

## **Phil 125: Philosophy of Science**

Tue. and Thurs., 6-7:45pm.

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Office hours: Mon. 2–3pm, Thurs. 10–11am, or by appointment.

### **Course Requirements**

Two 6–10 page papers, due Thurs., Feb. 16 and Thurs., Mar. 23. For the second paper there are now two possible assignments: the original paper assignment and the alternate assignment.

### **Texts**

Carnap, *The Logical Structure of the World* (known, following its German title, as “the *Aufbau*”).

Goodman, *Fact, Fiction and Forecast*.

Kuhn, *The Structure of Scientific Revolutions*.

Popper, *The Logic of Scientific Discovery*.

The above texts should be available at the Literary Guillotine. Readings not on the above list will be made available as photocopies and/or on e-reserve.

### **Readings**

Thur., Jan. 5: (no reading, first class).

Tue., Jan. 10: Carnap, *Aufbau*, Preface to 1st Edition (pp. xv–xviii); §§1–5 (pp. 5–10); §§17–25 (pp. 31–43).

Thur., Jan. 12: Carnap, *Aufbau*, §§26–41 (pp. 47–70); §§46–60 (pp. 78–97).

Tue., Jan. 17: Carnap, *Aufbau*, §67 (pp. 107–9); §§95–6 (pp. 152–4); §§98–103 (pp. 156–63); §157 (p. 246); §§160–61 (pp. 254–7); §§165–9 (pp. 263–72).

Thur., Jan. 19: Carnap, *Aufbau*, §§175–83 (pp. 281–98).

Tue., Jan. 24: Carnap, *The Unity of Science*, §§1–3 and 6; Neurath, “Protocol Sentences”; Carnap, “On Protocol Sentences.”

Thur., Jan. 26: “The Methodological Character of Theoretical Concepts,” §§1-6, beginning of §7 (through the paragraph that ends on top of p. 54), and §§8–10; Putnam, “What Theories Are Not.”

Tue., Jan. 31: Goodman, *Fact, Fiction, and Forecast*, §§2–3 (pp. 31–83).

Thur., Feb. 2: Goodman, *Fact, Fiction, and Forecast*, §4 (pp. 84–124).

Tue., Feb. 7: Quine, “Epistemology Naturalized.”

Thur., Feb. 9: Carnap, *Aufbau*, §§125–8 (pp. 194–9) (and continued discussion of “Epistemology Naturalized”).

Tue., Feb. 14: Popper, *LSD*, ch. 1 and 2 (pp. 3–34).

Thur., Feb. 16: Popper, *LSD* ch. 3 (pp. 37–56) (and **first paper due**).

Tue., Feb. 21: Popper, *LSD*, ch. 4 (pp. 57–73).

Thur., Feb. 23: Popper, *LSD*, ch. 5 (pp. 74–94).

Tue., Feb. 28: Popper, *LSD*, ch. 10 beginning and §79 (pp. 248–52); §82 (pp. 264–7); §84 through end (including Addendum), pp. 273–82.

Thur., Mar. 2: Neurath, “Pseudorationalism of Falsification”; Putnam “The ‘Corroboration’ of Theories”; Lakatos, “Popper on Demarcation and Induction,” through end of part I (pp. 241–52).

Tue., Mar. 7: Kuhn, *SSR*, ch. 1–5, pp. 1–51.

Thur., Mar. 9: Kuhn, *SSR*, ch. 6–8, pp. 52–91.

Tue., Mar. 14: Kuhn, *SSR*, ch. 9–10, pp. 92–135.

Thur., Mar. 16: Kuhn, *SSR*, ch. 11–13, pp. 136–73.

Thur., Mar. 23: **final paper due**. (Original assignment; alternate assignment.)

## Recommended for further reading

Apologies for the somewhat random nature of this part. I will add more things to it, so stay tuned. (Note: at any given moment some of the statements below about what is on reserve may be optimistic projections.)

Carnap, “Intellectual Autobiography,” in Schilpp, ed., *The Philosophy of Rudolf Carnap* (this book is on reserve at McHenry; it has other goodies in it, too, many of them mentioned below)—especially §§1–3 (pp. 3–34), §5 (pp. 44–6) and §11 (pp. 67–71).

Carnap, “Replies to my Critics,” in Schilpp, ed., *The Philosophy of Rudolf Carnap*. See especially Carnap’s replies to Popper (pp. 877–881) and Quine (pp. 915–22; the final paragraph is especially important).

Carnap, “On the Application of Inductive Logic,” *Philosophy and Phenomenological Research* 8 (1947): pp. 133–47. (In part, Carnap’s response to the early version of Goodman’s grue argument.)

Carnap, “Reply to Nelson Goodman,” *Philosophy and Phenomenological Research* 8 (1947): pp. 461–2. (Carnap’s reply to Goodman’s “Infirmities of Confirmation-Theory.”)

Friedman, Michael, *Reconsidering Logical Positivism* (on reserve at McHenry).

Goodman, “On Infirmities of Confirmation-Theory,” *Philosophy and Phenomenological Research* 8 (1947): 149–51. (Goodman’s reply to Carnap’s “Application of Inductive Logic.”)

Hacking, Ian, *Representing and Intervening*, especially Introduction and ch. 10. (An influential book which basically claims everything we’ve read in this course is misguided.)

Kuhn, “Logic of Discovery or Psychology of Research?,” in Schilpp, ed., *The Philosophy of Karl Popper*, pp. 241–73. (The book is on reserve at McHenry.) (Interesting because Kuhn to a certain extent takes on Popper on Popper’s own terms.)

Kuhn, “Reflections on my Critics,” in Lakatos and Musgrave, eds., *Criticism and the Growth of Knowledge* (this book is on reserve at McHenry; it contains several interesting things, two of which are listed below).

Popper, “The Demarcation Between Science and Metaphysics,” in Schilpp, ed., *The Philosophy of Rudolf Carnap*, pp. 183–226. (The first five sections of this are very relevant to issues we discuss in the class. The last, about probability and induction, is about topics we don’t get to, and is also rather technical.)

Popper, “Replies to My Critics,” in Schilpp, ed., *The Philosophy of Karl Popper*, especially pp. 976–87, 993–1013, 1144–8. (e-reserve). (This is the most recommended among the recommended readings. Given one more class session, this would have been required.)

Popper, “Normal Science and its Dangers,” in Lakatos and Musgrave, eds., *Criticism and the Growth of Knowledge*. (e-reserve). (Similar, but not identical, I think, to Popper’s response to Kuhn in the Schilpp volume.)

Putnam, “‘Degree of Confirmation’ and Inductive Logic,” in Schilpp, ed., *The Philosophy of Rudolf Carnap* (e-reserve). (This is a whole topic we won’t get into; you could start to by looking at this. Putnam wants to debunk everything, as usual, but he includes pointers to a lot of the earlier literature. Note that this originally appeared in *The Philosophy of Rudolf Carnap*, ed. Schilpp; Carnap replies to it on pp. 983–9.)

Quine, “Carnap and Logical Truth,” in Schilpp, ed., *The Philosophy of Rudolf Carnap*, pp. 385–406. (Another attack on the analytic/synthetic distinction, and related points.)

Richardson, Alan, *Carnap’s Construction of the World: The Aufbau and the Emergence of Logical Empiricism* (on reserve at McHenry).

Watkins, John, “Against ‘Normal Science,’” in Lakatos and Musgrave, eds., *Criticism and the Growth of Knowledge*. (e-reserve). (A Popperian attack on Kuhn—seemingly not a very comprehending one, however, although Popper himself describes it as “brilliant” in his response to Kuhn in the Schilpp volume, n. 202.)