

What the History of Logic Can Teach Us About the Future of Logic

Sara L. Uckelman
Durham University
s.l.uckelman@durham.ac.uk
@SaraLUckelman

British Society for the History of Philosophy
KCL, 25 April 2026

A couple of starting points

- I'm a logician
- I *really, really, really* love logic.
- You're not all logicians, or love logic, (and that's okay)
- While I'm speaking replace "logic" with your own subspecialism and see how far my argument goes.

Why do logicians care about logic?

- Scientific curiosity, learning things
- It's fun!
- It's applicable!
- (publications, jobs, etc.)

Why do logicians care about logic?

- Scientific curiosity, learning things
- It's fun!
- It's applicable!
- (publications, jobs, etc.)

Let's set aside the pragmatic concerns...

Who are you?

Who are you?

- Are you a logician?
- Are you a philosopher?
- Are you a historian?
- Are you a philosopher *or* a logician *or* a historian?
- Are you something else?

Social identities

- Tell a logician that they are not a logician is more than just saying they have bad fashion sense or unacceptable tastes in ice cream.
- Being a logician is—for many logicians—something central to their sense of self, their personhood, their identity.
- For many logicians, logic provides a way of inhabiting the world that makes it safe/comfortable—rules, certainties, truths.

Why do logicians care about logic?

- We care about logic because it is integral to our sense of selves.
- And because we care about it, we should want as many people as possible to be able to have access to it.

Why do logicians care about logic?

- We care about logic because it is integral to our sense of selves.
- And because we care about it, we should want as many people as possible to be able to have access to it.

This is where the history of logic comes in.

A chronology of the history of logic

- Aristotle
- the Stoics

- Frege
- Russell
- Wittgenstein
- Lewis, Quine, Barcan, Kripke
- “modern logic”: Modal (alethic, deontic, doxastic, epistemic, temporal, agentic, etc.), dynamic, multi-agent \rightsquigarrow computer science, math, “not philosophical enough”.

A chronology of the history of logic

- Aristotle
- the Stoics

- Leibniz, Kant

- Frege
- Russell
- Wittgenstein
- Lewis, Quine, Barcan, Kripke
- “modern logic”: Modal (alethic, deontic, doxastic, epistemic, temporal, agentive, etc.), dynamic, multi-agent \rightsquigarrow computer science, math, “not philosophical enough”.

A chronology of the history of logic

- Aristotle
- the Stoics
- Boethius

- Peter Abelard

- William of Ockham

- Leibniz, Kant

- Frege
- Russell
- Wittgenstein
- Lewis, Quine, Barcan, Kripke
- “modern logic”: Modal (alethic, deontic, doxastic, epistemic, temporal, agentive, etc.), dynamic, multi-agent \rightsquigarrow computer science, math, “not philosophical enough”.

A chronology of the history of logic

- Aristotle
- the Stoics
- Boethius

- Peter Abelard
- William of Sherwood, Lambert of Auxerre, Peter of Spain, Roger Bacon
- William of Ockham
- all the other 14th century people (too many to list/name here)
- Leibniz, Kant

- Frege
- Russell
- Wittgenstein
- Lewis, Quine, Barcan, Kripke
- “modern logic”: Modal (alethic, deontic, doxastic, epistemic, temporal, agentic, etc.), dynamic, multi-agent \rightsquigarrow computer science, math, “not philosophical enough”.

A chronology of the history of logic

- Aristotle
- the Stoics
- Boethius

- Peter Abelard
- William of Sherwood, Lambert of Auxerre, Peter of Spain, Roger Bacon
- William of Ockham
- all the other 14th century people (too many to list/name here)
- Leibniz, Kant
- Ladd-Franklin, Jones, Stebbing (and a bunch of 19th C dudes)
- Frege
- Russell
- Wittgenstein
- Lewis, Quine, Barcan, Kripke
- “modern logic”: Modal (alethic, deontic, doxastic, epistemic, temporal, agentic, etc.), dynamic, multi-agent \rightsquigarrow computer science, math, “not philosophical enough”.

A chronology of the history of logic

- Aristotle
- the Stoics
- Boethius

- Anselm of Canterbury
- Peter Abelard
- William of Sherwood, Lambert of Auxerre, Peter of Spain, Roger Bacon
- William of Ockham
- all the other 14th century people (too many to list/name here)
- Leibniz, Kant
- Ladd-Franklin, Jones, Stebbing (and a bunch of 19th C dudes)
- Frege
- Russell
- Wittgenstein
- Lewis, Quine, Barcan, Kripke
- “modern logic”: Modal (alethic, deontic, doxastic, epistemic, temporal, agentic, etc.), dynamic, multi-agent \rightsquigarrow computer science, math, “not philosophical enough”.

A chronology of the history of logic

- Aristotle
- the Stoics
- Boethius
- Early Buddhist logicians: Vasubandhu, Dignāga, Dharmakīrti
- Anselm of Canterbury
- Peter Abelard
- William of Sherwood, Lambert of Auxerre, Peter of Spain, Roger Bacon
- William of Ockham
- all the other 14th century people (too many to list/name here)
- Leibniz, Kant
- Ladd-Franklin, Jones, Stebbing (and a bunch of 19th C dudes)
- Frege
- Russell
- Wittgenstein
- Lewis, Quine, Barcan, Kripke
- “modern logic”: Modal (alethic, deontic, doxastic, epistemic, temporal, agentic, etc.), dynamic, multi-agent \rightsquigarrow computer science, math, “not philosophical enough”.

A chronology of the history of logic

- logic in early China?
- Aristotle
- the Stoics
- Boethius
- Early Buddhist logicians: Vasubandhu, Dignāga, Dharmakīrti
- Anselm of Canterbury
- Peter Abelard
- William of Sherwood, Lambert of Auxerre, Peter of Spain, Roger Bacon
- William of Ockham
- all the other 14th century people (too many to list/name here)
- Leibniz, Kant
- Ladd-Franklin, Jones, Stebbing (and a bunch of 19th C dudes)
- Frege
- Russell
- Wittgenstein
- Lewis, Quine, Barcan, Kripke
- “modern logic”: Modal (alethic, deontic, doxastic, epistemic, temporal, agentic, etc.), dynamic, multi-agent \rightsquigarrow computer science, math, “not philosophical enough”.

So why does all of this matter?

- Priority claims.
- Learning new things.
- Canon and canon revision.
- Who gets to be a logician?

Priority claims and learning new things

- DeMorgan/Ockham
- connexive logic
- “where” and “while”
- solutions to the Liar paradox
- and much more!

Canon revision

- What gets to count as logic?
- Who gets to count as a logician?
- Who gets *access* to logic?

Canon revision

- What gets to count as logic?
- Who gets to count as a logician?
- Who gets *access* to logic?
Access is constrained by what type of group you are in:
 - ▶ gender
 - ▶ class
 - ▶ race/culture/ethnicity
 - ▶ intersectional combinations

How does exclusion happen?

- Post hoc exclusion: Women who did logic and were part of the logic community at the time, but whose contributions have been ignored/forgotten since then (Christine Ladd-Franklin, women in the foundations of mathematics, Ruth Barcan, etc.)
- Ante hoc exclusions: Why did some women (and others!) never manage to get into logic at all?

Educational opportunities

- The trivium and public vs. private roles
- John Eliot on converting the Indians
- Almira Phelps on female education
- Lewis Carroll's *Game of Logic*

Questions of rationality

- Colonisation/orientalisation (Henry T. Colebrooke and Jonardon Ganeri)
- Against women—rationality/reason as a weapon
- Depersonalisation/who gets to count as human/civilised?

So why does history of logic matter?

- If we care about logic, we should care about who gets access to logic.
- In order to understand who is excluded and how, we have to understand where these patterns of exclusion come from.
- If we care about logic, we should know how our tools are weaponized.
- In order to understand how to counter this weaponization, we have to understand where these patterns of discrimination come from.

Conclusion

Knowing the history of logic is crucial for understanding the present of logic, so that we can change the future of logic.