

3rd term workshop 2023-2024

Bayesian Reasoning for Qualitative Social Science

Instructor: [Tasha Fairfield](#) (LSE)

Organiser: Waltraud Schelkle

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Credits: 20

The way we intuitively approach qualitative case research is similar to how we read detective novels. We consider various different hypotheses to explain what occurred— whether a major tax reform in Chile, or the death of Samuel Ratchett on the Orient Express—drawing on the literature we have read (e.g. theories of policy change, or other Agatha Christie mysteries) and any salient previous experiences we have had. As we gather evidence and discover new clues, we update our beliefs about which hypothesis provides the best explanation—or we may introduce a new alternative that occurs to us along the way. Bayesianism provides a natural framework that is both logically rigorous and grounded in common sense, that governs how we should revise our degree of belief in the truth of a hypothesis—e.g., “the imperative of attracting globally-mobile capital motivated policymakers to reform the tax system,” or “a lone gangster sneaked onboard the train and killed Ratchett as revenge for being swindled”—given our relevant prior knowledge and new information that we learn during our investigation. Bayesianism is enjoying a revival across many fields, and it offers a powerful tool for improving inference and analytic transparency in qualitative case-study research.

This interactive course introduces the principles of Bayesian reasoning, with applications to process-tracing, comparative case studies, and multimethod research. Participants will learn how to construct well-articulated rival hypotheses to compare, systematically assess the inferential weight of qualitative evidence, avoid common cognitive biases that can lead to sloppy reasoning, and evaluate which hypothesis provides the best explanation through Bayesian updating. The course will also address key aspects of research design. We will further explore the potential for Bayesianism to serve as a bridge between quantitative and qualitative research. Throughout, we will conduct a wide range of exercises and group work to give participants hands-on practice applying Bayesian techniques. Upon completing the course, participants will be able to read case studies more critically, evaluate whether and to what

extent the evidence presented supports the authors' conclusions, and apply Bayesian principles in their own research.

Key Topics:

Foundations of Bayesian probability

Hypothesis construction

Evaluating prior odds and assessing evidentiary import

Log-odds updating

Iterative research

Bayesian reasoning with multiple cases

Case selection

Core Reading:

Tasha Fairfield & Andrew Charman, *Social Inquiry and Bayesian Inference*, CUP 2022.

Day 1: Wed. June 5

Introduction to probability theory and hypothesis construction

3 hour morning session

Day 2: Thrs. June 6

Prior odds, likelihood ratios, and introduction to log-odds updating

3 hour morning session

2 hour afternoon session

Day 3: Fri. June 7

Review of log-odds updating and group exercises

3 hour morning session

2 hour afternoon session

Day 4: Mon. June 10

Research design

3 hour morning session

2 hour afternoon session

Day 5: Tues. June 11.

Group exercises and review

2 hour morning session