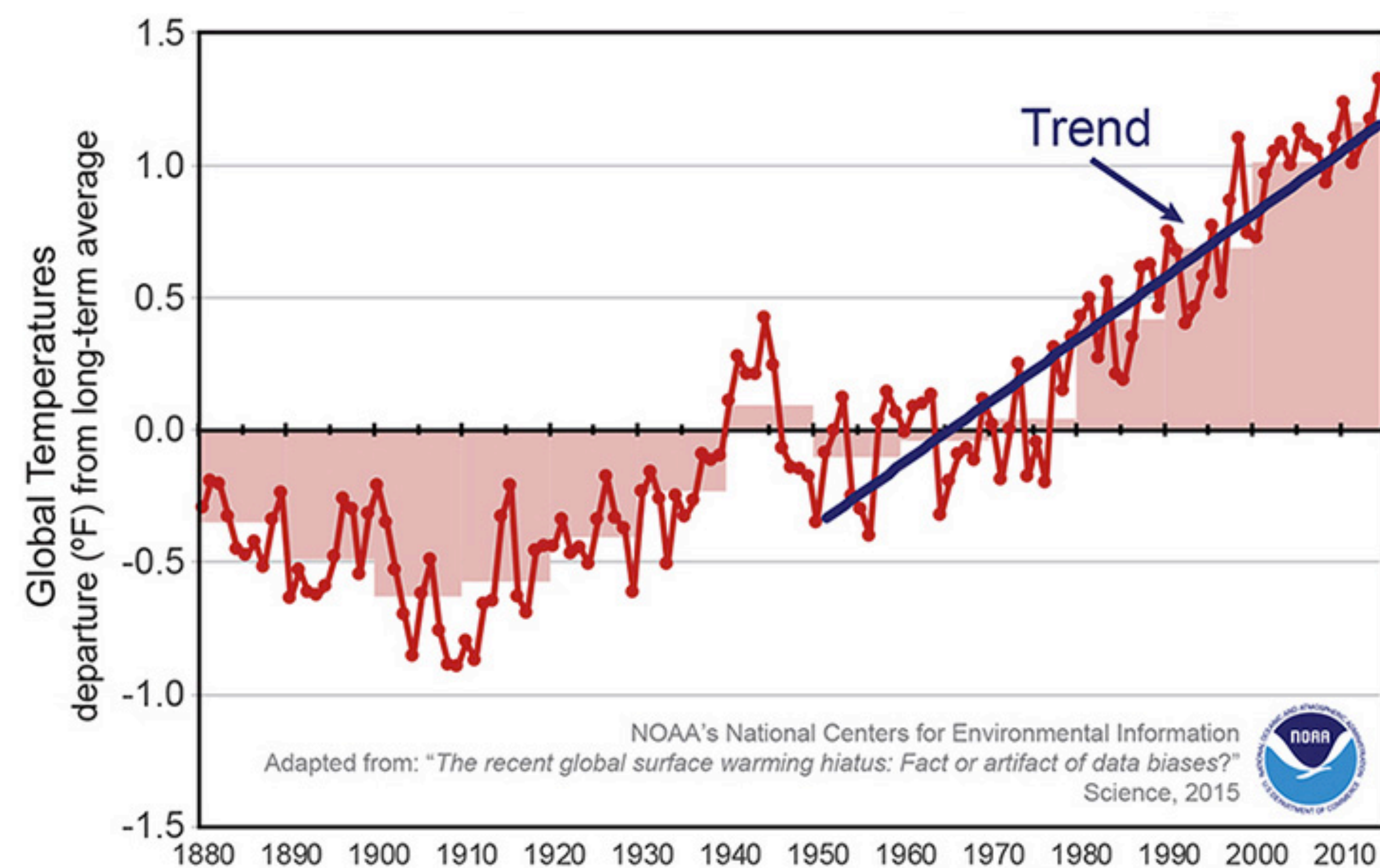# Who influences whom in international politics?
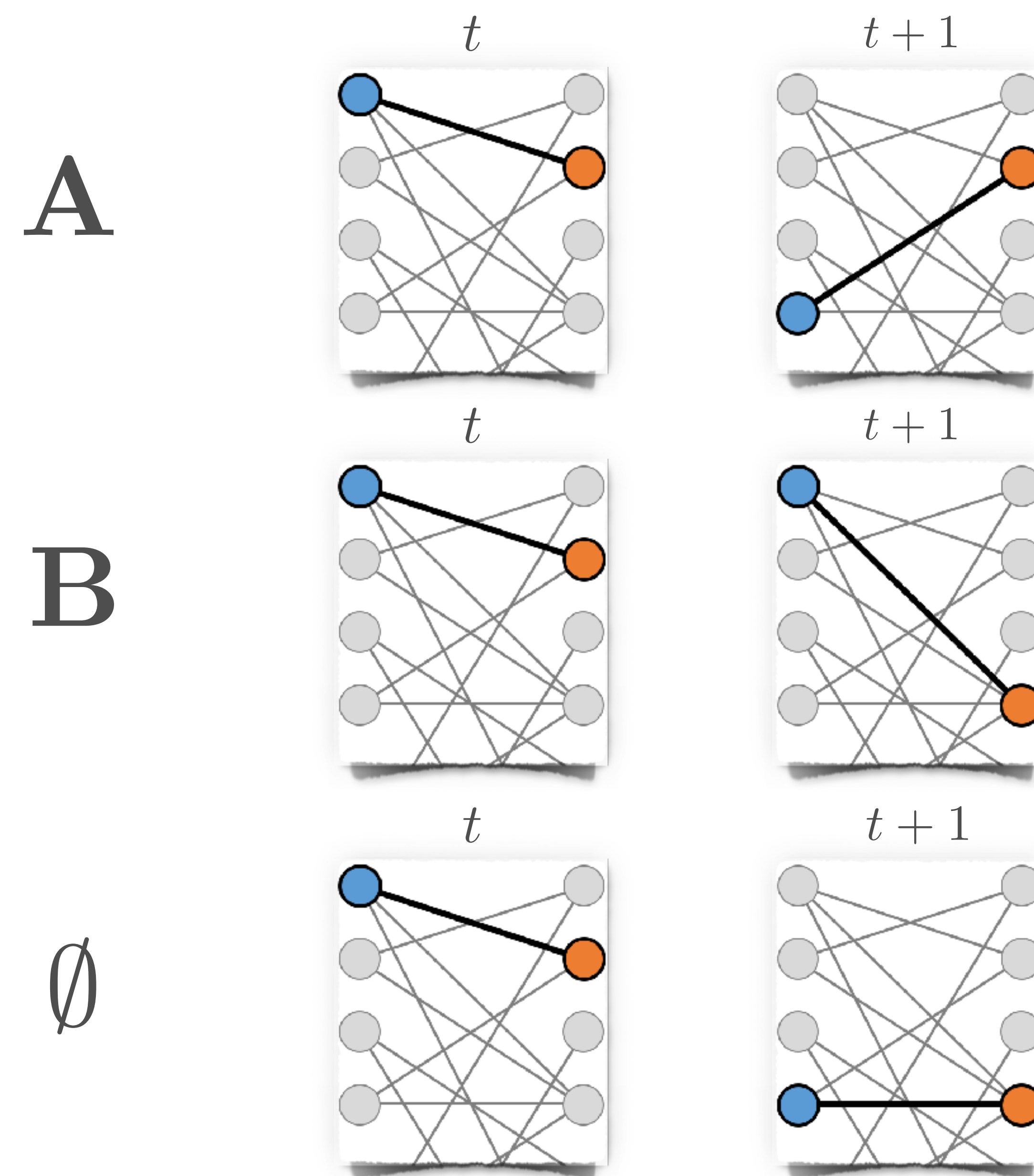
Frank W. Marrs
Department of Statistics
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Climate change
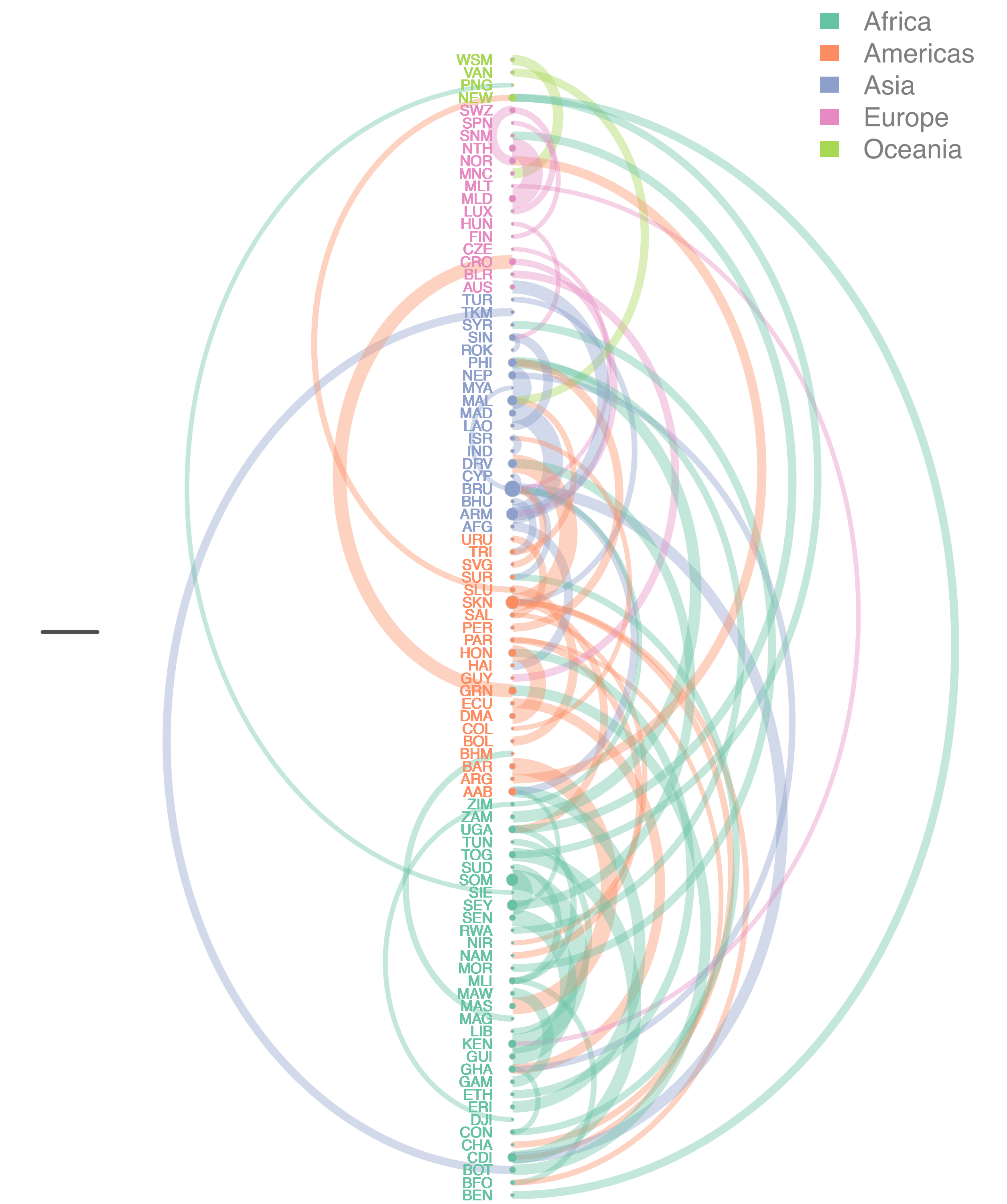### a collective action problem

Bipartite relational data

Model
Bipartite Longitudinal Influence Network

A

B

$\emptyset$
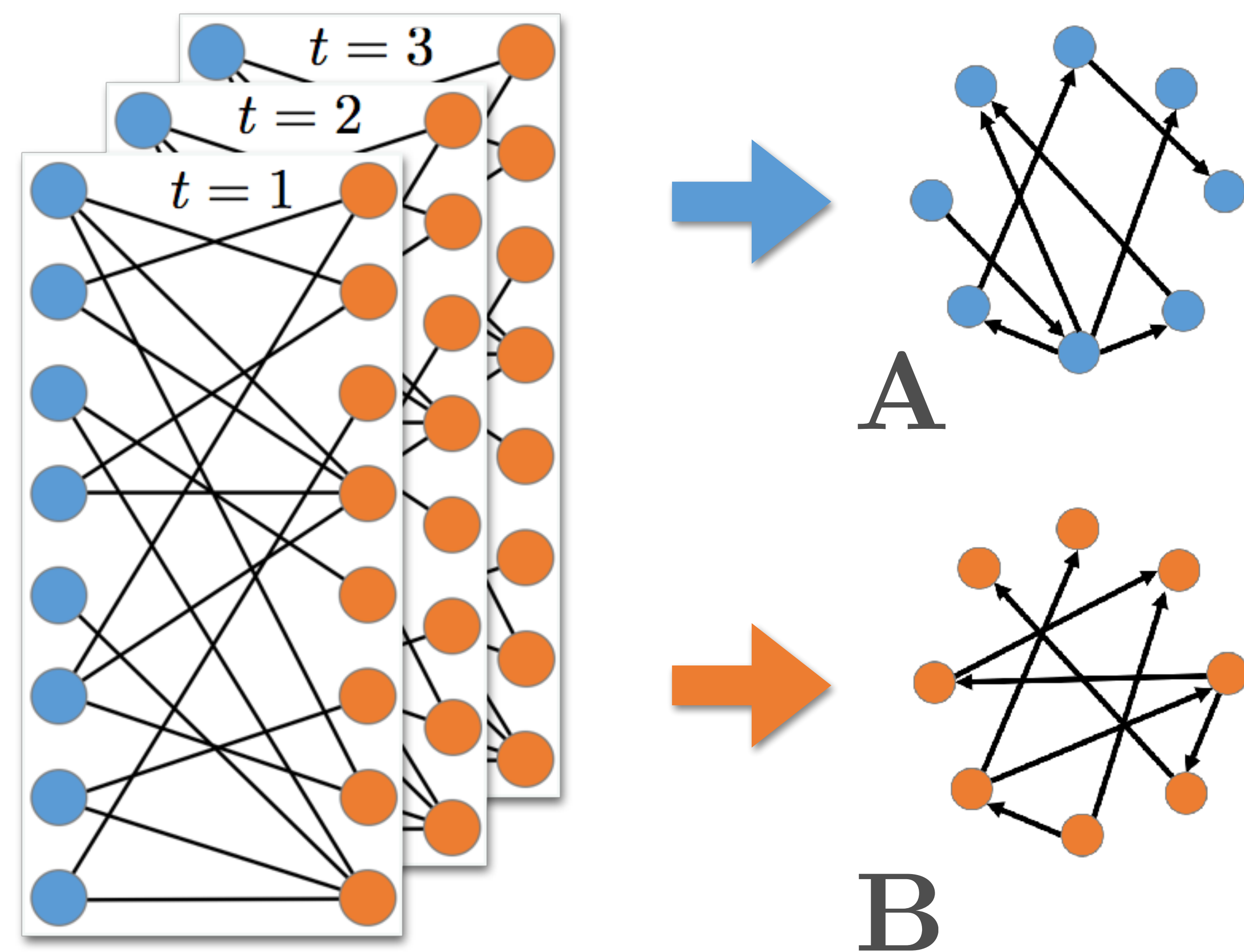
$$\mathbf{Y}_t = \mathbf{A} \, \mathbf{Y}_{t-1} + \mathbf{Y}_{t-1} \, \mathbf{B} + \boldsymbol{\varepsilon}_t$$

Existing approach

$$\mathbf{Y}_t = \mathbf{A} \, \mathbf{Y}_{t-1} \, \mathbf{B} + \boldsymbol{\varepsilon}_t$$

State influence network

Africa
Americas
Asia
Europe
Oceania

Future work
continuous time