A FORMAL REPRESENTATION OF DECLARATION-RELATED LEGAL RELATIONS

ABSTRACT. A formal language is introduced that contains expressions for the dependency of a legal relation on the claims that the concerned individuals make and on the permissions that they grant. It is used for a classification of legal relations into six major categories: categorical obligation, categorical permission, claimable obligation, grantable permission, claim-dependent obligation and grant-dependent permission. Legal rights may belong to any of these six categories, but the characteristics of a right-holder are shown to be different in each of the six types.

I. INTRODUCTION

Formal classifications of legal relations have been advanced by Hohfeld, Kanger, Lindahl, and others. The purpose of the present study is to provide a formal framework that includes representations of how legal relations can depend on claims that the concerned individuals make and on permissions that they grant.

In section II, the logical apparatus is presented. In section III, legal relations are introduced. Logical relationships between an obligation (permission) and a claim (grant) to that obligation (permission) are represented by material implication. This surprisingly simple structure is made possible by the use of sets of legal relations (stipulations) that are not closed under truth-functional consequence. Six major types of legal relations are defined, using this framework.

In section IV, this typology of legal relations is applied to legal rights and to the concept of being a right-holder.
Throughout the paper, propositional logic and the intersubstitutivity of provably equivalent formulas will be assumed to hold.

II. THE BUILDING BLOCKS

The following are examples of legal relations:

(i) Alan is forbidden to exert physical violence on Betty.
(ii) Betty is allowed to read these public documents.
(iii) If Alan demands that Betty shall repay this loan, then she has to do so.
(iv) If Alan allows Betty to enter this park, then she may do so.
(v) Alan is forbidden to walk along King's Street only if the police forbid him to walk there.
(vi) Alan may enter Betty's house only if she lets him do so.

These legal relations are different in structure, but they all contain some of the following building-blocks: obligations, permissions, and symbolic actions (demanding, allowing) that give rise to obligations and permissions. For the analysis of legal relations we need formal representations of these building blocks.

A. States of Affairs

Discourse on legal relations often refers to the social positions and relations of individuals, such as "i is a Swedish citizen", "i and j are married", "i knocks down j", etc. Therefore, the formal language should contain terms and predicates to denote individuals and their relations.

*Definition D1*: \( I = \{i_1, i_2, \ldots \} \) is a finite set of individuals. (Its subsets are denoted \( A, B \ldots \))

\( Q = \{R_1, R_2, \ldots \} \) is a set of predicates. If \( R_k \) is an n-place predicate in \( Q \), and \( \{i_1, \ldots i_n\} \subseteq I \), then \( R_k i_1 \ldots i_n \) is an atomic state of affairs.

A basic state of affairs is either an atomic state of affairs or