Lecture with Computer Exercises:
Modelling and Simulating Social Systems with
MATLAB

Project Proposal

Media Bias and Voting

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Introduction

Media organisations play pivotal role in today's democratic societies. They play an essential role in conveying information about political actions to the general public (potential voters). A significant portion of population is daily extracting political information from TV, which as a result can often shape public opinions greatly. Therefore, in cases where information conveyed from TV broadcasts is biased, there is a potential risk of manipulating political consciences. Thus, the result of a voting procedure can be strongly affected.

Description of the Model

The aim of this project is to investigate the influence of media in forming political results. Moreover we are planning to model the following social network.

- The social network consists of 3 types of entities:
    - Politicians
    - Media
    - Voters
- Assume two types of politicians:
    - 'Opportunistic', who pursues his/hers own interest.
    - 'Ethical', who pursues the public interest.

Another strong assumption is silently made here: The 'public interest' is one and applies to all voters, i.e. a politician's actions either represent all voters or none of them.

- Media plays the role of an information filter between the true identity of a politician and the voters. There is a possibility that each media entity is biased.
- Voter entities can be one of the following types:
    - Type 1: The biggest portion of the total population of voters. They can be influenced from the media and from other voters as well.
    - Type 2: A small portion of the total population of voters. They cannot be influenced from the media and they know the true identity of each politician.

A general schematic of the communication between the fore mentioned entities can be seen on Figure 1.

This is a simple way of modelling the different influence of each media entity on a portion of the total voters, meaning that different influence exists. Each community involves the following (Figure 2):

- One (dominant) media broadcaster with its own amount of bias.
- Voters. The biggest portion of the voters are of Type 1. The portion of voters Type 2 is also a parameter.

The information from the media is sent to all voters. The aim of this simulation would be to let each voter of type 1 interact with his surrounding (neighbourhood) and after certain time of evolution observe the electoral result. We believe that the tools that have been presented in class so far would not be suitable to model the interaction between voters so

this matter is still under research. The final goal would be to conduct various experiments with different parameter values concerning the amount of bias for each media and the portion of Type 2 voters. Possible extensions of this model are also considered, i.e. adding more complexity-parameters.
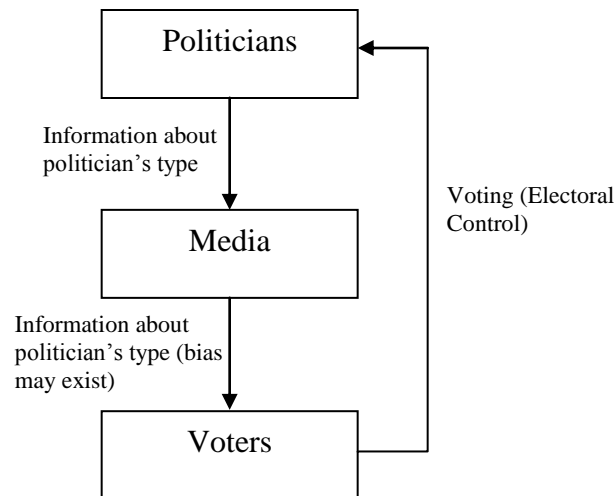

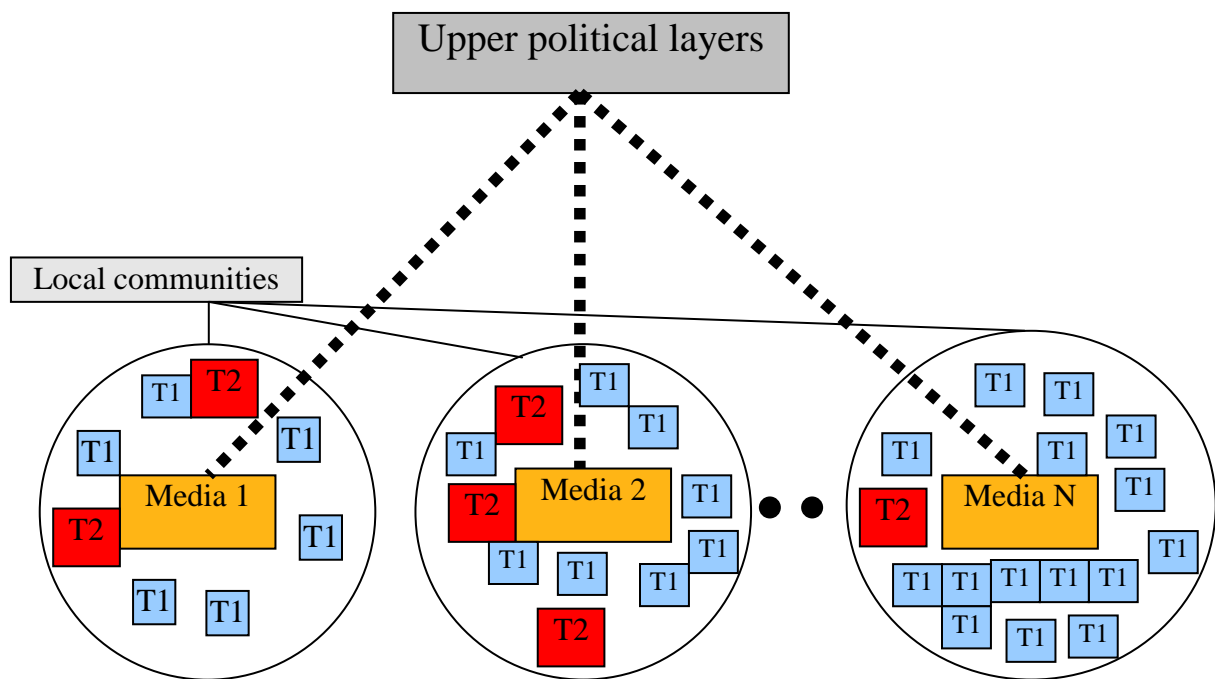*Figure 1: The interaction between the entities of the system*

Figure 2: *How the media network is organized*

Related Literature

[1]   'The rise and decline of nations: economic growth, stagflation and social rigidities ', M. Olson, Yale University Press 1982.
[2]   'Political Accountability, Electoral Control and Media Bias', T. Adachi, Y. Hizen, November 2010.
[3]   'The Fox News Effect: Media bias and Voting', S. Della Vigna, E. Kaplan, The Quarterly Journal of Economics, August 2007.

Note: The literature list is not exhaustive; more references will be added when the tools used for the simulation are decided.