# The imperfect puzzle

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In this paper, we investigate modal uses of the imperfect in Romance languages. We argue that some uses of the modal imperfect behave like Negative Polarity Items (NPIs). That some modal auxiliaries are Polarity Sensitive Items (PSIs) has been proposed by Iatridou and Zeijlstra 2010, 2013. We extend this type of analysis to the (covert) modal component in the Romance imperfect. Capturing the Romance imperfect along these lines raises non trivial questions, among which: i) why do only certain modal uses of the imperfect behave like NPIs? ii) are there modal readings of the imperfect that show propeties of Positive Polarity Items (PPIs)? iii) how can we model polarity sensitivity on covert elements?

**Data.** It has been observed in the literature that the Romance imperfect is a remarkably versatile category, spanning over both indicative as well as modal uses (Bazzanella 1990, Giorgi and Pianesi 1997, 2001, Delfitto 2004, Ippolito 2004, a.o.). As *irrealis*, the imperfect has a range of readings such as epistemic-doxastic, counterfactual, oneiric, etc. (1) illustrates an epistemic-doxastic use of the imperfect in Romanian; a future-oriented adverbial is used to control for the modal (as oposed to past tense) interpretation. The important observation for us here is that without negation (1) becomes deviant, as in (2), see also Ippolito 2004 for similar claims about Italian. The modal imperfect is also licit under other (Strawson) Downward Entailing ((S)DE) operators, such as 'only', 'be surprised to' and questions.

(1)    Ion nu era      mâine    acasă.       (2)    *Ion era      mâine    acasă.
       Ion not be.$\text{IMPF}_{dox}$ tomorrow home        Ion   be.$\text{IMPF}_{dox}$ tomorrow home
       'Ion was not supposed to be home tomorrow.'       'Ion was supposed to be home tomorrow.'

This pattern is very similar to what has been observed for some modal auxiliaries in English, Dutch, German, and Greek in Iatridou and Zeijlstra 2010, 2013. (3) shows that *need* (but not *need to*) is ungrammatical in a simple episodic sentence unless 'licensed' by sentential negation (or other (S)DE operators).

(3)    You need *(not) leave.                      (Iatridou and Zeijlstra 2013:531)

Another piece of evidence in favour of analyzing Romance modal imperfect on a par with overt modal NPIs is their sensitivity to the same type of 'licensors'. As noted by Hoeksema 2008, not all nominal NPI-licensors make structures with modal NPIs licit, as shown in (4). The same restrictions apply to the imperfect in Romance, as illustrated by the Romanian sentences in (5).

(4)    a.   *Everybody who need know, should be informed.
       b.   *If you need know, you'll be informed.           (Iatridou and Zeijlstra 2013:560)

(5)    a.   *Toţi care erau acasă sunt bucuroşi.
          Intended: 'Everybody who was supposed to be at home is happy.'
       b.   *Dacă Ion era la birou, Maria este bucuroasă.
          Intended: 'If Ion was supposed to be in the office, Mary is happy.'

**Analysis.** We adopt the proposal in Giorgi 2010 who decomposes the irrealis imperfect into a tense component and a silent modal component, see (6) where the cluster Mod+T gives rise to the epistemic-doxastic interpretation of the imperfect.

(6)    [$_{CP}$ C [$_{ModP}$ $\varnothing$ [$_{TP}$ IMPF ... ]]]

Building on Iatridou and Zeijlstra 2010, 2013, we capture the NPI-like property of the null modal component in (6) using alternative based framework for PSIs (Krifka 1995, Lahiri 1998, Chierchia 2013, a.o.) transposed to the domain of possible worlds instead of individuals. Parallel to the infelicity of *any* in simple episodic sentences, (2) is ungrammatical because obligatory exhaustification of subdomain alternatives results in contradiction, as shown in (7) (abstracting away from the contribution of the adverbial). The negation in (1) reverses the entailment making the assertion the strongest alternative; thus, exhaustification applies vacuously and the structure is well-formed, (8):

(7)    a.   LF for (2): [Exh [ modal$_D$ [ Ion will be at home tomorrow ]]]
       b.   Among planned worlds in $D_w$, there is a world w s.t. Ion is at home in w and it is not the case that in every $D' \subset D$, there is a world w' s.t. Ion is at home in w' (*contradiction*)

(8)    a.   LF for (1): [Exh [ neg [ modal$_D$ [ Ion will be at home tomorrow ]]]]
       b.   Among planned worlds in $D_w$, it is not the case that there is a world w s.t. Ion is at home in w

We conclude by discussing non-trivial questions posed by the extension of alternative based (semantic/pragmatic) approach to PSIs in the modal domain. We also show that the syntactic approach to polarity sensitivity (e.g. Postal and Collins 2014) scores no better than the semantic/pragmatic one.

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