

Modeling Social Movements

version 0.0

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Modeling Social Movements

- What strategies from historical social movements can be applied to the climate advocacy movement?
- How do these strategies need to be adapted to the modern context?

Contents

Survey of Social Movement Models

This paper will survey the existing literature of simulation models of social movements, reconstruct these models in the System Dynamics, Agent Based Modeling, or other paradigms as appropriate, and simulate the range of plausible behavioral outcomes these model reveal.

It will then group these models according to their structure, underlying theory, and behavioral outcomes.

Granovetter - Threshold Models of Collective Behavior

[Paper on JSTOR](#)

Johnson/Feinberg - Consensus in Crowds

Model based upon the paper: <http://www.jstor.org/stable/2094754>

Overview

This paper will survey the existing literature of simulation models of social movements, reconstruct these models in the System Dynamics, Agent Based Modeling, or other paradigms as appropriate, and simulate the range of plausible behavioral outcomes these model reveal.

It will then group these models according to their structure, underlying theory, and behavioral outcomes.

[Formal Models in Studying Collective Action and Social Movements. Pamela E. Oliver; Daniel J. Myers](#)

System Dynamics Conferences

- <http://www.systemdynamics.org/conferences/2011/proceed/papers/P1436.pdf>
- <http://www.systemdynamics.org/conferences/2012/proceed/papers/P1081.pdf>
- <http://www.systemdynamics.org/conferences/2007/proceed/papers/MADNI289.pdf>
- <http://www.systemdynamics.org/conferences/2011/proceed/papers/P1329.pdf>
- <http://www.systemdynamics.org/conferences/1983/proceed/plenary/richa001.pdf>
-

Models of Crowds

Models of crowds are a related but probably distinct type of modeling, as they are interested not in the macrobehavior of movements over timescales of weeks to years, but the behavior of groups of people on the order of minutes to hours. It will probably be important to understand how meaningful these distinctions are, and the similarities between each type of model.

- Granovetter Threshold model

Narrative Models

Based on our previous work, looking at the conflict between narrative explanations of events within an individual.

http://www.jstor.org/stable/2094754?seq=1#page_scan_tab_contents

Types of Models

- network
- System Dynamics

Formalizing other social movement theories

This paper will formalize a variety of theories about the dynamic roots of social movements as System Dynamics or Agent Based models drawn from the traditional sociology literature. It will focus on theories that have received less attention in the modeling literature. It will categorize these models according to their theories and simulated outcomes, in the context of the categories defined for models existing in the literature.

#The role of Stories

Thinking:

- Georges Sorel: Myth as essential for revolution
Uncle Tom's Cabin
- Paul Bloom: stories have helped shift the moral codes of nations

Overview

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Case Studies

These case studies should identify a major area of the social movement theory, identify which of the formalized models are appropriate for analyzing it, identify one or two cases in which this area is relevant, collect data about those components of the movement, and simulate the movement with data, in order to understand if the model is a good fit for the case.

DDT and Silent Spring

This case study looks at social movements which arise due to scientific findings. DDT and Silent Spring is one aspect of this in practice, but others exist:

- CFC bans
- Leaded Gasoline, Lead paint Bans

Outline: - What is the history? Tell the story.

Ending Apartheid in South Africa

This case study looks at divestment and the role of universities.

Abolition of the British Slave Trade

This case looks at the challenges of bridging a moral divide and advocating on behalf of other parties.

Petitions to Parliament

<http://www.parliament.uk/slavetrade>

Marriage Equality in the US

National Opinion Research Center Data from NORC General Social Survey
<http://www3.norc.ox.ac.uk/GSS+Website/Download/>

The data fields are described here:
http://publicdata.norc.ox.ac.uk/41000/gss/documents/BOOK/GSS_Codebook_index.pdf

Relevant columns:

- **MARHOMO** HOMOSEXUALS SHOULD HAVE RIGHT TO MARRY
- **HOMOSEX1** IS HOMOSEXUAL SEX WRONG?
- **HOMOCHNG**
- **SEXORNT**
- **MARUNION**

GAYS AND LESBIANS Age first attracted to same sex ATTRACTD Age R first told another that R was gay/les/bi TOLDSXOR Age R first told another R had sex with same sex TOLDSMSX Attitudes toward HOMOSEX, HOMOSEX1 Cause of homosexuality HOMOCHNG Civil liberties of SPKHOMO, COLHOMO, LIBHOMO Gender of R's sex partners since age 18 SEXSEX18 Government inquiries into ASKSEXOR Housing problems due to discrimination EVDWELL, DWELL5 In military DRAFTGAY Job Harassment EVHARJB, HARJOB5 How many co-workers know R is gay TOLDWORK Job loss/problems due to discrimination EVLOSEJB, LOSEJOB5, EVNEGJOB, NEGJOB5 Marriage MARHOMO Marital status of R MARUNION Number of Gays R knows... at work ACQWKGAY, TOLDWORK in family ACQFMGAY in general ACQGAY in neighborhood ACQNHGAY through voluntary organizations ACQVAGAY Number if Gays R trusts TRTGAY Sexual orientation of R SEXORNT Spouse/partner, sex of SEXUNION

This is hard to geographically disambiguate, as the geo information is withheld. To get it, need to fill out some forms, send in money, etc. <http://publicdata.norc.umd.edu/41000/gss/documents/OTHR/ObtainingGSSSensitiveDataFiles.pdf>

```
import pandas as pd
```

```
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gss.head()
```

```
gss.columns.values
```

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```

```
gss['age']
```

```
0  22
1  21
2  42
3  49
4  70
5  50
6  35
7  24
8  28
```

```

9    28
10   55
11   36
12   28
13   59
14   52
...
1959 63
1960 20
1961 71
1962 50
1963 23
1964 65
1965 60
1966 69
1967 78
1968 25
1969 61
1970 53
1971 48
1972 37
1973 22
Name: age, Length: 1974, dtype: object

```

```
gss['marhomo']
```

```

0      strongly agree
1      strongly disagree
2      strongly agree
3      NaN
4      NaN
5      strongly agree
6      NaN
7      strongly agree
8      neither agree nor disagree
9      strongly agree
10     NaN
11     NaN
12     strongly agree
13     strongly disagree
14     NaN
...
1959    strongly agree
1960    strongly agree
1961     NaN
1962    agree
1963    strongly agree
1964     NaN
1965    agree
1966     NaN
1967    disagree
1968    strongly agree
1969     NaN
1970    strongly disagree
1971    neither agree nor disagree
1972     NaN
1973    neither agree nor disagree
Name: marhomo, Length: 1974, dtype: object

```

Climate Movement

How do commitments from other countries influence political pressure within a country to commit to reductions

If a perfect agreement is DOA because of the political situation back home, what is the purpose of the summits? Must be to motivate political change back home. What would a perfect agreement do to political pressure? How would it change the conversation? Look to Kyoto?

General outline

- Survey of existing computational models of social movements
- Construct models of social movement theories that are not represented in formal models in the literature
- Case studies of historical social movements:
 - Silent Spring: Science as the Impetus for Change
 - End of Apartheid: Universities and Divestment
 - British Abolition: Bridging the modal divide, and movements on behalf of other parties
 - British Abolition: Organizing against economic engines
 - Indian Independence: Organizing in underdeveloped countries
 - US Abolition: Cognitive Dissonance, Racism and Denialism
 - Civil Rights: The role of churches and community organizations
 - Marriage Equality: Movements in the digital era
 - Womens Suffrage: ??
 - Labor Movement: ??
 - ?? :Co-movements, Coalitions of Causes'
 - ?? :Storytelling in Social Movements
 - Obama 2012: Big Data and Social Movements?
- Synthesis for Climate Change Movement Synthesis
- State of climate, economic and policy modeling
- How these social movement models interact with climate and policy models
- Implementation: How these social movement models are used
- Recommendations

Stories

During this work, I hope to collect stories of individuals and groups that illustrate various components of the system, so that when the bulk of the thesis is complete, I can tell the same story – teach the same lessons – to a popular audience. Stories are the models of the mind, and so keeping a weather eye for stories that tell structure all the way through the research should facilitate this. Not only is the research likely to be a fertile ground for stories and storytelling, but if I am going to truly understand what I'm doing and have any authority on the subject, I need to be able to tell those stories.

Indices and tables

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