



## BE and epistemic constructions in Romanian

Elena Soare  
Université de Paris 8 & CNRS UMR 7023

CGG 19 – University of the Basque Country  
April 1-3 2009

## 1. Introduction

- Properties of Romanian Modal epistemic constructions: a better understanding of syntactic mechanisms at work in epistemic modality
- Epistemic Modality and (Perfective) Aspect
- Two ranges of data:
  - Epistemic constructions with modal verbs
  - Epistemic-evidential constructions with modal periphrases

30/03/2009

2

## Ambiguities of modal verbs

- **Scope-reordering of Asp and Mood**
- (1) a. Pierre a pu ouvrir la porte  
b. Pedro pudo abrir la puerta  
→ It is possible that Pierre opened the door (OK if he didn't)  
→ Pierre managed to open the door (\*he didn't)
- (2) a. Petre a putut să deschidă ușa  
Peter has could Subj open door-the  
b. Petre a putut deschide ușa  
Petre has could open door-the  
→ \*It is possible that P opened the door  
→ P managed to open the door
- (2') Se poate ca Petre să fi deschis ușa  
se can that Peter Subj. be opened door-the  
'it is possible that Peter opened the door'

30/03/2009

3

## Epistemic-evidential periphrases

- **BE, future and presumptive**
- (3) a. On sonne. Ce sera le facteur  
b. Je vois des fleurs. Ca doit être ma mère.  
Ce sera ma mère (qui les a apportées).  
C'est ma mère qui les aura apportées  
\*Ma mère les apportera.  
C'aura été ma mère.
- (4) a. o fi citind cartea  
will be reading book-the  
*he might be reading the book*  
b. o fi citit cartea  
will be read book-the  
*he might have read the book*

30/03/2009

4

## Some questions

- Why Romanian modals are less ambiguous in combination with perfect?
- What is the syntactic structure behind the epistemic reading?
- Is there any connection between epistemic constructions with modals and epistemic constructions with periphrases?

30/03/2009

5

## What this paper intends to do

- Support a multiple-layered analysis of modality in the context of bi-clausal vs. mono-clausal constructions of Romanian *can*
- Highlighting the role of BE in epistemic contexts, show that raising and stativity (BE-insertion) play a crucial role in the epistemic constructions
- Propose that the same syntactic mechanisms are at work in modal-epistemic and evidential-periphrastic constructions.

30/03/2009

6

## 2. What makes perfective modals ambiguous

- 2.1. Modals and implicatives
- 2.2. Bi-clausal constructions and unambiguous perfect
- 2.3. Epistemics as clausal-external operators

30/03/2009

7

## 2.1. Modals and implicatives

- Karttunen 1971
  - (5) He could open the door -/→ he opened the door
  - (6) He managed to open the door → he opened the door
- Bhatt 1999, Hacquard 2006
  - Perfective: modals as implicatives - A(ctuality) E(ntailment)
  - (7) Pierre a pu gagner la course
    - ... comme il a pu ne pas la gagner
    - ... \*mais il ne l'a pas gagnée

30/03/2009

8

## 2.1. Modals and implicatives - Types of readings -

- Epistemic : MET = UT; T/Asp on the lower verb
- Root : MET < ET; T/Asp on the modal
  - A(ctuality) E(ntailment)
- Ambiguity of perfective modals in languages that distinguish between perfective and imperfective past.

30/03/2009

9

## Ambiguity as scope-reversal

- Asp and M can be read at different levels
  - The modal moves at LF (Cinque 1990)
  - Aspect moves at LF (Haquard 2006)
  - The modal is inserted at different levels (Stowell 2004, Borgonovo 2008)
- Haquard's 2006 version
  - If Asp > M, AE
    - Aspect's world argument bound by the matrix binder
  - If M > Asp, no AE
    - Aspect's world argument bound by M
  - Not clear why scope-reversal should not obtain in Romanian
  - The counterfactual reading of Spanish modals is a problem

30/03/2009

10

## 2.2. Bi-clausal constructions and unambiguous perfect

- (8) a. Petre a putut să deschidă ușa #și n-a deschis-o.  
Peter has could sbj open door-the and did not open it  
*Peter manage to open the door and didn't open it*  
ROOT ONLY
- b. Petre a trebuit să deschidă ușa #și n-a deschis-o.  
Peter has musted sbj open door-the and did not open it  
*Peter had to open the door and he didn't*  
ROOT ONLY

30/03/2009

11

## Impersonal vs. raising/control structures

- Putea 'can'
  - Impersonal: se poate [<sub>CP</sub> ca [<sub>T/AgrP</sub> DP Subj]]
- (9) Se poate [<sub>CP</sub> ca [Petre să deschidă ușa]]  
se can that Peter subj open door-the
- Sentential adverb: poate [<sub>CP</sub> că [<sub>T</sub> DP Ind]]
- (10) Poate [<sub>CP</sub> că [Petre va deschide ușa]]  
maybe that Peter will open door-the
- DP poate [<sub>CP/MoodP</sub> Subj]  
[<sub>VP</sub> BInf]
- (11) Petre poate [<sub>CP/IMP</sub> să deschidă ușa]  
Peter can subj open door-the
- (12) Petre poate [<sub>VP</sub> deschide ușa]  
Peter can open.Inf door-the

30/03/2009

12

## Impersonal vs raising structures

- Trebui 'must' (invariable)
  - trebuie [CP Subj DP]
- (12) Trebuie ca Petre să deschidă ușa  
must that Peter subj open door-the  
It is necessary that Peter open the door
  - trebuie [CP că DP Ind]
- (13) Trebuie să deschidă Petre ușa  
must subj open Peter door-the
  - DP trebuie [CP Subj] (topicalisation)
- (14) Petre trebuie să deschidă ușa  
Peter must subj open door-the

30/03/2009

13

## Structures and readings

- Impersonal / raising / control structures
  - Putea
    - se poate [CP ca [T/AgRP DP Subj]] EPIST-ONLY
    - poate [CP că [r DP Ind]] EPIST-ONLY
    - DP poate [CP/ModDP Subj] ROOT/EPIST
    - [VP BInf] ROOT/EPIST
  - Trebui (invariable)
    - trebuie [CP ca DP Subj] METAPHYSICAL
    - trebuie [CP că DP Ind] EPIST-ONLY
    - trebuie [CP Subj DP] ROOT/EPIST
    - DP trebuie [CP Subj] (topicalisation) ROOT/EPIST
  - Impersonal bi-clausal constructions embedding CP with overt C are unambiguously epistemic (or metaphysical)
  - Constructions with full DP subjects are ambiguous

30/03/2009

14

## Readings and T/A/M orderings

- Position of Asp and modal reading: Borgonovo (2008)
  - Mod T Asp: epistemic
  - T Asp Mod: implicative
  - (T Mod Asp: counterfactual)
- (14) FR : Pierre a pu sortir. = P. peut être sorti  
SP : P. pudo salir = P. puede haber salido.  
IT \*P. è potuto uscire; P. può essere uscito  
**Mod T Asp > EPIST**
- (15) FR : P. a pu sortir  
IT : P. è potuto uscire  
SP: P. pudo salir  
**T Asp Mod > ROOT**

30/03/2009

15

## Readings and T/A/M orderings

- Italian and Romanian have transparent morphology, as opposed to French and Spanish [which allow reconstruction of Asp on the lower verb].  
**Transparent morphology → unambiguous perfective modals.**
- (16) a. \*P. è potuto uscire; P. può essere uscito  
b. \*P a putut să plece; P (se) poate să fi plecat  
P has could sbj leave; P (se) can sbj be leaved
- What exactly does it mean to have transparent morphology?
  - Separate inflectional layers for the modal and the embedded V.

30/03/2009

16

## Romanian *can* - a restructuring verb

- *A putea* meets the tests for a rizzian restructuring verb, alternating between a monoclausal (+bare infinitive) and a biclausal (+subjunctive) structure (cf. Dobrovie-Sorin 1994, Avram & Hill 2000, Hill 2008)
- (17) a. Ioana poate să plece  
Ioana can Subj.leave  
b. Ioana poate pleca  
Ioana can leave.Inf
- (18) a. Ioana trebuie să plece  
Ioana must Subj.leave  
b. \*Ioana trebuie pleca  
Ioana must leave.Inf

30/03/2009

17

## *A putea* in VP-complex

- *A putea* + Bare Infinitive – a VP: obligatory clitic climbing (19a-b); absence of the inflectional infinitival particle [a] (19c) and perfect auxiliary *fi* 'be'
- (19) a. Petre (nu) (o) poate (\*nu) (\*o) citi  
Petre (not) (her) can read  
b. Petre (nu) (se) poate (\*se) rătăci  
Petre (not) (SE) can lose  
c. \*Petre nu se poate a rătăci  
Petre not SE can (to) lose  
d. \*Petre nu se poate fi rătăcit  
Petre not SE can BE lost

30/03/2009

18

## Subjunctive CP/MoodP

- A *putea* + Subjunctive – a CP: hosts pronominal clitics, negation, and perfect auxiliary *fi* 'be'

(20) *se poate* (impersonal)  
 se can 'it is possible that'

- a. ...*să* (nu)-l iau / *să* (nu) le iei / *să* (nu) le ia...  
 partSUBJ (not) cl take1sg/2sg/3sg
- b. ...*să* (nu) le fi luat  
 partSUBJ (not) cl have taken

30/03/2009

19

## Claim

- The availability of the monoclausal construction is a condition for the ambiguity of perfective modals.
- Unambiguous (root-only) perfect modals in Romanian and Italian correspond to the bi-clausal constructions of modals

30/03/2009

20

## Epistemic Modals = no Perf

- Epistemic-only *a putea* 'may/can' and *a trebui* 'must' in bi-clausal constructions disallow the perfective:
- (21) a. *Trebuie / \*a trebuit că știa el ceva*  
 it-must/ has musted that knew he something
- b. *Poate / \*a putut să vină de la o clipă la alta.*  
 he-can / could come from a moment to another
- With the perfective in the embedded clause, the epistemic reading is possible, but the modal can only be in the present or the imperfective:
- (22) a. *Petre poate / putea să fi luat trenul*  
 Petre can / could Subj. aux taken the train
- (23) a. *\*Petre a putut să fi luat trenul*  
 Petre has could Subj have taken the train

30/03/2009

21

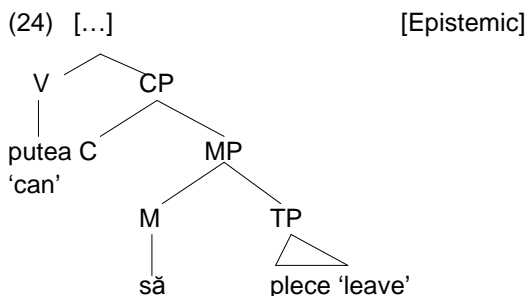
## Towards an analysis

- Multiple-layered modal constructions: the level of insertion of the modal determines the interpretation.
- Since RM have bi-clausal constructions, the "transparent morphology" condition follows: a separate T/Asp level is present on the modal as on the lower verb, obeying semantic restrictions (epistemics cannot be in the scope of perfective T/Asp).
- In the (Romance) epistemic construal, the modal is inserted above T; in Romanian, it can be inserted clause-externally (as a main clause).

30/03/2009

22

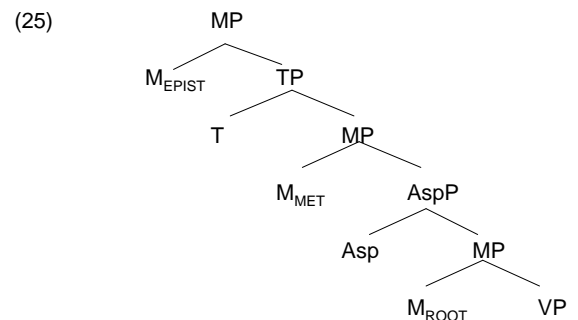
## Romanian bi-clausal construction



30/03/2009

23

## Western Romance (French) monoclausal construction



30/03/2009

24

## Epistemics lack external arguments

- Connection between epistemic reading and impersonal structure
- (26) a. (Maria) SE poate (ca Maria) să fi luat trenul  
Mary SE can Subj have taken the train
- The behaviour of *a trebui* confirms this connection; since it can only have the bi-clausal (+impersonal) structure, it always rejects the perfective in the epistemic meaning:
- (27) a. Maria a trebuit să ia trenul (deontic)  
Mary has must to take the train  
Mary had to take the train

30/03/2009

25

## Epistemics lack external arguments

- (28)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).

30/03/2009

26

## Conclusion

- Epistemic = operator scoping over a CP/TP
- Romanian epistemics are main verbs that select a CP and no external argument.
- The fact that the perfective Aspect stays in the lower clause is a consequence of the bi-clausal construction.

30/03/2009

27

## 3. Monoclausal constructions and epistemic reading

- Prediction: monoclausal constructions of modals should be ambiguous
  - *A putea* in the monoclausal construction allows epistemic reading with a certain class of embedded verbs: unaccusatives, passives, adjectival predicates
- (29) a. Petre s-a putut rătăci  
Petre se-has could lose  
*Petre might be lost*
- b. S-a putut întâmpla ceva rău.  
se-has could happen something bad  
*something bad might have happened*
- c. Petre a putut cânta  
Petre has could sing  
*Petre was able to sing*

30/03/2009

28

## Monoclausal constructions and epistemic reading

- Unaccusatives
- (30) a. frunzele pot/au putut cădea (sau nu)  
leaves can/ could fall (or not)
- b. asta se poate / s-a putut întâmpla (sau nu)  
this can happen / could have happened (or not)
- Passives
- (31) a. Petre poate fi invitat la petrecere (sau nu)  
Peter can be invited to the party (or not)
- b. Cartea poate fi citită (\*e capabilă)  
The book can be read (is able to be read)
- Adjectival predicates (I vs. S-level)
- (32) a. Petre poate fi inteligent  
Peter can be intelligent
- b. Petre poate fi gentil  
Peter can be nice

30/03/2009

29

## Epistemic modality needs BE

- Veters (2004): epistemic modality as a modality of BE (whereas root modality is a modality of DO).
  - Copley (2008): epistemics need statives and reject eventives.
  - My suggestion: in the monoclausal construction, epistemic operators combine with BE + a Small Clause, whereas root modals select activities (agentive vPs).
  - BE lexicalizes in clausal adverbs like *maybe* (modifying the th-grid of *can* like the clitic *se*):
- (33) a. peut-être (il se peut) qu'il viendra / vienne  
can-be (it se can) that he come.Fut / Subj
- b. maybe he will come
- c. Could be !
- d. se poate !  
se can (it is possible)

30/03/2009

30

## Truncated modals and BE

- (34) a. It potere → può (darsi, essere)  
 b. Rom Putea → poate (+ că Ph) / poa' să
- (35) a. Poa' să plouă  
 can to rain  
 'it may rain'
- b. ??Petre nu poa' să facă tema la matematică  
 Peter not can to do homework at mathematics
- c. \*Poa' (poate) că va ploua  
 can that will rain  
 maybe it will rain
- d. \*Poa' ploua  
 can rain.BInf
- Epistemic truncated modals are licensed by an overt/covert BE

30/03/2009

31

## Towards an analysis

- Monoclausal construction of Romanian can

(36) Epistemic : CAN>BE+SC

(37) Root : CAN>VP<sub>agentive</sub>

30/03/2009

32

## More evidence from evidentials

- The presumptive paradigm
- (38) MOD + BE.Inf + GER (Present) / PST.PRT (Past)

Table 1. Morphology

Conditional	Future1	Future2	Subjunctive		Non-fin
aș	voi	oi			citind read.Ger
ai	vei	oi			
ar	va	o	să	FI 'be'	
am	vom	om			citit read.Prt
ați	veți	oți			
Ar	vor	or			

30/03/2009

33

## BE, future and evidentials

- (39) a. On sonne. Ce sera le facteur  
 b. Je vois des fleurs. Ca doit être ma mère.  
 Ce sera ma mère (qui les a apportées).  
 C'est ma mère qui les aura apportées  
 \*Ma mère les apportera.  
 C'aura été ma mère.
- (40) a. o fi citind cartea  
 will be reading book-the  
*he might be reading the book*  
 b. o fi citit cartea  
 will be read book-the  
*he might have read the book*

30/03/2009

34

## Epistemics and evidentials

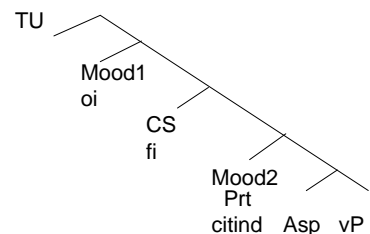
- Indirect evidentiality in Romanian is modal (not a conversational implicature)
  - derived from epistemic modals (a putea and a trebui)
  - in the presumptive paradigm
- Analyses for BE:
  - perfect auxiliary (D'Hulst et al 2004)
  - modal + tense features (Avram & Hill 2008)

30/03/2009

35

## BE in evidentials

- Irimia 2008 adapting Izvorski 1997
    - BE spells out a Consequent State
- (41)



30/03/2009

36

## The role of BE

- A stativizer in the semantics: it turns an event into a state, a prerequisite for epistemic readings
- A raiser in the syntax – raising is another prerequisite for epistemic readings

(42) Mood>BE>SC

o	fi	[Petre citind]
will	be	Peter reading
poate	fi	[Petre inteligent]
may	be	Peter intelligent

30/03/2009

37

## 4. Conclusions

- Epistemic readings depend on the existence of a raising configuration: the Romanian data show that when this configuration does not obtain, veridical readings are induced with past modals
- This configuration is provided by merge of BE with a CP or a Small Clause; this explains why epistemic readings in monoclausal constructions are possible with unaccusatives, passives and adjectival predication
- The same idea can be maintained for the role of BE in the Romanian presumptive paradigm, in agreement with the long-standing intuition of BE as a core raising verb.

30/03/2009

38

## Open questions

- Romanian auxiliary system
  - No HAVE/BE alternation
  - HAVE – realis perfective marker
  - BE – iredis perfective marker
- Control vs raising distinction and root/epistemic distinction
  - Romanian shows the existence of degrees of raising (cf the discussion for French in Rooryck 1990)

30/03/2009

39

## References

- Abusch, Dorit 1997. Sequence of tense and temporal De re. *Linguistics and Philosophy* 20, 1-50.
- Aronst, L. 1999. *Auxiliaries and the Structure of Language*. Editura Universitii Bucuresti.
- Barbiers, Sief 2002. Modality and polarity. In S. Barbiers, F. Beukema, and W. van der Wurff (eds.), *Modality and its interaction with the verbal system*. Amsterdam: John Benjamins, 51-73.
- Bhatt, R. (1999). *Covert Modality in Non-Finite Contexts*. Ph.D. thesis, University of Pennsylvania.
- Condoravdi, Cleo (2002). Temporal interpretation of modals: modals for the present and modals for the past. In D. Beaver, L. D. Casillas Martinez, B. Z. Clark, and S. Kaufmann (eds.), *The Construction of Meaning*. Stanford: CSLI Publications, 59-87.
- Cormack, Annabel and Neil Smith. (2002). Modals and negation in English. In S. Barbiers, F. Beukema, and W. van der Wurff (eds.), *Modality and its interaction with the verbal system*. Amsterdam: John Benjamins, 133-163.
- Demirdache H. & M. Uribe-Echebarría (200). Morfosintaxis e interpretación temporal de los verbos modales. In A. Carrasco, ed. *Ép. Múnel* (1998). Tense and modality. In S. Lagan (ed.), *The Handbook of Contemporary Semantic Theory*. Oxford: Blackwell, 345-358.
- Giannakidou, Anastasia. (1998). Polarity sensitivity as (non-)veridical dependency. *Linguistics Aktuell*.
- Hacquard, V. (2006). MIT PhD Thesis.
- Hornstein, Norbert. (1990). *As time goes by: tense and Universal Grammar*. Cambridge: MIT Press.
- Intidou, Sabine (2000). The grammatical ingredients of counterfactuality. *Linguistic Inquiry* 31:2, 231-270.
- Kantrinen, Lauri (1971). Implicative verbs. *Language* 47(2): 340-358.
- Kaufmann, S. C. Condoravdi & V. Harizanov (2006). Formal approaches to modality. In W. Frawley (ed.), *The Expression of Modality*, 72-106. Mouton-de Gruyter.
- Kratzer, Angelika (1981). The notional category of modality. In H. Eikmeyer and H. Reiser, eds. *Worlds, words and contexts: new approaches in word semantics*. Berlin: Walter de Gruyter, 38-74.
- Kratzer, Angelika (1991). Modality. In A. von Stechow and D. Wunderlich (eds.) *Semantik/Semantics: Ein internationales Handbuch der zeitgenössischen Forschung/An International Handbook of Contemporary Research*. Berlin: de Gruyter, 639-650.
- Laca, Brenda (2005). Tiempo, aspecto y la interpretación de los verbos modales en español. *En Linguistica* 17.
- Laca, B., 2008. On modal tenses and tensed modals. *Cahiers Chronos*.
- Mari, A. & Martin, F., 2007. « Perfective vs Imperfective in French : Kinds of Abilities and Actuality Entailment », talk at Going Romance, Amsterdam 6th-7<sup>th</sup> December 2007.
- Nuyts, J., 2000. *Epistemic Modality. Language and Conceptualization*. Amsterdam, John Benjamins/Picallo, M. Carme (1990). Modal verbs in Catalan. *Natural Language and Linguistic Theory* 8: 285-312.
- Rocchi, A., 2002. On the nature of the epistemic readings of the Italian modal verbs: the relationship between propositional and inferential discourse relations. *Cahiers Chronos*.
- Stowell, Tim (2004). Tense and modals. In J. Guéron and J. Lecarme (eds.) *The Syntax of Time*. Cambridge: MIT Press, 621-635.
- Wumiradaci, S., 1999. Modal Verbs must be Raising Verbs. *WCCFL 18 Proceedings*, S. Bird, A. Camie, J. Haugen, P. Norquest (eds), pp 599-612. Somerville, MA: Cascadia Press.
- Zafiu, R., 2005. "Verbele modale", chapter in *Gramatica limbii române*, Editura Academiei, Bucuresti

30/03/2009

40

... Thank you!

30/03/2009

41