
RESPONSIBILITY IN ACTION

Reading Materials

DAY 3: RESPONSIBILITY AND RATIONAL ACTION

Essentials.

Steele, Katie. 2014. "Choice Models." In *Philosophy of Social Science: A New Introduction*, edited by Nancy Cartwright and Eleonora Montuschi, First edition. Oxford, United Kingdom: Oxford University Press.

A useful introduction to decision theory.

Binmore, K. G. 2007. *Playing for Real: A Text on Game Theory*. Oxford Scholarship Online. Oxford: Oxford University Press.

Chapter 1: An extensive textbook introduction to game theory.

Horty, John F. 1996. "Agency and Obligation." *Synthese* 108 (2): 269–307.

The purpose of this paper is to explore a new deontic operator for representing what an agent ought to do. The analysis developed here of what an agent ought to do is based on a dominance ordering adapted from the decision theoretic study of choice under uncertainty to the present account of action. It is shown that this analysis gives rise to a normal deontic operator, and that the result is superior to an analysis that identifies what an agent ought to do with what it ought to be that the agent does.

Horty, John F. 2001. *Agency and Deontic Logic*. New York: Oxford University Press.

Chapter 3: Supplements the background theory of indeterministic time with a standard deontic logic, representing what ought to be the case. Taken together with the formal notion of action introduced in the previous chapter, the framework now allows us to speak about what it ought to be that the agent does, and to explore the possibility that this notion should be identified with the notion of what the agent ought to do. Examples are developed to show that the two notions should not be identified.

Chapter 4: An analogy is developed between action in an indeterministic setting and choice under uncertainty, as it is studied in decision theory. Various dominance relations among actions are explored, and used both to provide semantic account of what agents ought to do and to formulate a notion of dominance act utilitarianism. The ideas are related to problems involving independence, conditionals, and sure-thing reasoning.

Further reading.

Bartha, Paul. 2014. "Decisions in Branching Time." In *Nuel Belnap on Indeterminism and Free Action*, edited by Thomas Müller, 29–56. Springer.

This chapter extends the deontic logic of Horty (2001) in the direction of decision theory. Horty's deontic operator, the dominance ought, incorporates many concepts central to decision theory: acts, causal independence, utilities and dominance reasoning. The decision theory associated with dominance reasoning, however, is relatively weak. This chapter suggests that deontic logic can usefully be viewed as *proto-decision theory*: it provides clear foundations and a logical framework for developing norms of decision of varying strength. Within Horty's framework, deontic operators

stronger than the dominance ought are defined for decisions under ignorance, decisions under risk, and two-person zero-sum games.

Bjorndahl, A., J. Y. Halpern, and R. Pass. 2017. "Reasoning about Rationality." *Games and Economic Behavior* 104: 146–64.

We provide a sound and complete axiomatization for a class of logics appropriate for reasoning about the rationality of players in games, and show that essentially the same axiomatization applies to a very wide class of decision rules. We also consider games in which players may be uncertain as to what decision rules their opponents are using, and define in this context a new solution concept, D-rationalizability.

Broersen, Jan. 2011. "Modeling Attempt and Action Failure in Probabilistic Stit Logic." In *Proceedings of the Twenty-Second International Joint Conference on Artificial Intelligence*, edited by Toby Walsh, 792–97. AAAI Press.

We define an extension of stit logic that encompasses subjective probabilities representing beliefs about simultaneous choice exertion of other agents. The formalism enables us to express the notion of 'attempt' as a choice exertion that maximizes the chance of success with respect to an action effect. The notion of attempt (or effort) is central in philosophical and legal discussions on responsibility and liability.

Dietrich, Franz, and Christian List. 2017. "What Matters and How It Matters: A Choice-Theoretic Representation of Moral Theories." *The Philosophical Review* 126 (4): 421–79.

The aim of this essay is to propose a new approach to the formal representation of moral theories. We show that any moral theory within a very large class can be represented in terms of two parameters:

- (i) a specification of which properties of the objects of moral choice matter in any given context, and
- (ii) a specification of how these properties matter.

We call a representation of a moral theory in terms of these two parameters a reason-based representation.

Duijf, Hein. 2018. "Let's Do It! Collective Responsibility, Joint Action, and Participation." Dissertation. <http://dspace.library.uu.nl/handle/1874/364155>.

Section 4.3.2: This section contains the semantics of the 'promoting' operator that was briefly mentioned during the talk. In addition, it contains a very brief discussion of some logical properties of that operator.

Okasha, Samir. 2016. "On the Interpretation of Decision Theory." *Economics & Philosophy* 32 (3): 409–33.

This paper explores the contrast between mentalistic and behaviouristic interpretations of decision theory. The former regards credences and utilities as psychologically real, while the latter regards them as mere representations of an agent's preferences. Philosophers typically adopt the former interpretation, economists the latter. It is argued that the mentalistic interpretation is preferable if our aim is to use decision theory for descriptive purposes, but if our aim is normative then the behaviouristic interpretation cannot be dispensed with.