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Factuality effects and counterfactuality marking
with event modals

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- By event modals (often called ‘root modals’ in the Chomskyan tradition) we mean modal verbs expressing a possibility or necessity determined by a situation (dynamic modality) or by norms of behaviour or acts of volition (deontic modality).

He could simply walk out as the door wasn't locked. (the situation allowed it – dynamic)

You may use a dictionary during the exam. (it is allowed – deontic)

- Event modals are opposed to epistemic modals (also called propositional modals), which express the necessary or possible truth of a proposition, or various degrees of the likelihood of a proposition being true.

It must already be late. (It is likely that it is already late.)

You may have heard this name before. (It is possible that you have heard this name before.)

- Factive predicates (Kiparsky & Kiparsky 1970) imply or presuppose the truth of what is expressed in their clausal complements, e.g., *I regret having said that* (cf. **I regret having said this but I actually didn't say it*).
- Counterfactive predicates imply the opposite (*She pretended she was flattered*)
- Non-factives carry no implications of either type (*He said he was annoyed*).
- The cover term 'factuality' is sometimes used to refer to phenomena of all three above-mentioned types, and I will also use the term in this meaning.
- Modals are basically non-factive: *I can go* implies neither that I will go nor that I won't.
- However, some constructions have factive or counterfactive readings, and these will be the topic of my talk.

He could simply have walked out.

??He could simply have walked out and he actually did.

- The topic is not completely new. There has been some discussion on what I will here call ‘factivity effects’.

- Bhatt (2000) notes that when a modal verb is perfective/perfectivized, it becomes factive:

Modern Greek

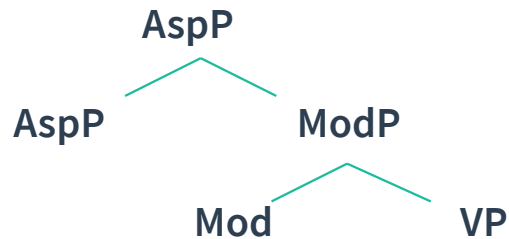
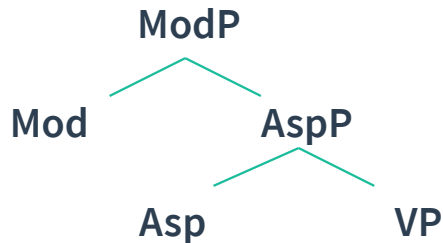
(*Œen*) *mpóresa* *na tou milíso.*

NEG be_able.AOR.1SG that him talk.SBJV.AOR.1SG

‘I have (not) been able to talk to him.’

- In Bhat’s opinion, when a modal verb is perfectivized, it becomes an implicative. An implicative (Karttunen 1971) is a verb implying the truth of its clausal complement, and, in its negated form, the falsehood of its complement. A typical implicative is English *manage*.
- But this is problematic because, e.g., *mporó* is not in itself implicative: only its perfective past tense (aorist) is factive.

- Hacquard (2009) explains the factive reading of perfective event modals by invoking differences in scope: in the case of epistemic modals modality takes scope over aspect and tense, whereas with event modals aspect and tense take scope over modality:



- In some languages (not English, and not Lithuanian either) this can be seen in the formal expression of features, cf. German:

Sie muss es gesehen haben.

‘She must have seen it’ (epistemic)

Sie hätte bleiben können.

‘She might have stayed.’ (dynamic)

- When modality is in the scope of aspect, perfectivity in the modal imposes an interpretation of possibility or necessity as a state bounded in time – at the end of the bounded time interval the state of possibility or necessity passes into a state of actualization.
- There is no boundedness in the case of an imperfective modal, hence no factive reading:

Greek	<i>mporoúsa</i>	<i>na</i>	<i>tou</i>	<i>milíso</i> ‘I could talk to him’
	be.able.IPF.1SG	COMPL	him	talk.SBJV.AOR.1SG

Here reference time is within the (unbounded) interval over which the possibility holds, and from this vantage point it cannot be determined whether the possibility was actualized.

- I call the factive reading with the perfective *mpóresa* ‘I have been able’ a factuality effect. A certain combination of semantic features yields a factive reading, and there is no dedicated linguistic marking of factuality.

- While Hacquard’s account is convincing, the initial empirical observation is not quite correct. Apart from factive readings, constructions with perfective modals also allow for counterfactive readings. Cf. Latin:

Felix, qui potuit rerum cognoscere causas.
happy.NOM.SG.M who.NOM be_able.PRF.3SG thing.GEN.PL know.INF cause.ACC.PL
‘Happy is he who has been able to understand the causes of things.’ (Virgil, *Georgica* 2.409)

et ipsum, quod fecit potuit diligentius facere
and same.ACC.SG.N what.ACC do.PRF.3SG be_able.PRF.3SG with_greater_care do.INF
‘and what she did, she might have done with greater care.’ (Cicero, *Fam.* 14.16)

- And, with the necessity modal *debere*:

Volumnia debuit in te officiosior esse quam fuit...
V.NOM must.PRF.3SG to you.ACC more_attentive.NOM.SG be.INF than be.PRF.3SG
‘Volumnia should have been more attentive to you than she was.’ (Cicero, *Fam.* 14.16)

- The generalization should therefore be corrected: perfective modals have factive or counterfactive readings, but no non-factive readings (as in *mporoúsa na tou milíso* ‘I could talk to him’).
- Modality being in the scope of aspect, perfectivity imposes an interpretation of possibility or necessity as a state bounded in time – at the end of the bounded time interval the state of possibility or necessity passes into a state of actualization or non-actualization.
- In the case of an imperfective modal, say Latin *poterat* (*manere poterat* ‘he could stay’) reference time is included in the interval over which the state of possibility or necessity is valid, and from this reference time it cannot be evaluated whether the possibility/necessity will be actualized or not.

- The situation is slightly different in Slavic, which has a boulder-based aspect system (Bybee & Dahl 1986) with perfectivizing prefixes: the verb as a lexical item is imperfective or perfective.
- In such a system a perfectivized verb becomes implicative, cf. Russian *moč'* and *s-moč'*:

On *mog* *menja* *ubedit'*
he be.able.pst.m me.ACC convince.INF
'He could convince me.'

On (*ne*) *s-mog* *menja* *ubedit'*
he (NEG) PFV-be.able.pst.m me.ACC convince.INF
'He managed (did not manage) to convince me.'

- Apart from effects determined by combinations of grammatical features, there are also lexically determined factivity effects. In English the modals *should* and *have to* are described as expressing different degrees of ‘strength’ of necessity:
 - *should* expresses ‘medium strength deontic modality allowing for non-actualization’ (Huddleston & Pullum, eds., 2002: 186);
 - *have to* expresses strong modality; if it is deontic, it will be objective deontic in the sense that a strong external obligation is imposed on the agent (cf. Huddleston & Pullum, eds., 2002: 206).
- This difference in ‘strength’ seems to account for the factuality differences between
 - I had to help this poor devil.*
 - I should have helped this poor devil.*

What about counterfactive imperfective modals?



- But some imperfective modals are non-factive as well:

Neque sustineri poterant, ni extraordinariae
nor sustain.INF.PASS be.able.IPRF.3PL if.not extraordinary.NOM.PL.F
cohortes se obiecissent.
cohort.NOM.PL REFL.ACC interpose.SBJV.PLUPF.3PL

‘They could not have been withstood, had not the detached cohorts interposed themselves.’ (Livy 7.7.9)

- *poterant* is imperfective, so there can be no factivity effect. Its counterfactive reading apparently results from the counterfactive conditional clause adjoined to the main clause.
- Actually this imperfect indicative is strange when compared with modern European languages.

Logical and illogical constructions?



- Grammarians of Latin and Greek often point out that the Classical languages are more logical here than (many) modern European languages:

Poteram remanere, si voluissem (lit. 'I could stay if I had wanted')

Ich hätte bleiben können, hätte ich es gewollt.

J'aurais pu rester, si j'avais voulu.

Avrei potuto rimanere, se avessi voluto.

- The possibility, they say, was real: I could stay and would have stayed if I had wanted.
- But there was apparently, in some languages, a strong tendency to put the modal verb in the irrealis (conditional, subjunctive...) as well.
- Some modern languages allow both possibilities.

- The two constructions can be seen to compete in modern Polish:

Czy historia Rzeczypospolitej mogła się potoczyć inaczej,
Q history.NOM Commonwealth.GEN be.able.LF.F.SG REFL roll.INF differently

[*gdybyśmy zamiast zajmować się Ukrainą opanowali jakieś małe państewko w Afryce?*]

‘Could the history of the Commonwealth have run a different course [if instead of meddling with Ukraine we had conquered some small country in Africa?]

(PNC)

[*Dziś historycy zgodnie przyznają, że*

historia jego podbojów mogła=by się potoczyć zupełnie inaczej,
history.NOM his conquest.GEN.PL be.able.PST.F.SG=IRR REFL roll.INF quite differently

[*gdyby wówczas zdecydował się oblegać miasto.*]

‘[Nowadays historians unanimously agree that] the history of his conquests could have run a completely different course [if at that time he had decided to lay siege to the town.]’ (PNC)

Counterfactive marking



- Rather than being illogical, the subjunctive (conditional) on the modal verb simply has a function different from that which it has with other verbs. Its function is not to denote the irrealis mood (possibility or necessity), but of its clausal argument: *I could have stayed (avrei potuto rimanere, hätte bleiben können)* means ‘I could stay but did not stay’.
- In this way the irrealis mood (or an alternative strategy of marking used in counterfactive conditionals) is introduced as a means of marking counterfactuality with modal verbs.
- This marking is then generalized to simple sentences as well.

Factuality affects vs counterfactuality marking



- My contention is that certain languages have introduced counterfactuality marking in modal constructions, that is, a strategy specifically imposing a counterfactive reading on a construction that would, if the marking was absent, not show any natural factuality effects.
- This counterfactive marking is distinct from the factuality effects discussed above. The counterfactive reading does not naturally result from a combination of semantic features but is introduced by a special type of marking. It is also specifically counterfactive as opposed to the factuality effect, which may be underdetermined (cf. Latin *potuit* 'has been able' or 'could have').
- It is presumably always borrowed from irrealis (counterfactive) conditional sentences.

- What could be the connection between irrealis conditional clauses and counterfactive marking on modals?
- In probably most cases, event modals contain a certain hidden conditionality. Usually some triggering event is required for the actualization of possibility or necessity.
- E.g. the actualization of the deontic possibility expressed in *You may use dictionaries during the exam* depends on a triggering act of volition on the part of the subject(s) involved. (The addition of the conditional clause in *You may use a dictionary if you want* is therefore, in a sense, semantically redundant; it probably has some pragmatic function.)

Strategies of counterfactivity marking



- In languages with subjunctive / conditional moods, the principal means of marking counterfactivity is mood.

J'aurais dû rester.

Ich hätte bleiben sollen.

- English is special because its modal verbs have highly defective paradigms. That is probably why English has no structural difference between

She must have seen it.

Sie muss es gesehen haben.

(epistemic)

She should have seen it.

Sie hätte es sehen sollen.

(deontic)

- Probably partly because of the grammatical properties of English modals, perfect (anterior) infinitives have become a marker of counterfactivity in English; this marking now extends beyond the domain of modal verbs.

Strategies of counterfactuality marking



- English (BNC)

Tremayne lent me his Volvo to go to the boatyard in the morning, reminding me before I set off that it was the day of the awards dinner at which he was to be honoured.

Mr de Klerk had to call off the rally and a lunch at which he was to have been honoured ...

- But cf. also Italian:

A.	<i>disse</i>	<i>che sarebbe</i>	<i>arrivata</i>	<i>alle</i>	<i>cinque.</i>
A.	say.PST.PFV.3SG	that be.COND.3SG	arrive.PP.F	at.def.F.PL	FIVE

‘A. said she would arrive at 5 o’clock.’

(*arriverebbe* was possible until the 19th century – Squartini 2010)

Why counterfactivity marking?



- The motivation behind the introduction of grammatical means to mark counterfactivity with event modals is pragmatic.
- There is no problem with a sentence like *John could now simply walk out of prison* in a narrative text, because from the vantage point of narrative time no information is expected about the eventual actualization or non-actualization of possibility (or necessity).
- In a non-narrative context, however, the Gricean maxim of quantity will require information to be provided on eventual actualization or non-actualization. This may be provided by different (mainly lexical) means, but if a language develops grammatical means to mark (non-)actualization, this has a pragmatically determined added value.
- A number of languages seem to have introduced counterfactivity marking by borrowing a counterfactive strategy borrowed from other (mainly conditional) constructions.

- Marking of counterfactivity in constructions with event modals (with occasional extensions to other constructions) is well established in Romance and Germanic languages, but absent (or rare), for instance, in Slavic and Baltic.

Lithuanian

Turėjau tau tai pasakyti.
have.to.PST.1SG you.DAT this tell.INF

1. 'I had to tell you this.'
2. 'I should have told you this.'

- Presumably this reflects areal influences: pragmatically motivated marking of counterfactivity (and, concomitantly, factivity) can be achieved by various means, but a regular pattern of grammatical marking, once established in a language, may easily be copied by neighbouring languages.
- It would be interesting to have a complete picture of the situation in European languages.

Thanks for listening!
Stand with Ukraine!