

# PERFECT AND IMPERFECT MODALS IN ROMANCE SOME SYNTACTIC REMARKS ON THE TENSE/MODALITY INTERACTION

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**Abstract:** This paper addresses the interplay between Tense-Aspect and Modality in Romanian and some Romance languages, in ambiguous sentences that exhibit what has been called “perfective raising”. It is observed that Romanian does not behave like French, for instance, inasmuch perfective forces actuality entailment on modals. I show that this contrast is connected to the structure of Romanian modal sentences: as commonly assumed in the literature, modal verbs in Romanian behave like lexical verbs with clausal complements; they have their own temporal-aspectual domain, which has to obey interpretive constraints. I propose that the ambiguity between root and epistemic readings in the perfective is the effect of two combined factors: perfective/imperfective Aspect and a high degree of grammaticalization of the modal (i.e. monoclausal structures for modals).

**Keywords:** epistemic vs. abilitative readings of modals, actuality entailment (AE), perfective raising, restructuring.

## 1. Introduction: Aspect / Mood interactions

This paper addresses the interaction between T/A and Mood in Romanian, compared to French (and other Romance languages) from a syntactic perspective.

An interesting problem that has been approached in the recent literature has to do with the ways that languages use forms (inflection and modal verbs) to get modal readings. Here are some examples of Aspect-Mood interplay at study in several past years: the have/ought to ambiguity (Bhatt 1999, Butler 2004); modal readings of infinitivals, participles or supines (Bhatt 1999); aspectual and modal habituality.

Another example, to be discussed here, concerns the ambiguities of modals in the perfect: the interaction between Asp and Mood (Condoravdi 2002, Demirdache and Urribe-Extebarria 2005, Laca 2005, Borgonovo 2008). It has been observed that in the languages that distinguish between perfective and imperfective aspect, modals can behave like implicative verbs, as illustrated in (1-3) below. More precisely, if we take French (1) for instance, the perfective aspect involves a root, realistic reading in which the event denoted by the embedded verb did actually take place; the example would be ambiguous between an epistemic and a root reading as indicated by the two paraphrases.

(1)	Pierre a pu ouvrir la porte →It is possible that Pierre opened the door (OK he didn't) →Pierre managed to open the door (*he didn't)	French
(2)	a. Peter could have opened the door b. Peter could open the door	English
(3)	a. Pedro pudo abrir la puerta. Peter could open the door b. Pedro ha debido abrir la puerta Peter has could open the door	Spanish

However, there is a difference between French and Romanian, where this phenomenon does not appear, though Romanian also distinguishes between perfective and imperfective past.

(4) a. Petre a putut să deschidă uşa  
→ \*It is possible that P opened the door  
→ P managed to open the door

In order to understand why this should be so, in this paper I will investigate epistemic modality and its interplay with T/Asp in Romanian in the case of the modals *a putea* ‘can/may’ and *a trebui* ‘must’. I will provide support for the idea that modality can be introduced at different levels in the sentence and give arguments for a structural difference between epistemic, root and metaphysic readings.

## 2. Ambiguity of perfective modals in Romance

## 2.1 Modals and implicatives

Karttunen (1971) observed a difference in behaviour between modals and implicative verbs. The latter but not the former imply the effective realization of the event in the embedded sentence.

(5) He could open the door → he opened the door  
(6) He managed to open the door → he opened the door

As Bhatt (1999) and Hacquard (2006) noted, languages with perfective / imperfective morphology have ‘implicative’ constructions with modals in perfective sentences. Let us look at the different readings that may appear.

Two main types of readings obtain with imperfective modals, namely the epistemic possibility vs. the “root” circumstantial reading (abilitative). The effect of the imperfective is to trigger averidicality, as shown by the fact that no contradiction arises when adding “in fact, (s)he didn’t”.

(7) a. Pierre pouvait gagner la course (ou ne pas la gagner)  
b. Pierre pouvait gagner la course (il avait la meilleure voiture)

(8) a. Pierre pouvait / devait gagner la course  
b. Pedro podia / debia ganar la carrera

(9) a. Pierre peut / doit gagner la course (epistemic/circumstantial)  
b. Pedro debe ganar la carrera (idem)

Perfective modals also allow root vs epistemic readings, but the effect of the perfective is to involve actuality entailment in the root readings (not in the epistemic reading). As a consequence, contradiction obtains in this case when trying to continue with “in fact, (s)he didn’t”.

(10) a. Pierre a pu / a dû gagner la course (epistemic/circumstantial)  
b. Pedro ha podido / ha debido ganar la carrera (epistemic/circumstantial)  
c. Pedro pudo / debio ganar la carrera (epistemic/counterfactual)

(11) a. Pierre a pu<sub>ROOT</sub> gagner la course #et il ne l'a pas gagnée.  
 b. Pierre a pu<sub>EPIST</sub> gagner la course comme il a pu ne pas la gagner.

(12) Pierre a dû<sub>ROOT</sub> sortir #mais il n'est pas sorti.

The difference between readings can be informally stated in the following terms. In the epistemic reading, the Modal Evaluation Time (MET) corresponds to the Utterance Time (UT); T/Asp are read on the lower verb. In the root reading, MET follows the ET; T/Asp are read on the modal. The root reading yields A(ctuality) E(ntailment), hence the ambiguity of perfective modals in those languages that distinguish between perfective and imperfective past.

The same situation does not show up in Romanian where only root readings are available for perfect modals, as shown by the (obligatory) AE. Epistemic and metaphysical readings are absent in (13) with the perfect (compus) modal :

(13) a. Petre a putut să deschidă uşa # și n-a deschis-o. (only root)  
 Peter has could sbj open door-the and did not open it  
*Peter could have opened the door (and he didn't)*  
 b. Petre a trebuit să deschidă uşa # și n-a deschis-o. (only root)  
 Peter has musted sbj open door-the and did not open it  
*Peter must have opened the door and he didn't*

This situation is not predicted by Bhatt (1999) or Hacquard (2006): only root readings are available for perfect *can/may* in Romanian. It is not clear why Asp and Mood do not interact in the same way in French and Romanian, since the two languages distinguish imperfective and perfective aspect in the past and the same type of readings for imperfective modals.

## 2.2 Ambiguity as scope-reversal

The difference between root and epistemic readings in the perfect was analyzed as relying on the relation between T/Asp and Mood by Hacquard (2006), and also Condoravdi (2001), Stowell (2004), Borgonovo and Cummings (2005), Laca (2005 and forthcoming), Borgonovo (2008), Demirdache and Uribe-Exteberria (2007).

Taking Haquard's (2006) approach, the determining factor for the actuality entailment is the possibility of scope reversal of Aspect with respect to the modal. When Aspect is below a modal, the modal will bind Aspect's world argument; when above the modal, Aspect's world argument will have to be bound by the matrix binder, yielding an actual event.

However, there are some exceptions (cf. Mari and Martin 2008): AE not triggered in some abilitative constructions, for instance in the following example:

(14) Notre nouveau robot a même pu repasser des chemises à un stade précis de son  
 our new robot has even could iron shirts at a precise level of  
 développement, mais on a supprimé cette fonction...  
 development, but we suppressed this function...

Mari and Martin (2008) propose that these are in fact a sub-class of abilitative readings and give up the idea of “perfective raising”; they capture the different readings and behaviours by having different classes of abilities in the ontology.

There is also a mystery: metaphysical readings, allowed in Spanish in the perfective, disappear in French perfective sentences; they seem to be partially allowed in Romanian.

(15) a. il peut pleuvoir  
b. #il a pu pleuvoir

Thus, Hacquard (2006) explains the data from French, but not metaphysical counterfactual (CF) readings in Spanish, nor obligatory AE in Romanian perfective modals.

### 3. Syntax of modals, Tense and Negation

#### 3.1 Some properties of Romanian modals

In order to have a better understanding of these contrasts, we have to look more carefully at the syntax of modals in Romanian.

A first property is that Romanian modals, just like in the other Romance languages and as opposed to English, are fully inflected:

(16) Ioana poate / va putea / a putut / putea / ar putea / ar fi putut (să ia trenul)  
Ioana can / will can / has can<sub>PRT</sub> / can<sub>IPF</sub> / would can / have can past. part. (take the train)

Also, *a putea* ‘can’ and *a trebui* ‘must’ come up in bi-clausal structures and take CP (irrealis) complements. The embedded irrealis form, a subjunctive, hosts Agreement inflection, clitic (including negation), and combine with the perfect auxiliary *fi* ‘be’ expressing the perfective (see Dobrovie-Sorin 1994 among others). The impersonal construction, on the other hand, only allows high readings, a matter to which I will return below.

(17) se poate (impersonal)  
se can ‘it is possible that’  
a. ...să (nu)-l iau / să (nu) le iei / să (nu) le ia...  
    part<sub>SUBJ</sub> (not) cl take<sub>1sg/2sg/3sg</sub>  
b. ...să (nu) le fi luat  
    part<sub>SUBJ</sub> (not) cl have taken

In the epistemic (“high”) reading, Romanian modals appear in the impersonal construction: *a putea* with subjunctive clause:

(18) a. se poate ca Ioana să ia trenul  
se can that Ioana să take train-the  
‘It is possible that Ioana takes the train.’  
b. Ioana se poate să ia trenul  
Ioana se can să take train-the  
‘Ioana may take the train.’

Note that the subjunctive has massively replaced the infinitive in the complement position of modal verbs. In what follows, I will argue that there is a clear connection between the possibility of “perfect raising” which is responsible for the two readings in perfective modals, and the fact that Romanian has modals in bi-clausal constructions.

*A putea* is however the only verb in Romanian that also appears with a Bare Infinitive (BI) in a VP-complex (what has been called “restructuring”). We will see that precisely in the case of this verb, “high” readings are possible in the impersonal construction.

(19) a. Ioana poate să ia trenul.  
           Ioana can subj take train-the  
   b. Ioana poate lua trenul.  
           Ioana can take train-the

In this construction, clitic climbing is obligatory (unlike in the other Romance languages), showing that *a putea* + BI has to be analyzed as a verbal complex.

(20) a. Ion o poate (\*o) citi.  
           Ion it can read  
   b. Ion se poate (\*se) rătăci.  
           Ion se can get lost

*A putea* can also allow a passive BI complement:

(21) a. cartea poate fi citită  
           book-the can be read<sub>PART</sub>  
           ‘The book may be read.’

*A trebui* only accepts the impersonal construction. The absence of agreement shows that (22b) cannot be a raising construction, but rather an instance of topicalization.

(22) a. trebuie ca elevii să plece  
           must that students să leave  
           ‘It is necessary that the students should leave.’  
   b. elevii trebuie să plece  
           students must să leave  
           ‘The students must leave.’  
   c. ??elevii trebuiesc să plece  
           students must-3.PL să leave

The embedded structure may be a reduced participial clause (*a trebui*) or a DP:

(23) a. cartea trebuie citită  
           book-the must read<sub>PART</sub>  
           ‘The book must be read.’  
   b. (îmi) trebuie bani  
           me-Dat must money  
           ‘I need money.’  
   c. poate orice  
           can everything  
           ‘(s)he can do anything.’

*A putea* and *a trebui* can take indicative CPs:

(24) a. trebuie că a luat trenul  
must that has taken the train  
b. poate că a luat trenul  
may that has taken the train  
'he might/could have taken the train.'

In this case, they are really "frozen", especially *a putea* developed into a propositional attitude adverbial. The only reading that they get is the epistemic one, cf. section 4.2.

The syntax of Romanian *can* and *must* resembles that of lexical verbs with (clausal) complements (Avram 1999). Crucially, the upper and the lower part of a sentence containing one of these modals contain a T level. As I will argue below, this T level obeys different interpretation constraints for the modals, unlike in French and Spanish where there is only one T level in the sentence (monoclausal constructions with modals). The unavailability of epistemic readings in the perfective is a consequence of the structural makeup of the sentence.

### 3.2 Modal polysemy, Tense and Negation

Although modal verbs in Romanian are inflected, the combination with Tense seems to obey some constraints. In this section, I focus on the "personal" construction of modals.

Romanian modals may appear in the present with the whole range of readings (Zafiu 2005):

(25) a. Ion poate imita / să imite orice sunet; e foarte talentat. (root – ability)  
'Ion can imitate any sound, he is very talented.'  
b. Ion poate imita / să imite pe oricine; n-o să-l pedepsim (root – deontic)  
'Ion may imitate anyone, we will not punish him.'  
c. Ion poate fi / să fie beat la ora asta (non-root: epistemic)  
'Ion may be drunk by now'  
d. Poate să plouă mine. (metaphysical)  
'It may rain tomorrow.'

(26) a. Ion poate pleca / să plece cu trenul (ability; deontic; epistemic)  
Ion may leave by train  
b. Ion trebuie să fie la lucrul la ora asta (deontic; epistemic)  
Ion may be at work by now

Modals in the imperfective exhibit the same polysemy:

(27) a. Ion putea imita / să imite pe oricine (era foarte talentat / avea voie/ cînd voia).  
Ion could imitate anyone (he was very talented/ was allowed to/ when he wanted to)  
b. Ion putea sosi (auzisem poarta / metroul circula normal).  
Ion could arrive (I heard the door / the subway was working properly)

(28) a. Ion trebuia să plece.  
Ion had to go  
b. Ion trebuia să fie pe aproape.  
Ion had to be nearby

However, as Avram (1999) points out, epistemic *a putea* ‘may/can’ and *a trebui* ‘must’ are “questionable, sometimes impossible” in the perfective (*perfect compus* in Romanian), being rarely used in tenses other than the present and the *imperfect*. Avram (1999) suggests that this has to do with the aspectual nature of those verbs:

(29) a. \*A trebuit că știa el ceva.  
           has must that knew he something  
   b. \*A putut să vină de la o clipă la alta.  
       he could subj come from a moment to another

Actually, as pointed out above, modals with the perfective normally involve root readings:

(30) a. Ion a putut să plece cu trenul (#dar n-a plecat).  
       Ion has could subj leave by train but he didn't  
       ‘Ion was able to leave by train (but he didn't).’  
   b. Ion a trebuit să plece cu trenul (#dar n-a plecat).  
       Ion has must subj leave by train but he didn't  
       ‘Ion was forced to leave by train (but he didn't).’

With the perfective in the embedded clause, the epistemic reading is possible, but the modal can only be in the present or the imperfective:

(31) a. Ion poate / putea să fi luat trenul.  
       ‘Ion can / could have taken the train.’

  b. Ion trebuie / trebuia să fi luat trenul.  
       Ion must / must imperf subj aux taken train-the  
       ‘Ion must have taken the train.’

(32) a. \*Ion a putut să fi luat trenul.  
   b. \*Ion a trebuit să fi luat trenul.  
       ‘Ion could / must have taken the train.’

There is, however, one exception: the only construction in which epistemic readings in the perfect are marginally possible is the ‘restructuring’ one, cf (33a-b). This possibility seems to depend on the kind of infinitive embedded: there seems to be a preference for unaccusatives (cf. also Laca forthcoming for Spanish and French), since in (33c) involving an unergative activity, the entailment reading is again the only available. Note the obligatory climbing of the clitic *se* (the presence of the clitic *se* is a hallmark of the impersonal epistemic construal)

(33) a. Ion s-a putut rătăci.  
       Ion se-has could get lost  
       ‘Ion might have got lost.’

  b. S-a putut întâmpla ceva rău.  
       se-has could happen something bad  
       ‘Something bad might have happened.’

  c. Ion a putut cînta.  
       Ion has could sing  
       ‘Ion was able to sing.’

Negation generally scopes over root modals in Romanian (Avram 1999) confirming Picallo's (1990) observation for Catalan.

(34) a. Ion nu poate să vină (root)  
     Ion cannot Subj come  
 b. Ion poate să nu vină (epist)  
     Ion may Subj not come  
 c. Ion nu poate veni (root)  
     Ion not can come  
 d. \*Ion poate nu veni  
     Ion can not come  
     'Ion cannot come.'

(35) a. En Jordi pot no haver sortit  
     the Jordi may not have left  
     'It is possible that Jordi hasn't left yet.'  
 b. En Jordi no ha pogut sortit  
     the Jordi not has could leave  
     'Jordi hasn't been able to leave.'  
 c. Jean ne peut pas venir (root)  
     Jean *ne can pas* come  
     'Jean cannot come.'  
 d. Jean peut ne pas venir (epist)  
     Jean *can ne pas* come  
     'Jean may not come.'

In the negative 'restructuring' construction with a *putea*, epistemic readings seem more plausible, with negation scoping over the modal; again this depends on the type of the verbal complement. The perfective counterpart is also grammatical, with the perfective on the lower verb (but see the observation about the type of verb). I suspect this is an implicature, since the clause gets exclamatory force; on the other hand, this may not be a "pure" epistemic reading, but a metaphysical possibility reading. I will return to this in section 4.3.

(36) a. Ion nu se poate / nu s-a putut rătăci.  
     Ion not se can / not se has could get lost  
     'Ion can't / couldn't get lost.'  
 b. Ion nu se poate / nu s-a putut însela, e prea inteligent.  
     Ion not se can / not se has could be-wrong, is too intelligent  
     'Ion could't be wrong, he is too intelligent.'

There is also a difference between CAN and MUST in Romance: negation may scope over epistemic CAN but not over epistemic MUST; this should be added to some more differences that have been noticed between the two modals, but I will not further address this asymmetry here.

(37) Pierre ne pouvait pas / ne devait pas être à la maison.  
     Petre nu putea / nu trebuia să fie acasă  
     'P couldn't / shouldn't be home.'

### 3.3 Where is Aspect?

Taking scope and morphology seriously, Borgonovo (2008) establishes a classification of the position of Aspect connected with the kind of modal reading obtained. She gives the following possibilities:

Mod T Asp: epistemic T Asp Mod: implicative T Mod Asp: CF?

(38) FR : Pierre a pu sortir. = P. peut être sorti (epist)  
 SP : P. pudo salir = P. puede haber salido. (epist)  
 IT \*P. ha potuto uscire; P. può essere sortito (epist)  
**Mod T Asp**

We see that Italian has transparent morphology; both French and Spanish have the transparent option and an opaque one.

(39) FR : P. a pu sortir (root)  
 IT : P. ha, è potuto uscire (root)  
 SP: P. pudo salir (root)  
**T Asp Mod**

The three languages have transparent morphology.

(40) P. pudo salir = P. pudo haber salido counterfactual (metaphysical)  
**T Mod Asp**

It seems that Romanian is the same as Italian; the two languages have transparent morphology, and Asp is read where it is.

(41) a. \*P. ha potuto uscire; P. può essere sortito  
 b. \*P a putut să plece; P poate să fi plecat  
 P has could subj leave; P can subj be left

The situation looks quite clear. But what about the ‘restructuring’ *a putea*? Here the morphology is less ‘transparent’ – there is no Asp in the lower part of the clause:

(42) a. Ion s-a putut rătăci.  
 b. \*Ion se poate fi rătăcit.

Picallo (1990) argued that low (root) and high (epistemic) readings of modals correspond to their position in the sentence, i.e., for Catalan, in adjunction to VP vs. in Infl. I would like to adopt this type of approach, with the modality introduced at different levels in the sentence. As far as the construction remains bi-clausal, as in most cases in Romanian, the epistemic reading will be available in the impersonal construction, and the root reading in the personal “control” construction.

In the case of restructuring, the two readings are possible, which confirm the type of approach we would like to propose. Epistemic construals require the modal operator to take scope over a proposition (as a consequence, T and Asp are in the scope of the modal), and this is realized in two ways: in languages with monoclausal modal constructions, Asp stays low;

in languages with bi-clausal constructions, the impersonal construction is associated with high readings.

One further question can be asked. As already noticed by Laca (forthcoming), epistemic readings in the perfective are better with unaccusative embedded infinitives. They seem to be allowed in Romanian for the restructuring *a putea* only by this very class of verbs.

The suggestion that I would like to make is that this has to do with an underlying BE obtaining in these structures and providing the raising structure which goes with the epistemic reading. However, more research is needed for a precise analysis.

### 3.4 Conclusion

Let me summarize the findings so far. I have shown, in the lines of previous work in the literature, that Romanian modals are a lexical class, not a syntactic class. I have also made a correlation between the fact that Romanian modals take a subjunctive (bi-clausal) construction, and the split between epistemic and root construals. At least in the bi-clausal construction, these modals reject the epistemic reading in the perfect. In the monoclausal construction of Romanian *can*, this reading may appear with certain unaccusative embedded infinitives, which indicates that epistemic construals rely on a raising structure.

## 4. Non-root readings and the impersonal construction

### 4.1 Other modal/aspectual incompatibilities

The situation that we find reminds of the early generative distinction between control and raising structures in modals. Let me review the argument.

Ruwet (1983) proposed that for French, the modal ambiguity may be a structural one. Verbs that normally do not have a modal meaning may get some modal flavour, precisely when allowing an expletive in their subject position (43b). This modal flavour could be considered an evaluative, attitude-like meaning. In this case, the construction confirms raising diagnostics like idiom chunks (43c). The ‘high’ reading is the one connected to the raising construction, whereas the ‘root’ one is connected to the control construction (no expletive, th-role assignment). So here also we seem to have a « root » reading with the perfective.

(43) a. cet home peut vous surprendre (« structural » modal ambiguity)  
           this man can you surprise  
           ‘This man can surprise you.’  
   b. ça peut vous surprendre  
           ‘This may surprise you.’  
   c. justice peut être rendue  
           ‘Justice may be done.’

The interesting fact is that this contrast also shows up in the case of other verbs, being associated with a change in the verb’s meaning; I illustrate this with the verb *menacer* in (44a-d) and *promettre* in (45a-c); the two verbs exhibit an alternation between a control and a raising behaviour.

(44) a. le toit de la cathédrale menace de tomber  
           the roof of the cathedral threatens to fall  
   b. ça menace de tomber  
           there threatens to fall

- c. la mèche menace d'être vendue  
the beans threat to be spilt
- d. \*la mèche affirme être vendue  
the beans affirm to be spilt

(45) a. ce jeune homme promet d'être un grand pianiste  
this boy promises to be a great pianist

b. ça promet de barder  
there promises to get worse

c. la mèche promet d'être vendue  
the beans promise to be spilt

However, it is not clear that this alternation has to do with a modal meaning. As a matter of fact, the ‘high’ meaning is in some sense modal, close to a propositional attitude-like meaning. Interestingly, the high reading is incompatible with the perfective:

(46) a. le toit de la cathédrale \*a menacé / menaçait de tomber

b. #le jeune homme a promis ( $\sqrt{a}$  fait la promesse) / promettait de devenir président

These data point into the same direction as our observations above. It seems to be the case that some verbs alternate between a raising and a control construction from a syntactic point of view, alongside to a high vs. root reading from a semantic point of view. The high reading is connected to the raising construction, i.e. to the fact that the verb is unable to assign a theta-role to its subject position, and takes only a CP complement; in semantic terms, it behaves like a propositional operator.

If the present observations and analysis are on the right track, we expect that the same ‘implicative’ effect appear in other contexts in Romanian, which has a number of periphrases with raising verbs expressing different relations between events. In fact, this is indeed the case. The ‘implicative’ behaviour seems to overlap the class of modals in Romanian: other Romanian periphrases also reject perfect, namely periphrases with *a urma*, which order a situation in the future with respect to another situation which can be the speech-act situation or another situation in the past. Here also, the perfective is out:

(47) a. Urmează să plecăm.  
follows subj leave.1pl  
'We shall leave.'

b. Urma să plecăm.  
followed subj leave.1pl  
'We were supposed to leave.'

c. \*A urmat să plecăm.  
has followed subj leave

Another future periphrasis in Romanian is the one with *a avea* + *subjunctive*, which exhibits the same behaviour:

(48) a. avea să plece      ‘future in the past’  
had subj leave  
(s)he would leave.’

- b. \*a avut să plece
- c. a avut de citit ‘have-to’, only root  
(s)he had to read’

Note that *a urma* is also a defective, impersonal verb, it only selects a CP complement.

#### 4.2 Impersonal construction and epistemic reading

The Romanian data show that epistemic modals have only one argument, a full sentence. In Romanian, in a structure like (49a), the DP *Maria* would be in a Topic position, where it raised from the subject position of the embedded subjunctive clause. *Se poate* is the invariable, impersonal construction and the DP in front of it originates in the embedded clause:

(49) a. (Maria) SE poate să fi luat trenul.  
Maria SE can să have take the train  
b. \*Eu pot să fi luat trenul / \*Tu poți să fi luat trenul.  
I can să have take the train / you can să have taken the train  
c. Eu se poate să fi luat trenul / Tu se poate să fi luat trenul.  
I SE can să have take the train / you SE can să have taken the train

The behaviour of *a trebui* points into the same direction; the impersonal structure with a full CP in the indicative only gets the epistemic reading:

(50) a. Maria a trebuit să ia trenul. (deontic)  
Maria has must subj take the train  
'Mari had to take the train.'  
b. A trebuit ca Maria să ia trenul (metaphysical)  
It has must that Maria subj take the train  
'It was necessary that Maria take the train.'  
c. (Maria) trebuie că (Maria) a luat trenul (epistemic).  
(Maria) must that (Maria) has taken the train  
d. Maria trebuie să fi luat trenul (epistemic)  
Mary must subj be taken the train  
'Mary must have taken the train.'

Italian *potere*, unlike *dovere* (Rocci 2005) in its epistemic reading is linked to the impersonal construction:

(51) a. Devono essere le cinque, visto che si sta facendo buio.  
'It must be five p.m., given that it's darkening.'  
b. ?Possono essere le cinque, visto che si sta facendo buio.  
'It may be five p.m., given that it's darkening.'  
c. Forse/ può darsi que sono le cinque, visto che si sta facendo buio.

German *können* and Dutch *kunnen* in their epistemic uses are also correlated with the impersonal constructions *[Es] kann sein (daß) / [Het] kan zijn (dat)* (cf. Nuys 2000: 189-192), showing a special affinity between epistemic modality and the syntax of complementation.

Another interesting fact that sets apart the two uses of modals is the fact that the impersonal use of some modal verbs developed into modal adverbs expressing propositional attitudes:

(52) Fr. pouvoir → peut-être que Ph  
 Rom putea → poate (+ că Ph)  
 It potere → può (darsi, essere)  
 English must be, should be → maybe

In the Italian example in (52), we can note a formal difference between the full *potere* verb and the truncated one. A similar phenomenon seems to exist in Romanian, and the truncated form also appears with the epistemic reading rather than with the root one:

(53) a. poa' să plouă  
 can subj rain  
 'it may rain'  
 b. ??elevii mei nu poa' să facă tema la matematică  
 my students not can subj do homework at mathematics

#### 4.3 Impersonal construction and metaphysical reading with perfective modals

In the impersonal construction, the perfective excludes once again the epistemic meaning, but the metaphysical reading seems to be allowed. Interestingly, metaphysical readings may not trigger AE in Romanian (the data are not clear-cut; however the contrast obtains, more clearly with negation cf. 54). Here again, a difference appears between *a putea* and *a trebui* which seems to systematically force the entailment reading:

(54) a. ?s-a putut să plece Ion dar n-a plecat (acum nu se mai poate)  
 se-has could să leave Ion but not has left (now not se still can)  
 'it was possible that Ion leave but he didn't (now it is no longer possible)'  
 b. ??a trebuit să plece Ion dar n-a plecat (acum nu mai trebuie )  
 has must.past.part. să leave Ion but not has left

(55) s-a putut ca Ioana să ia trenul și nu l-a luat  
 'It has been possible for Ioana to take the train and she didn't.'  
 Context: the policemen didn't pay attention, she could do it but she didn't

(56) a. Nu se poate să vină Ion.  
 not se can subj come Ion  
 'it is impossible that Ion came'  
 b. Nu s-a putut să vină Ion.  
 not se has could subj come Ion  
 'it was impossible that Ion came'

What seems to be a metaphysical reading is however a circumstantial reading. For the Romanian data, there is no point to distinguish it from abilities. Actually, what seems to be possible is a special kind of abilitative readings.

(57) a. viața a putut apărea pe Pămînt datorită condițiilor favorabile  
 life has could appear on Earth due conditions-GEN favourable  
 'It was possible that life appeared on Earth due to the favourable conditions.'  
 b. viața n-a putut apărea pe Marte datorită condițiilor defavorabile  
 life has could appear on March due conditions-GEN unfavourable  
 'It was impossible that life appear on March due to the unfavourable conditions.'

(58) Formularele s-au putut înregistra pînă ieri (acum nu se mai poate).  
 forms-the se-have could register until yesterday (now not se more can)  
 'It has been possible to register the forms until yesterday (now it is no longer possible)'

## 5. Conclusion

In this paper, I have shown on the basis of Romanian data that epistemic modals do not have true subjects, do not assign subject theta-roles, and that the distinction between readings has to be stated in structural terms. Two independent T domains appear with Romanian modal sentences, because modal verbs behave like lexical verbs with complements.

The difference in the availability of epistemic readings in the perfective has to be derived from morphological and syntactic differences in the functional makeup of modal sentences: the fact that Romanian does not have true modals but lexical modals that subcategorize for a sentence and take their own T, which has to correspond to the MET (=UT)

Ideally, the readings can be derived from the structure of the complement: VP, AspP, TP, CP. We therefore have the following:

Hierarchy of readings: abilitative > metaphysical > epistemic

Complements of modality: VP AspP TP/CP

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