

Philosophy of Logic

Fall 2002 - Winter 2003

Our goal over these two quarters is to think through a series of possible positions on the nature of logical truth. We will focus on the most fundamental questions: what is the ground of logical truth? (what makes logical truths true?), and how do we come to know these truths? I have in mind here the simplest of logical truths -- if it's either red or green and it's not red, then it must be green -- or the simplest of logical validities -- any situation in which all men are mortal and Socrates is a man is a situation in which Socrates is mortal.

This is a reading course in format, which leaves us the flexibility to spend more or less time on various views and writers as we go along and leaves you the freedom to pause and focus more intensely on any of the topics we survey in passing. Here's a tentative list of readings. (* = copy for recopying available outside my office, ** = on reserve at the main library, *** = both)

Topics

1. A Kantian view of logic

*Maddy, 'Logic and the discursive intellect'.

(Unfortunately, chronological order puts one of the very hardest views first. We'll all need to dip into the relevant parts of the *Critique*. For a capsule Kant and references, you might look at *'Naturalism and the a priori', pp. 92-102. For beginners, **Körner's *Kant* can be helpful.)

2. Bolzano

***Bolzano, *Theory of Science*, §§12, 13, 16, 19, 20, 25, 30, 48-50, 54, 56, 61, 68, 72-75, 78, 101, 123, 148, 186, 305, 315.

(**Proust, *Questions of Form*, chapter 2, discusses Bolzano's notion of analyticity. See also *'From Kant to Boole', §III, for discussion and references.)

3. Mill

***Mill, *System of Logic*, Book I, Chapter VI, and Book II, Chapters I-III, VII.5.

(See also *'From Kant to Boole', §IV, for discussion and references.)

4. Boole

***Boole, *The Laws of Thought*, chapters I, II, XXII, and §III.15.

(See also *'From Kant to Boole', §V, for discussion and references.)

5. Frege

*Frege, *Posthumous Writings*, pp. 2-7, 128-138, 267-274.
'The thought'.

(Frege gets a Platonistic reading, e.g., from *Burge, 'Frege on knowing the third realm', and a Kantian reading from many, beginning with **Sluga's *Gottlob Frege*.)

6. Early Wittgenstein

**Wittgenstein, *Tractatus*, (Ogden translation), especially 1-6.13.

(We'll surely take a couple of weeks on this one. For help, try **Mounce, *Wittgenstein's Tractatus*, and/or **Black, *A Companion to Wittgenstein's Tractatus*. A well-known Kantian reading of the book appears in **Stenius, *Wittgenstein's Tractatus*. For a recent anti-realist take on early Wittgenstein, see *Goldfarb, 'Metaphysics and nonsense: on Cora Diamond's *The Realistic Spirit*'.)

7. Carnap

***Carnap, *Logical Syntax of Language*, §§1, 2, 17, 62, 71-73.

*Quine, 'Truth by convention'.

(We should also take a look at *Ayer's 'The a priori', another version of the linguistic theory of logical truth.)

8. Quine

*Quine, 'Two dogmas of empiricism'.
'Carnap and logical truth'.

(Quine's empiricism gets a particular case in Putnam's 'Is logic empirical?', but many of you will hear about this in David's 'Probability and determinism'. Quine's views softened somewhat in later years. See ***Philosophy of Logic*, chapters 6 and 7, and ***Pursuit of Truth*, §6.)

9. Late Wittgenstein

***Wittgenstein, *Philosophical Investigations*, §§109-133, 185-243. (§§243-317 is the private language argument.)
Remarks on the Foundations of Mathematics, Part I, §§1-23, 113-156.

*Stroud, 'Wittgenstein and logical necessity'.

*Canfield, 'Anthropological science fiction and logical necessity'.

**Kripke, *Wittgenstein on Rules and Private Language*, pp. 1-113.

(Kripke sees Wittgenstein as putting forward a new skeptical paradox and a skeptical solution to it. This skeptical solution in turn generates an argument against the possibility of a private language.)

*Blackburn, 'The individual strikes back'.

*Hoffman, 'Kripke on private language'.

*Goldfarb, 'Kripke on Wittgenstein on rules'.

(These three question the effectiveness of Kripke's skeptical solution.)

**Diamond, *The Realistic Spirit*, introduction and chapter 1.

*Maddy, 'Wittgenstein's anti-philosophy of mathematics'.

(These two outline an interpretation of Wittgenstein at the extreme opposite from Kripke's, an interpretation pioneered by Diamond, Goldfarb and others.)

10. Dummett

*Dummett, 'The philosophical basis of intuitionistic logic'.

11. Lewis/Skyrms

*Skyrms, 'Evolution of inference'.

12. Naturalized Kant

*Maddy, 'A naturalistic look at logic'.

(For some background on naturalism, see *'Naturalism: friends and foes' and/or *'Three forms of naturalism'.)

13. Naturalism

*Maddy, 'Towards a naturalistic philosophy of mathematics: logic and arithmetic'.

Bibliography

Ayer, A. J.

[1956] 'The a priori', reprinted in reprinted in P. Benacerraf and H. Putnam, eds., *Philosophy of Mathematics*, second edition, (Cambridge: Cambridge University Press, 1983), pp. 315-328.

Black, Max

[1964] *A Companion to Wittgenstein's Tractatus*, (Ithaca, NY: Cornell University Press).

Blackburn, Simon

[1984] 'The individual strikes back', *Synthese* 58, pp. 281-301.

Bolzano, Bernard

[1873] *Theory of Science*, R. George, trans., (Berkeley: University of California Press, 1972).

Boole, George

[1852] *The Laws of Thought*, (New York: Dover, 1958).

Burge, Tyler

[1992] 'On knowing the third realm', *Mind* 101, pp. 633-650.

Canfield, John

[1975] 'Anthropological science fiction and logical necessity', *Canadian Journal of Philosophy* 4, pp. 105-117.

Carnap, Rudolf

- [1937] *The Logical Syntax of Language*, A. Smeaton, trans.,
(London: Routledge and Kegan Paul).

Diamond, Cora

- [1991] *The Realistic Spirit*, (Cambridge, MA: MIT Press).

Dummett, Michael

- [1975] 'The philosophical basis of intuitionistic logic',
reprinted in reprinted in P. Benacerraf and H. Putnam,
eds., *Philosophy of Mathematics*, second edition,
(Cambridge: Cambridge University Press, 1983), pp.
97-129.

Frege, Gottlob

- [1919] 'The Thought', reprinted in M. Beaney, *The Frege
Reader*, (Oxford: Basil Blackwell, 1997), pp. 325-345.

Goldfarb, Warren

- [1985] 'Kripke on Wittgenstein on rules', *Journal of
Philosophy* 82, pp. 471-488.
- [1997] 'Metaphysics and nonsense: on Cora Diamond's *The
Realistic Spirit*', *Journal of Philosophical Research*
22, pp. 57-73.

Hoffman, Paul

- [1985] 'Kripke on private language', *Philosophical Studies*
47, pp. 23-28.

Kant, Immanuel

- [1878] *Critique of Pure Reason*, P. Guyer and A. Wood, eds.
and trans., (Cambridge: Cambridge University Press,
1997).

Körner, Stephan

- [1955] *Kant*, (Baltimore, MD: Penguin Books).

Kripke, Saul

- [1982] *Wittgenstein on Rules and Private Language*,
(Cambridge, MA: Harvard University Press).

Maddy, Penelope

- [1993] 'Wittgenstein's anti-philosophy of mathematics', in K. Puhl, ed., *Wittgenstein's Philosophy of Mathematics*, (Vienna: Hölder-Pichler-Tempsky), pp. 52-72.
- [1999] 'Logic and the discursive intellect', *NDJFL* 40 (1999), pp. 94-115.
- [2000] 'Naturalism and the a priori', In P. Boghossian and C. Peacocke, eds., *New Essays on the A Priori*, (Oxford: Oxford University Press, 2000), pp. 92-116.
- [2001] 'Naturalism: friends and foes', in J. Tomberlin, ed., *Philosophical Perspectives 15, Metaphysics 2001*, (Madlen, MA: Blackwell, 2001), pp. 37-67.
- [2002] 'A naturalistic look at logic', *Proceedings of the APA*, November 2002.
- [200?] 'Three forms of naturalism', to appear in S. Shapiro, ed., *Oxford Handbook of Philosophy of Logic and Mathematics*.
- [xxxx] 'From Kant to Boole', unpublished ms.
- [xxxx] 'Towards a naturalistic philosophy of mathematics: logic and arithmetic', unpublished ms.

Mill, John Stuart

- [1983] *A System of Logic*, (London: Longmans, 1959).

Mounce, H. O.

- [1981] *Wittgenstein's Tractatus: An Introduction*, (Chicago, IL: University of Chicago Press).

Proust, Joëlle

- [1989] *Questions of Form: Logic and the Analytic Proposition from Kant to Carnap*, (Minneapolis, MN: University of Minnesota Press).

Quine, W. V. O.

- [1936] 'Truth by convention', reprinted in reprinted in P. Benacerraf and H. Putnam, eds., *Philosophy of Mathematics*, second edition, (Cambridge: Cambridge University Press, 1983), pp. 329-376.

- [1951] 'Two dogmas of empiricism', reprinted in his *From a Logical Point of View*, second edition, (Cambridge, MA: Harvard University Press, 1980), pp. 20-46.
- [1954] 'Carnap and logical truth', reprinted in P. Benacerraf and H. Putnam, eds., *Philosophy of Mathematics*, second edition, (Cambridge: Cambridge University Press, 1983), pp. 355-376.
- [1986] *Philosophy of Logic*, second edition, (Cambridge, MA: Harvard University Press).
- [1990] *Pursuit of Truth*, (Cambridge, MA: Harvard University Press).

Skyrms, Brian

- [1999] 'The evolution of inference', in T. Kohler and G. Gumerman, eds., *Dynamics in Human and Primate Societies*, (Oxford: Oxford University Press), pp. 77-88.

Sluga, Hans

- [1980] *Gottlob Frege*, (London: Routledge and Kegan Paul).

Stenius, Eric

- [1960] *Wittgenstein's Tractatus*, (Oxford: Basil Blackwell).

Stroud, Barry

- [1965] 'Wittgenstein and logical necessity', reprinted in P. Moser, ed., *A Priori Knowledge*, (Oxford: Oxford University Press, 1987), pp. 68-84.

Wittgenstein, Ludwig

- [1922] *Tractatus Logico-Philosophicus*, C. K. Ogden, trans., (London: Routledge and Kegan Paul).
- [1953] *Philosophical Investigations*, (New York: MacMillan).
- [1933/44] *Remarks on the Foundations of Mathematics*, G. H. von Wright et al, eds., G. E. M. Anscombe, trans., (Cambridge, MA: MIT Press, 1978).