

PH329 Truth, Consequence, and Paradox

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Introduction

What is logic about? According to Mark Sainsbury, “Logic ... aims to say what reasons are good reasons” (Sainsbury 1991: 5---6). In this module we investigate how logic goes about doing that, by considering some foundational questions that arise concerning the pursuit of logic so understood. In particular, we will aim to consider the following questions: (1) How should we understand the relation of logical consequence, if it is to illuminate the nature of good reasons? (2) How should we understand truth as it functions within logic? (3) How should we deal with some paradoxes that appear to afflict our ordinary understanding of truth, in particular the liar paradox? (4) How should we deal with some paradoxes that appear to arise when we attempt to apply logic to ordinary thought or language, in particular the Sorites paradox?

Preliminary syllabus (subject to possible amendment)

1. Logical consequence: proof-theoretic approaches; model-theoretic approaches; Tarski on logical consequence; logical vs. non-logical constants.
2. Truth: relations between logical consequence and truth; truth-bearers; minimalism about truth.
3. Truth and Paradox: the liar paradox; the liar and revisions to classical logic; the liar and minimalism about truth.
4. Vagueness: the sorites paradox; vagueness and non-classical logics; epistemic theories of vagueness.

Objectives

At the end of the module:

1. You should possess knowledge of some recent developments in the philosophy of logic, sufficient to understand debates in this area.
2. You should possess an understanding of both the key concepts and the analytical skills necessary to engage in creative and critical analysis of the central arguments that we consider.
3. You should be practised at presenting arguments in a clear and concise fashion, both orally and in written form, on issues relating to the philosophy of logic.
4. You should have exercised the ability to critically relate your understanding to everyday conceptions of the key concepts involved.

Requirements

Students are required to attend all lectures (2 per week) and seminars (1 per week) and to submit one assessed essay and to prepare one or more seminar presentations during the term.

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Seminars

Each seminar will involve presentation of a key reading by 1-3 members of the seminar group followed by group discussion. All members of the seminar group must have done the reading in preparation for the seminar. The seminar schedule will be distributed in the first seminar (week 2).

Course Essays

You are required to prepare one essay during the course of this module. It counts for 15% of the assessment for this module. Writing the essay is part of your learning experience. Try to write something that helps you understand the topic. Essays should be submitted via the department online essay submission portal.

Some general guidelines for writing essays:

1. Adequate preparation for the essay will normally require reading 4–5 journal papers or book chapters.
2. Essays should be 1500 words long.
3. Be sure to state your main thesis (or theses) clearly in the first paragraph.
4. Last paragraph: restate the main thesis, summarise the way in which you have argued for it, and indicate any outstanding problems.
5. Don't assume that your reader knows what you are writing about: explain the concepts you use and spell out the argument.
6. Read through your essay carefully before handing it in.

(Note that similar guidelines apply to seminar presentations, though presentations should be based only on the assigned reading and should be shorter, so that they can be presented in less than 15 minutes.)

Reading Lists and 15% Assessed Essay Questions

Introductory Books

Haack, Susan (1978), *Philosophy of Logics*, Cambridge: Cambridge University Press.

Quine, W. V. (1986) *Philosophy of Logic*, 2nd Edn, Cambridge, Mass.: Harvard University Press.

Read, Stephen (1995), *Thinking about Logic: an Introduction to the Philosophy of Logic*, Oxford: Oxford University Press.

Sainsbury, Mark (1991), *Logical Forms*, Oxford: Blackwell.

Useful Collections/Handbooks

Blackburn, S. and Simmons, K. (1999) *Truth (Oxford Readings in Philosophy)*, Oxford: OUP.

Hughes, R. I. G. ed. (1993) *A Philosophical Companion to First Order Logic*, Cambridge, Mass.: Hackett.

Keefe, R. and Smith, P. eds. (1999) *Vagueness: A Reader*, Cambridge, Mass.: MIT Press.

Jacquette, D. ed. (2002) *Philosophy of Logic: An anthology*, Oxford: Blackwell.
 Shapiro, S. ed. (2007) *The Oxford Handbook of Philosophy of Mathematics and Logic*, Oxford: OUP.
 Strawson, P. F. ed. (1967) *Philosophical Logic*, Oxford: OUP.

Specialist Books

Etchemendy, J. (1990) *The Concept of Logical Consequence*, Stanford: CSLI publications/Cambridge, Mass.: Harvard University Press.
 Horwich, P. (1998) *Truth*, 2nd edn., Oxford: Clarendon Press.
 Soames, S. (1999) *Understanding Truth*, Oxford: OUP.
 Williamson, T. (1994) *Vagueness*, London: Routledge.

Reading List by Topic and Essay Questions

Note: writing an essay may involve researching some issues that are not covered in lectures. Before you write an essay you should always read (and probably take notes on) at least four or five of the papers in the References section below. References marked ‘***’ are essential reading.

Topic 1: Logical Consequence

Essay Question 1

Can we account for logical consequence in terms of provability?

Essay Question 2

Can we account for logical consequence in term of truth in a model?

Introductory articles

**Beall, JC and Greg Restall (2005), ‘Logical Consequence’, in E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy* (Spring 2005 Edition). Retrieved 16 September 2005 from:

<http://plato.stanford.edu/archives/spr2005/entries/logical-consequence>

**MacFarlane, John (2005), ‘Logical Constants’, in E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy* (Spring 2005 Edition). Retrieved 16 September 2005 from:

<http://plato.stanford.edu/entries/logical-constants>.

Sainsbury, R. M. (1991), *Logical Forms*. Oxford: Blackwell. Chapter 1

Shapiro, S. (2007) ‘Logical Consequence, Proof Theory, and Model Theory’ in Shapiro ed. *The Oxford Handbook of Philosophy of Mathematics and Logic*, Oxford: OUP.

Smiley, Timothy (1998), ‘Consequence, conceptions of’, in E. Craig ed. *Routledge Encyclopedia of Philosophy*, London: Routledge.

Further reading

Aristotle (350BC), *Prior Analytics*. Translated by A. J. Jenkinson. Retrieved 21 September 2005 from:

<http://classics.mit.edu/Aristotle/prior.html> Bk. I, §§1-7

**Belnap, N. D. (1961-2), ‘Tonk, Plonk and Plink’. *Analysis*, pp. 130-134, reprinted in Strawson ed. *Philosophical Logic*, Oxford: OUP.

Etchemendy, J. (1990), *The Concept of Logical Consequence*. Stanford: CSLI publications/Cambridge, Mass.: Harvard University Press.

**Etchemendy, J (1999), "Reflections on Consequence". unpublished. Retrieved 16 September 2005 from:

<http://www-csli.stanford.edu/hp/Reflections.pdf> (Only sections 1-2 are essential).

Hanson, W. (1997) 'The Concept of Logical Consequence', *Philosophical Review*, 106: 365-409.

Quine, W. V. (1986) *Philosophy of Logic*, 2nd Edn, Cambridge, Mass.: Harvard University Press, chs.1, 2, 4.

Prawitz, D. (2005), 'Logical Consequence: A Constructivist View', in S. Shapiro (ed.) *The Oxford Handbook of Philosophy of Mathematics and Logic*. Oxford: Oxford University Press.

**Prior, A. N. (1960), 'The Runabout Inference-Ticket'. *Analysis*, 21, pp. 38-9, reprinted in Strawson ed. *Philosophical Logic*, Oxford: OUP.

Read, Stephen (1995), *Thinking about Logic: an Introduction to the Philosophy of Logic*, Oxford: Oxford University Press. Chapter 2

**Tarski, A. (1965), 'On the Concept of Logical Consequence', in his *Logic, Semantics, Metamathematics: papers from 1923 to 1938*, Cambridge, Mass.: Hackett.

**Tarski, A. (1993) 'Truth and Proof' in R. I. G. Hughes ed. *A Companion to First Order Logic*, Cambridge, Mass.: Hackett.

**Tarski, A. (1986), 'What are Logical Notions?' *History and Philosophy of Logic*, 7, pp. 143-154.

Topic 2: Truth

Essay question 3

What are the fundamental bearers of the property of truth?

Bealer, G. (1998) 'Propositions', *Mind*, reprinted in Jacquette ed. *Philosophy of Logic: An Anthology*, Oxford: Blackwell.

**Cartwright, Richard (1987), 'Propositions', in his *Philosophical Essays*. Cambridge, Mass.: MIT Press. Originally published in R. J. Butler, ed., *Analytical Philosophy*, 1st series, Oxford: Basil Blackwell, 1962.

Davidson, D. (1996) 'The Folly of Trying to Define Truth', *Journal of Philosophy*, reprinted in Blackburn and Simmons eds. *Truth*, Oxford: OUP.

Dummett, M. A. E. (1999) 'Of what kind of thing is truth a property?' in Blackburn and Simmons eds. *Truth*, Oxford: OUP.

**Grandy, Richard (1993), "What do those 'Q's and 'R's stand for?" in R. I. G. Hughes ed. *A Philosophical Companion to First Order Logic*, Cambridge, Mass.: Hackett.

Haack, S. (1978) *Philosophy of Logics*, Cambridge, Cambridge University Press, ch.6.

Horwich, P. (1998) *Truth*, 2nd edn., Oxford: OUP.

**Quine, W. V. (1986) *Philosophy of Logic*, Cambridge, Mass.: MIT Press, ch. 1.

Soames, S. (1999) *Understanding Truth*, Oxford: OUP, ch.1.

Essay Question 4

What is minimalism about truth? Is it defensible?

Blackburn, S. and Simmons, K. (1999) 'Introduction', their ed. *Truth*, Oxford: OUP.

Davidson, D. (1996) 'The Folly of Trying to Define Truth', *Journal of Philosophy*, reprinted in Blackburn and Simmons eds. *Truth*, Oxford: OUP.

Dummett, M. A. E. (1999) 'Of what kind of thing is truth a property?' in Blackburn and Simmons eds. *Truth*, Oxford: OUP.

Haack, S. (1976) *Philosophy of Logic*, Cambridge: Cambridge University Press, Ch.7.

Horwich, P. (1998) *Truth*, 2nd edn., Oxford: OUP.

**Gupta, A. (1993) 'A Critique of Deflationism', *Philosophical Topics*, reprinted in Blackburn and Simmons eds. *Truth*, Oxford: OUP.

**Horwich, P. (1999) 'The minimalist conception of truth', in Blackburn and Simmons eds. *Truth*, Oxford: OUP.

Quine, W. V. (1986) *Philosophy of Logic*, 2nd edn. Chs. 1 and 3.

Soames, S. (1999) *Understanding Truth*, Oxford: OUP, ch.8.

Tarski, A. (1944) 'The semantic conception of truth', in his *Logic, Semantics, Metamathematics: papers from 1923 to 1938*, Cambridge, Mass.: Hackett.

Wright, C. (1999) 'Truth: A Traditional Debate Reviewed', in Blackburn and Simmons eds. *Truth*, Oxford: OUP.

Topic 3: Truth and Paradox

Essay Question 5

Critically assess Tarski's proposed solution to the liar paradox.

Essay Question 6

What is the liar paradox? Critically assess ONE published response to the liar paradox.

Essay Question 7

What special problems arise for the minimalist about truth in dealing with the liar paradox? How, if at all, should they respond?

Some technical background

Boolos, G. S, Burgess, J. P. and Jeffrey, R. C. (2002) *Computability and Logic*, 4th Edn, Cambridge: Cambridge University Press. Chs. 2 and 15.

Deltfelsen, M. (1998), 'Gödel's Theorems', in E. Craig ed.

Routledge Encyclopedia of Philosophy, London: Routledge.

Introductory

McGee, V. (1998), 'Semantic Paradoxes and Theories of Truth', in E. Craig ed. *Routledge Encyclopedia of Philosophy*, London: Routledge.

Read, S. (1995) *Thinking about Logic: an Introduction to the Philosophy of Logic*. Oxford: Oxford University Press.

**Sainsbury, R. M. (1995) *Paradoxes*. Cambridge: Cambridge University Press. Chs. 5, 6.

Quine, W. V. (1976) 'The ways of paradox' in his *The ways of paradox and other essays*, Cambridge, Mass.; London: Harvard University Press.

Main reading

**Barwise, J. and Etchemendy, J. (1987), *The Liar: An Essay on Truth and Circularity*, Oxford: Oxford University Press. (You are not expected to understand the technical parts of this book. Read Chapters 1–3 and the reviews mentioned here.)

Beall, JC (2005), "Curry's Paradox", in E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy* (Spring 2005 Edition). Retrieved 16 September 2005 from:

<http://plato.stanford.edu/archives/spr2005/entries/logical-consequence>

Beall, J. C. and Armour-Garb, B. eds. (2005) *Deflationism and Paradox*, Oxford: OUP.

Beall, J. C. ed. (2008) *Revenge of the Liar: New Essays on the Paradox*, Oxford: OUP.

**Blackburn, S. and Simmons, K. (1999) 'Introduction', their ed. *Truth*, Oxford: OUP.

Horwich, P. (1998) *Truth*, 2nd edn., Oxford: OUP.

**Kripke, S. (1975), 'Outline of a Theory of Truth'. *Journal of Philosophy*, 72(19), pp. 690-716. Reprinted in Jacquette ed. *Philosophy of Logic: An Anthology* [You're not expected to follow the technical parts of this paper.]

Maudlin, T. (2004) *Truth and Paradox: Solving the Riddles*, Oxford: OUP.

McGee, V. (1991), *Truth, Vagueness, and Paradox*. Cambridge, Mass.: Hackett. [Chapters 3, 4; technical]

Soames, S. (1999) *Understanding Truth*, Oxford: OUP, chs. 2-6.

**Tarski, A. (1944) 'The semantic conception of truth', in his *Logic, Semantics, Metamathematics: papers from 1923 to 1938*, Cambridge, Mass.: Hackett.

Tarski, A. (1931) 'The concept of truth in formalized languages', in his *Logic, Semantics, Metamathematics: papers from 1923 to 1938*, Cambridge, Mass.: Hackett.

Topic 4: Vagueness

Essay question 8

What is vagueness? How, if at all, should we revise logic in order to accommodate it?

Essay question 9

Critically assess a supervaluationist treatment of vagueness.

Essay question 10

Critically assess an epistemicist treatment of vagueness.

Introductory Reading

Read, S. (1995), *Thinking about logic*, Oxford: Oxford University Press. Ch.7.

**Sainsbury, R. M. (1988) *Paradoxes*, 2nd Edn., Cambridge: Cambridge University Press. Ch.2.

Sainsbury, R. M. and Williamson, T. (1998) 'Vagueness', in B. Hale and C. Wright eds. *Blackwell Companion to Philosophy of Language*

Further reading

Haack, S. (1996) *Deviant Logic, Fuzzy Logic*, Chicago: Chicago University Press, Ch.6.

Keefe, R. and Smith, P. (1997) *Vagueness: a reader*. Cambridge, MA: MIT Press. (For supervaluationism, the paper by Kit Fine is essential reading.)

Sainsbury, R. M. (1995) 'Vagueness, Ignorance, and Margin for Error', *British Journal of Philosophy of Science* 46 (1995): 589-601. (A useful critique of epistemicism).

Sorensen, R. (1998) 'Vagueness' in E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*: <http://plato.stanford.edu/entries/vagueness/>

Williamson, T. (1994), *Vagueness*. London: Routledge. (For epistemicism, see especially chs. 7,8; useful discussions of other approaches to vagueness may be found elsewhere in this book.)

A note on plagiarism

Plagiarism is a serious offence. A tutor who finds plagiarism in an essay will assign it a mark of zero, and may decide in addition to report the matter to the Head of Department.

The relevant regulations and guidelines are posted on the Departmental Examination notice board. If in doubt always seek the advice of your module tutor or personal tutor.