

A crosslinguistic constraint on the expression of deontic modality

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1 Overview

In this paper, I present crosslinguistic data to support a grammatical constraint on the expression of two subtypes, or flavors, of non-epistemic, non-dynamic, *priority modality* (a term from Portner 2009). These sub-varieties are usually only distinguished on conceptual grounds.

- i. *Deontic* modality: describes possibilities in which certain rules, regulations, laws are upheld.
- ii. *Teleological* modality: describes possibilities in which certain goals or preferences are achieved.

I show that the grammatical environment in which a priority modal occurs restricts its context dependency. Descriptively, when a priority modal is complemented by a nominal phrase, it cannot readily receive a deontic interpretation.

(1)	a. She needs a job.	MODAL+DP, MODAL+CP	teleo. only
	b. She needs to get a job. Those are the rules.	MODAL+IP	teleo., deontic

Q1: What is the source of the distinction between deontic and teleological modality?

Q2: Do these facts require us to give up on a unified lexical entry for priority modals?

Roadmap for today:

§2 Necessity modals in +deontic/-teleological contexts

§3 The theoretical challenge

§4 Toward a grammatical split within priority modality

2 Versatile priority modals

My empirical focus is verbal and adjectival modals that are *syntactically* and *semantically versatile*.

- Syntactic versatility: the modal takes verbal (IP) as well as nominal complements (DPs, and where grammatical, also CPs).
- Semantic versatility: the modal allows both deontic and teleological interpretations in its verbal configuration.

To avoid the blurring of deontic and teleological modality in cases where following a rule is also one's goal, we will focus on **+deontic/-teleological contexts**: a rule conflicts with a goal.

2.1 The basic observation

The ability to express deontic modality in a supporting context is demonstrated in (2a-c) for modals in English, Hindi-Urdu, and Hebrew (Rubinstein, 2012).¹

- (2) *Sam is participating in an educational game designed to encourage kids to drink water in summer instead of soft drinks. In this game, the winner of a round is required to drink a glass of water. Sam has been winning many rounds and consequently drinking lots of water. Oh, no! He just won another round...*

The IP construction

- a. Sam **needs** to drink another glass.
 b. sam-ko ek cup aur pii-naa **caahiye**.
 Sam-Dat a cup more drink-Inf **should**
 ‘Sam should drink another glass.’
 c. sem **ɣayav** liftot od kos.
 Sam **must**.3.M.SG drink-Inf another cup
 ‘Sam must drink another glass.’

The Nom construction

- a’. Sam **needs** another glass.
 b’. sam-ko ek cup aur **caahiye**. (*Hindi-Urdu*)
 Sam-Dat a cup more **should**
 ‘Sam needs/wants another glass.’
 c’. sem **ɣayav** od kos. (*Hebrew*)
 Sam **must**.3.M.SG another cup
 ‘Sam needs another glass.’

Examples in (2a’-c’) cannot be interpreted deontically. These sentences are judged false in the scenario, on the teleological/bouletic grounds that the subject does not want to drink any more. ((2a-c) are false on such a teleological interpretation as well.)

A clash between the modal and a deontic adjunct when the modal is complemented by a DP:²

- (3) a. According to the rules of the game, he needs to drink another glass of water.
 b. ?According to the rules of the game, he needs another glass of water.
 ⇒ The rules of the game do not say what he needs, only what he needs to do.

Experimental evidence: (i) the nominal complement construction of *need* in English is naturally used to express teleological modality, and (ii) *need to* is significantly more open to expressing deontic modality than *need* complemented by a noun phrase (Rubinstein, 2010, 2012).

¹I thank Rajesh Bhatt for the judgments on Hindi-Urdu reported here, and Masashi Hashimoto for his judgments on Japanese. Judgments on Hebrew are my own.

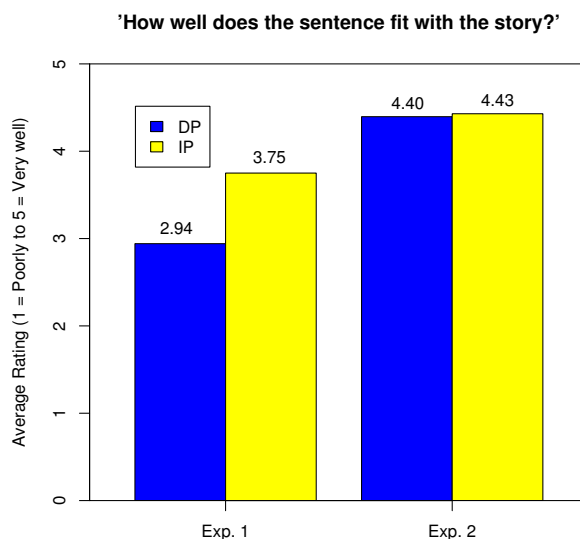
²I thank Kai von Fintel for discussion of this point.

Exp. 1: +deontic/-teleological contexts (certain external rules or regulations in conflict with a salient priority of an individual in the scenario).

⇒ Sentences with a DP complement received lower ratings of fit than corresponding sentences with *need to*.

Exp. 2: +deontic/+teleological contexts (rules or regulations in agreement with the salient priorities)

⇒ *Need+IP* and *need+DP* sentences both received high rating scores. Odds for a deontic interpretation 2.16 times higher with *need+IP*.



Conclusion: the deontic interpretation that is available for the modal when its complement is an IP is not readily available with a DP complement.

2.2 Syntactic size of the complement

Is modal potential determined by the syntactic size of the modal's complement?

(4) *Plausible hypothesis*

A larger phrase in the scope of the modal = more subtypes of priority available.

(5) *City regulations mandate that home owners put up fences between their properties. You and your neighbor get along very well without a fence. Both of you actually object to a fence because it would have to go right on top of the beautiful flower beds that have been flourishing between your two properties. You conclude:*

a. We **need** to put up a fence here.
(The law implies that ...)

a'. We **need** (for) there to be a fence here.
(?The law implies that ...)

b. **cariḡ/ḡayavim** livnot kan gader.
need/must.M.PL build.Inf here fence

b'. **cariḡ/ḡayavim** ḡe-tihye kan gader.
need/must.M.PL that-be.Fut.F.SG here fence

'We need to build a fence here.'

'We need there to be a fence here.' (*Hebrew*)

- (5a'-b') are judged false in this context (putting up a fence goes against the priority of keeping the flower beds flourishing). They require a shift in the contextual priorities in order to be true.
- (5a-b) are true on a deontic interpretation.

In Hindi-Urdu, like in Hebrew, a CP complement to a versatile modal resists deontic interpretations. (6) is false since “The daughters are required to work by law but this is not Ram’s need/desire”.³

- (6) *Ram is a very wealthy businessman who emigrated with his family to a new country for political reasons. He doesn’t want his daughters to be out of the house working (he has conservative views about such things), and the family’s economic situation is wonderful without anyone else getting a job. But the community that accepted the family in the new country has very strict rules about employment: every adult must get a job, and this applies to Ram’s daughters as well.*

ram-ko caahiye [ki us-kii beTiyaaN kaam kar-eN].
 Ram-Dat should that he-Gen.F daughters work do-Sbjn.3.PL

‘Ram wants that his daughters work.’ or ‘Ram needs his daughters to work.’

Returning to English, a general observation on the use of *need for-to* infinitives lends support to the claim that they cannot express deontic modality. The construction is used in contexts in which commands are dispreferred on socio-cultural grounds.

- (7) a. “The kindergarten imperative”: I need you to put away your crayons now.
 b. Flight attendant: I need you to go ahead and put your seat backs in the upright position for me.
 (Yagoda, 2006)

Summary of empirical observations:

- CPs and *for-to* infinitives pattern with noun phrase complements, not with verbal complements in terms of the modality they most naturally express.
- Syntactic size of a modal’s complement is not the basis for the restriction on flavors.
- Versatile modals with DP and CP complements are restricted in the range of priority interpretations they allow.

3 The theoretical challenge

Where should the explanation of these facts be sought? The options recall the debate over the split between *root* and *epistemic* modal meanings.

- One might posit **lexical ambiguity** to account for a modal’s semantic versatility.

³Note that not every subjunctive CP complement correlates with a teleological interpretation of the modal (Rajesh Bhatt, p.c.). If the embedded subject is nominative, it has to be different from the matrix subject for teleological modality to be imposed.

- If there is evidence of syntactic versatility, one might argue that the different meanings have a **grammatical explanation**.
 - The task then is to explain how the position of the modal in different syntactic configurations yields the interpretation it receives in each one.
- (Ross 1969; Perlmutter 1970; Perlmutter 1971; Jackendoff 1972; Cinque 1999, 2006; Brennan 1993; Butler 2003; Hacquard 2006, 2009, and others)

What we have here is a version of this debate, within the class of root modalities.

Lexical ambiguity? A weak explanation given that:

- i. Multiple unrelated languages are affected.
- ii. Multiple lexical items in a given language are affected (Hebrew *ḥayav* ‘must’, *cariḥ* ‘need’, *muxraḥ* ‘obliged’).
- iii. The restriction kicks in as soon as a modal becomes syntactically versatile, regardless of its previous lexical meaning (this is the case of Hebrew *ḥayav* ‘must’).

3.1 Approaches to the analysis of root modality

A grammatical explanation of the facts is appealing in light of the syntactic versatility of the modals. But existing theories do not deliver one out of the box. These are all root modals.

- No distinction between teleological modals and the conceptually similar class of “ought to do” deontics (Brennan, 1993; Hacquard, 2006, 2010).
- The different varieties are assumed to arise from contextual factors (e.g., by employing different *ordering sources* as conversational backgrounds; Kratzer 1981, 2012).

Brennan (1993):

- When a modal is thematically related to a subject, it is forced to be “about” the individual denoted by that subject
- Root modals use property-level conversational backgrounds to determine their quantification domains
- These conversational backgrounds consist of relevant properties of the individual denoted by the modal’s subject

Hacquard (2006, 2010):

- Modals are relativized to events
- A root modal is relativized to the event described by the VP embedded under the modal
- If the subject is the main participant, its properties are highlighted
- In other cases, “the location or properties of other participants of the event are more relevant”

Note that we cannot say that a teleological reading depends on a VP event-participant (or location) having the priorities that the modal claim is based on. In other words, **the source of the priority is not determined by the embedded VP.**

- (8) In order to finish the construction ahead of schedule, the poor workers need to work 12-hour shifts.

Source: the site manager.

- (9) The dog needs a bath.

Source: the owner.

- (10) [MODAL [that be here fence]]

Brennan’s (1993) claim that root modals have conversational backgrounds that are “about” the subject is in line with these data. However, it does not immediately extend to:

- (i) The “kindergarten imperative” (*I need you to put away your crayons now*) and other examples in the Nom construction in which there are different subjects in the matrix and the embedded CP. The relevant priorities are not about the speaker, but about the children.
- (ii) Subjectless examples. The extent to which these are a problem depends on one’s assumptions about how null expletives (argued to be present in the relevant *carix* examples, Berman 1980) are interpreted.

Most importantly for present purposes, subject/low-event orientation has been argued to apply uniformly to all kinds of root modals. Deontic and teleological modalities are not distinguished.

4 Back to the puzzle

What I propose to add to this picture is a constraint on the possibilities that deontic modals, and teleological modals (specifically in the Nom construction) quantify over. The restriction is not one of flavor, but of size of the possibilities considered.

Consider the following intuitive difference between deontic and teleological modalities:

- Prototypical deontic modality involves priorities about how society at large develops.
- Teleological modality may involve priorities that pertain to just a single individual's future.

To make this a bit more precise, I assume a double-relative analysis of modality in which the possible situations (parts of possible worlds) that a modal quantifies over are determined in two steps using a modal base and an ordering source (Kratzer, 1981, 1991, 2012).

- (11)
- Modal quantification domains are relativized to anchor events or situations (Hacquard, 2006, 2010; Arregui, 2010; Kratzer, 2009).
 - An ordering source g make distinctions among the situations determined by the modal base f .
 - Some situations in $f(s)$ are better than others according to $g(s)$.
 $BEST(f(s), g(s))$ identifies those that are best.

The goal is a unified necessity semantics for the modals:

- (12) $\llbracket need/must \rrbracket = \lambda p. \lambda s. \forall s' (s' \in BEST(f(s), g(s)) \rightarrow p(s'))$.
In all the best situations accessible from s , p is the case.

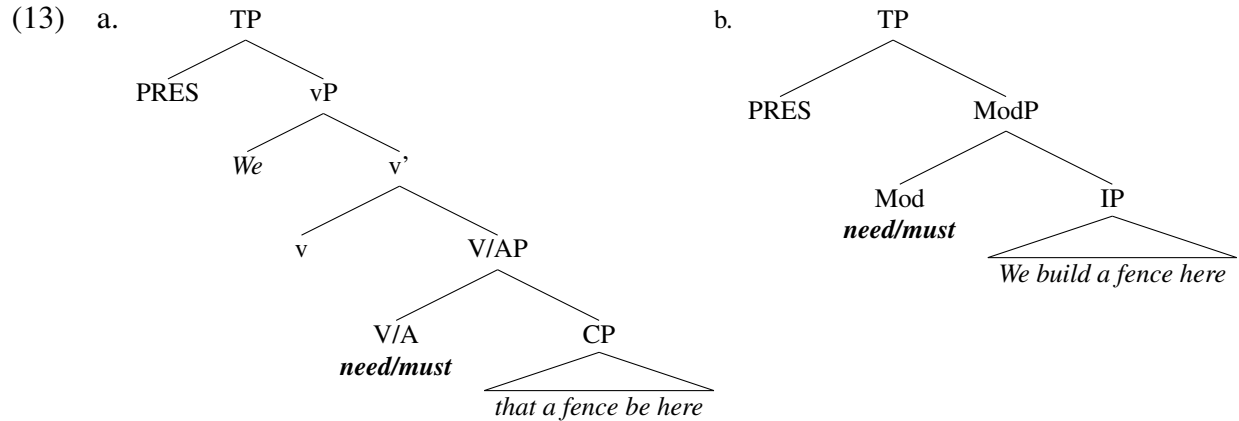
The size of the accessible situations can be tied to the flavor of priority modality expressed:

- If the situations in the modal base have a single individual in them, then it would seem that the ordering source contains “priorities about that individual”.
- If the situations in the modal base are whole worlds (or big chunks of worlds), then it would seem that the ordering source contains “priorities about how things ought to be, in general”.
- Deontic modality would not be expressible whenever the accessible situations contain just a single individual in them.

This recalls Brennan's (1993) interpretation of the split between “ought to do” and “ought to be” deontics (Feldman, 1986). Only the former were analyzed as subject oriented modals, along the lines mentioned above.

A possible interpretation of the present puzzle is that subject oriented priority modality is never truly deontic. Under this view, “ought to do” deontics are simply teleological modals.

The final challenge is to explain why in the configuration (13a), where the modal is thematically related to a subject only teleological modality is available, while in (13b), both teleological and deontic interpretations are possible:



The missing piece: a grammatical restriction on the size of accessible (best) situations.

Why would the accessible situations be restricted in size in the Nom construction but unrestricted in the IP construction?

5 Conclusion

- I presented a restriction on the expression of deontic modality and argued based on crosslinguistic data that it has a grammatical source.
- The transitive configuration of intensional verbs like *need* is not equivalent semantically to the infinitival configuration of the same verbs.
- “Low modality”: teleological modals in the Nom construction are similar to ability modals in being focused on a single individual.
- An analysis of the restriction to teleological modality is left for future work.

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