

Deontic Reasoning

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Tutorial within the ESWC 2014

- obligation and permission
- obligative positions (rights)
- normative conditionals (prepare to Deontic Defeasible Logic)

Are you compliant?

Norms

- ① If you are in Italy, you ought to pay taxes in Italy
- ② If you are in Italy and are underage, it is forbidden for you to drink alcohol
- ③ It is not obligatory for you not to be in Italy or it is forbidden to pay taxes in Italy

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Norms

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Facts

- (i) You are in Italy
- (ii) You are underage

The basic deontic modalities

- obligation, *Obl*
- permission, *Perm* .



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Example

- it is obligatory that you not to carry your rucksack on your back (it is forbidden that you carry your rucksack on your back)
- it is permitted that you carry your rucksack with your hand

What about using symbols for obligation and permission

- *Obl* [you do not carry your rucksack on your back] (*Forb* [you carry your rucksack on your back])
- *Perm* [you carry your rucksack on your hand]

With propositional variables

- *Obl* $\neg B = (\text{Forb } B) ?$
- *Perm* $H = \neg \text{Forb } H ?$



Deontic possibilities

country	wearing the veil (<i>V</i>)	not wearing the veil (NON V)
France	<i>Forb V</i>	<i>Obl NON V</i>
Iran	<i>Obl V</i>	<i>Forb NON V</i>
UK	<i>Perm V</i>	<i>Perm NON V</i>

Facultativeness or mere freedom

A is facultative iff

$(\text{Perm } A \text{ AND } \text{Perm } \neg A)$

([it is facultative that A] is equivalent to)

([it is permitted that A AND it is permitted that $\text{NOT } A$])

For example, saying that [in the UK, for a girl going to school, it is facultative to wear the veil] amounts to saying that [she is permitted both to wear the veil and to not wear it].

Obligation Addressees

M = "the merchandise is delivered"

I = "internet access is provided"

- $Obl_j(M)$

j has the obligation to ensure that M

$Obl_{state}(I) = state$ has the obligation to ensure that M , j is responsible for M

- $Perm_j(A)$

j has a permission that he smokes

$Perm_j(S)$

Beneficiaries

- $Obl^j(A)$

It is obligatory that A toward j , j is the beneficiary of A

$Obl^{Scott}(M)$

It is obligatory that the merchandise is delivered for the benefit of the creditor $Scott$

- $Perm^{Henry}(\neg I)$

it is permitted that Internet access is not provided with regard to $Henry$

Addressees and beneficiaries: Rights

- $Obl_j^k(A)$
 j has the obligation toward k to ensure that A
- $Obl_{Henry}^{Scott}(M)$
 $Henry$ has the obligation toward $Scott$ to ensure that the merchandise is delivered

Addressees and beneficiaries: Rights

- $Obl_j^k(A)$
 j has the obligation toward k to ensure that A
- $Obl_{Henry}^{Scott}(M)$
 $Henry$ has the obligation toward $Scott$ to ensure that the merchandise is delivered

$Scott$ has the right toward $Henry$ that $Henry$ ensures that the merchandise is delivered

What does it mean to be the active party or the beneficiary of an obligation

- Interest-based notion of a right(Bentham Jhering): The beneficiary is the person whose interest is meant be satisfied through the obligation
- Jhering (vs. Power-based notion of a right: Kelsen, Hart): The beneficiary is the person having control over the obligation (e.g. power to start proceeding for its enforcement)

Permission or permissions?

- **Weak (or negative) permission:** something is weakly permitted by a (legal) code iff it is not prohibited by that code;
- **Strong (or positive) permission:** something is strongly permitted by a (legal) code if such a code explicitly states that it is permitted.

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Strong legal permissions are exceptions to legal prohibitions

Weak permission: Example

Consider a normative system consisting of the following norm:

If one lives in Italy for more than 183 consecutive days over a 12-month period, then she is obliged to pay taxes in Italy on her worldwide income.

Weak permission: Example

Consider a normative system consisting of the following norm:

If one lives in Italy for more than 183 consecutive days over a 12-month period, then she is obliged to pay taxes in Italy on her worldwide income.

Hence, if

you lived in Italy for 60 consecutive days

then

it is permitted for you not to pay your taxes in Italy.

Strong permission: Example

Consider a normative system consisting of the following norm:

If one subscribes to an on-line sale agreement accepting to enter her personal data, then it is permitted for the seller to use this information only on the condition that it is used for shipping, and other necessary purposes to communicate with the buyer or deliver the products to her.

Strong permission: Example

Consider a normative system consisting of the following norm:

If one subscribes to an on-line sale agreement accepting to enter her personal data, then it is permitted for the seller to use this information only on the condition that it is used for shipping, and other necessary purposes to communicate with the buyer or deliver the products to her.

Hence, there are good reasons to assume that

It is forbidden for the seller to use this information for other purposes.