Western University
Department of Philosophy

Course Outline 2022-23
This course outline is tentative and subject to change.

Grad Course Number: 9703A
Cross-listed with Undergrad Course Number: 4311F

Problems in the Philosophy of Science: Women and Science

Fall Term	**Instructor: Francesca Vidotto Mail: fvidotto@uwo.ca**
Thursday 8:30-11:30 AM	**Office: PAB 210 and WIRB 7160**
Classroom SH 3307	**Office Hours: see Sign Up on the OWL course website**
	Zoom: https://westernuniversity.zoom.us/my/fvidotto

The course focuses on the intersection between scientific knowledge and women. We consider the historical and sociological contexts that prevented women from accessing and producing scientific knowledge. We then discuss the questions at the center of the feminist reflection on science and the different perspectives produced in the feminist epistemologies.

Description

The narrative of the human pursuit of knowledge has traditionally excluded the voices that were not in power. In this course, we will focus on scientific and technical knowledge and on women. This is a rich case that gives us instruments to recognize the importance of diversity in science. The course is organized in two parts: the first historical and sociological, the second philosophical.

First, we will consider the historical and sociological contexts that have prevented women from accessing and producing scientific knowledge. The students will be introduced to a selection of remarkable women of science, from antiquity to our days. We will discuss the ground-breaking aspects of their work and the specificities of their experience as scientists. We will highlight how gender identity, race and economical background contribute to create different experiences.

We will then discuss questions at the center of the feminist reflection on science: How biases manifest in scientific production? Does the gender of the knower make a difference? At the light of these questions, what does objectivity mean? We will discuss some of the answers these questions have been given in the field of feminist epistemology, the perspectives these answers opens for general epistemology, and the relation between these issues and current scientific research.

Learning Outcomes

No special background is required for the enrolment in this course. This course satisfies the requirements for a course in Philosophy of Science as well as Feminist Philosophy.
Upon successful completion of this course, students will be able to:

- Frame the question of women in science in a historical and sociological context
- Critically examine the role of women as subjects and producers of scientific knowledge
- Consider the interplay between bias and the conceptualization of scientific objectivity as value-free and not situated
- Understand the different feminist perspectives on the spectrum of science domains and practices
- Reflect on the possible contributions of a feminist reflection to contemporary scientific production and practices
- Analyze questions in a multidisciplinary framework
- Develop in autonomy in-depth knowledge on a specific question concerning women and science and articulate it in an essay and a presentation

Resources

Readings and other course materials will be made available through the OWL course website and the library system. Authors whose texts will be discussed include Karen Barad, Sandra Harding, Donna Haraway, Helen Longino, and Londa Scheibinger. Beyond texts, in the course we will possibly discuss additional multimedia material.

Requirements

1. Weekly reading responses
   Each week the students will engage with reading and post on the Perusall course website a reaction, in the form of text annotations and questions based on the readings and addressing topics that they would like to be discussed in the class.
2. Participation in group discussions
   A goal of this course is to give the opportunity to actively engage with the reading material and to learn from listening to classmates' contributions. This is possible only if students take time to complete the readings course and to reflect on them prior to the class, by the Wednesday of each week.
3. Online forum discussions
   Perusall provide an online venue to continue the discussions started in the class, and to make possible to address new topics or questions. Students are encourage to post questions, contribute with their own answers, and upvote other's contributions.
4. Final project, to be presented with a poster
   After the first part of the course, the students will be asked to outline an ideal project concerning women and science, and to present their idea in a poster presentation at the end of the course. Students have the possibility to work in teams.
5. Final essay
   Students will demonstrate their acquired ability to reflect on the themes of the course in a final dissertation. The topic and the form of the essay will be chosen to fit the interests and the academic stage of each student. Students should demonstrate to be able to develop their chosen topic engaging with the questions posed by scholars in feminist epistemology and with their main contributions. The suggested length of the final essay is 3,000 – 4,000 words for graduate students, 2,000 – 3,000 for undergrads.

Course Schedule

Week	Dates	Topic
1	Sept 8	Data on Women in Science
2	Sept 15	The Science of Difference
3	Sept 22	Prejudices and Unconscious Bias
4	Sept 29	Spaces of Science, Spaces of Women
5	Oct 6	(Feminist Science Fiction
6	Oct 13	Is there a feminist science?
7	Oct 20	Philosophy of Science (a feminist introduction)
8	Oct 27	Standpoint Epistemologies
	Nov 3	Reading Week
9	Nov 10	Value Theory
10	Nov 17	Feminist Empiricism
11	Nov 24	Neo-materialism
12	Dec 1	Student Presentations

Evaluation

Below is the evaluation breakdown for the course. Any deviations will be communicated.

Assessment Format	Weighting	Due Date
Online readings and discussions	**30%**	1 week after each class
Final project	**30%**	Dec 6
Final essay	**40%**	Dec 17

Written assignments will be submitted to Turnitin (statement in policies below)

After an assessment is returned, students should wait 24 hours to digest feedback before contacting their evaluator; to ensure a timely response, reach out within 7 days

Click here for a detailed and comprehensive set of policies and regulations concerning examinations and grading. The table below outlines the University-wide grade descriptors.

A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work which is clearly above average
B	70-79	Good work, meeting all requirements, and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	below 50	Fail

Online participation and engagements

Students are expected to participate and engage with content as much as possible. The course is in presence, with classroom discussions, supplemented by online material and an online participation. The participation in the online forums with peers and instructors is an integral part of the course and part of the evaluation will be based on it.

Course website

The course has an online website that can be accessed through the OWL platform. It's the student's responsibility to regularly check the OWL website for course material and the discussion forum. The main functions we will use on OWL site are:

- Course Readings: where you will be redirected to all course readings
- Dropbox: to share material with the instructor and with other students
- Forums: where weekly online discussions will take place throughout the course
- Messages: use the OWL email system to contact the instructor and your classmates
- Resources: for most of the supplemental materials

Perusall

An online course website is set on the app Perusall:

- You need to create an account (for free) on https://app.perusall.com/
- To enrol in the course, use the course code: VIDOTTO-3AZ27
- Please use your email @uwo.ca and your student number as "student ID".

It is the student responsibility to check the website and comply with the deadlines posted there for the assignments.

Communication

- Students should check the OWL site every 24 – 48 hours
- A weekly update will be provided on the OWL announcements
- Emails will be monitored daily; students should expect a response in 48 hours
- This course will use the OWL forum for discussions
- Students should post all course-related questions on the discussion forum so that everyone can access the answers
- The discussion forums will be monitored daily by the instructor

Office Hours

- Students must sign up for an appointment using Sign Up on OWL
- Students may request group office hours
- Students can request Office hours to be held remotely using Zoom

Audit

Students wishing to audit the course should consult with the instructor prior to or during the first week of classes.

Professionalism & Privacy

Western students are expected to follow the Student Code of Conduct. Additionally, the following expectations and professional conduct apply to this course:

- Students are expected to follow online etiquette expectations provided on OWL
- All course materials created by the instructor are copyrighted and cannot be sold/shared
- Recordings are not permitted (audio or video) without explicit permission
- Permitted recordings are not to be distributed
- Students are expected to take an academic integrity pledge before some assessments
- All recorded sessions will remain within the course site or unlisted if streamed

Reccomandations

Students enrolled in this class should understand the level of autonomy and self-discipline required to be successful.

- Invest in a planner or application to keep track of your courses. Populate all your deadlines at the start of the term and schedule time at the start of each week to get organized and manage your time.
- Make it a daily habit to log onto OWL to ensure you have seen everything posted to help you succeed in this class.
- Follow weekly checklists created on OWL or create your own to help you stay on track.
- Take notes as you go through the lesson material. Treat this course as you would a face-to-face course. Keeping handwritten notes or even notes on a regular Word document will help you learn more effectively than just reading or watching the videos.
- Connect with others. Try forming an online study group and try meeting on a weekly basis for study and peer support.
- Do not be afraid to ask questions. If you are struggling with a topic, check the online discussion boards or contact your instructor(s) and or teaching assistant(s).
- Reward yourself for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.

Mandatory COVID-safe conduct for in-person classes

“Students will be expected to wear triple layer non-medical masks at all times in the classroom as per Western policy and public health directives. Students who are unable to wear a mask for medical or religious reasons must seek formal accommodation through Accessible Education at aew@uwo.ca.

Students are expected not to eat or drink while in class to ensure masks stay in place. Students will be able to eat and drink outside of the classroom during scheduled breaks.

Students unwilling to wear a mask as stipulated by Western policy and public health directives will be referred to the Department, and such actions will be considered a violation of the student Code of Conduct.”

Online attendance for students requiring COVID-related accommodations

A recording will be provided for lectures asynchronously.

Attendance at discussion sessions will be required synchronously.

All course material and links will be posted to OWL: https://owl.uwo.ca/x/anxKFW
Any changes will be indicated on the OWL site and discussed with the class.

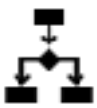
Technical requirements


Stable internet connection


Laptop or computer


Working microphone


Working webcam



If students need assistance, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Google Chrome or Mozilla Firefox are the preferred browsers to optimally use OWL; upyou’re your browsers frequently. Students interested in evaluating their internet speed, please click here.

Western Academic Policies and Statements

Department of Philosophy Policies
The Department of Philosophy Policies which govern the conduct, standards, and expectations for student participation in Philosophy courses is available in the Undergraduate section of the Department of Philosophy website at http://uwo.ca/philosophy/undergraduate/policies.html.
It is your responsibility to understand the policies set out by the Senate and the Department of Philosophy, and thus ignorance of these policies cannot be used as grounds of appeal.

Course Commitments
The last day of scheduled classes in any course will be the last day on which course assignments will be accepted for credit in a course. Instructors will be required to return assignments to students as promptly as possible with reasonable explanations of the instructor's assessment of the assignment.

Accommodations
Students seeking academic accommodation on medical grounds for any missed tests, exams, participation components and/or assignments worth 10% or more of their final grade must apply to the Academic Counselling office of their home Faculty and provide documentation. Academic accommodation cannot be granted by the instructor or department. Documentation shall be submitted, as soon as possible, to the Office of the Dean of the student's Faculty of registration, together with a request for relief specifying the nature of the accommodation being requested. The UWO Policy on Accommodation for Medical Illness and further information regarding this policy can be found at http://uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

Self-reported absence
Students who experience an unexpected illness or injury or an extenuating circumstance (48 hours or less) that is sufficiently severe to temporarily render them unable to meet academic requirements (e.g., attending lectures or labs, writing tests or midterm exams, completing and submitting assignments, participating in presentations) should self-declare using the online Self-Reported Absence portal. This option should be used in situations where the student expects to resume academic responsibilities within 48 hours or less.
The following conditions are in place for self-reporting of medical or extenuating circumstances:
http://westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#SubHeading_322

Accommodation for Religious Holidays

The policy on Accommodation for Religious Holidays can be viewed here.

Accessibility Statement

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education (AE) at 661-2111 x 82147 for any specific question regarding an accommodation or review The policy on Accommodation for Students with Disabilities.

Correspondence Statement

The centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner. You can read about the privacy and security of the UWO email accounts here.

Academic Offences

"Scholastic offences are taken seriously, and students are directed here to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence."

Student Support Services
Services provided by the USC
Student Development Centre

Plagiarism Checking

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com http://www.turnitin.com.

Copyright and Audio/Video Recording Statement

Course material produced by faculty is copyrighted and to reproduce this material for any purposes other than your own educational use contravenes Canadian Copyright Laws. You must always ask permission to record another individual and you should never share or distribute recordings.

Rounding of Marks Statement

Across the Basic Medical Sciences Undergraduate Education programs, we strive to maintain high standards that reflect the effort that both students and faculty put into the teaching and learning experience during this course. All students will be treated equally and evaluated based only on their actual achievement. Final grades on this course, irrespective of the number of decimal places used in marking individual assignments and tests, will be calculated to one decimal place and rounded to the nearest integer, e.g., 74.4 becomes 74, and 74.5 becomes 75. Marks WILL NOT be bumped to the next grade or GPA, e.g. a 79 will NOT be bumped up to an 80, an 84 WILL NOT be bumped up to an 85, etc. The mark attained is the mark you achieved, and the mark assigned; requests for mark “bumping” will be denied.

Support Services

Students who are in emotional/mental distress should refer to Mental Health@Western for a complete list of options about how to obtain help. Immediate help in the event of a crisis can be had by phoning 519.661.3030 (during class hours) or 519.433.2023 after class hours and on weekends.

The following links provide information about support services at Western University.

- Academic Counselling (Science and Basic Medical Sciences)
- Appeal Procedures
- Registrarial Services

Reading list ~ *This list is tentative and subject to change.*

Week 2 - The science of difference

1. Tuana, N. (1988). The weaker seed: The sexist bias of reproductive theory. Hypatia, 3(1), 35-59.
2. Martin, E. (1991). The egg and the sperm: How science has constructed a romance based on stereotypical male-female roles. Signs: Journal of Women in Culture and Society, 16(31), 485-501.
3. Richardson, S. (2012). Sexing the X: How the X became the 'female chromosome.' Signs: Journal of Women in Culture and Society, 37(4), 909-933.
4. Fausto-Sterling, A. (1993). The five sexes: Why males and females are not enough.
5. Fausto-Sterling, A. (2000). The five sexes revisited.

Optional/recommended

- Saini, A. (2017). A difference at birth. Inferior, Beacon Press, 49-73.
- Representations of eggs and sperm in popular culture: Woody Allen (1972) Everything you always wanted to know about sex (but were afraid to ask) and Family Guy (2008) Escaping the womb
- Zita, J. (1988). The premenstrual syndrome: Dis-easing the female cycle. Hypatia, 3(1), 77-99.

Week 3 - Prejudices and bias

1. Trecker, Janice Law. "Sex, Science, and Education." AMERICAN QUARTERLY 26, no.4 (October 1974): 352-366.
2. Tilghman, Shirley M. 1993. "Science vs. the Female Scientist." New York Times, January 25, p. A17.
3. European Commission (2012). Science: It's a girl thing! [http://www.youtube.com/watch?v=g032MPrSjFA] and Grey, Meghan (2012). Science: It's a girl thing – FAIL? [http://www.youtube.com/watch?v=x3eZQHwGQE0]
4. Wenneras, C. & Wold, A. (1997). Nepotism and sexism in peer-review. Nature, 387, 341-343.
5. Vedantam, S. (2012). How Stereotypes Can Drive Women To Quit Science.
6. Gender bias in STEM: an analysis.

Optional/recommended

- Woodhull, Ann M., and Lowry, Nancy, and Henifin, Mary Sue. "Teaching for Change: Feminism and the Sciences." JOURNAL OF THOUGHT 20, no.3 (1985): 162-173.
- Hirshberg, C. (2002). My Mother, the Scientist.
- Chapman, K., Lalloo, M. (2017). Science's problem with unconscious bias.
- Medel, P. , Pournaghshband, V. (2017). Eliminating Gender Bias in Computer Science Education Materials.
- Betts, J. (2004). African women pursuing graduate studies in the sciences: Racism, gender bias, and third world marginality. NWSA Journal: Special Issue: Regendering Science Fields, 16(1), 116-135.
- Breakwell, G. , Beardsell, S. (2016). Gender, parental and peer influences upon science attitudes and activities. Public understanding of science (Bristol, England), Vol.1 (2), p.183-197.

Week 4 - Spaces of Science, Spaces of Women

1. Ginzberg, R., Lang, R., & Guttmacher, A. (1987). Uncovering gynocentric science. Hypatia, 2(3), 89-105.
2. Schiebinger, L. (1991). Women in Science: Historical perspective.
3. Schiebinger, L. (1991). Institutional environment. The mind has no sex? Women in the origins of modern science (pp. 10-36). Cambridge, MA: Harvard University Press.
4. Davis, R. (2018). Women Scribes: The Technologists of the Middle Ages.
5. Popova, M. (2016). The Glass Universe: The untold story of the trailblazing women scientists and patrons who catalogued the stars and helped prove that the universe is expanding.

Optional/Recommended:

- Try to read as many as possibly files from: Women in Science (biographies)
- Try to watch one of these movies: Enigma(2011) and/or Hidden Figures (2017)
- Read the full first four chapters of Schiebinger, L. (1991). The mind has no sex? . Cambridge, MA: Harvard University Press.

Week 5 - Is there a Feminist Science?

1. Schiebinger, L. (2000). Has feminism changed science? Signs, 25(4), 1171-1175.
2. Schiebinger, L. (2003). Introduction: Feminism in the Sciences. Signs, 28(3), 859-866.
3. Keller, E. F. (1989) Women and basic research: respecting the unexpected. Technology review, 1984-11-01, Vol.87, p.44
   and Keller, E. F. (1984) A feeling for the organism (last chapter of the book)
4. Fedigan, L. M. (2001). The paradox of feminist primatology: The Goddess's discipline? In A. Creager, E. Lunbeck, & L. Schiebinger (Eds.), Feminism in twentieth-century science, technology, and medicine (pp. 46- 72). Chicago, IL: University of Chicago
5. Wylie, A. (1997) The Engendering of Archaeology. Refiguring Feminist Science Studies, Osiris (Bruges), 1997, Vol.12, p.80-99
6. Whitten, B. (2012). (Baby) steps toward feminist physics. Journal of Women and Minorities in Science and Engineering,18(2), 115-134.

Optional/recommended

- Keller, E. F. (1984) A feeling for the organism : the life and work of Barbara McClintock.
- Schiebinger, L. (1999). Has feminism changed science? Harvard University Press
- Article collection (1992) The Knowledge explosion : generations of feminist scholarship, New York : Teachers College Press
- Article collection (2003) Feminism inside the sciences, Signs, Journal of Women in Culture and Society, 28 (2003):859-922
- Weasel, L. (2001). Laboratories without walls: The science shop as a model for feminist community science in action. In M. Mayberry, B. Subramaniam, & L. Weasel (Eds.), Feminist science studies: A new generation (pp. 305-320). New York: Routledge.

Video of Alison Wylie: "Why Feminism Matters to Archaeology"

Week 6 - Topics in Philosophy of Science

1. Crasnow S., Wylie A., Bauchspies W. A., and Potter E.(2018) "Feminist Perspectives on Science", The Stanford Encyclopedia of Philosophy, Edward N. Zalta (ed.)

2. Kourany, J. (2010) "The Legacy of Twentieth-Century Philosophy of Science", in "Philosophy of Science after Feminism", Oxford University Press
3. Kourany J. (1997) "The empirical Basis of Scientific Knowledge" in "Scientific Knowledge", p.65-74, Wadsworth Publishing Company
4. Kourany J. (1997) "The validation of Scientific Knowledge" in "Scientific Knowledge", p.153-163, Wadsworth Publishing Company

Optional/recommended:

- Okruhlik K. (2004) "Logical Empiricism, Feminism, and Neurath's Auxiliary Motive", Hypatia Vol. 19, No. 1, Feminist Science Studies, pp. 48-72
- Laplane L., Mantovani P., Adolphs R., Chang H., Mantovani A., McFall-Ngai M., Rovelli C., Sober E., and Pradeu T. (2019) "Opinion: Why science needs philosophy", PNAS March 5, 2019 116 (10) 3948-3952
- Okasha S. (2002) "Philosophy of Science: A Very Short Introduction", Oxford University Press

Week 7 - Situated Knowers, Standpoint Theory and Conceptions of Objectivity

1. Reiss J. and Sprenger J. (2017) "Scientific Objectivity", The Stanford Encyclopedia of Philosophy, Edward N. Zalta (ed.)
2. Haraway, D. (1985), "Situated knowledges: The science question in feminism and the privilege of partial perspective." Feminist Studies, 14(3), 575-599.
3. Harding, S. (1992). After the neutrality ideal: Science, politics, and "strong objectivity." Social Research, 59(3), 567-587.
4. Harding, S. (2001). After absolute neutrality: Expanding "science." In M. Mayberry, B. Subramaniam, & L. Weasel (Eds.), Feminist science studies: A new generation (pp. 291-304). New York: Routledge.
5. Wylie, A. (2003). Why standpoint matters. In R. Figueroa & S. Harding (Eds.), Science and other cultures: Issues in philosophy of science and technology (pp. 26-48). New York: Routledge. and Hypatia Podcast: Wylie, A. (2011). Standpoint Matters, in Feminist Philosophy of Science.
6. Watch Helen Longino: "Perspectives and Pluralities" youtube.com/watch?v=631gObE7ctA

Optional/recommended

- Roy, D. (2008). Asking different questions: Feminist practices for the natural sciences. Hypatia, 23(4), 134- 157.
- Internet Encyclopedia of Philosophy (n.d.). Feminist standpoint theory.

Week 8 - Introduction to Value Theory

1. Okruhlik (1994), "Gender and the Biological Sciences"
2. Roy (2008), "Asking Different Questions: Feminist Practices for the Natural Sciences"
3. Brown (2013), "Values in Science Beyond Underdetermination and Inductive Risk"
4. Grasswick (2011), "Introduction: Feminist Epistemology and Philosophy of Science in the 21st Century," pp. xiii-xix (marked selection)
5. Strevens (2020), "How Science Works: The Iron Rule of Explanation" in The Knowledge Machine

Week 9 - Value Theories

1. National Academy of Sciences (1993). Methods and values in science. In. S. Harding (Ed.), Racial economy of science (pp. 341-343). Bloomington: Indiana University Press.

2. Longino, H. "Subjects, Power, and Knowledge: Description and Prescription in Feminist Philosophies of Science". In Feminist Epistemologies, Linda Alcoff and Elizabeth Potter (eds.), pp. 101-120.*
3. Lacey, Hugh. Is Science Value Free? (Routledge, 1999), Introduction and Ch. 4. pp. 1-22, 4-87
4. Anderson, E. (2004) "Uses of Value Judgments in Science: A General Argument with Lessons from a Case Study of Feminist Research on Divorce", Hypatia vol. 19, no.1, pp. 1-24
5. Douglas, Heather. "Inductive Risk and Values in Science." Philosophy of Science 67(2000), pp. 559–579
6. Intemann, K. (2005) "Feminism, Underdetermination and Values in Science". Philosophy of Science 72: 1001-1012.
7. Watch Kathleen Okruhlik "Science and Values" youtube.com/watch?v=tEnQgGi1JV8

Optional/Recommended

- Anderson, E. (1995). "Knowledge, Human Interests, and Objectivity in Feminist Epistemology." Philosophical Topics 23: 27-58.
- Laura Ruetsche (2004) Virtue and Contingent History: Possibilities for Feminist Epistemology. Hypatia Vol. 19, No. 1, pp. 73-101
- Intemann, Kristen. (2001). "Science and Values: Are value judgments always irrelevant to the justification of scientific claims?". Philosophy of Science 68: S506-S518.
- Kuhn, Thomas S. (1977). "Objectivity, Value Judgment and Theory Choice". The Essential Tension, 320-339. Chicago: Chicago University Press.
- Longino, Helen. (1990). Science as Social Knowledge. Values and Objectivity in Scientific Inquiry. Princeton/NJ: Princeton University Press.
- Mitchell, Sandra. (2004). "The Prescribed and Proscribed Values in Science Policy". In Science, Values and Objectivity, ed. Peter Machamer, and Gereon Wolters, 245-255, Pittsburgh: Pittsburgh University Press.

Week 10 - Empiricism and naturalized epistemology

1. Longino, Helen (1994) In Search of Feminist Epistemology, The Monist; Chicago Vol. 77, Iss. 4, (Oct 1, 1994): 472.
2. Nelson, Lynn Hankinson (1993) "Epistemological Communities", in Alcoff and Potter 1993.
3. Nelson, Lynn Hankinson (1995) A Feminist Naturalized Philosophy of Science, Synthese, Vol. 104, No. 3, pp. 399-421
4. Antony, Louise, 1993, "Quine as Feminist: The Radical Import of Naturalized Epistemology," in Antony and Witt 1993.
5. Clough, S. (2004), Having It All: Naturalized Normativity in Feminist Science Studies. Hypatia, 19: 102-118.
6. Hundleby, Catherine. (2011). Feminist Empiricism. Handbook of Feminist Research: Theory and Praxis, 28-45.

Optional/Recommended

- Nelson, Lynn Hankinson, 1990, Who Knows: From Quine to a Feminist Empiricism, Philadelphia, Pa.: Temple University Press.
- Quine, W. V. O., 1963, "Two Dogmas of Empiricism," in From a Logical Point of View, New York: Harper & Row.
- Quine, 1969, "Epistemology Naturalized," in Ontological Relativity and Other Essays, New York: Columbia University Press.

Week 11 - Neo-Materialism

1. Barad, K. (2003) Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter, Signs Vol. 28, No. 3, Gender and Science: New Issues (pp. 801-831)
2. Fraser, Nancy and Linda Nicholson, 1990, “Social Criticism without Philosophy,” in Nicholson 1990.
3. Iris van der Tuin (2019) New Concepts for Materialism: Introduction
4. Fricker, M., “Feminism in epistemology: Pluralism without postmodernism”
5. Coole, D. and Frost, S. (2010) "Introducing the New Materialism" in New Materialism. Ontology, Agency and Politics, Duke University Press.

Optional/Recommended

- Barad, K. (2007) Meeting the universe halfway: quantum physics and the entanglement of matter and meaning, Chapter 4, Durham : Duke University Press.
- Hekman, S. (1992) Gender and Knowledge. Elements of a Postmodern feminism. Chap.1 and Chap.4, Northeastern University Press, Boston.
- Rick Dolphijn and Iris van der Tuin (2018) New Materialism: Interviews & Cartographies
- Jennifer Mae Hamilton, Susan Reid, Pia van Gelder and Astrida Neimanis (2018) Feminist, Queer, Anticolonial Propositions for Hacking the Anthropocene: Archive
- Smith, B. H. (2018) Practicing Relativism in the Anthropocene: On Science, Belief, and the Humanities

Extra Class **- Feminist Science Fiction**

This week there is no class because it is Thanksgiving, so there will be a special "holiday reading". In our discussion it was mentioned that language shapes the narratives about science and gender, but can we use language to create the future we desire? Feminist science writers have done so!
We start by reading:

Rose, H. (1988) Dreaming the Future
and then each of you will read a different chapter from the book collection edited by

Larbaslestrier, J. (2006) Dauther of Earth. Feminist Science Fiction in the Twenty Century.

For this reading we focus on modern writers, but you would be amazed by the long history of women writing science fiction! I would like to recommend you this fantastic resource with so many science fiction and utopians novels predating the XX century: https://digital.library.upenn.edu/women/_collections/utopias/utopias.html