Political Culture-Based Models of Society and Polity

Camelia Florela Voinea, Dr.
Modeling and Simulation of Political Change Phenomena

Political Culture-Based Models of Society and Polity

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Agent-Based Modeling of Social and Political Phenomena

Social Sciences:
- Social Modeling
- Social action models (Coleman, 1990)

Agent-Based Modeling and Simulation Systems

Artificial Society

Reference models:
“Sugarscape” Model
(EPstein and Axtell, 1996)

Political Science:
- Political Methodology
- International Relations (Axelrod, 1995)

Agent-Based Modeling and Simulation Systems

Artificial Polity

Reference models:
“RebeLand” Model
(Cioffi-Revilla and Rouleau, 2009)
Political Phenomena Modeling

<table>
<thead>
<tr>
<th>Social Simulation &amp; Computational Sociology</th>
<th>Computational Political Science &amp; International Relations</th>
</tr>
</thead>
</table>

**Agent-Based Models:**
- micro-level agents
- micro-to-macro phenomena

**“emergence”**

**Agent-Based Models:**
- macro-level agents
- macro-to-micro phenomena

**“downward causation”**

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Aim of Approach

Modeling

Paradigm: Political Culture

What?
- macro-level agents
- macro-to-micro phenomena ("downward causation")

How?

Operational concept: "bottom-up" architectures revisited
- Mechanisms: interaction and relational
- Processes
- Pathways
Modeling Paradigm

- Political Culture: “thick-and-thin” neo-cultural synthesis (Mishler and Pollack, 2003)
- Political Phenomena Modeling: multiple “thick-and-thin” continua
  - interaction continuum
  - interconnection continuum
  - (political) culture continuum
Modeling Political Phenomena

“Thick & Thin” Continua

Legend:
- Interaction continuum
- Relational continuum
- Political culture continuum
Multi-layer Architecture

Multi-Layer Mechanism Architecture

- (political) culture mechanisms
- social mechanisms
- survival mechanisms

individual actions and interactions
Artificial Polity Simulation Model

- ECPAM'2013
Political Culture

- Recurrent Phenomena
- Cross-Recursive Processes

Trust $\leftrightarrow \{\text{Attitude, Belief, Values, Norms}\}$

Recurrence:

1. based in individual interactions ("emergence")
2. in political culture ("downward causation")

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Experimental Models

- Political Culture-Based Models:
  - briberscape
  - privilegescape
  - baronscape

- Model structure:
  - Agents: environment, social (interaction), culture
  - Simulation system: Artificial Polity
Polity Models

Two main polity models:

1. Communist Polity Model (CPM)
2. Democratic Polity Model (DPM)

2a. Transition-to-Democracy Polity Model (Ts-DPM)
2b. Democratic Consolidation Polity Model (Cs-DPM)

The Simulated Political Mechanisms in the Artificial Polity Model

<table>
<thead>
<tr>
<th>Simulation Scenario(s)</th>
<th>Networks of Trust</th>
<th>Inequality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authoritarian Polity Model (CPM)</td>
<td>a. Generalized network of trust; included in polity; b. Coercive centralized control and the macro-level emergence of parallel autonomous networks of trust (patro-client networks)</td>
<td>a. Coercive control of the access to resources enables relations of exploitation b. Generalized categorial inequalities in public politics</td>
</tr>
<tr>
<td>Democratic Polity Model (DPM)</td>
<td>a. Insulation of existing categorical inequalities from public politics b. Incorporation and expansion of existing trust networks into the polity</td>
<td>a. Dissolution of coercive controls supporting current relations of exploitation b. Insulation of existing categorical inequalities</td>
</tr>
</tbody>
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Thank you!