Modals and their Complements
- Looking past the verbal case -

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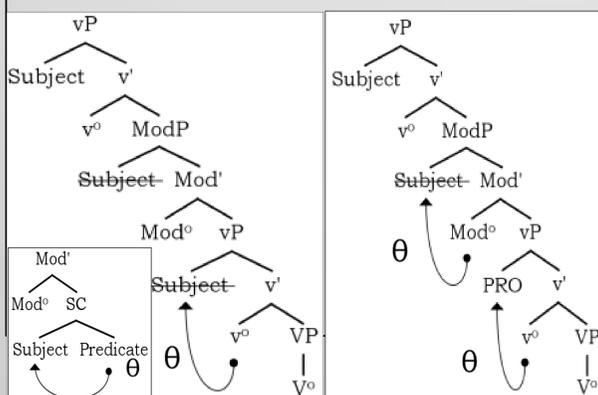
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1. Background

Six types of complements: Verbal (1), Nominal (2), Sentential (3), Prepositional (4), Particle (5), and Adjectival (6).

(1) John can go home.
(2) Voglio   una auto.
   want-1.SG a   car
   'I want a car.' (It.)
(3) Ég vil að hann komi   hingað.
   I want that he comes-CONJ here
   'I want him to come here.' (Ice.)
(4) I mues uf d   bank.
   I must on the bank.
   'I must go to the bank.' (Sw.-G.)
(5) Hun skal hjem.
   she shall home
   'She will go home.' (Da.)
(6) De muur moet rood.
   the wall   must red
   'The wall must become red.' (Du.)

2. Claim

The distribution of complements of modal verbs is linked to the semantics of the modal. **Deontic** modal verbs are raising verbs (Wurmbrand 1999) and as such can only combine with clauses out of which a subject with an already assigned theta role can raise, which are vPs and Small Clauses (SCs). **Dynamic** modal verbs are control verbs and as such can combine with different types of complements (Grimshaw 1979, Chomsky 1986); PRO can be governed (Landau 1999).

References: Barbiers, Sjef. 1995. The syntax of interpretation. Ph.D. Diss. Universiteit Leiden.– Biberauer, Theresa & Johan Oosthuizen. More unbearably light elements? Silent verbs demanding overt complementizers in Afrikaans. *Snippets* 24, 5-6. — Landau, Idan. 1999. Elements of control: Structure and meaning in infinitival constructions. Ph.D. Diss. MIT – Larson, Richard, Marcel Den Dikken & Paul Ludlow. 1997. Intensional transitive verbs and abstract clausal complementation. Ms., SUNY Stony Brook & VU Amsterdam. – Riemsdijk, Henk van. 2002. The unbearable lightness of GOing. The projection parameter as a pure parameter governing the distribution of elliptic motion verbs in Germanic. *Journal of Comparative Germanic Linguistics* 5, 143–196. – Wurmbrand, Susi. 1999. Modal verbs must be raising verbs. *West Coast Conference on Formal Linguistics* 18, 599-612.

Prepositional, particle, and adjectival complements are analyzed as SCs (7a, Barbiers 1995) or VPs with a silent infinitive (7b, Van Riemsdijk 2002) and as such are expected to combine with deontic and dynamic modal verbs.
(7) Jan moet naar huis.
   Jan must to   house θ
a. [vP Jan moet [SC ~~Jan~~ naar huis]]
b. [vP Jan moet [vP ~~Jan~~ *GO* [VP [naar
          θ   huis ~~*GO*~~]]]
Nominal and sentential complements are in a regular transitive structure (8), and as such are only expected to combine with dynamic modal verbs.
(8) Ik wil een auto
   I want a car
   [vP Ik wil [DP een auto]]
        θ

Dynamic modal verbs express forces internal to the subject. Seven types:
❖ 'To be able to' – *can*
❖ 'To be skilled in' – *sapere* (It.)
❖ 'To want' – *wil* (Af.)
❖ 'To like' – *mögen* (G.)
❖ 'To need' – *need*
❖ 'To dare' – *dare*
❖ 'To promise' – *will*
Deontic modal verbs express the notions of permission (*can*) or obligation (*must*).

3. Method

Informants: At least 2 native speakers of 16 Modern European languages.
Two **questionnaires** sent by e-mail.
Questionnaire 1: Modal verbs identified based on syntactic and semantic criterion; possible complements identified.
Questionnaire 2 (linguists only): Dynamic and deontic interpretations checked; interpretations matched to different types of complements.

Modal verbs have a syntactic and a semantic component. **Syntactically**, modal verbs pattern with auxiliaries in that they can combine with a second verbal element in the same clause; + language-specific properties (NICE-properties in English). **Semantically**, modal verbs express epistemic, deontic, and/or dynamic modality.

4. Results

Dynamic modal verbs combine with all six types of complements; **deontic** modal verbs do not combine with nominal and sentential complements.

Alleged counterexamples:
(9) Ek moet dat Mary die boeke bestel.
   I   must that Mary the books order
   'I must make sure that Mary orders the books.' (Af.)
   (Biberauer & Oosthuizen 2011)
(10) Jan mag van mij een hond.
   Jan may from me a   dog
   'John is allowed to have a dog.'
Analysis: Silent infinitives (Larson et al. 1997, Van Riemsdijk 2002)
(9)' Ek moet **MAAK** dat …
   I must   make that …
(10)' Jan mag van mij een hond **HEBBEN**.
   Jan may from me a   dog   HAVE
Support: Temporal adverbs & ellipsis (Larson et al. 1997)
(11) Jan mag morgen een hond (hebben).
   Jan may tomorrow a dog   have
i.   'John is now allowed to have a dog tomorrow.'
ii. 'Tomorrow, John is allowed to have a dog.'
(12) Jan mag meer (hebben) dan Marie.
   Jan may more have   than Mary
i.   'John is allowed to have more than Mary has.'
ii. 'John is allowed to have more than Mary is allowed to have.'

Table 1: Possible complements in 16 Indo-European languages

Language	Modal	VP	NP	CP	PP/ PartP	AdjP
Modern English, Romanian, Irish, Scottish Gaelic	dynamic	+	-	-	-	-
	deontic	+	-	-	-	-
Modern Icelandic, French, Italian, Welsh	dynamic	+	+	+	-	-
	deontic	+	-	-	-	-
Luxembourgish, Swiss-German, Danish, Norwegian	dynamic	+	+	+	+	-
	deontic	+	-	-	+	-
Afrikaans, Dutch, Frisian, German	dynamic	+	+	+	+	+
	deontic	+	?	?	+	+