

Graduate Seminar, Fall 2013
 Wednesday, 2-4 PM
 234 Moses Hall

Professor Lara Buchak
 307 Moses Hall
 Office Hours: Tuesday 11-1, or by appointment

Decision Theory: Paradoxes and Alternatives

This seminar will explore classical decision theory and the alternatives that have arisen in recent years, in response to problems surrounding (1) non-sharp credences; (2) risk-aversion; (3) infinite utilities; and (4) acts that are evidence for outcomes but not causally efficacious.

This course is intended for graduate students in philosophy, but advanced undergraduates may enroll with permission. No background in decision theory or formal epistemology is required, though a fondness for technical material will be important.

Assignments

Presentation: Each student must prepare a short presentation on the readings for one week. You should consider yourself an expert on that week's reading, and be prepared to respond to other students' questions and help clarify the discussion.

Paper: Each student will write a paper of length and quality appropriate for a graduate student in philosophy. Please consult with me about your topic before you begin writing. Papers are due on Friday, Dec 13th.

Schedule

I. Classical Decision Theory

Sept 4: Introduction. History of decision theory; uses of decision theory; the norm of decision theory; the status of paradoxes and counterexamples.

Optional: Lara Buchak (2013), "Decision Theory." *Oxford Handbook of Probability and Philosophy*, eds. Christopher Hitchcock and Alan Hajek. Oxford University Press.

Sept 11: Connecting Preferences to Beliefs and Desires. Representation Theorems and their role in decision theory; examples of axioms; what is utility.

James Dreier (1996). "Rational Preference: Decision Theory as a Theory of Practical Rationality." In *Theory and Decision* 40: 249-276,. [dx.doi.org/10.1007/BF00134210](https://doi.org/10.1007/BF00134210)

Amartya Sen (1973). "Behavior and the Concept of Preference." *Economica*, New Series, 40(159): 241-259. (241-247 optional)

Optional: Eriksson, Lina and Alan Hajek (2007), "What are Degrees of Belief?" *Studia Logica* 86: 183-213.

II. Paradoxes and Alternatives

Sept 18: finish last session's discussion and Non-sharp credences. Ellsberg paradox, decision rules with non-sharp credences.

Readings from last time and:

Peter Gärdenfors and Nils-Erik Sahlin (1982), "Unreliable Probabilities, Risk Taking, and Decision Making." In *Synthese* 53: 361-386.

Sept 25: Non-sharp credences and Risk-aversion, part I

Roger White (2009), "Evidential Symmetry and Mushy Credence." In *Oxford Studies in Epistemology*, eds. Tamar Szabo Gendler and John Hawthorne. Oxford: Oxford University Press. Pp. 161-88.

Lara Buchak (2013), *Risk and Rationality*, Oxford University Press. Chapter 1.

Oct 2: Risk-aversion, Part II. Allais paradox, decision rules for non-expected utility maximizers.

Lara Buchak (2013), *Risk and Rationality*. Sections 2.1, 2.2, and Chapter 3. (Sections 2.3 and 2.4 optional.)

Oct 9: Infinite Utility. Pascal's Wager, St Petersburg Paradox, decision rules for infinite expectations.

Roy Sorensen (1994), "Infinite Decision Theory." In *Gambling With God: Essays on Pascal's Wager*, ed. Jeffrey Jordan (Rowman & Littlefield, 1994): 139-59

Paul Bartha (2007), "Taking Stock of Infinite Value," *Synthese* 154(1): 5-52.
(19-25 and 41-52 are optional)

Oct 16: Newcomb's Problem. Newcomb's problem, evidential vs. causal decision theory.

Allan Gibbard and William Harper (1978), "Counterfactuals and Two Kinds of Expected Utility." In William Harper, Robert Stalnaker, and Glenn Pearce, eds., *Ifs: Conditionals, Belief, Decision, Chance, and Time*, pp. 153–190, Dordrecht: Reidel (1982). Sections 1-3, 6-7, 10-12.

Andy Egan, "Some Counterexamples to Causal Decision Theory."

III. Rationality and Consequentialism

Oct 23: Pragmatic arguments

Michael D. Resnik (1987), *Choices: An Introduction to Decision Theory*. University of Minnesota Press., pp. 68-79.

David Christensen (1996), "Dutch Book Arguments Depragmatized: Epistemic consistency for partial believers." *Journal of Philosophy* 93: 450-79.

David Lewis (1981), "Why Ain'cha Rich?" *Nous* 15(3): 377-80.

Oct 30: Consequentialism and Reasons

John Broome (1991), *Weighing Goods: Equality, Uncertainty, and Time*. Oxford: Blackwell Publishers Ltd., Ch. 5.

Lara Buchak (2013), *Risk and Rationality* (OUP), Section 4.3 and Ch. 5. (The rest of chapter 4: optional.)

Optional: Mark Machina (1989), “Dynamic Consistency and Non-expected Utility Models of Choice Under Uncertainty.” *Journal of Economic Literature* 27(4): 1622-1668.

IV. Diachronic Choice

Nov 6: Binding for infinite decisions and Newcomb’s problem. Dutch book arguments, binding in infinite decisions and Newcomb’s problem.

Frank Arntzenius, Adam Elga, and John Hawthorne (2004), “Bayesianism, Infinite Decisions, and Binding.” *Mind* 2004.

Christopher J.G. Meacham (2010), “Binding and Its Consequences.” *Philosophical Studies*.

Nov 13: Diachronically Dominated Choices. Arguments that those with non-sharp credences pick diachronically dominated options, time-slice rationality.

Adam Elga (2010), “Subjective Probabilities Should be Sharp.” *Philosophers’ Imprint* 10(5).

Sarah Moss (draft), “Credal Dilemmas.”

Nov 20: Choice Strategies over Time. Arguments that those with risk-aversion pick diachronically dominated options, sophisticated choice, resolute choice.

Edward F. McClennen, (1997). “Pragmatic Rationality and Rules.” *Philosophy and Public Affairs* 26(3): 210-258.

David Gauthier (1997). “Resolute Choice and Rational Deliberation: A Critique and a Defense.” *Noûs* 31(1): 1-25.

Lara Buchak (2013), *Risk and Rationality* (OUP), 6.1-6.3

V. Responses and Wrap-Up

Nov 27: independent work on student papers

Dec 4: Discussion of student papers and closing thoughts

Dec 13: FINAL PAPER DUE