Giving permission implies giving choice

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Giving Permission Implies Giving Choice

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Abstract

This article presents the formalisation of the weak and strong permission in deontic logic based on the logic of enactment. A permission that follows from the absence of a prohibition, we call a weak permission; this permission is not enacted. A strong permission is always enacted (implicitly or explicitly), and implies a giving choice. The distinction between these two types of permission is a consequence of the universality of a normative system by the closure rule: 'whatever is not forbidden, is permitted'.

1 Introduction

When we want to examine different kinds of forms of acts within the framework of the description of the Dutch criminal law whether an act is permitted or not permitted, we can encounter a difference. On the one hand, it could be the case that a certain act is permitted by a competent normative authority. For example, the Dutch Code of Criminal Procedure teems with such regulations. On the other hand, it could be the case that in the Dutch criminal law a certain act is *weak* permitted without a competent normative authority having enacted that permission. Nevertheless, the act in the last case is also permitted in the Dutch criminal law on the basis of Feuerbach's legal expression *nullum crimen, nulla poena sine praevia lege poenali*, stated in article 1 sub 1 of the Dutch Penal Code. In jurisprudence this principle is usually labelled as 'sealing legal principle', often formulated as 'whatever is not forbidden, is permitted' (cf. [22]; see also [5]). This regulation 'does not function here through logical necessity, but because of legislation, in this way making absence of norms within these systems impossible' ([21]). We call these systems *closed legal systems*, also called universal normative systems. Within these systems there is a positive legal norm - a general closure rule - governing all acts which are not subject to other legal norms ([2]).

A consequence of the postulated universality by 'sealing legal principle' is that, if we want to talk about criminal law, we have to take into account the difference between two types of permission. Permissions, which are enacted by competent normative authorities: *strong permissions*, and permissions, which are not enacted, but follow from a 'sealing legal principle'

(or from the absence of prohibitions): *weak permissions*. When a permission is enacted (a strong permission) to a person it seems in practise that he has always a choice to perform the action or not, without a liability to sanction.

In this article we will investigate the nature of the permission with respect to the universality of the Dutch criminal law, and the formalisation of the strong and weak permission. The formalisation rests on the relation between enacted norms and applicable norms. In legal discourse reference is made to enacted norms and applicable norms. Not all norms that are enacted are applicable or are only applicable in certain circumstances. In this scope, we are concerned with two concepts of validity: membership (enactment) and applicability. A norm can be said to be valid in the sense that it belongs to or is a member of a legal system: membership. A norm is often also said to be valid in the sense that it is obligatory or has a 'binding force': applicability. Both of them play a central role in law and in legal theories (cf. [6]).

The organisation of this article is as follows: in section 2 we briefly discuss standard deontic logic. Section 3 discusses the strong and weak permission. The logic of enactment - based on the logic of knowledge and belief - to formalise adequately the strong and weak permission is presented in section 4. In section 5 we assume that the set of enacted norms is normatively consistent to discuss the principle 'all enacted norms are applicable' and add this principle to our system. In the last section, we give some conclusions and suggestions for further research.

2 Deontic logic

To describe the norms that are used in the law we use deontic logic. Deontic logic is a branch of philosophical logic concerning reasoning about norms. It is the logic of obligations, prohibitions and permissions. As such, it is relevant for the foundations of ethics and law. Deontic logic has been used to analyze the structure of normative law and normative reasoning in law. However, as so many subjects in philosophical logic and philosophy in general, the subject was also picked up by computer scientists and AI (artificial intelligence) researchers. Deontic logic promises to be relevant as well for such prosaic matters as authorization mechanisms, decision support systems, database

security rules, fault-tolerant software and database integrity constraints; thus, outside the area of legal analysis and legal automation. A survey of applications can be found in [16]. Deontic logic forms the basis of several legal expert systems (e.g. [8]). Therefore, we start with a brief explanation of deontic logic.

In deontic logic, three deontic operators are used: ‘O’ (obligatory), ‘F’ (forbidden) and ‘P’ (permitted). By connecting propositions to these operators as arguments, well-formed formulas of the system originate from which, by interpretation of the propositions, normative judgements can be formed. E.g., $O(p)$ means ‘it is obligatory that p ’. The deontic operators can be defined in terms of one another. If we take ‘O’ as a primitive, then the other operators can be defined as follows: $F(p) := O(\neg p)$ and $P(p) := \neg O(\neg p)$. Thus, ‘it is forbidden that p ’ is defined as ‘it is obligatory that not- p ’, and ‘it is permitted that p ’ is defined as ‘it is not obligatory that not- p ’.

In this article we use the standard deontic logic, a modal (Kripke-style) version of the now so-called ‘Old System’ of Von Wright ([24]). We mean the system D^* (the smallest normal KD -system of modal logic (cf. [7])), based on propositional logic and axiomatised by the following axiom schemata:

$$\begin{array}{ll} (OC) & (O(p) \wedge O(q)) \rightarrow O(p \wedge q) \\ (ON) & O(p \vee \neg p) \end{array}$$

together with the rule of inference:

$$(ROM) \quad \frac{p \rightarrow q}{O(p) \rightarrow O(q)}$$

Axiom (ON) was rejected by Von Wright ([24]), since he developed the *principle of deontic contingency*: ‘A tautologous act is not necessarily obligatory, and a contradictory act is not necessarily forbidden’. We have to commit ourselves to this axiom, since otherwise we cannot view deontic logic as a branch of Kripke-style normal modal logic.

The semantics of this system can be given using the following Kripke model structure $M = (W, \mathcal{R}, V)$ consisting of three elements: the set of possible worlds $W = \{w_1, w_2, \dots\}$; the accessibility function $R \in \mathcal{R}$, which takes a world and returns a subset of W : $R : W \rightarrow 2^W$ and a valuation function V , which assigns the values ‘true’ or ‘false’ to a proposition at a world in W . The intuition behind the function R is that it yields the *deontically ideal worlds* relative to a given world. The truth conditions for O and P can now be defined as follows, where $M, w \models \theta$ is read as ‘ θ is true in world w of structure M ’ with θ a formula of D^* :

$$\begin{array}{lll} M, w \models O(p) & \text{iff} & R(w) \subseteq \llbracket p \rrbracket \\ M, w \models P(p) & \text{iff} & R(w) \cap \llbracket p \rrbracket \neq \emptyset \\ M, w \models \neg \theta & \text{iff} & M, w \not\models \theta \\ M, w \models \theta_1 \wedge \theta_2 & \text{iff} & M, w \models \theta_1 \text{ and } M, w \models \theta_2, \end{array}$$

with the function $\llbracket \cdot \rrbracket \in L \rightarrow 2^W$ and L the set of well-formed formulas of the propositional calculus. $\llbracket p \rrbracket = \{w \mid V(w, p) = \text{true}\}$. It is easy to see that the following properties hold: $\llbracket p \vee q \rrbracket = \llbracket p \rrbracket \cup \llbracket q \rrbracket$, $\llbracket p \wedge q \rrbracket = \llbracket p \rrbracket \cap \llbracket q \rrbracket$ and $\llbracket \neg p \rrbracket = \overline{\llbracket p \rrbracket}$. Thus, $O(p)$ holds in w if and only

if p is true in all ideal worlds with respect to w , and $P(p)$ holds in w if and only if there is at least one ideal world with respect to w in which p is true. We do not have the constraint $R(w) \neq \emptyset$ for all $w \in W$, since this would validate $OD: \neg O(p \wedge \neg p)$. At first glance, this axiom does not seem to be controversial, since it merely denies the existence of impossible obligations. However, with the help of this axiom we can derive the formula $\neg(O(p) \wedge O(\neg p))$, which is controversial nowadays (see, eg. [1]; [14]; [17]). The main objection to this formula is that it states that there is no conflict of duties, which is clearly not in line with situations in daily life. A consequence is that the formula $O(p) \wedge F(p)$ can be consistent, however these norms ($O(p)$ and $F(p)$) are obviously conflicting: they are *normatively inconsistent*. According to [13], these conflicts are *compliance conflicts*.

3 The strong and weak permission

In the Dutch Traffic Regulation - part of the Dutch criminal law - a regulation concerning a permission is always an exception of an obligation or a prohibition ([12]). Otherwise, the permission would be superfluous, because of the sealing legal principle ‘whatever is not forbidden, is permitted’. In what way are we to interpret this rule? The obvious thing would be to accept the following principle:

$$\neg F(p) \rightarrow P(p).$$

This principle seems to be in accordance with what is meant, but does not add anything, because it is already incorporated in the deontic system. If interpreted in this way, the rule mentioned does not guarantee universality, for axioms, theorems and definitions have to be applicable to non-universal systems. The principle

‘what is not forbidden is permitted’ addresses the judge and forbids him to extend the whole of legal prohibitions on the grounds of his own or someone else’s political or moral conviction. ([21])

So, we can distinguish two types of permission:

- the permission which is an exception of an obligation or a prohibition: *the strong permission*;
- the permission which follows from the absence of a prohibition: *the weak permission* (cf. [25]).

A consequence of the strong permission is that also the negation of the permitted act is permitted, since the strong permission is an exception to a general article (rule), and one does not break the law by following nevertheless that general article. So, this implies a choice for the norm subjects to perform that act or not, without a liability to sanction.

We will give an example concerning ‘overtaking’ of the Dutch Traffic Regulation:

Section 11. 1. Overtaking occurs on the left.

2. ...

3. Cyclists and moped-drivers should overtake other cyclists and moped-drivers on the left; They are permitted to overtake other drivers on the right.
4. Drivers, who are on the right of a block-signposting are permitted to overtake drivers, whom are on the left of that signposting, on the right.
5. Drivers are permitted to overtake trams on the right.

All the permissions mentioned in section 11 are exceptions of the general rule 'overtaking occurs on the left'. This rule does not contain any deontic operator. However, it is easy to model this in a regulation model. For instance, 'overtaking on the right is forbidden'. The permission in the Dutch Traffic Regulation has a higher priority than the obligations and prohibitions which are incompatible with that permission. So, the law is not merely a set of norms, but a hierarchical system. When we consider the norms in a legal system, we can often discern some kind of hierarchy among the norms: some are regarded as more basic than others (cf. [4]). The consequence of the fact that an enacted permission is always an exception of a prohibition or obligation is that the addressees (to whom the permission is directed) always have a choice to perform the permitted act or not. For example, from the permission that drivers are allowed to overtake trams on the right it follows that drivers are also allowed *not* to overtake trams on the right. This does not mean that drivers are allowed to overtake trams on the left. It only means that it is permitted not to overtake a tram on the right in at least one way. Probably, there are many ways of performing the act 'not to overtake a tram on the right', some of which are forbidden. In contrast with the permission, the prohibition means that *all ways* of performing an act are forbidden. From the above-mentioned consequence, it is tempting to add the following formula to a deontic system:

$$P(p) \rightarrow P(\neg p).$$

However, this is unacceptable, since from this it follows that $O(p) \rightarrow F(p)$ - because $(P(p) \rightarrow P(\neg p)) \equiv (\neg O(\neg p) \rightarrow \neg O(p)) \equiv (O(p) \rightarrow F(p))$ - which says that if p is obligatory, then p is also forbidden. We have to make a distinction of this type of permission, the *strong* permission and the *weak* permission in our formalisation, since for the weak permission it does not hold that the negation of a weakly permitted act is permitted. An example of a weak permission is the permission to drive at a speed of 95 km/h on a motorway. According to the Dutch Traffic Regulation a speed limit of 120 km/h holds on motorways. Nothing is said about a speed of 95 km/h. Consequently, because of the sealing legal principle (or because of the absence of a prohibition to that act), this act (to drive at a speed of 95 km/h on a motorway) is permitted: weak permission. However, the prohibition to exceed the speed limit of 120 km/h clearly does not imply that all speeds below the 120 km/h are *by definition* permitted: one has to take other speed prohibitions and orders into account, such as article 25 of the Traffic Act: On the road, it is prohibited to act in such a way that the freedom of traffic is hindered without

necessity or that road security is jeopardised or may reasonably be expected to be jeopardised. It would be absurd to stick to this meaning when one considers the following example. There is a traffic jam on the motorway, and a car is driving at a speed of 100 km/h. The driver breaks the law in this situation, and he cannot maintain that it was permitted to drive at a speed of 100 km/h on this section of the road (cf. [18]).

As it has been said, a permission is weak (in the sense here relevant) if the act (proposition) is not forbidden. The permission is strong if the act is not forbidden, though subject to norm (cf. [21]). This means that a permission is strong if and only if it is enacted by a normative authority (explicitly enacted permission) or if the permission is a logical consequence from a norm or set of norms enacted by a normative authority (implicitly enacted permission). Consequently, if an act is strongly permitted, then also the negation of that act, since from the fact that an authority enacted that an act is permitted, which is an exception of a prohibition or obligation, it follows that the authority also enacted (although implicitly) that the negation of that act is permitted. This does not hold for the weak permission. For instance, if no authority enacted that a certain act is forbidden and some authority enacted that that act is obligatory, then that act is weakly permitted and obligatory simultaneously. Consequently, the negation of that act is *not* permitted, since it is forbidden by the obligation $O(p)$ ($O(p) \equiv F(\neg p)$). So, the weak permission entails no choice, unlike the strong permission.

The legal difference between these two types of permission is quite obvious. The idea is that a later enacted prohibition could be in conflict with a strong permission, but not with a weak permission. If an act is weakly permitted then the prohibition of that act can be given with any conflict (cf. [23]). In standard deontic logic, we cannot distinguish the strong and weak permission, since there is no explicit indication to the enactment of norms (they are God given). In the next section we will formalise these two types of permission with the help of the logic of enactment (cf. [19]). The basic idea of the treatment is that a norm enacted by a normative authority is not always applicable, since, for example, the norm can be ineffective ([11]) or the norm can be overruled (derogated) by a norm enacted by a superior authority or by a norm enacted at a later point in time. Thus, a strong permission is not always applicable, but a weak permission is.

4 The logic of enactment

As we already mentioned, a strong permission is always enacted (explicitly or implicitly), and on the contrary a weak permission is not enacted, but follows from the absence of an enacted prohibition. To formalise this distinction between the weak and strong permission we add an operator N_{A_i} to the deontic logic. A formula $N_{A_i} : \theta$, with θ a norm, is read as 'the set A_i of authorities enacted the norm θ '. Sets of authorities are needed to determine the consequences of norms enacted by a combination of individual au-

thorities. We define $NA = \{a_1, \dots, a_n\}$ as the set of normative authorities. Since we consider sets of authorities, we have $2^n - 1$ sets of authorities, instead of considering n authorities. We treat N_{A_i} as a modal operator, just as in the systems of *knowledge* and *belief*. The theory of enactment is based on an extension of belief theory. The main reason being that belief theories also have to deal with reasoning about inconsistent beliefs (information). So, the similarity concerns mainly this part of reasoning in the present of inconsistencies within a modal operator. Maybe clear that some axioms for belief - like 'if an agent believes ϕ , then he believes that he believes ϕ ' - does not make sense for enactment. Furthermore, belief and enactment correspond in the sense that a belief is not necessarily true, just as an enacted norm is not necessarily applicable.

In this section, we briefly review possible-worlds semantics for enactment, corresponding with the semantics for belief and knowledge (cf. [7]; [10]). The intuitive idea behind the possible-worlds model is that, besides the true state of affairs, there are a number of other possible states of affairs, or possible worlds.

On the one hand, the notion of enactment is a restricted version of the system weak *S5* or *KD45*, in the sense that we are not dealing with nested enactment. A formula $N_{A_i} : (N_{A_i} : \theta)$, reading that ' A_i enacted that A_i enacted θ ', is meaningless. Thus, we restrict the language, so that no N_{A_i} appears within the scope of another. Thus, if θ is a deontic formula, then $N_{A_i} : \theta$ is also a formula. On the other hand, the notion of enactment is an extended version of weak *S5* or *KD45*, in the sense that we are adding some extra axioms and rules. We now present an axiomatic system **Ent** for enactment with respect to set NA of normative authorities, where θ , θ_1 and θ_2 are formulas of the system D^* , and Θ_1 and Θ_2 are formulas of system **Ent**:

All tautologies of the propositional calculus. (A1)

$N_{A_i} : \theta_1 \wedge N_{A_i} : (\theta_1 \rightarrow \theta_2) \rightarrow N_{A_i} : \theta_2$ (A2)

$\neg N_{A_i} : \text{false}$ (A3)

$\frac{\Theta_1 \rightarrow \Theta_2, \Theta_1}{\Theta_2}$ (R1)

$\frac{\theta}{N_{A_i} : \theta}$ (R2)

$\frac{A_i \subseteq A_j}{N_{A_i} : \theta \rightarrow N_{A_j} : \theta}$ (R3)

The first axiom (A1) and rule (R1) are holdovers from propositional calculus. The second axiom says that enactment is closed under implication. Note that (A2) is equivalent to $N_{A_i} : (\theta_1 \rightarrow \theta_2) \rightarrow (N_{A_i} : \theta_1 \rightarrow N_{A_i} : \theta_2)$, which is sometimes given as an alternative axiom. (A3) says that an authority cannot enact falsehood. The rule (R2) states that every tautology is enacted. The name of this rule: necessitation, stems from the general modal framework, in which N_{A_i} (or denoted usually by $\Box$) has the meaning of necessity. Rule (R3) expresses the relation between the sets of authorities. If a set of authorities enacted a norm,

then every superset of authorities of that set also enacted that norm.

We will now introduce two axioms, which enables us to make a distinction between weak and strong permission.

$N_{A_i} : P(p) \rightarrow N_{A_i} : P(\neg p)$ (A4)

$\forall_{i \in \{1, \dots, 2^n - 1\}} \neg(N_{A_i} : F(p)) \rightarrow P(p)$ (A5)

These two axioms are the added axioms in relation to the restricted version of weak *S5* or *KD45*. Axiom (A4) we call *the axiom of the strong permission* and axiom (A5) we will call *the axiom of the weak permission*. The axiom of the strong permission says that if an authority A_i or a set A_i of authorities enacted that an act is permitted, A_i also enacted that the negation of that act is permitted. Thus, the addressee to whom the enacted permission is enacted, has a choice to perform the permitted act or not, (without a liability to sanction). The axiom of the weak permission says that the absence of a prohibition implies a permission; i.e. set A of authorities enacted that something is forbidden, then it is permitted. The difference between the strong and weak permission reveals itself in these axioms. A strong permission owes his existence to the fact that it is enacted, and a weak permission owes his existence by the absence of a prohibition.

The semantics will be given by a Kripke structure $(W, \mathcal{R}, V, \mathcal{B}_{A_1}, \dots, \mathcal{B}_{A_m}, NA)$, where $\mathcal{B}_{A_i}$ ($i = 1, \dots, m$ and $m = 2^n - 1$) is a binary relation on W which is serial and for which it holds that if $A_i \subseteq A_j$, then $\mathcal{B}_{A_j} \subseteq \mathcal{B}_{A_i}$, which validates rule (R3). A relation R is serial if for each $w \in W$ there is some $w' \in W$ such that $(w, w') \in R$. The fact that $\mathcal{B}_{A_i}$ is serial means that in all worlds, the enacted norms can be applied some way; from this it follows that falsehood cannot be enacted. We do not have the assumptions that $\mathcal{B}_{A_i}$ is transitive and Euclidean, as in *KD45* (cf. [7]), since we are not dealing with nested enactments. Intuitively, $(w, w') \in \mathcal{B}_{A_i}$ if in a world w , the set A_i of authorities considers world w' possible, i.e., A_i considers his enacted norms in w applicable in w' as possible. Thus w' would be considered a possible way to have the enacted norms apply.

The semantics of the formulas is very similar to that of the deontic logic. The clause for the new operator N_{A_i} is as follows, where θ is a formula of D^* :

$M, w \models N_{A_i} : \theta$ iff $M, w' \models \theta$

for all w' such that $(w, w') \in \mathcal{B}_{A_i}$. The clause is designed to capture the intuition that θ is enacted by A_i exactly if θ is true in all the worlds conform to the norms enacted by A_i . Thus, the sentence ' θ is enacted by A_i ' does not say that θ is applicable, instead, it says that θ is applicable in a world which is ideal conform to the enactment by A_i . Thus, the statement ' θ is enacted' describes some idealised world and *not* the actual world.

From the semantics it follows that the rules and the first three axioms are valid (cf. [7]). To validate

the axioms (A4) and (A5) we have to add two clauses. (A4) becomes valid by adding the clause:

$$R(w') = \emptyset \text{ or } R(w') \cap \llbracket p \rrbracket \neq R(w')$$

for all w' such that $(w, w') \in \mathcal{B}_{A_i}$. Axiom (A5) becomes valid by adding the clause

$$\text{if } \forall A \in \{1, \dots, n\} (R(w') \subseteq \llbracket \neg p \rrbracket \text{ then } R(w) \cap \llbracket p \rrbracket \neq \emptyset$$

for all w' such that $(w, w') \in \mathcal{B}_{A_i}$.

5 The axiom: enacted norms are true

In the theory of knowledge and belief there appears the natural question of whether these notions are captured adequately and realistic. The well-known problem of both theories is the problem of *logical omniscience*. This problem pertains to a notion of knowledge and belief that is too idealistic: these notions are closed under logical consequences. ‘Especially for a notion of belief, which should be more fallible if human everyday beliefs are to be captured, this property is obviously not true’ ([15]). Logical omniscience is not a problem for the notion of enactment. If a norm follows from other enacted norms and not conflicting with another norm, this norm is applicable, even if that norm was not thought of by members of government or parliament when the law was created.

However, there is another property that is very unrealistic, which nevertheless holds in **Ent**: $N_{A_i} : \theta \rightarrow \neg N_{A_i} : \neg \theta$; *consistency of enactments*. As we already mentioned, it is a frequent phenomenon that normative authorities enact conflicting norms. For this serious problem, we refer to [9] and [19]. In this article, we assume that the set of enacted norms is normatively consistent, i.e., there are no conflicting norms. From this fact, we can create an actual world that corresponds with the ideal world: all the enacted norms are applicable. This can be axiomatised by the following formula:

$$(N_{A_i} : \theta) \rightarrow \theta \quad (\text{A6})$$

This corresponds with the axiom $K_i \phi \rightarrow \phi$ of the theory for knowledge: if an agent i knows an assertion ϕ , then that assertion is true, i.e., known facts are true. In our terminology, axiom (A6) is read ‘enacted norms are true’ or more practical ‘enacted norms are applicable’. Axiom (A6) becomes valid by adding the claim that the relation $\mathcal{B}_{A_i}$ is reflexive, i.e., if

$$\forall w \in W (w, w) \in \mathcal{B}_{A_i}.$$

Note that the formula $P(p) \wedge O(p)$ is *satisfiable*, in contrast to the formula $N_{A_i} : P(p) \wedge N_{A_i} : O(p)$. We say a formula θ is *satisfiable in M* if $M, w \models \theta$ for some world w in M ; θ is *satisfiable* if it is satisfiable in some Kripke structure. The last formula is inconsistent, since $N_{A_i} : P(p) \wedge N_{A_i} : O(p)$ implies $N_{A_i} : P(\neg p) \wedge N_{A_i} : \neg P(\neg p)$, and this in its turn implies, according (A6), $P(\neg p) \wedge \neg P(\neg p)$, which is equivalent with falsehood. Conversely, formula $P(p) \wedge O(p)$

can hold: if $P(p)$ follows from the absence of prohibition $F(p)$ (i.e., (A5)) and $O(p)$ follows from (A6).

As we mentioned in section 2, we dropped axiom (OD), i.e. $\neg O(p \wedge \neg p)$ for our deontic system. Suppose we do not drop this axiom, then we can derive $O(p) \rightarrow P(p)$. This would be a menace for our theory, since if an obligation is enacted, then this implies falsehood. Suppose that $N_{A_i} : O(p)$ holds, then consequently $N_{A_i} : \neg P(\neg p)$ and $N_{A_i} : P(p)$. This can easily be proved by the following rule (N_{A_i} -distribution), which is derivable in system **Ent**:

$$\frac{\theta_1 \rightarrow \theta_2}{N_{A_i} : \theta_1 \rightarrow N_{A_i} : \theta_2}.$$

From $N_{A_i} : P(p)$ we can derive $N_{A_i} : P(\neg p)$, thus now with axiom (A6) it follows that $P(\neg p)$ and $\neg P(\neg p)$ both can be derived, which leads to falsehood. However, axiom (OD) is controversial nowadays - as we already mentioned -, so this is not a drawback for our system. Now we can easily check whether a permission is weak or strong. Suppose $P(p)$ is derivable, then this permission is strong if $N_{A_i} : P(p)$ is derivable for some i , and weak if the permission is strong or $N_{A_i} : P(p)$ is not derivable for all i . Thus, the strong permission implies the weak permission.

Axiom (A6) can only be added to a system, if we consider a *normative consistent* set of enacted norms. An advantage of dropping this axiom, is that we can make a distinction between *enacted* and *applicable* norms. Further, this distinction is of great use to determine which of the (conflicting) enacted norms are applicable in a certain situation. The determination of which set of norms is applicable in a certain situation is an open issue and it is interesting to develop a theory to classify these sets of applicable norms. However, there are tools developed, which can help to exploit the progress of this research, for example, non-monotonic logic, defeasible reasoning, local reasoning and logic of preference.

6 Summary and conclusions

The importance of the distinction between strong and weak permission reveals in the context of postulated universality, realised by the general closure rule: ‘whatever is not forbidden, is permitted’. In the Dutch criminal law, this rule is stated in article 1 sub 1 of the Dutch Penal Code. The distinction can be expressed by the addition of a modal operator N_{A_i} , which expresses *enactment*, to a deontic system. A strong permission is always enacted (implicitly or explicitly) and a weak permission owes his existence to the absence of a prohibition. Thus, a weak permission is not enacted. Another difference is that the strong permission implies a giving choice to the addressees.

An enacted norm is not necessarily applicable and visa versa. For example, a norm can be enacted, although not applicable, since that norm is overruled by a norm enacted by a superior authority, and an act can be permitted although it is not enacted, since that permission follows from the absence of a prohibition. In this paper we have developed a theory, that can

make the difference between enactment and applicability, and so also between strong and weak permission.

In the future, the theory can be used to order the enacted norms implemented in an expert system. Expert systems should contain rules indicating which of the enacted norms are applicable. These rules can be obtained by factors of the powers and competencies of the normative authorities (issuing bodies), dates of promulgation and amendment, the degree of specificity or generality of the regulations, etc. (See [20].)

In most legal support/expert systems only the applicable norms are considered. It is impossible in these systems to talk about the rules that select applicable norms explicitly. Neither is it possible to reason about enacted norms that are not applicable. We gave a first step to realise the formalisation of enacted and applicable norms in the context of postulated universality. Perhaps that future research may be able to exploit the progress of reasoning with enacted and applicable norms.

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