

A SEMANTICS FOR GIVING RIGHTS

SUBMISSION WORKSHOP DEONTIC LOGIC ROSKILDE

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In the last decades, efforts have been undertaken to shift the study of deontic logic away from abstract ethics and towards the modelling of normative constraints in social choice situations. The logical connections between ability and obligation have been explored (e.g., Horty and Belnap [3]), multi-agent frameworks have been developed (e.g., Kooi and Tamminga [5]) and deontic modalities have been interpreted in a game theoretic context (e.g. Van Hees [10]). An appealing prospect is the possibility of using deontic logic in developing ‘social software’ (Parikh [8]) for normative systems.

Yet, seemingly a number of important insights from social and legal philosophy have not found their way into the more recent deontic logical approaches. In particular, the distinctions between liberties, rights, and claims (e.g., Lindahl [6]) are in general not taken into consideration in logical analyses of permission in deontic logic. Although different authors define these concepts differently, a common idea is that the difference between the concepts resides in their different social consequences: having a claim to something obliges other individuals to adjust their actions such that the claim can be successful; having a right to something at least will mean that other individuals are not entitled to obstruct the use of the right; a liberty offers no such guarantees.

The issue can be illustrated as follows. If a manager gives some employee permission to determine which computer system will be bought, he cannot also give other employees permission to prevent the choice to be system 1, or to prevent the choice to be system 2, and so on. The matter is indeed one of logic: a manager who gives the other employees these permissions has thereby not genuinely enacted his permission grant to the first employee, of *determining* which computer system it will be. Of course authority to grant permission often comes with the authority to take away permission, or to alter it. But this is not to distract us from the logical point that a permission to determine some outcome is effectively cancelled once another person gets permission to interfere. With claim rights the dependency is even stronger: one person’s rights are another person’s obligations: if you have a right to vote, then others have the obligation to enable you to vote. These facts were observed by philosophers such as Bentham [1], Kelsen [4] and von Wright [11], but have not quite found their way into modern discussions of deontic logic.

In this paper, a dynamic semantics for obligation and permission is presented (following Mastop [7]), in which permissions have social consequences: if one

group of agents has permission to make sure φ will be true, this means that the other agents do not have permission to prevent φ from becoming true. The semantics integrates ideas from coalition logic (Pauly [9]).

Using the semantics thus obtained, we can formulate interesting properties of norm systems, such as the intersubjective consistency of the norm system, and the degree of ‘quandary freedom’ (Hamblin [2]) it allows. Quandary freedom is the property that an agent or group is able to steer clear of encountering a quandary, i.e., a situation in which no possible course of action is permissible. Furthermore, we can ask to what extent the norm system is liberal: are agents forced to collaborate in particular groups in order to steer clear from quandaries?

In this way, the proposed coalition update semantics provides a promising logical tool for deontic social software.

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