Modelling Civil Violence

Modelling Social Interaction in Information Systems course

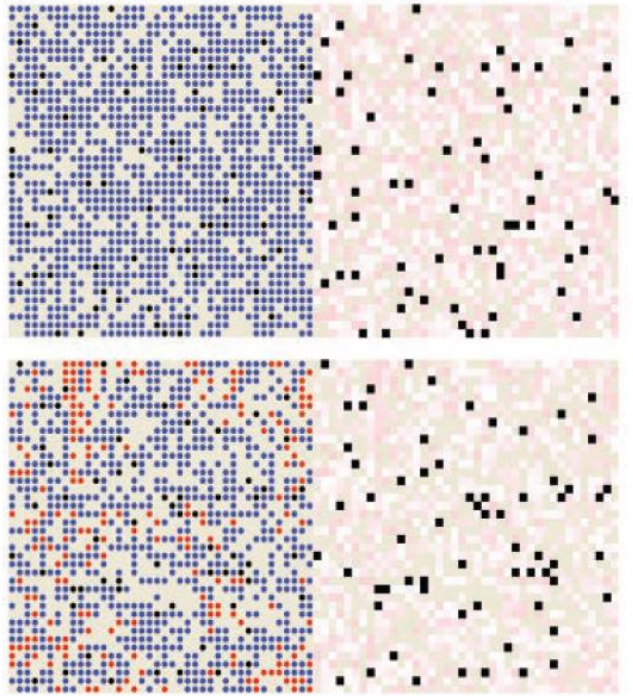
2014/2015-I

Paper: ”Modeling civil violence: An agent-based computational approach”

- Author: Joshua M. Epstien
- 2 agent-based models
- Model I: agents rebel against central authority which seeks to suppress rebellions
- Model II: central authority seeks to prevent violence between agents of two ethnic groups

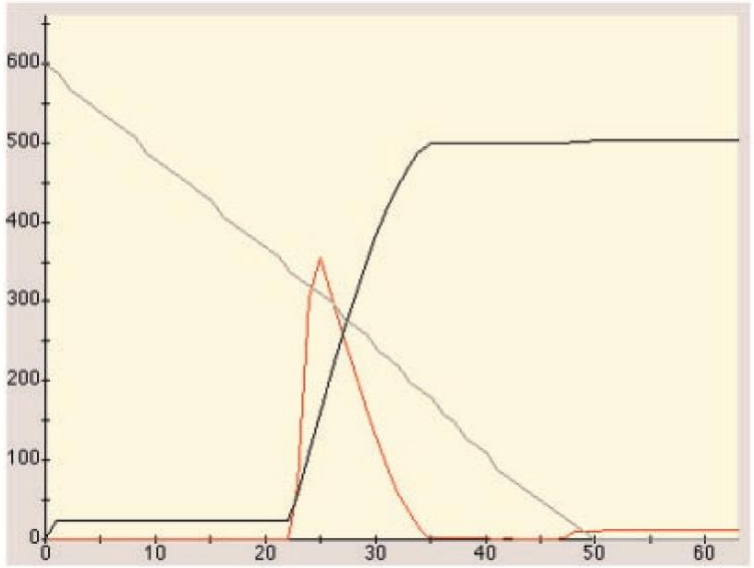
Rebellion against central authority

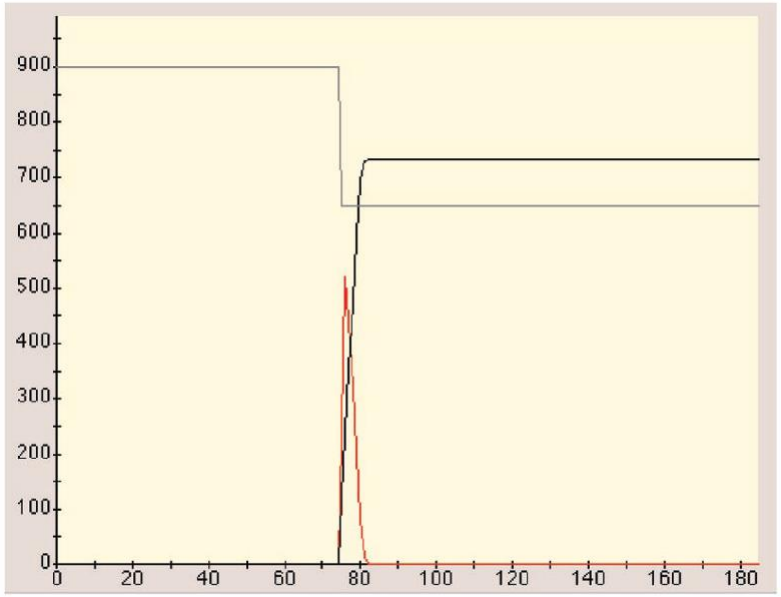
- Agents
  - Properties: **H**ardship, **L**egitimacy, **R**isk aversion, **v**ision, Cops/Actives ratio
  - States: active, quiet
  - **G**rievance – **N**et risk >Threshold → active; otherwise quiet
- Cops
  - **v***ision
  - Rule: arrest perceived active agents
- Random movement and jail time



Results of Model I

- ”Free Assembly Catalyzes Rebellious Outbursts”
- ”Individual Deceptive Behavior”





- ”Salami Tactics of Corruption”
- ”Cop Reductions”

Violence between two ethnic groups

- Variant of Model I
- Going active means killing agents of the other group
- Random death age
- Offspring with probability **p**
- Cops arrest active agents from both groups evenhandedly

Results of Model II

- ”Peaceful Coexistence”
- ”Ethnic Cleansing”
- ”Safe Havens”
- ”Cop Density and Extinction Times”