

Modeling Social Believers

Location: College Hall 135

Days/Time: Tuesdays & Thursdays, 12:35-1:50

Instructor: Charles Lassiter

Office: Robinson 104

Office hours: Mondays, 3-5 pm; Fridays, 2:30-4:30; by appointment

[Suggestion Box](#) (for anonymous comments)

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“All models are wrong, but some are useful.”

--George Box

Course Description

Consider some phenomena among folks: sometimes everyone in a group agrees and sometimes they polarize; sometimes individuals disagree with each other; sometimes people develop their beliefs in echo chambers. What does it mean to be rational in these cases? What are the important social factors that lead people to act as they do? These are the kinds of questions we'll be considering in this class. We'll read philosophical works on reasoning — alone and in groups — and we'll learn how to develop computer simulations of reasoners.

“What if I can't code?!” you may be asking. Don't worry! LLMs have gotten pretty good at writing code for the kinds of models you'll be developing. Instead of having to build models from scratch, you'll build them with the help of an LLM. It's easier to recognize and interpret what some code is doing rather than developing a program all on your own. It's the difference between reading and writing in a foreign language: the latter requires abilities that go beyond the former. The goal in developing these models is to understand ways in which social epistemic phenomena emerge.

“How is this philosophy?” In philosophy, we use empirical data (at least sometimes) to better understand the world around us and to get clearer on certain concepts. Agent-based modeling (what we're doing in this class) can help us get a better sense of ourselves as reasoners in social settings. It can reveal to us what we look like from 30,000 feet and how our choices, small though they are, fit into wider cultural patterns. Every time you follow some figure on social media or share a meme, it's shaping the informational ecosystem in some small way. Enough of them, and we get big changes. This class will also help us get a sense of what goes into computer models of all sorts. Every computer model makes assumptions about the world, has an array of philosophical background concepts, and churns out data that require choices with respect to analyses. All of this work requires philosophical reflection.

We will address the fourth yearly theme and question (“Imagining the possible: What is our role in the world?”). In particular, we’ll consider what’s possible with respect to epistemic phenomena among groups. Is polarization rational or irrational? What causes it? Are echo chambers necessarily bad? Why should we respect others’ epistemic autonomy, if at all?

Learning Outcomes

1. integrate the principles of a Jesuit education, prior components of the Core, and their disciplinary expertise (knowledge).
2. clearly and persuasively communicate with an audience of diverse educational backgrounds, personal experiences, and value commitments using ideas and arguments based on evidence, logic, and critical thinking (skill).
3. assess the ways in which the Core has transformed the commitments and perspectives that will inform their future endeavors (attitude).

Required texts

1. Page, Scott. *The Model Thinker*. New York: Basic Books, 2018.
2. [Introduction to Netlogo](#)
3. [More detailed introduction to Netlogo](#)
4. [Beginner’s guide to Netlogo](#)
5. [Netlogo dictionary](#) (list of primitives for the language. Keep this link handy.)

Work

Attendance and participation

Students are allowed to miss **twice** the number of weekly meetings. The grade for excessive absences is “V”, which has the same effect as “F” (Fail) and is counted in the GPA. I expect student participation. If you are nervous about talking in class, you’ll have plenty of opportunities to talk with your small group. You can also email me or come to office hours as part of participation.

Group Projects

Students will be tasked with developing models to explore social epistemic phenomena. Assignment submissions include:

- (a) Description of the phenomenon to be explored
- (b) Explanation of parameter choices
- (c) Results and insights

(d) Reflection: what have you learned from developing and analyzing the model?
This project is an opportunity to develop their modeling skills in collaboration with other students and to cultivate the kinds of skills associated with thinking about epistemic phenomena at the population level. *Satisfies learning outcomes 1, 2, & 3*

Journaling

Students will complete 4-page (~1200 words) journal entries about course readings. In each entry, students will:

- (a) Describe 1 or 2 key concepts from the readings.
- (b) Reflect on how those concepts shape their understanding of social epistemic phenomena as well as how instantiations of these phenomena relate to their own lives now and in the future.
- (c) Reflect on how the ideas give us some insight into how we can imagine the world to be for the better (or how to avoid pitfalls).
- (d) Reflect on how the material ties into their own majors. This latter component may take many forms, e.g. connecting disciplinary knowledge with the content of the course, or using the content of the course to better understand how scholarly communities converge on one finding or become polarized. *Satisfies learning outcomes 1, 2, 3*

Final project

Every group will develop a final project and presentation. They will pick some phenomenon they're interested in modeling. They will create and analyze the model's outputs; they will also identify and argue for assumptions in the model about reasoning and human interaction. Finally, students will reflect on what their findings mean for their place in the world and their future roles. For example, finding that echo chambers can form rather easily, do we have an obligation to look for information outside our echo chambers? What grounds that obligation; why is it an obligation? Students will present their projects to the class at the end of the semester.

Here are the parts you must discuss in your project:

- i. ~~Phenomenon of interest (e.g. echo chambers)~~
- ii. ~~Epistemological issues: Include discussion of how a model can help with making progress on this issue~~
- iii. Model description: Make sure to explain ~~why you made the assumptions you did~~; ***how you conceptualize diversity***
- iv. Netlogo file (file extension is .nlogo or .nlogox)
- v. Analysis of model outputs (with CSV or Excel file)
- vi. What the model's outputs tell you (if anything) that can help make progress on the issue, ***but briefly and with respect to diversity***
- vii. What this project tells you about yourself and others trying to form reasonable beliefs in a social, information-saturated environment ***where diversity is a help or hindrance***

The format for the assignment is open. You can submit a video essay or a traditional research paper. Whatever format you choose, you should refer to and cite the relevant philosophical and empirical literature. You will also be presenting your findings to the class on the day of the final exam.

This project is an opportunity for students to explore phenomena that they find interesting, to get some insight into how beliefs work in groups. In a way, this class and this project are about us as people. While any modeling project abstracts away from details, we can nonetheless get some understanding of ourselves by reflecting on these simplified cases. *Satisfies learning outcomes 1, 2 & 3*

Assignment weights

Group projects: 33%

Journals: 34%

Final project: 33%

Late Work

Work is penalized by 10% for each day it is late. If students know ahead of time that they will have some difficulty meeting a deadline, please contact me. I'll be more than happy to take other commitments you might have into consideration when assigning due dates.

Course Schedule

	Tuesday	Thursday
Week 1 Jan 13, 15	1. Introduction to the class, 2. getting started with Netlogo, 3. survey of coding and stats	Alvin Goldman, " A Guide to Social Epistemology ," (chapter 1 in the linked-to book)
Week 2 <i>Networks</i> Jan 20, 22	<i>The Model Thinker</i> , ch. 4 and 5	Introducing networks and <i>The Model Thinker</i> , ch. 10
Week 3 <i>Networks</i> Jan 27, 29	<i>The Model Thinker</i> , ch. 6 and 11, Whisper networks	O'Connor and Weatherall, " How False Belief Spreads " Journal #1 Due

Week 4 <i>Experts</i> Feb 3, 6	O'Connor and Weatherall, " How False Belief Spreads "	Alvin Goldman, " Experts: Which Ones Should You Trust? " sections 1,5,6,7
Week 5 <i>Experts, Trust</i> Feb 10, 12	T.Y. Branch  How Do We Decide Which ... Lassiter, " Reading the signs "	Overview of Baier:  Theories of Trust: Annette Baier Anette Baier, " Trust and antitrust "
Week 6 <i>Trust</i> Feb 17, 19	Baier (continued)	Gloria Origgi, " Is Trust an Epistemological Notion? " Journal #2 Due
Week 7 <i>Signaling</i> Feb 24, 26	Miller and Freiman, " Trust and Distributed Epistemic Labor "(skip section 3)	<i>The Model Thinker</i> , ch. 21, 22, 25, and  Game Theory 101: Effective Signaling an...
Week 8 <i>Signaling</i> Mar 3, 5	Class project 1: Signaling expertise and mimicking signals	Class project 1: Signaling expertise and mimicking signals , Class project #1 Due
Week 9 <i>Conformity</i> Mar 17, 19	Weatherall and O'Connor, " Conformity in scientific networks "	Chituc and Sinnott-Armstrong, " Moral conformity and its philosophical lessons "(read sections 1, 4-7)
Week 10 <i>Conformity</i> Mar 24, 26	Hagen, " Confucian education: From conformity to cultivating personal distinction "	<i>The Model Thinker</i> , ch. 19 and Schelling-Sakoda Model (see Netlogo model library)
Week 11 <i>Conformity</i> Mar 31, Apr 2	Patricia Rich " Hidden Costs of Epistemic Conformity: Lessons from Information Cascade Simulations "	TBD
Week 12 <i>Epistemic environments</i> Apr 7, 9	Neil Levy, " Culturing belief " and " Epistemic pollution "	C. Thi Nguyen, " Escape the echo chamber " Journal #3 Due

Week 13 <i>Epistemic environments</i> Apr 14, 16	Bert Baumgaertner, “ Yes, No, Maybe So ”	Class project 2: polluted epistemic environments
Week 14 <i>Epistemic environments</i> and <i>Diversity</i> Apr 21, 23	Class project 2: polluted epistemic environments	Weisberg and Muldoon, “ Epistemic Landscapes and the Division of Cognitive Labor ” Class project #2 Due
Week 15 <i>Diversity</i> Apr 28, 30	Fazelpour and Steel, “ Diversity, Trust, and Conformity: A Simulation Study ”	Final project collaborations Journal #4 Due
Final Exam: May 7, 3:30-5:30	Final Project and presentations due	

On days that you’re working on your projects in class, you’re to use the time to troubleshoot issues with your group members, run ideas past them, etc. I find that working in groups can help with a big project, so I want to leverage that to help make your projects the best they can be.

University Policies

There are a number of important GU policies. Rather than put them all here, below is a table to all the relevant policies.

University and Academic Policy Statements	Associated Links
Diversity, Equity and Inclusion	Office of Diversity, Equity and Inclusion Bias Incident Assessment and Support (BIAS) Team
Harassment, Discrimination And Sexual Misconduct Policies	Harassment and Non-Discrimination Policy Title IX
Academic Integrity Policy	Academic Integrity Policy

Students With Disabilities/Medical Conditions and Accessible Documents (EITA)	<u>Disability Access and Resources Office</u> <u>Electronic Information Technology Accessibility (EITA)</u>
Religious Accommodations for Students	<u>Religious Accommodations for Students Policy</u>
FERPA and Privacy	<u>FERPA</u>
Class Attendance Policy	<u>Class Attendance Policy</u> <u>Amended Class Attendance Policy</u>
Notice to Students of COVID-19 Expectations	<u>Student Arrival & Return to Gonzaga Guides</u>
Notice to Students about Class Recordings (audio, video and photos)	<u>Zoom sessions might be recorded</u> <u>Gonzaga University's Student Code of Conduct</u>
Course Evaluations	<u>Course Evaluations</u>

Each of these policies is important. Please read them!