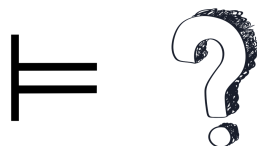


(What) Is Feminist Logic?¹

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1 Four Projects in Feminist Logic

History of Logic. Exploring women philosophers and logicians who have been neglected in histories of logic. (One might include members of other marginalized groups here, too!) Examples include:

- [Uckleman \(forthcoming\)](#) on Eloise d'Argenteuil and Christine de Pisan,
- [Gordon-Roth \(forthcoming\)](#) on Anna Maria van Schurman and Mary Astell,
- [Janssen-Lauret \(forthcoming\)](#) on Christine Ladd-Franklin and Constance Jones, and
- [Beaney \(2003\)](#) and [Janssen-Lauret \(2017\)](#) on Susan Stebbing

¹Much of this presentation is based on [Saint-Croix and Cook \(2022\)](#)

Philosophy of Logic. Arguing that some logic or another (or none at all!) is preferable on feminist grounds. Examples:

- [Nye \(1990\)](#) on the claim that formal logic is incompatible with feminist concerns altogether, and
- [Plumwood \(1993\)](#) on the claim that is the problem, and that relevance logic better serves feminist purposes.

Philosophical Logic. Using the tools of formal logic to pursue feminist projects, perhaps by developing models of different concepts or showing that arguments are invalid, or offering accounts of the ways that gender and hierarchical status (and other social categories) affect real-life reasoning practices. Examples:

- [Bowman and Cook \(forthcoming\)](#) develops a modal semantics and deductive system for the *knowing-what-it's-like-to-be- $\Phi(x)$* ,
- [Saint-Croix \(2020\)](#) develops a formal epistemological framework for understanding the standpoints of standpoint epistemology, and
- [Burrow \(2010\)](#) on gendered politeness norms in argumentation,
- [Nelson and Nelson \(2002\)](#) on Quinean holism, and
- [Yap \(forthcoming\)](#) and [Anderson \(forthcoming\)](#) on Carnap's Principle of Tolerance

Logical Pedagogy. Work in this vein re-examines our classroom practices with respect to logic instruction in light of feminist projects and concerns.

- [Gilligan \(1982\)](#), [Warren \(1988\)](#), [Orr \(1989\)](#) on role that gender plays in logic instruction and learning, and in the models of argument analysis taught in logic courses,
- [Ayim \(1995\)](#), [Pugliese and Secco \(forthcoming\)](#) on teaching logic in light of feminist criticisms of classical logic, and
- [Moulton \(1983\)](#) and [Hundleby \(2010\)](#) on logic textbooks, looking at the prevalence and perniciousness of the "adversarial method"

2 Objections to the *very idea* of feminist logic...

Perhaps, despite this enumeration, you still have doubts! The Incompatibility Objection and the Irrelevance Objection are two common articulations of these doubts.

2.1 Objection 1: The Incompatibility Objection

Logic is an **anti-feminist** patriarchal enterprise!

Drawn from Andrea Nye's *Words of Power: A Feminist Reading of the History of Logic*:

Desperate, lonely, cut off from the human community which in many cases has ceased to exist, under the sentence of violent death, wracked by desires for intimacy that they do not know how to fulfill, at the same time tormented by the presence of women, men turn to logic. (Nye, 1990, 175)

But...

- This objection, at best, confuses the (sometimes pernicious!) ways that logic **has** been used with the ways that logic **can** be used.
- Even if the master has picked up the tools of logic (in Lorde's terms), this is no reason to think they belong to him.
- On the contrary, logic is a powerful tool for **battling faulty argumentation** that supports oppression.

2.2 Objection 2: The Irrelevance Objection

Logic is a **mind-and-society-independent** metaphysico-semantic enterprise! Feminist concerns are simply irrelevant.

The argument:

1. Logical facts are facts about the logical consequence relation.
2. But, these facts depend solely on facts about the logical form and/or meaning of sentences,

3. And, such facts are independent of us and our particular social, political, or epistemic situation.

C1 Therefore, the fact that a particular sentence Φ follows from a set of sentences Δ is a fact about the world and is independent of particular reasoners.

C2 So, whether or not Φ follows from Δ *might* depend on the domain of inquiry in question, or the language we are using, or on the particular notion of logical consequence that interests us, but it does not depend on who is asking, *anymore than the facts of science depend on who is asking*.

But...

This depends on adopting a particular conception of what logic is and does. And, there are at least two important options:

Conception 1: The Metaphysical/Semantic Conception of Logic

The primary purpose of formal logic is to map out some metaphysical relation holding of sentences (or propositions, or whatever) solely in terms of the logical form (or other semantic or syntactic characteristics) of those sentences.

Conception 2: The Epistemic/Normative Conception of Logic

The primary purpose of formal logic is to codify a methodology for investigating the world—in particular, to codify various kinds of *obligations* and *permissions* regarding what we can or can't, should or shouldn't, accept or reject.

On the epistemic/normative conception:

- The correct, best, or legitimate (non-logical) epistemic norms may vary from one group or situation to the next.
- This coheres with lessons from recent work in (e.g. social, feminist) epistemology.

3 How to Build a Model

3.1 What is a model?

Here's an off-the-shelf (and philosophically unsatisfactory) definition:²

Model. A simplified representation of a system. Conceptual, verbal, diagrammatic, physical, or formal.

Two types of models:

Descriptive. Tries to capture what the system “looks like” at a period of time. E.g., a drawing, a physical model, an statistical analysis, even a biography of a person!

Rule-Based. Tries to capture the dynamics of a system; can (in principle) make describe the evolution of the system and make predictions about it.

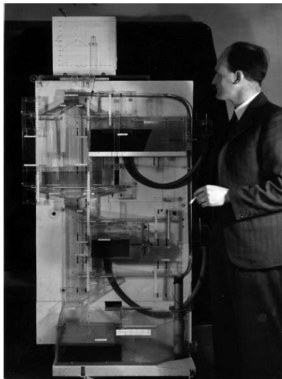


Figure 1: Behold THE MONIAC, an example of a physical model, arguably both descriptive and rule-based.

The borderline between descriptive and rule-based models is quite fuzzy, especially with respect to the kind of modeling we're concerned with: modeling concepts, logics, and so on. But, this is a useful distinction to keep in mind because beginning with the descriptive approach in mind can be useful.

²Much of the discussion in this section comes from [Sayama \(2015\)](#), which is a nicely practical text on model development.

What makes for a good model?

These virtues are much like the standard theoretical virtues found in philosophy of science (c.f. [Kuhn \(1977\)](#), [Douglas \(2012\)](#), [Sayama \(2015\)](#)):

- **Simplicity:** Eliminate extraneous variables, concepts, etc. Simple models are understandable and usable.
- **Accuracy:** The model should match up well with the aspects of the world that it's modeling (but not so much as to overfit the model).
- **Robustness:** Avoid relying on overly fragile predictions or consequences.

Other virtues: unification, consistency, coherence, fertility

3.2 Should feminists be in the business of modeling *at all*?

Some feminist concerns about abstraction:

- Abstraction amplifies biases and imposes the modeler's view on others.
- Abstraction promotes disengagement and separation from experience.

But...

Once we understand that we are *always* modeling the systems we encounter, we see that these worries, insofar as they are genuine worries, cannot be extinguished by avoiding abstraction because we can't actually do that. Instead, explicitly modeling, giving voice to our understanding of a situation, allows us (and others!) to interrogate and ameliorate these issues.

3.3 Brass Tacks.

Necessity is the mother of invention, but iteration is its soul. Models are built through cycles of iteration:

1. Consider or observe the target topic, concept, or system carefully,
2. Reflect on and articulate the rules or frameworks that might give rise to your observations,
3. Derive predictions and consequences from the model, and

4. Compare those predictions with the target of your model, then return to Step 1 to resolve gaps between the predictions and consequences of your model and the target.

The most important part of this is Step 1, and it's a place you'll do *a lot* of iteration. [Sayama \(2015\)](#) suggests considering the following questions:

What are the key questions you want to address by modeling?

Examples here might include exploring the interaction between two concepts, exhuming one's own assumptions, or drawing out the consequences of a particular view.

At what scale should you describe the system? Or: What are you abstracting away from? (And why?) Here, you're looking for the components whose behavior you'll be writing rules for.

How is the system structured? What relations hold between the components? Which ones interact and how? What kind of framework captures these relations?

What are the possible states of the system? What can happen to the components you're focusing on?

How does the system change? What brings about change? Changes might be brought about by time, but also a wide range of inputs, depending on the kind of thing you're modeling (e.g., energy, new information, etc)

A couple of notes. First, not all of these questions will apply to everything you're thinking about modeling. Second, implementing answers to these questions will, inevitably, lead you to want to change some of those answers. That's okay!

3.4 An example: Gender

Suppose you arrive at the observation that the way that we think and talk about gender today is at odds with classical logic.

This observation sets us up to begin answering the questions laid out above:

Q: What are the key questions you want to address by modeling?

A: What is the logic underlying our concept of gender?

Q: At what scale should you describe the system?

A: Predications of gender to individual agents. So, we'll need gender predicates (man, woman, non-binary, perhaps others) and individuals. (Abstracting away from the *components* of gender attributions, such as social cuing, performance, self-identification, treatment by others, biological contribution (if any!), and so on.)

Q: How is the system structured?

A: The observation that got us going is that $W(x) \vee \neg W(x)$ doesn't seem to be *necessarily* true. One way to get this result is adopting an *intuitionist* logic! So, let's give that a go...

What are the possible states of the system?

A: Since we're talking about predications of gender to individuals, we'll settle for true and false at the moment.

Q: How does the system change? What brings about change?

A: This one seems not quite relevant to the phenomenon we're modeling. (At least not as we're thinking about it right now!)

Let's check this against the iteration cycle:

Cool observation: This gets us out of the inference that everyone has a gender! (Because we lose LEM as a rule of inference.)

But: We still can't say some things that we might want to say. We might say, no, it's not just that I want to say that x not not being a woman doesn't imply that they're a woman. That doesn't go far enough. What I want to say is that it's neither true nor false that they're a woman – genderedness just doesn't apply to them! Or: It's *both* true and false that they're a woman.

This thought might lead us to make a different kind of tectonic shift in our model: from bivalence to many-valued logic.

4 Your turn!

Now it's time to try your hand at modeling!

Topic suggestions: Some particular account of gender, testimonial injustice, standpoint epistemology, relationships between ways of knowing, the interaction between epistemic authority and insensitivity, active ignorance, silencing, consent, resistant imagination...

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1 Select a topic

Here are a few suggestions: Some particular account of gender, testimonial injustice, standpoint epistemology, relationships between ways of knowing, the interaction between epistemic authority and insensitivity, active ignorance, silencing, consent, resistant imagination...

If you want further inspiration, use the SEP, PhilPapers, etc.

Topic:

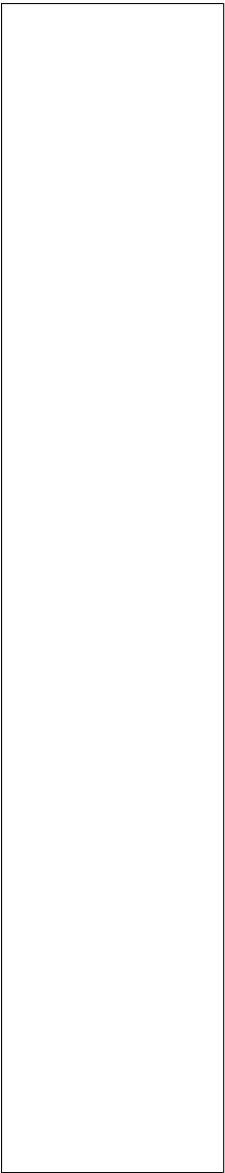
2 Sketch your initial observations

Here are the questions to keep in mind:

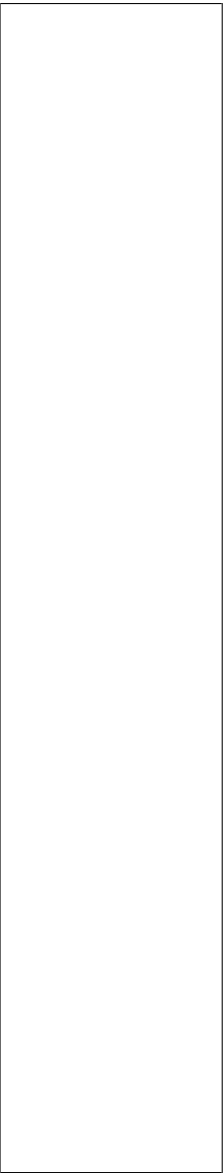
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At what scale should you describe the system? Or: What are you abstracting away from? (And why?) Here, you're looking for the components whose behavior you'll be writing rules for.

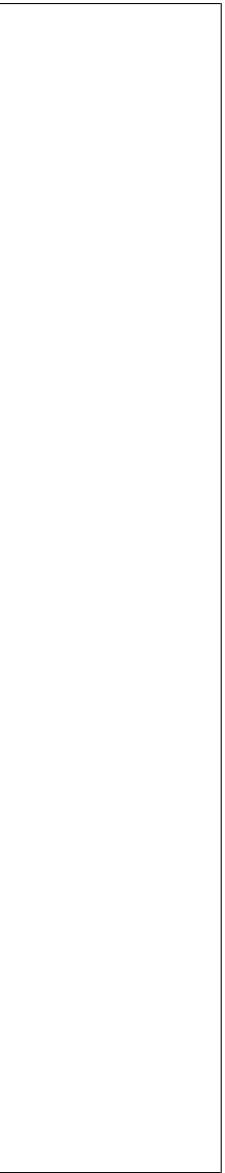
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What are the possible states of the system? What can happen to the components you're focusing on?



How does the system change? What brings about change? Changes might be brought about by time, but also a wide range of inputs, depending on the kind of thing you're modeling (e.g., energy, new information, etc)



3 Describe your model!

4 Check the iteration cycle.

Focus on Steps 3 and 4 of the cycle:

1. Consider or observe the target topic, concept, or system carefully,
2. Reflect on and articulate the rules or frameworks that might give rise to your observations,
3. Derive predictions and consequences from the model, and
4. Compare those predictions with the target of your model, then return to Step 1 to resolve gaps between the predictions and consequences of your model and the target.

What gaps, differences, oddities, or whatnot did you notice in comparing your model with the target? How might you address them?