

X-marking, Day 7

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<https://kvf.me/x>

Today: X-marking and weak necessity

- von Fintel & Iatridou 2008
- Rubinstein 2021
- Ferreira 2022

Recap from Tuesday

Strong Necessity Modals: *must, have to*

Weak Necessity Modals: *ought, should*

flavors of weak necessity

- (1)
 - a. You ought to call your mother more often.
 - b. Given that it is Tuesday, Morris ought to be in his office.
 - c. To go to Amherst, you ought to take Route 2.

lexical weak necessity

- English *ought, should*
- Dutch *horen*
- Portuguese *dever*

(Ferreira 2022)

X-strong = weak

In von Steinhilber & Iatridou 2008, we described a widespread phenomenon: X-marking on a strong necessity modal can express weak necessity (in addition to the expected exo-X reading).

- (2) Deberia limpiar los platos, pero no estoy
Must+COND clean the dishes but not am
obligado.
obliged
'I ought to do the dishes but I am not obliged.'

endo-X / exo-X ambiguity

(3) tha eprepe na pas me plio
 X_{cons}-(must) COMP go.2sg with boat

can mean:

- you ought to go by boat (the best option; there are others)
- you would have to go by boat (the only option in some hypothetical scenario; say: if you decided to go to Santorini)

Questions

- what is the semantic difference between strong and weak necessity?
- how does X-marking manage to manufacture weak necessity out of a strong necessity?

Ways to make weak necessity

- lexical
- X-strong
- strong + weakener (Vander Klok & Hohaus 2020)
- preference + possibility/ability (example: *prefer-able*)

What do weak necessity modals mean?

How do you weaken a necessity modal?

$$\mathcal{F}(w) \subseteq p$$

- weaken the quantificational force (à la *all* \rightarrow *most*)
- narrow the domain

von Fintel & Iatridou 2008

- strong necessity modals mean what they mean
- their weak cousins add on top of that a secondary ordering source
- they express what holds in the best of the best worlds

goal-oriented example

(4) To get to Amherst,

a. you have to take Route 2.

false: the Pike is another option

b. you ought to take Route 2.

true: it's nicer than the Pike

- modal base: circumstantial
- ordering: goal
- secondary ordering: scenery (e.g.)

Rubinstein 2014

- primary ordering: full commitment
- secondary ordering: negotiable

How does X-strong become weak?

von Fintel & Iatridou 2008

X-marking on a strong necessity modal can signal the addition of a secondary ordering

Effects of X

- modal base widening beyond the default set
- additional ordering beyond what the corresponding strong modal would be sensitive to

Can these be unified?

What we wish we hadn't said

- a metalinguistic X-marked conditional with a hidden antecedent
- “if we were in a context in which the secondary ordering source was promoted, then it would be a strong necessity that...”
- thus, forcing this endo-X effect into the exo-X mold

????

Prolegomena

X = departure from default resolution of modal parameter

?????

Ferreira' subtraction idea

- recall Stalnaker's way of doing widening: subtracting propositions from the context set
- can we formulate X-strong \rightarrow weak as involving subtraction?

yes, if we think of an ordering as a set of ordered pairs

Refining an order

initial order: $\langle a, b \rangle, \langle b, a \rangle, \langle a, c \rangle, \langle b, c \rangle$

refined order: $\langle b, a \rangle, \langle a, c \rangle, \langle b, c \rangle$

in uniform parameter analyses

- multiple premise sets
 - widening: subtracting a premise
 - weakening: adding a premise set (or adding a premise??)
- multiple subset selection functions
 - widening: wider subsets
 - weakening: narrower subset (or additional subset selection)

The prospects for $X=\text{past}$

There's no reason to think that moving the evaluation time of a strong necessity modal into the past would bring an additional ordering source into play: weak necessities aren't necessities that were strong in the past.

Themes from Ferreira 2022

Some observations

- x-marking on the strong necessity modal *ter que* does not yield weak necessity
- x-marking on the (already) weak necessity modal *dever* does not yield an even weaker necessity
- some occurrences of English *ought* translate into non-x-marked *dever* while others translate into x-marked *dever*

Expected exo-X readings

- (5) A: Pedro doesn't need to be at the airport soon.
- B: OK. Se ele precisasse, ele tinha que pegar um Uber.
ok if he needed he SN.PST.IMP take an Uber
- B': OK. Se ele precisasse, ele devia pegar um Uber.
ok if he needed he WN.PST.IMP take an Uber

Ferreira's (99) and (101)

A useful scenario

A nurse is starting her shift and is about to enter a room to check on one of her patients. Without knowing the patient's conditions, she enters the room. After opening the door, she notices that he is awake and greets him. She then reads his medical records which says that he has taken a powerful sedative one hour before and which takes effect in about 50-60 minutes.

Consider "You have/ought to be asleep"

- (6) Você devia estar dormindo. Ferreira's (58)
you WN.PST.IMP be sleeping
- (7) Você tinha que estar dormindo.
you SN.PST.IMP be sleeping

Ferreira: X here signals domain widening: we ignore the known fact that the patient is awake and state that given everything else, they ought to be/have to be asleep.

Not exo-X

I don't know for sure if Pedro is his office, although I expect him to be there. Then I go there to check but what I see is an empty room:

(8) O Pedro devia estar aqui.
the Pedro WN.PST.IMP be here

(9) ??Se eu não estivesse vendo esta sala vazia, o Pedro
If I not were seeing this empty room, the Pedro
devia estar aqui.
WN.PST.IMP be here

Not a past expectation

a slight variation on the example can be constructed in which the relevant evidence is tied to the current state of the patient. For instance, the nurse might be looking at a sophisticated monitor next to the patient's bed which is displaying some sort of brain wave typical of sleeping periods. Knowing that he is awake, she utters (58). In this modified scenario there is no salient past event nor any prior expectation that the patient would be sleeping, and yet (58) is still appropriate and true.

(F58) Você devia estar dormindo.
 you WN.PST.IMP be sleeping

Bad news for X=Past?

Yalcin's problem for vF&I'08

Suppose Jones is in a crowded office building when a severe earthquake hits. The building topples. By sheer accident, nothing falls upon Jones; the building just happens to crumble in such a way as not to touch the place where he is standing. He emerges from the rubble as the only survivor. Talking to the media, Jones says in wonderment one or other of the following:

(10) I ought to be dead right now.

Ferreira's contribution

ought corresponds to both *deve* and *devia*:

- reading 1: epistemic modal base + refined ordering
- reading 2: widened modal base + refined ordering

In Portuguese, the distinction is marked by the choice of O or X marking on top of a lexical weak necessity modal.

Where we are

X-marking on a modal can have the following effects:

exo-X the modal is evaluated in hypothetical worlds

endo-X₁ the modal base is widened

endo-X₂ the ordering is refined

endo-X₃ the epistemic anchor is shifted

We can't guarantee that there aren't more possibilities

Tomorrow

- X-marking on attitudes
- AMA: send questions to fintel@mit.edu