

DIVERSITY READING LIST PRESENTS:

FEMINIST LOGIC

A DRL READING GROUP BLUEPRINT BY FRANCI MANGRAVITI AND VIVIANE FAIRBANK
LEVEL: INTERMEDIATE

INTRODUCTION

This blueprint is meant to serve as an introduction to and exploration of contemporary feminist logic, broadly intended as the interaction between feminist philosophy on one hand, and logic and its philosophy on the other. It is aimed at an audience having already been introduced to formal logic. Previous experience with feminist philosophy is helpful, but not strictly necessary.

The structure is as follows. After an introductory session dedicated to the more general relationship between feminist philosophy and rationality, three influential feminist critiques of logic are discussed, namely Andrea Nye's, Luce Irigaray's, and Val Plumwood's. Then, a session is dedicated to the very notion of feminist logic. The remaining sessions deal with various specific topics within feminist logic, namely logic revision in feminist empiricism, the logic of gender, the use of formal models in feminist philosophy, feminist readings of the history of logic, feminist readings of logical pluralism, connections between feminist and Native American logic, and feminist mathematics; the order may be switched around, or certain sessions skipped.

CATEGORIES

- Epistemology
- Feminist Epistemology
- Feminist Philosophy
- Logic and Philosophy of Logic
- Nonclassical Logics
- Philosophy of Gender

AVAILABLE ONLINE AT:

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WEEK1. THE FEMINIST CRITIQUE OF REASON

This week sets the stage for a discussion of feminism and logic by revisiting the fraught relationship between feminist philosophy and the philosophical ideal of rationality.

The first paper by Longino is a helpful introduction to the main questions posed by feminist philosophers about reason and rationality in the late 20th century, including feminists' principal objections to the "rhetoric of reason," and their subsequent debates about whether philosophy can be redeemed. The paper provides a solid foundation for thinking further about feminist logic, and Longino concludes by proposing some interesting avenues for future research.

The first half of the second reading by Alcoff provides an accessible overview of the state of academia and feminist philosophy at the time of the Feminist Critique of Reason. It is thus helpful for understanding the cultural and philosophical context in which the first papers on feminist logic were written. The second half goes into a deeper analysis of philosophical critiques of reason at the time; it can probably be skipped over by those readers who are interested only in more contemporary debates about feminist logic.

Finally, in the further reading, originally for the *New York Review of Books*, Nussbaum reviews *A Mind of One's Own*, a collected volume from 1993 that aimed to bring together feminists from different traditions to discuss the Feminist Critique of Reason. Nussbaum is largely critical of "non-analytical" feminists, and her review inspired heated responses from some of the contributors to the volume, as can be seen in the letters appended to the end of the review.

LONGINO, HELEN. *CIRCLES OF REASON: SOME FEMINIST REFLECTIONS ON REASON AND RATIONALITY*

2005, *Episteme*, 2 (1): 79-88.

Difficulty: Easy-Intermediate

Abstract: Rationality and reason are topics so fraught for feminists that any useful reflection on them requires some prior exploration of the difficulties they have caused. One of those difficulties for feminists and, I suspect, for others in the margins of modernity, is the rhetoric of reason – the ways reason is bandied about as a qualification differentially bestowed on different types of person. Rhetorically, it functions in different ways depending on whether it is being denied or affirmed. In this paper, I want to explore these rhetorics of reason as they are considered in the work of two feminist philosophers. I shall draw on their work for some suggestions about how to think about rationality, and begin to use those suggestions to develop a constructive account that withstands the rhetorical temptations.

ALCOFF, LINDA. *IS THE FEMINIST CRITIQUE OF REASON RATIONAL?*

1995, *Philosophical Topics*, 23 (2): 1-26.

Difficulty: Intermediate

Abstract: Recent criticism of feminist philosophy poses a dilemma. Feminism is taken to be a substantive set of empirical claims and political commitments, whereas philosophy is taken to be a discipline of thought organized by the pursuit of truth, but uncommitted to any particular truth. This paper responds to this dilemma, and defends the project of feminist philosophy. The first task toward understanding the feminist critique of reason, Alcoff argues, is to historically situate it within the rather long tradition of critiquing reason that has existed within the mainstream of philosophy itself.

Further reading

Abstract: This chapter reviews the book *A Mind of One's Own: Feminist Essays on Reason and Objectivity* (1993), by Louise B. Antony and Charlotte Witt. The appeal to reason and objectivity amounts to a request that the observer refuses to be intimidated by habit, and look for cogent arguments based on evidence that has been carefully sifted for bias. In our own society the arguments of feminists make such appeals to reason and objectivity all the time, and in a manner that closely resembles Platonic arguments. And yet today reason and objectivity are on the defensive in some feminist circles. We are frequently told that reason and objectivity are norms created by "patriarchy," and that to appeal to them is to succumb to the blandishments of the oppressor. We are told that systems of reasoning are systems of domination, and that to adopt the traditional one is thus to be co-opted. *A Mind of One's Own* is a collection of essays by women who are prominent in philosophy today and who wish to confront recent feminist criticisms of philosophy. Most of the contributors are under fifty and widely respected; most grew up with strong political ties to feminism.

DISCUSSION QUESTIONS:

1. Is a critique of reason within the scope of feminist concerns?
2. How have contemporary ideals of rationality been used to perpetuate injustice, in philosophy and more generally?
3. Is it still a tenable belief today that there is an essential incompatibility between feminism and analytic philosophy?
4. Is it possible to rationally critique reason, or are feminist critiques of rationality doomed to failure or self-defeat?
5. Are certain feminists correct in claiming that "one person's reason is another person's tyranny" (Longino, p.81)? If so, how can this be addressed within the domain of philosophy of logic, if at all?

WEEK 2. ANDREA NYE'S FEMINIST CRITIQUE OF LOGIC

This week focuses on Andrea Nye's influential argument that the very idea of logic is fundamentally incompatible with feminist aims. Ironically, much of the contemporary literature on feminist logic arises as a direct reaction to Nye's work.

Nye's book is a largely historical work, focused on giving a revisionist, feminist history of logic from Parmenides to Frege and beyond. Her analysis of each logician's work is original, and she argues convincingly that logical theories need to be understood as products of specific times, places, cultures, and contexts. Nye also argues (in the book's introduction and conclusion) that this should lead us to conclude that feminism and logic are incompatible; this argument has been the subject of heated criticism by several feminist philosophers and logicians, many of whom are featured in this syllabus.

The second reading by Haas provides an extensive, if sympathetic, rebuttal of Nye's criticism of Aristotelian logic, while at the same time emphasizing what is valuable about her critique. The rest of the chapter may also be of interest to students later in the course, after having engaged with Plumwood's and Irigaray's views.

Finally, Ayim's paper is a clear and accessible articulation of the standard response by feminist logicians to Nye's book. This text is particularly useful because, in the second half of the paper, Ayim provides a detailed example of what feminist logic and feminist logical education might look like in practice.

NYE, ANDREA. *WORDS OF POWER: A FEMINIST READING OF THE HISTORY OF LOGIC*

1990, Routledge.

Difficulty: Easy-Intermediate

Fragment: Introduction and conclusion

Abstract: Originally published in 1990. A common complaint of philosophers, and men in general, has been that women are illogical. On the other hand, rationality, defined as the ability to follow logical argument, is often claimed to be a defining characteristic of man. Andrea Nye undermines assumptions such as: logic is unitary, logic is independent of concrete human relations, logic transcends historical circumstances as well as gender. In a series of studies of the logics of historical figures Parmenides, Plato, Aristotle, Zeno, Abelard, Ockham, and Frege she traces the changing interrelationships between logical innovation and oppressive speech strategies, showing that logic is not transcendent truth but abstract forms of language spoken by men, whether Greek ruling citizens, imperial administrators, church officials, or scientists. She relates logical techniques, such as logical division, syllogisms, and truth functions, to ways in which those with power speak to and about those subject to them. She shows, in the specific historical settings of Ancient and Hellenistic Greece, medieval Europe, and Germany between the World Wars, how logicians reworked language so that dialogue and reciprocity are impossible and one speaker is forced to accept the words of another.

In the personal, as well as confrontative style of her readings, Nye points the way to another power in the words of women that might break into and challenge rational discourses that have structured Western thought and practice.

HASS, MARJORIE. *FEMINIST READINGS OF ARISTOTELIAN LOGIC*

1998, In C. A. Freeland (ed.), *Feminist Interpretations of Aristotle*.
Pennsylvania State University Press: pp.19–40.

Difficulty: Easy-Intermediate

Fragment: pp.19-30

Abstract: Hass examines chapters devoted to Aristotle in a recent, prominent, and controversial feminist critique of logic, Andrea Nye's *Words of Power: A Feminist Reading of the History of Logic*. Hass shows that Nye's criticisms of logic in general and of Aristotle in particular are misplaced. What is crucial in Nye's attack are alleged problems caused by overzealous "abstraction." But Hass argues that abstraction is not problematic; instead, it is crucial (and empowering) for feminist political theory. Although she rejects Nye's form of feminist logic critique, Hass finds more that is worthwhile in the criticisms of logic advanced by Luce Irigaray and Val Plumwood. These thinkers call for feminist alternatives to what has come to be standard deductive logic—and interestingly enough, their call is echoed in other contemporary criticisms from within the field of logic itself, for example, from intuitionist or entailment logics. The logical schemes envisaged by Irigaray and Plumwood would encompass more situated and fluid ways of using formal systems to describe and analyse reality and diverse experiences. Hass argues that, in Aristotle's case, we can glimpse something of such an alternative by looking to his account of negation, which is richer and more complex than that allowed by most contemporary formal systems.

AYIM, MARYANN. *PASSING THROUGH THE NEEDLE'S EYE: CAN A FEMINIST TEACH LOGIC?*

1995, *Argumentation*, 9 (5): 801-820.

Difficulty: Easy-Intermediate

Abstract: Is it possible for one and the same person to be a feminist and a logician, or does this entail a psychic rift of such proportions that one is plunged into an endless cycle of self-contradiction? Andrea Nye's book, *Words of Power* (1990), is an eloquent affirmation of the psychic rift position. Although eloquent, I believe it is mistaken in certain serious ways, which I shall address in this paper.

Nye advances this position in her concluding essay to *Words of Power* (Ibid.). In brief, her position is that the logical enterprise is inherently self-contradictory for feminist thinkers. Feminists who attempt to use logic to demonstrate its shortcomings are doomed to failure; arguing against logical claims is self-defeating, for the critic will be sucked into the maelstrom of logical tradition. Hydra-headed, the logical monster will thrive rather than perish under the sharpened edge of argument; hence the critic succeeds only in strengthening the very endeavour whose shortcomings she attempts to expose. This is guaranteed to happen, according to Nye, because in entering the debate, one is thereby committed to the terms of the debate. The critic herself will be devoured in the process, for logic was constructed to eliminate the voices and concerns of women. 'The feminist logician speaks from a script in which the master always wins' (Ibid., p. 180).

If feminists cannot use logic itself to attack the arrogant and unsupportable assumptions of logic, what are our alternatives? Nye sketches two alternatives - one is to simply turn our backs on logic, ignoring it in all of its masculine arrogance, and talk among ourselves in our own women's language about our own concerns. Nye does not recommend this alternative, for although it escapes the criticism of arrogance, it does so at the price of impotence. What she does recommend is the second alternative, that as feminists we direct our energy towards reading other people's work, including that of the logicians, and responding to it in ways 'that can mortally wound' (Ibid., p. 184) the authors; women, Nye believes, are particularly adept at reading. 'It is a skill we have perfected' (Ibid.) in the course of our oppression.

In what follows, I shall discuss Nye's proscription of logic as well as her perceived alternatives of a woman's language and reading. This will be followed by a discussion more sharply focused on Nye's feminist response to logic, namely, her claim that feminism and logic are incompatible. I will end by offering a sketch of a class in the

life of a feminist teaching logic, a sketch which is both a response to Nye (in Nye's sense of the word) and a counter-example to her thesis that logic is necessarily destructive to any genuine feminist enterprise.

DISCUSSION QUESTIONS:

1. Is formal logic really “a man’s discipline”? What was your own experience of learning logic like?
2. Do you think Nye is justified in drawing from her personal experiences to criticize logic?
3. Nye refers to many things as logic: formal languages, the foundation of contemporary science, and everyday critical thinking. What do you think her main target, if any, is? Is there an understanding of "logic" that could resist her criticism?
4. Ayim's rebuttal of Nye largely focuses on informal logic or critical thinking. Do you think her arguments might be extended to formal logic?
5. How does Nye understand the kind of “abstraction” that she sees as foundational for logic?
6. Do you think Nye's proposal for women to "read" without using logic is realistic?
7. Somewhat provocatively, Nye points to all of the logical fallacies she has committed in her book. Do you think these fallacies invalidate her thesis? How could a logician claim otherwise?
8. How should (formal and informal) logic be taught, when and to whom?
9. Does Ayim’s description of her logic classroom serve as an appropriate refutation of Nye’s views about the impossibility of “feminist logic”?
10. Do you agree with Hass' defense of Aristotelian logic? Could contemporary classical logic be defended in a similar way?

WEEK 3. VAL PLUMWOOD'S FEMINIST CRITIQUE OF CLASSICAL LOGIC

This week focuses on Val Plumwood's attempt to redirect feminist critiques of logic toward classical logic in particular, thus paving the way to a conception of feminist logic as alternative logic.

Her text is a classic of feminist logic, in which Plumwood makes the groundbreaking move of proposing a revision of logic on feminist grounds. Many subsequent discussions of feminist logic take this paper as a starting point.

NB: the paper strongly overlaps with Chapter 2 of Plumwood's *Feminism and the Mastery of Nature*. The paper is a bit more self-contained, but it omits Plumwood's extended critique to postmodernist approaches.

In the second reading, Garavaso serves as a convincing objector to Plumwood's and Nye's positions regarding feminist logic. She focuses largely on Plumwood's claims about classical logic and negation, first by placing them in a broader context of feminist positions on rationality, and second by conducting a deep study of Frege's views on negation in order to show that they do not support Plumwood's position. Garavaso then questions an assumption that seems to be held by many feminist critics of reason, namely that philosophical argumentation is comparable to deductive logic.

The third reading by Eckert and Donahue is a useful companion piece for Plumwood's "The Politics of Reason", in that it explains and responds to many different criticisms of Plumwood's work.

Finally, the further reading by Plumwood elaborates on the ideas presented in "The Politics of Reason"; in particular, her perspective on negation is compared to those of other feminist theorists such as Nancy Jay and Marilyn Frye.

PLUMWOOD, VAL. *THE POLITICS OF REASON: TOWARDS A FEMINIST LOGIC*

1993, *Australasian Journal of Philosophy*, 71 (4): 436-462.

Difficulty: Intermediate-Advanced

Abstract: The author argues that there is a strong connection between the dualisms that have strengthened and naturalized systematic oppression across history (man/woman, reason/emotion, etc.), and "classical" logic. It is suggested that feminism's response should not be to abandon logic altogether, but rather to focus on the development of alternative, less oppressive forms of rationality, of which relevant logics provide an example.

GARAVASO, PIERANNA. *THE WOMAN OF REASON: ON THE RE-APPROPRIATION OF RATIONALITY AND THE ENJOYMENT OF PHILOSOPHY*

2015, *Meta-Philosophical Reflection on Feminist Philosophies of Science*.
Springer: pp.185-202.

Difficulty: Intermediate

Fragment: Sections 11.2-11.4

Abstract: This paper starts out from two feminist criticisms of classical logic, namely Andrea Nye's general rejection of logic and Val Plumwood's criticism of the standard notion of negation in classical logic. I then look at some of Gottlob Frege's reflections on negation in one of his later *Logical Investigations*. It will appear clear that Frege's notion of negation is not easily pegged in the general category of 'Otherness' that Plumwood uses to characterize negation in classical logic. In the second half of the paper, I discuss the claim that the adversarial method of argumentation in philosophy is hostile to feminist goals and perhaps responsible for the low numbers of women engaged in academic philosophy. Against this hypothesis, I claim that a more naturalistic perspective on logic can avoid essentialism and provide a feminist friendly and pluralist view of logic, human reasoning, and philosophical argumentation.

ECKERT, MAUREEN. *TOWARDS A FEMINIST LOGIC: VAL PLUMWOOD'S LEGACY AND BEYOND*

2020, in Dominic Hyde (ed.), *Noneist Explorations II: The Sylvan Jungle*. Volume 3 (Synthese Library, 432). Dordrecht: pp.424-448.

Difficulty: Easy-Intermediate

Abstract: Val Plumwood's 1993 paper, "The Politics of Reason: Towards a Feminist Logic" (henceforth POR) attempted to set the stage for what she hoped would begin serious feminist exploration into formal logic – not merely its historical abuses, but, more importantly, its potential uses. This work offers us: (1) a case for there being feminist logic; and (2) a sketch of what it should resemble. The former goal of Plumwood's paper encourages feminist theorists to reject anti-logic feminist views. The paper's latter aim is even more challenging. Plumwood's critique of classical negation (and classical logic) as a logic of domination asks us to recognize that particular logical systems are weapons of oppression. Against anti-logic feminist theorists, Plumwood argues that there are other logics besides classical logic, such as relevant logics, which are suited for feminist theorizing. Some logics may oppress while others may liberate. We provide details about the sources and context for her rejection of classical logic and motivation for promoting relevant logics as feminist.

PLUMWOOD, VAL. *FEMINISM AND THE LOGIC OF ALTERITY*

2002, in Falmagne, R.J. and Hass, M. (eds.), *Representing Reason: Feminist Theory and Formal Logic*. Rowman & Littlefield.

Difficulty: Intermediate

Further reading

From the Introduction: "Plumwood's second essay uses logical distinctions to map the difficult terrain of feminist theories of difference. By carefully distinguishing among forms of difference, Plumwood refutes attempts by some feminist theorists to identify dichotomous thinking with oppressive thinking."

DISCUSSION QUESTIONS:

1. What notion of feminist logic arises from Plumwood's work?
2. What is the relationship between Plumwood's proposal and Nye's criticism of logic? Is it a mere shift of target, or does Plumwood also provide a refutation of Nye's view?
3. Which aspect(s) of classical logic is Plumwood taking issue with? Can you think of other classical laws that would be worrying on the same grounds?
4. If you are familiar with some nonclassical logics: are they better or worse than classical logic, according to Plumwood's criteria?
5. Eckert and Donahue note that Plumwood's criteria "make good sense even if we were to view logic as neutral but [...] able to be weaponized (a less radical view than Plumwood's)" (p.442). How does the difference between these two views affect Plumwood's arguments?
6. Do you agree with Eckert and Donahue's defense of Plumwood against criticism by MacPherson and Garavaso? What is the difference, if any, between these authors' interpretations of Plumwood

WEEK 4. LUCE IRIGARAY'S FEMINIST CRITIQUE OF LOGIC

This week discusses Luce Irigaray's critique of identity, generality, and difference in classical logic, as showcased by its failure in expressing gender.

The first reading is an accessible introduction by Hass to Irigaray's views on logic—particularly with respect to generality, identity, and negation—which served as inspiration for many of the foundational critiques of feminist logic in the late 20th century. In particular, she argues that formal logic is inadequate for capturing gender.

In the second reading, Irigaray presents her view of logic as the non-neutral language of science in a relatively accessible manner. It is one of the texts on which Hass bases her interpretation, and so it makes for good secondary reading.

The first further reading is another paper on which Hass bases her interpretation, where Irigaray compares the feminine to the real which is forgotten in idealized physical models. It is significantly more challenging, and some experience with Lacanian psychoanalysis is recommended.

Finally, the last further reading is a more challenging paper by Irigaray, this time focused on the inherently gendered nature of language. It can be read (in English or in the original French) by anyone hoping for a more detailed representation of Irigaray's views on logic.

HASS, MARJORIE. *FLUID THINKING: IRIGARAY'S CRITIQUE OF FORMAL LOGIC*

2002, in Falmagne, R.J. and Hass, M. (eds.), *Representing Reason: Feminist Theory and Formal Logic*. Rowman & Littlefield.

Difficulty: Easy-Intermediate

From the Introduction: "Marjorie Hass addresses the limitations of logical concepts, including negation, by illuminating the ongoing critique of these terms in the work of Luce Irigaray. In Hass's view, Irigaray's work calls the neutrality of logic into question, suggesting that the standard formalism is capable of expressing only distorted and partial interpretations of negation, identity, and generality. More specifically, in Irigaray's work, standard symbolic logic is shown to be unable to represent the form of difference proper to sexual difference, the form of identity proper to feminine identity, and the form of generality proper to a feminine generic. Hass interprets and evaluates Irigaray's critique of logic, arguing that many of Irigaray's readers have misunderstood its nature and force."

IRIGARAY, LUCE. *IS THE SUBJECT OF SCIENCE SEXED?*

1987, *Hypatia*, 2 (3): 65-87, trans. C. Bové.

Difficulty: Intermediate

Abstract: The premise of this paper is that the language of science, like language in general, is neither asexual nor neutral. The essay demonstrates the various ways in which the non-neutrality of the subject of science is expressed and proposes that there is a need to analyze the laws that determine the acceptability of language and discourse in order to interpret their connection to a sexed logic.

IRIGARAY, LUCE. *THE "MECHANICS" OF FLUIDS*

1985, in *This Sex Which Is Not One*, trans. C. Porter and C. Burke.

Difficulty: Advanced

Further reading

Summary: The paper argues that science's focus on the ideal and stable hides, and thus contributes to the silencing of, the real and fluid, which corresponds to womanhood.

IRIGARAY, LUCE. *THE LANGUAGE OF MAN*

1989, *Cultural Critique*, 13: 191-202.

Difficulty: Intermediate-Advanced

Further reading

Summary: This paper enumerates Irigaray's main arguments and thoughts regarding the gendered nature of language and "the logos".

DISCUSSION QUESTIONS:

1. What is Irigaray's issue with logic? How does it differ from other feminist critiques?
2. Hass suggests that "it is only insofar as [standard] formalism is used as a model for sexual difference that Irigaray's critique gets its purchase" (p.84). Do you agree? Can you think of other topics where logic might be problematic on similar grounds?
3. Why does Irigaray think the laws of identity and non-contradiction fail to apply to "woman"?
4. Could a feminist logic addressing Irigaray's critique exist? What would it have to be like? Can you think of any existing examples?
5. What does Irigaray's critique mean for science? Can scientists simply ignore this kind of critique, or does it call for a change in practice?

WEEK 5. CAN THERE BE A FEMINIST LOGIC?

This week investigates the very idea of feminist logic. Both Marjorie Hass and Gillian Russell provide several possible characterizations, and discuss their consequences for the philosophy of logic.

The first reading offers an accessible overview of feminist critiques of logic and the various possibilities for what “feminist logic” might be. It introduces some helpful distinctions—e.g., feminist criticisms of “bad logic” as compared to feminist criticisms of “logic as usual”—for making sense of the positions of thinkers such as Nye, Plumwood, and Nussbaum.

In the second reading, Russell suggests one possible argument for the possibility of feminist logic: if (like anti-exceptionalists) you believe that logic is importantly similar to science, then you might think that there is feminist logic in the same way that there is feminist science. Russell takes this argument to its natural endpoint by examining each of the possible ways that feminist logic might be understood as analogous to feminist science. This serves as a helpful introduction to the rich possibilities for feminist logicians of approaching logic as anti-exceptionalists.

The further reading provides a sympathetic reading of Plumwood's work on feminist logic, and it offers a different version of how “feminist logic” might be understood. Russell's arguments against Plumwood are also directly addressed.

HASS, MARJORIE. *CAN THERE BE A FEMINIST LOGIC?*

1999, in Emanuela Bianchi (ed.), *Is Feminist Philosophy Philosophy?*.
Northwestern University Press: pp.190—201.

Difficulty: Easy-Intermediate

Abstract: Can there be a feminist logic? By most accounts the answer would be no. What I find remarkable is the great difference in the justifications provided for this conclusion. The impossibility of feminist logic is defended, on the one hand, on the grounds that logic itself is most fundamentally a form of domination and so is inimical to feminist aims. Other philosophers, while also defending the impossibility of feminist logic, do so from the conviction that it is feminist theory rather than logic that is the problem. For these thinkers, feminism cannot make any interesting or important contribution to logic because feminist theory is fundamentally shallow or misguided. In this paper I will argue that both positions are mistaken: Logic is neither as totalizing as the one side believes nor is feminist theory as inconsequential for logic as the other pole would have it. In the course of these arguments, I describe the work of several feminist logicians, showing the possibility and value of feminist approaches to logic.

RUSSELL, GILLIAN. *FROM ANTI-EXCEPTIONALISM TO FEMINIST LOGIC*

2023, *Hypatia*, forthcoming.

Difficulty: Easy

Abstract: Anti-exceptionalists about formal logic think that logic is continuous with the sciences. Many philosophers of science think that there is feminist science. Putting these two things together: can anti-exceptionalism make space for feminist logic? The answer depends on the details of the ways logic is like science and the ways science can be feminist. This paper wades into these details, examines five different approaches, and ultimately argues that anti-exceptionalism makes space for feminist logic in several different ways.

Further reading

Abstract: In this paper, I discuss Plumwood's feminist logic program. I argue both in favor of her general stance in feminist philosophy of logic and her more specific feminist critique of classical logic. Plumwood's general position is in opposition with (I think it's safe to say) the prevailing view in analytic philosophy about the relation between formal logic and feminist theory, according to which feminist theory cannot say anything about or against logic proper, since the issues of oppression are external to logic as a (formal) discipline. Connected to this externalism is a non-Plumwoodian view that "feminist logic" either doesn't mean anything, or that it has some figurative meaning. Concerning Plumwood's (I think it's safe to say) not widely accepted feminist critique of classical logic, I propose an interpretation according to which classical logic is oppressive only when it's used to describe a particular, "dualized" or "dualizable", kind of notions. In accordance with this understanding, I consider five features of oppressive differentiations as proposed by Plumwood, arguing that two of them don't concern negation, the feminist critique of which operator Plumwood is mostly (in)famous for.

DISCUSSION QUESTIONS:

1. How do the possible understandings of feminist logic suggested by Hass - critiques of "bad logic", and critiques of "logic as usual" - compare with the ones suggested by Russell?
2. Can you think of other examples of logics that might be categorized as feminist according to these proposals?
3. The very idea of feminist logic is often dismissed as either irrational or ill-founded. How can these conceptions avoid said critique, or undermine its force, if at all?
4. How do different conceptions of feminist logic fare with respect to Nye's conjecture that no feminist logic could ever be truly emancipatory?
5. Do you agree with Russell's interpretation of Nye's and Plumwood's positions? If not, how does this affect your view of Russell's criticisms?
6. Can you think of other possible meanings of "feminist logic"?

WEEK 6. FEMINIST LOGIC AND THE NATURAL SCIENCES

This week discusses a possible path from feminist science to feminist logic: feminist perspectives on science may suggest revision, and on Quinean grounds those revisions may go up to logic itself. Lynn Hankinson Nelson & Jack Nelson spell out the theoretical argument, while Andrea Nye discusses a particular promising example from biology.

Drawing from biology, the first reading provides an explicit example of how the work of feminist scientists might suggest a revision of our logic.

In the second reading, Hankinson Nelson & Nelson provide a useful and accessible summary of Quine's views on the empirical revision of science and logic, thus setting the stage for a view that allows for the revision of logic on feminist grounds. This paper thus serves as a helpful theoretical basis for the argument in Nye's paper on predicate logic and natural kinds.

NYE, ANDREA. *SAYING WHAT IT IS: PREDICATE LOGIC AND NATURAL KINDS*

2002, in Falmagne, R.J. and Hass, M. (eds.), *Representing Reason: Feminist Theory and Formal Logic*. Rowman & Littlefield.

Difficulty: Intermediate

From the Introduction: "Andrea Nye is also concerned with the role of logic in science, linking the adequacy of logic with its applicability in a domain of scientific knowledge. Nye argues that the dominant predicate logic cannot adequately represent the issues surrounding attempts to divide organisms into species. Feminist critiques of the extensional theory of meaning lay the ground for alternative theories of categorization. Without renewed models of categorization, Nye submits, science is in danger of becoming a self-enclosed "logical" system, rather than an instrumental model of reality."

NELSON, LYNN HANKINSON. *LOGIC FROM A QUINEAN PERSPECTIVE: AN EMPIRICAL ENTERPRISE*

2002, in Falmagne, R.J. and Hass, M. (eds.), *Representing Reason: Feminist Theory and Formal Logic*. Rowman & Littlefield.

Difficulty: Easy

From the Introduction: "Lynn Hankinson Nelson and Jack Nelson extend the work begun in the former's book *Who Knows: From Quine to a Feminist Empiricism*, by showing that a Quinean understanding of logic as an empirical field implies that logic remains open to revision in light of fundamental shifts in knowledge. Nelson and Nelson point to the revisions in scientific understandings made possible by the incorporation of women and women's lives as emblematic of the possible ways that feminist thought can provide a deep reworking of the structures of knowledge and thus potentially of logic. Although they are cautious of any conclusions that logic must change, their work offers a theoretical ground from which the effects of feminist theorizing on logic can be usefully explored."

DISCUSSION QUESTIONS:

1. What might motivate philosophers to think that logic can be empirically revised in the same way as scientific theories?
2. What is the scope of possible empirical revisions to logic? Are there any logical connectives or rules that are immune to such revisions?
3. Does Nye provide a convincing example of empirical data that would rightly prompt logical revisions, or can these scientists' findings be accommodated within classical logic without revision?
4. Could there be an argument for the empirical revision of logic even if all scientists' findings *could* in principle be accommodated within classical logic?
5. What would make an empirical revision of logic properly "feminist"?

WEEK 7. LOGIC AND GENDER MODELS

This week focuses on the idea of feminist logic qua logic of gender. Several contemporary gender models are compared: while Helen Daly's "folklore" models implicitly rely on classical dichotomies, Maureen Eckert argues that nonclassical logics can do a better job.

The first reading by Daly offers an accessible overview of (classical) folk gender models, what they get right and where they go wrong.

In the second paper by Eckert, readers are given a nice example of how certain nonclassical logics have an advantage over classical logic when it comes to modelling gender. Some important shortcomings of Plumwood's methods are also examined.

The further reading by Collins discusses certain advantages of nonclassical logics (this time, fuzzy logic) over classical logic for modelling gender. The proposed model is compared to Daly's above.

DALY, HELEN. *MODELLING SEX/GENDER*

2017, *Think*, 16 (46): 79-92.

Difficulty: Easy

Abstract: People often assume that everyone can be divided by sex/gender (that is, by physical and social characteristics having to do with maleness and femaleness) into two tidy categories: male and female. Careful thought, however, leads us to reject that simple 'binary' picture, since not all people fall precisely into one group or the other. But if we do not think of sex/gender in terms of those two categories, how else might we think of it? Here I consider four distinct models; each model correctly captures some features of sex/gender, and so each is appropriate in some contexts. But the first three models are inadequate when tough questions arise, like whether trans women should be admitted as students at a women's college or when it is appropriate for intersex athletes to compete in women's athletic events. ('Trans' refers to the wide range of people who have an atypical gender identity for someone of their birth-assigned sex, and 'intersex' refers to people whose bodies naturally develop with markedly different physical sex characteristics than are paradigmatic of either men or women.) Such questions of inclusion and exclusion matter enormously to the people whose lives are affected by them, but ordinary notions of sex/gender offer few answers. The fourth model I describe is especially designed to make those hard decisions easier by providing a process to clarify what matters.

ECKERT, MAUREEN. *DE-CENTERING AND GENDERQUEERING VAL PLUMWOOD'S FEMINIST LOGIC*

2024, in R. Cook and A. Yap (eds.), *Feminist Philosophy and Formal Logic*.
University of Minnesota Press.

Difficulty: Easy-Intermediate

Abstract: The strongest and, until recently, least-explored approach to feminist logic holds that some formal logics have structural features that perpetuate sexism and oppression, whereas other logics are helpful for resisting and opposing these social phenomena. Our choice of logics may not be purely formal on this view: for example, some logics are preferable to others on the grounds of feminist commitments. This strong account of feminist logic was first articulated by Val Plumwood. We will critically engage salient features of her view, especially her critique of classical logic and the centering and dominating functions she believes classical negation has. We will see that her understanding of classical negation captures neither the development of Intersectional Feminism, nor the position the concept of centering holds in transformative justice. However, Plumwood's critique of classical negation does lead us to a deeper insight regarding which logics to apply in social justice contexts. Robin Dembroff's analysis of genderqueer as a critical gender kind helps us delineate a non-classical context in which a four-valued logic, such as FDE, can structurally account for the critical feature of this gender kind in a way classical logic cannot. We will also observe how four-valued logics precisely capture the destabilization of, and resistance to, the exclusive and exhaustive gender binary categories Dembroff describes.

Further reading

Abstract: Gender is both indeterminate and multifaceted: many individuals do not fit neatly into accepted gender categories, and a vast number of characteristics are relevant to determining a person's gender. This article demonstrates how these two features, taken together, enable gender to be modeled as a multidimensional sorites paradox. After discussing the diverse terminology used to describe gender, I extend Helen Daly's research into sex classifications in the Olympics and show how varying testosterone levels can be represented using a sorites argument. The most appropriate way of addressing the paradox that results, I propose, is to employ fuzzy logic. I then move beyond physiological characteristics and consider how gender portrayals in reality television shows align with Judith Butler's notion of performativity, thereby revealing gender to be composed of numerous criteria. Following this, I explore how various elements of gender can each be modeled as individual sorites paradoxes such that the overall concept forms a multidimensional paradox. Resolving this dilemma through fuzzy logic provides a novel framework for interpreting gender membership.

DISCUSSION QUESTIONS:

1. A gender model can have many goals: capturing how gender terms are used, how gender "really is", how we should talk and think about gender, and more. What are the pros and cons of using formal logic for these various goals? Is formal logic ever inappropriate for such goals?
2. What are the pros and cons of different logics when it comes to accounting for non-binary identities?
3. It is often possible to reconstruct discourse in one logic within a different logic. Do you think the choice of logic is crucial in presenting a model, or is logical translation harmless?
4. Daly suggests different gender models may be appropriate depending on circumstances. Do you agree? Could there be a reason to fix a particular model instead?
5. Why does Eckert reject Plumwood's wholesale rejection of classical logic? How does her conception of feminist logic differ from Plumwood's?
6. How does Irigaray's critique of formal logic fare with respect to contemporary gender models?

WEEK 8. LOGIC AND FEMINIST EPISTEMOLOGY/METAPHYSICS

This week shows how formal logic may be used in pursuing feminist aims by looking at two particular applications: Gillian Russell's modelling of "social spheres" and Catharine Saint-Croix's modelling of epistemic standpoints.

The first reading by Russell is an example of how feminist concerns might drive research in logic, in this case by suggesting a new kind of quantifier aimed at representing subordinating speech. The final part of the paper is also notable for its discussion of the value of formal logic in feminist theorizing.

The second reading by Saint-Croix is an example of how formal logic could be useful for feminist epistemologists. It contains an extensive introduction to standpoint theory and its history, and formal elements are introduced with many examples and informal discussion.

The further reading presents a variation of Saint-Croix's framework from above, focused on capturing the epistemic stances of activists.

RUSSELL, GILLIAN. *SOCIAL SPHERES: LOGIC, RANKING, AND SUBORDINATION*

2024, in R. Cook and A. Yap (eds.), *Feminist Philosophy and Formal Logic*. **Difficulty:** Intermediate-Advanced
University of Minnesota Press.

Abstract: This paper uses logic—a formal language with models and a consequence relation—to think about the social and political topics of subordination and subordinative speech. I take subordination to be a matter of three things: i) ranking one person or a group of people below others, ii) depriving the lower-ranked of rights, and iii) permitting others to discriminate against them. Subordinative speech is speech—utterances in contexts—which subordinates. Section 1 introduces the topic of subordination using examples from the 1979 novel *Kindred* by Octavia Butler. Section 2 uses these examples to clarify and illustrate the definitions of subordination and subordinative speech. Sections 3 and 4 then develop a way of modeling subordination using a system of social spheres, an adaptation of (Lewis, 1973)'s approach to modeling the relation of comparative similarity on worlds for counterfactuals. Section 4 looks at three possible applications for this work: giving truth-conditions for social quantifiers, identifying fallacies involving such expressions, and explaining the pragmatics of subordinative speech. The last section anticipates objections and raises further questions.

SAINT-CROIX, CATHARINE. *PRIVILEGE AND POSITION: FORMAL TOOLS FOR STANDPOINT EPISTEMOLOGY*

2020, *Res Philosophica*, 97 (4): 489-524.

Difficulty: Intermediate-Advanced

Abstract: How does being a woman affect one's epistemic life? What about being black? Or queer? Standpoint theorists argue that such social positions can give rise to otherwise unavailable epistemic privilege. "Epistemic privilege" is a murky concept, however. Critics of standpoint theory argue that the view is offered without a clear explanation of how standpoints confer their benefits, what those benefits are, or why social positions are particularly apt to produce them. But this need not be so. This article articulates a minimal version of standpoint epistemology that avoids these criticisms and supports the normative goals of its feminist forerunners. With this foundation, we develop a formal model in which to explore standpoint epistemology using neighborhood semantics for modal logic.

SAINT-CROIX, CATHARINE. *ACTIVIST EPISTEMOLOGY*

2024, in R. Cook and A. Yap (eds.), *Feminist Philosophy and Formal Logic*. **Difficulty:** Intermediate-Advanced
University of Minnesota Press.

Further reading

Abstract: I propose a model on which epistemic frameworks are understood in terms of not only beliefs, but also sets of evidential support relations. We are generally responsive to multiple frameworks, some more compatible than others. The model allows for prioritizing certain frameworks by drawing on van Benthem and Pacuit's work on logics for evidence-based belief. This prioritization allows us to capture the idea that some epistemic frameworks are "held come what may" with nuance and complexity.

DISCUSSION QUESTIONS:

1. Can you think of situations - e.g. from your own experience - you could model using Russell's and Saint-Croix's frameworks? What advantages and limitations can you see?
2. One common worry, explicitly discussed by Russell, is that formal logic is too "academic" to be of use for concrete feminist goals. Do you agree? Can you think of ways in which such work could be valuable in practice?
3. Both Russell and Saint-Croix rely on (extensions of) classical logic. Do you think this is problematic? Could Nye's or Plumwood's criticisms apply to such uses?
4. Do you think it would be possible to obtain this kind of models using alternative logics? How would that affect the results?
5. Can you think of other possible applications of formal modelling in feminist philosophy? Are there any topics that should not receive this kind of treatment? Why?

WEEK 9. FEMINIST REHABILITATIONS OF THE HISTORY OF LOGIC

This week explores the idea of finding feminist logic in the history of logic via three examples: John Dewey's pragmatist logic, Stoic logic as a logic of sense, and Aristotelian negation.

In the first reading, Guen Hart interprets Dewey's *Logic: The Theory of Inquiry* (1938) as a theory of logic that could reasonably be described as feminist, in part due to its pragmatist perspective. This serves as a nice demonstration of what a feminist philosophical (re-)appropriation of logic might look like—though Guen Hart doesn't go much further than restating and explaining Dewey's views in great detail.

In the second reading, Olkowski offers a substantial contribution to the feminist-logic conversation by linking Nye's criticisms of logic with the views of Merleau-Ponty and Deleuze on language. She then proposes that these criticisms can be addressed by Stoic logic, which makes room for "perception and reflection" in logic. The paper provides detailed overviews of these different positions, but it can be difficult to navigate as an introductory text.

Finally, in the third reading, Hass not only defends Aristotelian logic from Nye's onslaught, but also argues that Aristotelian negation - as opposed to Fregean negation - may in fact be the first step of an answer to Plumwood's and Irigaray's concerns.

GUEN HART, CARROLL. "POWER IN THE SERVICE OF LOVE": JOHN DEWEY'S LOGIC AND THE DREAM OF A COMMON LANGUAGE

1993, *Hypatia*, 8 (2): 190-214.

Difficulty: Intermediate

Abstract: While contemporary feminist philosophical discussions focus on the oppressiveness of universality which obliterates "difference," the complete demise of universality might hamper feminist philosophy in its political project of furthering the well-being of all women. Dewey's thoroughly functionalized, relativized, and fallibilized understanding of universality may help us cut universality down to size while also appreciating its limited contribution. Deweyan universality may signify the ongoing search for a genuinely common language in the midst of difference.

OLKOWSKI, DOROTHEA. WORDS OF POWER AND THE LOGIC OF SENSE

2002, in Falmagne, R.J. and Hass, M. (eds.), *Representing Reason: Feminist Theory and Formal Logic*. Rowman & Littlefield. **Difficulty:** Intermediate-Advanced

From the Introduction: "Dorothea Olkowski's chapter offers an analysis of the need to develop a logic of sense. Drawing on the work of Gilles Deleuze, Olkowski defends formal logic against feminist theorists who have urged that we organize thinking around the principles of embodiment. She warns us against the complete merging of bodily functions and sense-making activities. In Olkowski's view, feminists need to acknowledge the usefulness of logical analyses at the same time that they must insist on formal systems that reflect and are tempered by human and humane values."

HASS, MARJORIE. *FEMINIST READINGS OF ARISTOTELIAN LOGIC*

1998, in C. A. Freeland (ed.), *Feminist Interpretations of Aristotle*.
Pennsylvania State University Press: pp.19–40.

Difficulty: Easy-Intermediate

Fragment: pp.30-37

Abstract: Hass examines chapters devoted to Aristotle in a recent, prominent, and controversial feminist critique of logic, Andrea Nye's *Words of Power: A Feminist Reading of the History of Logic*. Hass shows that Nye's criticisms of logic in general and of Aristotle in particular are misplaced. What is crucial in Nye's attack are alleged problems caused by overzealous "abstraction." But Hass argues that abstraction is not problematic; instead, it is crucial (and empowering) for feminist political theory. Although she rejects Nye's form of feminist logic critique, Hass finds more that is worthwhile in the criticisms of logic advanced by Luce Irigaray and Val Plumwood. These thinkers call for feminist alternatives to what has come to be standard deductive logic—and interestingly enough, their call is echoed in other contemporary criticisms from within the field of logic itself, for example, from intuitionist or entailment logics. The logical schemes envisaged by Irigaray and Plumwood would encompass more situated and fluid ways of using formal systems to describe and analyse reality and diverse experiences. Hass argues that, in Aristotle's case, we can glimpse something of such an alternative by looking to his account of negation, which is richer and more complex than that allowed by most contemporary formal systems.

DISCUSSION QUESTIONS:

1. What is the value - if any - in "rehabilitating" logical theories through feminist perspectives, as the authors do here?
2. These feminist authors rely on theories of logic that have been proposed by other philosophers, in a largely non-feminist context. Are there any dangers to this kind of approach to feminist logic?
3. What does Guen Hart take to be problematic about the traditional conception of "universality" in logic?
4. Does Dewey's pragmatist theory successfully rehabilitate this conception of universality, as Guen Hart argues?
5. How do you understand the relationship between formal logic and materiality or embodiment, as discussed by Olkowski?
6. In which ways does Aristotelian negation address Plumwood's and Irigaray's concerns, according to Hass? In which ways does it fail?

WEEK 10. FEMINISM AND LOGICAL PLURALISM

This week explores the relationship between feminism and logical pluralism. Audrey Yap's suggestion that feminism could benefit from a Carnapian perspective on logic is compared to Roy Cook's suggestion that feminist logic may instantiate a form of pluralism connected to agents.

In the first reading, Yap suggests a possible connection between Carnap's version of logical pluralism and the goals of feminist philosophy. Basic familiarity with logical empiricism may be helpful for understanding the discussion.

The second reading identifies a largely untapped version of logical pluralism, which connects different logics with different kinds of agents; this is taken to be supported by the idea of standpoint epistemology, in the sense that different marginalized groups may be associated with different logics. The paper also serves as a general overview of varieties of logical pluralism.

In the last reading, Yap elaborates on the connection between feminists' goals and Carnap's views on logic, and she applies her conclusions to the contemporary debate on the meaning of "woman".

YAP, AUDREY. *FEMINISM AND CARNAP'S PRINCIPLE OF TOLERANCE*

2010, *Hypatia*, 25 (2): 437-454.

Difficulty: Intermediate

Abstract: The logical empiricists often appear as a foil for feminist theories. Their emphasis on the individualistic nature of knowledge and on the value neutrality of science seems directly opposed to most feminist concerns. However, several recent works have highlighted aspects of Carnap's views that make him seem like much less of a straight-forwardly positivist thinker. Certain of these aspects lend themselves to feminist concerns much more than the stereotypical picture would imply.

COOK, ROY. *PERSPECTIVAL LOGICAL PLURALISM*

2023, *Res Philosophica*, 100 (2): 171-202.

Difficulty: Intermediate

Fragment: pp.1-6, 15-30

Abstract: Logical pluralism is the view that there is more than one formal logic that correctly (or best, or legitimately) codifies the logical consequence relation in natural language. This essay provides a taxonomy of different variations on the logical pluralist theme based on a five-part structure, and then identifies an unoccupied position in this taxonomy: perspectival logical pluralism. Perspectival pluralism provides an attractive position from which to formulate a philosophy of logic from a feminist perspective (and from other, identity-based perspectives, such as critical race theory). An example of how such an account might be developed is sketched. The essay concludes by defusing an obvious objection to the perspectival approach: the claim that the correct logic (or logics), in virtue of the formal nature of logic, should be independent of considerations regarding the identity of the reasoner.

Abstract: I argue that a thoroughgoing naturalized epistemology can easily underestimate the extent to which certain background assumptions will influence arguments. Instead, then, I suggest that we can borrow a conceptual tool from neo-Kantian philosophy of science, namely the constitutive a priori. This idea originates in neo-Kantian philosophers who understood, in light of Einsteinian physics, that Kantian views about the a priority of space were untenable. Frameworks that adopt some version of a constitutive a priori take certain propositions to play the role of a priori principles, without granting them the universality or necessity that such principles traditionally hold. I will argue that thinking of certain views or values as having the status of constitutive a priori principles can help us understand what would be required for an epistemic agent to change them, and thus illustrate the extent to which they are resistant to being dislodged by evidence.

DISCUSSION QUESTIONS:

1. Can you think of disagreements you've had where it seemed like you and your interlocutor were inevitably talking past each other? Does the idea of the constitutive a priori help you make sense of them?
2. Can you think of any example of a connection between a certain group of agents and a certain logic? What kind of connection would be strong enough to establish perspectival pluralism?
3. What kind of argument could serve to establish the adequacy of one framework over another? Can you think of particular examples?
4. Often, pluralism is shunned due to the fear it could lead to unfettered relativism. Should this worry feminist logicians who are committed to pluralism? How might the problem be avoided?
5. Do you think there is a connection between perspectival logical pluralism and the plurality of linguistic frameworks, as indicated by Yap?

WEEK 11. FEMINIST LOGIC AND NATIVE AMERICAN LOGIC

This week focuses on connections between Western feminist critiques of logic on one hand, and Native American logic on the other.

The first reading by Waters is an introduction to dynamic, non-dualistic Indigenous metaphysics, with a focus on the concept of gender. It is one of the main texts referenced in Eichler's discussion of Native American logic.

The second reading by Eichler is not only an accessible introduction to some common themes in Native American logic and metaphysics, but it also points to how such logics differ from classical logic precisely where feminist critiques tend to find classical logic problematic. It also provides some pointers as to how Western feminists may respectfully navigate this territory.

Finally, Sinclair's paper focuses on the "paraconsistency" of Indigenous logics and elaborates on Eichler's suggestion that feminists have much to gain from these logics by looking at a particular example from biology.

WATERS, ANNE. *LANGUAGE MATTERS: NONDISCRETE NONBINARY DUALISMS*

2003, in Waters A. (ed.), *American Indian Thought*. Wiley: pp.97-115.

Difficulty: Easy-Intermediate

From the Introduction: "Anne Waters shows how nondiscrete nonbinary ontologies of being operate as background framework to some of America's Indigenous languages. This background logic explains why and how gender, for example, can be understood as a non-essentialized concept in some Indigenous languages of the Americas. [...] The Indigenous understanding that all things interpenetrate and are relationally interdependent embraces a manifold of complexity, resembling a world of multifariously associated connections and intimate fusions. Such a nondiscretely aggregate ontology ought not to be expected to easily give way to a metaphysics of a sharply defined discretely organized binary ontology. From an Indigenous ontology, some multigendered identities may be more kaleidoscopic and protean concepts than Euro-American culture has yet to imagine."

EICHLER, LAUREN. *SACRED TRUTHS, FABLES, AND FALSEHOODS: INTERSECTIONS BETWEEN FEMINIST AND NATIVE AMERICAN LOGICS*

2018, *APA Newsletter on Native American and Indigenous Philosophy*, 18 (1)

Difficulty: Easy

From the newsletter's introduction: "Lauren Eichler [...] examines the resonances between feminist and Native American analyses of classical logic. After considering the range of responses, from overly monolithic rejection to more nuanced appreciation, Eichler argues for a careful, pluralist understanding of logic as she articulates her suggestion that feminists and Native American philosophers could build fruitful alliances around this topic."

Abstract: Despite emerging attention to Indigenous philosophies both within and outside of feminism, Indigenous logics remain relatively underexplored and underappreciated. By amplifying the voices of recent Indigenous philosophies and literatures, I seek to demonstrate that Indigenous logic is a crucial aspect of Indigenous resurgence as well as political and ethical resistance. Indigenous philosophies provide alternatives to the colonial, masculinist tendencies of classical logic in the form of paraconsistent—many-valued—logics. Specifically, when Indigenous logics embrace the possibility of true contradictions, they highlight aspects of the world rejected and ignored by classical logic and inspire a relational, decolonial imaginary. To demonstrate this, I look to biology, from which Indigenous logics are often explicitly excluded, and consider one problem that would benefit from an Indigenous, paraconsistent analysis: that of the biological individual. This article is an effort to expand the arenas in which allied feminists can responsibly take up and deploy these decolonial logics.

DISCUSSION QUESTIONS:

1. Do you agree with Eichler that a difference in logic is central to the clash between Indigenous and Western perspectives? What prevents the outsourcing of the problem to metaphysics or ethics?
2. What differences and similarities can you see between Waters's gender metaphysics and contemporary Western gender models?
3. Sinclair draws a parallel between paraconsistent logics - as conceptualized in the Western world - and Indigenous logics. Does the parallel run the risk of reducing Indigenous logics to a Western perspective? How could this be avoided?
4. Do you think the existence of different logico-metaphysical traditions points to a genuine logical pluralism "out there"? Could it still be maintained that there is only one correct theory?
5. In which ways could feminist logicians fruitfully and respectfully deal with the idea of logical diversity?

WEEK 12. FROM FEMINIST LOGIC TO FEMINIST MATHEMATICS

This week explores ways in which feminist critiques of logic can extend to critiques of mathematics, and what this could mean for the philosophy and practice of mathematics.

The first reading is an early attempt to bring feminist critiques of logic and science to bear specifically on mathematics, arguing that the choice of axioms and definitions, not to mention what constitutes a proof, is not value-free.

The second reading argues that Plumwood's feminist arguments against classical logic also apply to classical mathematics. Different possible solutions are compared, making it ideal for discussion. Sections 3 and 4 argue that another kind of arguments against classical logic fails to carry over; they can be skipped for the purpose of this reading group. No familiarity with university level maths or the philosophy of maths is required.

SHULMAN, BONNIE. *WHAT IF WE CHANGE OUR AXIOMS? A FEMINIST INQUIRY INTO THE FOUNDATIONS OF MATHEMATICS*

1996, *Configurations*, 4 (3): 427-451.

Difficulty: Intermediate

From the Introduction: "Modern mathematics is based on the axiomatic method. We choose axioms and a deductive system---rules for deducing theorems from the axioms. This methodology is designed to guarantee that we can proceed from "obviously" true premises to true conclusions, via inferences which are "obviously" truth-preserving. [...] New and interesting questions arise if we give up as myth the claim that our theorizing can ever be separated out from the complex dynamic of interwoven social/political/historical/cultural forces that shape our experiences and views. Considering mathematics as a set of stories produced according to strict rules one can read these stories for what they tell us about the very real human desires, ambitions, and values of the authors (who understands) and listen to the authors as spokespersons for their cultures (where and when). This paper is the self-reflective and self-conscious attempt of a mathematician to retell a story of mathematics that attends to the relationships between who we are and what we know."

MANGRAVITI, FRANCI. *THE LIBERATION ARGUMENT FOR INCONSISTENT MATHEMATICS*

2023, *The Australasian Journal of Logic*, 20 (2): 278-317.

Difficulty: Intermediate

Fragment: Sections 1-2, 5-10

Abstract: Val Plumwood charged classical logic not only with the invalidity of some of its laws, but also with the support of systemic oppression through naturalization of the logical structure of dualisms. In this paper I show that the latter charge - unlike the former - can be carried over to classical mathematics, and I propose a new conception of inconsistent mathematics - queer incomaths - as a liberatory activity meant to undermine said naturalization.

DISCUSSION QUESTIONS:

1. Thinking back to previous weeks, how many of your conclusions about logic do you think could be transferred to mathematics?
2. In what way are mathematical axioms and definitions value-laden? Can you think of examples?
3. Which approach do you find more promising between radical, queer, and conservative incomaths? Is the classification exhaustive?
4. Do you agree with Mangraviti's defense of Plumwood? Could the liberation argument be made without appealing to Plumwood?
5. Do you think there is a difference, when it comes to criticizing maths from a feminist perspective, between various branches of mathematics? (e.g. basic arithmetic vs more abstract branches of mathematics removed from all application)