



The Dissemination of Culture: A Model of Local Convergence and Global Polarization

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Culture

- What is culture? (many definition)
- Culture:
 - set of individual attributes that are subject to social influence
- How does culture spread?
- Why are there many distinct cultures?

Approaches in the paper

- Culture spread through interactions
- The methodology is based on three principles:
 - Agent-based modeling
 - No central authority
 - Adaptive rather than rational agents
- Agents interact with agents who have similar culture
- The effect of one cultural feature depends on the presence or absence of other cultural features

The model

- Culture is represented by a vector, example: (1, 5, 9, 6, 0)
- Agents on a grid
- Possible interactions with the neighbors

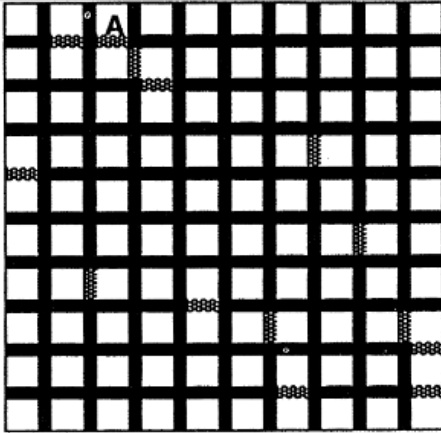
The algorithm

Repeat the following steps for as many events as desired.

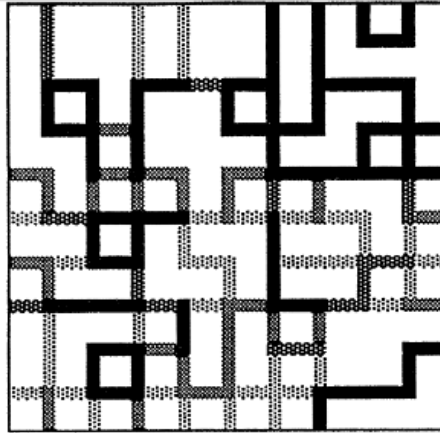
Step 1. At random, pick a site to be active, and pick one of its neighbors.

Step 2. With probability equal to their cultural similarity, these two sites interact. An interaction consists of selecting at random a feature on which the active site and its neighbor differ (if there is one) and changing the active site's trait on this feature to the neighbor's trait on this feature.

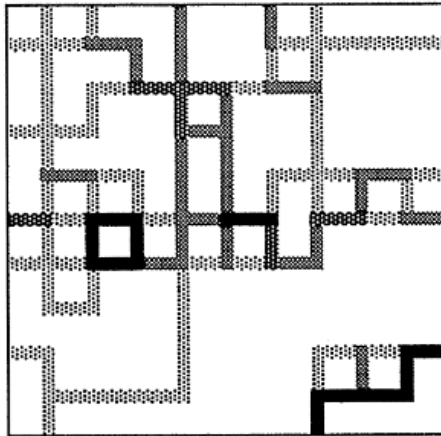
Experiments



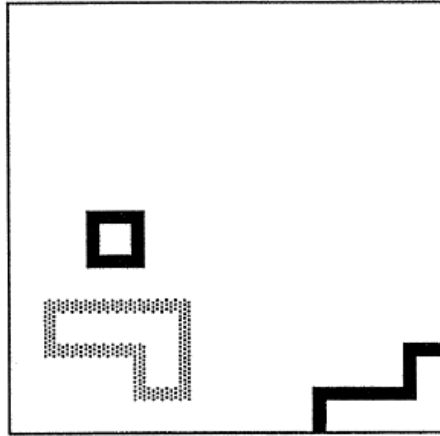
(a) At start



(b) After 20,000 events



(c) After 40,000 events



(d) After 80,000 events

Number of stable regions:

- Usually 3 (big variance)

Range of interactions:

- Faster convergence
- Fewer stable regions

Size of territory:

- No substantial effect
- Slightly fewer stable regions

Number of features:

- Fewer stable regions

Impressions

Pros

- Very interesting model (easy to understand)
- Thorough analysis
- Analysis of dialects, cultural zones and boundaries

Cons

- Fixed agents?
- Two way interaction?
- Different graph structures?