

PHIL 560: THE LANGUAGE OF SCIENCE
UNIVERSITY OF WASHINGTON, SPRING 2021

Course time: Wed 3:30-5:20pm

Location: <https://washington.zoom.us/j/96107870003>

Instructor: Aaron Novick

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Office hours: Tu, 1-3pm, or by appointment

Office location: Sav M-392 (but for now, Zoom)

1. Course description

Scientific theories are formulated in language. This trivial observation raises serious philosophical problems. In virtue of what are scientific terms meaningful? How does meaning relate to testing procedures? Is meaning dependent on the theories in which terms are embedded? What happens when those theories are rejected and replaced—especially when core terms are preserved? How do terms refer to things in the world (and how is reference affected by theoretical change)? How should we handle cases where important scientific terms appear to have multiple meanings or complex internal structures? In this seminar, we will attempt to address these questions, starting from logical empiricist approaches (and their critics) and moving up to contemporary work.

2. Course texts

All readings will be uploaded the course canvas page; there are no required texts.

3. Evaluation

Presentations. Each student will be a discussion leader/presenter twice during the term. This involves [1] creating and distributing a handout that (a) highlights central themes & arguments in the readings and (b) critical questions for us to discuss, and [2] leading the discussion in class, at least at the start (if discussion takes its own course organically from there, that's good), as well as filling in lulls in discussion as required.

Discussion. Even by graduate seminar standards, this is a small group. I have no intention of lecturing for two hours—I truly expect each session to be a discussion. Please come prepared to discuss the readings each week.

Term paper. By far the heftiest portion of the grade, each student will write a 4000-5000 word paper on a topic related to the course (due **June 09**). I am more than happy to be flexible about the meaning of “related to the course”—meaning, I encourage you to find connections between what we discuss and your main philosophical interests, and work on that. Just clear the topic with me beforehand. (Even if you are working on a topic obviously within the scope of the course, I strongly encourage you to talk with me about it.) On **May 26**, we will take time in class to discuss your paper topics as a group; please prepare a short summary/outline (how you format it is up to you; no more than a page).

4. Reading schedule

Date	Topic	Readings
Mar 31	Verificationism	Carnap, "Testability and Meaning" (section I) Carnap, "Empiricism, Semantics, and Ontology" Hempel, "The Empiricist Criterion of Meaning" Waismann, "Verifiability"
Apr 07	Operationalism	Bridgman, <i>The Logic of Modern Physics</i> , ch. 1 Hempel, <i>Philosophy of Natural Science</i> , ch. 7 Chang, "Operationalism: Old Lessons and New Challenges"
Apr 14	Incommensurability (1)	Kuhn, <i>The Structure of Scientific Revolutions</i> , chs. 9-10 Feyerabend, "Explanation, Reduction, and Empiricism" Feyerabend, "On the 'Meaning' of Scientific Terms"
Apr 21	The causal theory of reference (1)	Putnam, "The Meaning of 'Meaning'" Kripke, <i>Naming and Necessity</i> , lecture II Hacking, "Putnam's Theory of Natural Kinds and Their Names..."
Apr 28	Incommensurability (2)	Kitcher, "Theories, Theorists, and Theoretical Change" Sankey, "Scientific Realism and the Semantic..." Wolf, "Reference and Incommensurability"
May 05	The causal theory of reference (2)	LaPorte, <i>Natural Kinds and Conceptual Change</i> , ch. 5 Wilson, "Predicate Meets Property" Stanford and Kitcher, "Refining the Causal Theory..."
May 12	Concept pluralism and eliminativism	Brigandt, "The Epistemic Goal of a Concept" Barker, "Eliminative Pluralism and Integrative Alternatives" Taylor and Vickers, "Conceptual Fragmentation..."
May 19	Patchwork concepts (1)	Wilson, <i>Wandering Significance</i> , ch. 6 Wilson, "Chief Theses of the Classical Framework" (optional)
May 26	Patchwork concepts (2)	Bursten, "Smaller than a Breadbox" Hauéis, "A Generalized Approach to Patchwork Concepts" Paper topic discussion
Jun 02	Cognitive Approaches	Nersessian, <i>Creating Scientific Concepts</i> , chs. 1, 6 Thagard, <i>The Cognitive Science of Science</i> , chs. 12-13, 15

5. Course and Departmental Policies, Rules, and Resources

Plagiarism. Plagiarism is defined as the use of creations, ideas or words of publicly available work without formally acknowledging the author or source through appropriate use of quotation marks, references, and the like. Plagiarizing is presenting someone else's work as one's own original work or thought. This constitutes plagiarism whether it is intentional or unintentional. The University of Washington takes plagiarism very seriously. Plagiarism may lead to disciplinary action by the University against the student who submitted the work. Any student who is uncertain whether his or her use of the work of others constitutes plagiarism should consult the course instructor for guidance before formally submitting the course work involved. (Sources: UW Graduate School Style Manual; UW Bothell Catalog; UW Student Conduct Code)

Incompletes. An incomplete is given only when the student has been in attendance and has done satisfactory work until within two weeks of the end of the quarter and has furnished proof satisfactory to the instructor that the work cannot be completed because of illness or other circumstances beyond the student's control. (Source: UW General Catalog Online, "Student Guide/Grading")

Grade Appeal Procedure. A student who believes he or she has been improperly graded must first discuss the matter with the instructor. If the student is not satisfied with the instructor's explanation, the student may submit a written appeal to the chair of the Department of Philosophy with a copy of the appeal also sent to the instructor. The chair consults with the instructor to ensure that the evaluation of the student's performance has not been arbitrary or capricious. Should the chair believe the instructor's conduct to be arbitrary or capricious and the instructor declines to revise the grade, the chair, with the approval of the voting members of his or her faculty, shall appoint an appropriate member, or members, of the faculty of the Department of Philosophy to evaluate the performance of the student and assign a grade. The Dean and Provost should be informed of this action. Once a student submits a written appeal, this document and all subsequent actions on this appeal are recorded in written form for deposit in a School file. (Source: UW General Catalog Online, "Student Guide/Grading")

Concerns About a Course, an Instructor, or a Teaching Assistant. If you have any concerns about a Philosophy course or your instructor, please see the instructor about these concerns as soon as possible. If you are not comfortable talking with the instructor or not satisfied with the response that you receive, you may contact the chair of the program offering the course (names available from the Department of Philosophy, 361 Savery Hall). If you have any concerns about a teaching assistant, please see the teaching assistant about these concerns as soon as possible. If you are not comfortable talking with the teaching assistant or not satisfied with the response that you receive, you may contact the instructor in charge of the course. If you are still not satisfied with the response that you receive, you may contact the chair of the program offering the course (names available from the Department of Philosophy, 361 Savery Hall), or the Graduate School at G-1 Communications Building (543-5900). For your reference, these procedures are posted on a Philosophy bulletin board outside the Department of Philosophy main office on the 3rd floor of Savery Hall.

Equal Opportunity. The University of Washington reaffirms its policy of equal opportunity regardless of race, color, creed, religion, national origin, sex, sexual orientation, age, marital status, disability, or status as a disabled veteran or Vietnam-era veteran in accordance with University of Washington policy and applicable federal and state statutes and regulations.

Disability Accommodation. The University of Washington is committed to providing access, equal opportunity and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. For information or to request disability accommodation contact: Disabled Students Services (Seattle campus) at (206) 543-8924/V, (206) 543-8925/TTY, (206) 616-8379/Fax, or e-mail at uwdss@u.washington.edu; Bothell Student Affairs at (425) 352-5000/V; (425) 352-5303/TTY, (425) 352-5335/Fax, or e-mail at uwbothel@u.washington.edu; Tacoma Student Services at (253) 552-4000/V, (253) 552-4413/TTY, (253) 552-4414/Fax.

Sexual Harassment. Sexual harassment is defined as the use of one's authority or power, either explicitly or implicitly, to coerce another into unwanted sexual relations or to punish another for his or her refusal, or as the creation by a member of the University community of an intimidating, hostile, or offensive working or educational environment through verbal or physical conduct of a sexual nature. If you believe that you are being harassed, seek help—the earlier the better. You may speak with your instructor, your teaching assistant, the undergraduate advisor (363 Savery Hall), graduate program assistant (366 Savery Hall), or the chair of the Philosophy Department (364 Savery Hall). In addition, you should be aware that the University has designated special people to help you. They are: University Ombudsman and Ombudsman for Sexual Harassment (for complaints involving faculty members and teaching assistants) Susan Neff, 301 Student Union (HUB), 543-6028; and the University Complaint Investigation and Resolution Office, 616-2028. (Sources: UW Graduate School, CIDR, Office of the President)

Office of Scholarly Integrity. The Office of Scholarly Integrity is housed in the Office of the Vice-Provost. The Office of Scholarly Integrity assumes responsibility for investigating and resolving allegations of scientific and scholarly misconduct by faculty, students, and staff of the University of Washington. The Office of Scholarly Integrity coordinates, in consultation and cooperation with the Schools and Colleges, inquiries and investigations into allegations of scientific and scholarly misconduct. The Office of Scholarly Integrity is responsible for compliance with reporting requirements established by various Federal and other funding agencies in matters of scientific or scholarly misconduct. The Office of Scholarly Integrity maintains all records resulting from inquiries and investigations of such allegations. University rules (Handbook, Vol. II, Section 25-51, Executive Order #61) define scientific and scholarly misconduct to include the following forms of inappropriate activities: intentional misrepresentation of credentials; falsification of data; plagiarism; abuse of confidentiality; deliberate violation of regulations applicable to research. Students can report cases of scientific or scholarly misconduct either to the Office of Scholarly Integrity, to their faculty adviser, or the department chair. The student should report such problems to whomever he or she feels most comfortable. (Sources: <http://www.grad.washington.edu/OSI/osi.htm>; minutes of Grad School Executive Staff and Division Heads meeting, 7/23/98).