

# The Possibility of Norm-Violation in Deontic Logics for Action Types

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Deontic logics aim to represent correct reasoning about norms and normative concepts, like obligation and permission. Typically, deontic logics apply normative concepts to propositions. However, there is also a tradition – beginning with von Wright’s seminal paper (1951) – where normative concepts are applied to *action types*, which can be thought of as generic descriptions of actions, like *killing* or *going to the beach*. In the systems of Segerberg (1982), van der Meyden (1996), and Bentzen (2014), deontic concepts are applied to action types, and interpreted as quantifiers over *action tokens*. Action tokens are particulars – individual actions performed by specific agents at specific times and places – which can instantiate action types. In this talk, I will analyse Bentzen’s solution to some of the problems in Segerberg’s and van der Meyden’s systems. I will argue that Bentzen’s solution is problematic since it is assumed that norm-violations are impossible. In response to this, I propose a new semantics which keeps the virtues of Bentzen’s logic as well as the possibility of norm-violation.

Abstracting away from details of specific logics, a language for action types is constructed from a set of basic action type terms together with action type connectives. Where  $T, S$  are any action type terms,  $T \cap S$  is read ‘doing  $T$  and  $S$  together’;  $T \cup S$  is read ‘doing  $T$  or  $S$ ’; and  $\sim T$  is read ‘omitting  $T$ ’. Action type terms are interpreted as subsets of a set of action tokens available to one single agent in one single situation. Some of these action tokens are classified as normatively acceptable (legal, right, good, etc.). To interpret deontic operators, this classification is lifted to the level of action type terms in some appropriate way.

The logics of Segerberg (1982) and van der Meyden (1996) suffer from some of the so-called paradoxes of deontic logic. These are not paradoxes in the mathematical sense, but rather failures of formal deontic logics to comply with intuitively valid and non-valid inferences in natural language. In response to these shortcomings, Bentzen (2014) proposes a logic which avoids the paradoxes occurring in Segerberg’s and van der Meyden’s logics. In particular, in Bentzen’s logic the principle of free choice (where  $\mathbf{P}$  is a permission operator),

$$\mathbf{P}(T \cup S) \rightarrow \mathbf{P}(T) \wedge \mathbf{P}(S),$$

and the principle of conjunction exploitation,

$$\mathbf{P}(T \cap S) \rightarrow \mathbf{P}(T) \wedge \mathbf{P}(S),$$

are valid, while Ross’s theorem,

$$\mathbf{P}(T) \rightarrow \mathbf{P}(T \cup S),$$

and the principle of conjunction introduction,

$$P(T) \rightarrow P(T \cap S),$$

are non-valid. Most deontic logics, including Segerberg's and van der Meyden's, do not satisfy this particular combination of validities and non-validities. However, in Bentzen's logic these positive results only hold under the assumption that the agent will always perform an acceptable action. Formally, models are restricted to those where there are only acceptable action tokens available to the agent. This assumption rules out the possibility of norm-violation.

Norm-violations occur when an agent does something she should not do, and that is possible only if the agent *can* do something which she should not do. In the present framework, this amounts to the existence of some available action token which is not normatively acceptable. The problems with ignoring norm-violations become clear if the logic is to be used for regulating the behaviour of agents. If agents always behave as they should, there is no need for regulating them – the ideal coincides with the actual, and the normative dimension collapses into a descriptive representation of how things are, rather than how they ought to be (Carmo and Jones, 2002, p. 265). I will argue that the impossibility of norm-violation limits the applicability of Bentzen's system, and that the assumption confuses the distinction between actions and normative concepts.

In order to sidestep these problems, I will propose a new semantics for a deontic logic for action types. My proposal keeps the possibility of norm-violation open, as well as the virtues of Bentzen's logic. The proposal builds on Simons' (2005) semantics for disjunctive permission sentences. Disjunctive action types are interpreted as sets of sets of action tokens, and an existential permission operator is supplemented with a distribution requirement, with the result that disjunctive action types are permitted only if there are acceptable action tokens instantiating each disjunct.

## References

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