

Medial influences on society

Research Question:

How fast can information be spread in society by a television news format?

Can misinformation be spread by media even though there are people in society who know better?

How big does the percentage of “specialist” need to be in order to extinct the misinformation?

Research paper:

“Spread of (mis)information in social networks” 2010 by Daron Acemoglu et al

Model:

- Take Switzerland as an example:
 - 7'000'000 people/agents in total
 - Average from Jan-Jun 2017 606'000 of which watched “Tagesschau”
 - 606'000 agents are randomly collected to spread the information from Tagesschau
 - Every agent is represented by a grid point
 - At each time interval there is a chance that an agent meets another agent and tells him about what happened
 - Every agent has a random number of times (between 1 & 5?) that he has to hear about something, before he beliefs what he has heard and starts to spread the information himself.
 - The meeting chance is decreasing linearly with increasing distance between the grid points

In a second step:

- Introduce a new type of agent in the following called “specialist”:
 - Specialists can be selected to watch the “Tagesschau” just as all other agents
 - Specialists do not believe the misinformation, their misinformation value always stays at zero
 - If a specialist meets a person that has some points of misinformation spread (whether or not the agent believes the information and spreads it) one point of misinformation will be subtracted
 - The points of misinformation cannot fall below 0 for any agent
 - If an agent is persuaded by a specialist not to belief in the misinformation any more, he can still be made to belief the misinformation by meeting a misinformation spreading agent

Parameters:

Every agent has the following parameters:

Parameter	Description
Gridpoint (x,y)	Spacial position in uniform rectangular grid
Points of misinformation (between 0 and infinity)	How much does the agent belief in the misinformation: +3 if he watched Tagesschaue +1 if he meets agent that beliefs/spread misinformation -1 if he meets specialist
Persuasion points (random initial value between 1 and 5)	How many points of misinformation are needed before the agent is persuaded of the information and starts to spread it.
Specialist (true; false)	Is the agent a specialist or a normal agent?