MOODY SUBJUNCTIVE IN ROMANIAN[*]

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1. Overview

This paper discusses aspects of the subjunctive mood in Romanian. We explore the hypothesis that embedded subjunctive clauses in this language can have both *de se* and *non-de se* readings, and can be headed by either *pro* or PRO[1]. We will take the following steps. First, we will argue that in Romanian, the matrix verb, rather than PRO/*pro*, 'decides' the *de se* vs. *non-de se* interpretations of subjunctive clauses; secondly, we will look at the Romanian subjunctive in interaction with the verb *to know*, and finally, we will identify a particular instance of the verb *know* (in addition to the previously attested ones) and sketch a semantic analysis for it.

Two puzzles concern us here. First, in the literature PRO is assumed to give rise to a *de se* interpretation (Chierchia 1989). However, we find unexpected availability of *non-de se* readings in control clauses in Romanian where (1), for example, can be used to report both *de se* and *non-de se* beliefs.

(1) Speră PRO să   ajungă   doctor într-o zi. [*de se / non-de se*]
     Hope$_{3sg}$ Subj.   become$_{3sg}$ doctor one day
     a) 'S/he hopes to become a doctor one day'   [*de se*]
     b) 'S/he hopes s/he becomes a doctor one day' [*non-de se*]

In the *non-de se* case, PRO does not have a bound variable reading; what we have in (1a) is subject/syntactic co-indexation only; semantically, however, the subject 's/he' in (1b) does not necessarily hold the hope about 'her/himself'.

We propose that the availability of *de se/non-de se* readings in Romanian PRO headed constructions depends on the semantics of the verb embedding the subjunctive clause, i.e. it is the choice of matrix verb, and not the embedded PRO subject, that is responsible for the *de se* interpretation. Evidence for this will be presented in section 3 of the paper.

The second puzzle concerns the interpretation of the verb *know*. In contrast with verbs such as 'want' and 'hope', subjunctives embedded under 'know' in Romanian can only have a *de se* interpretation. What's more, it seems that Romanian has two distinct instances of *know*, one of which, to the best of our knowledge, has so far gone unnoticed. Let us consider some illustrations. In

(2), the interpretation of the verb *know* can be captured with Romero's (2005) proposal for *interrogative know*.

(2) Ştiu   cum   să   înot.
     know$_{1sg}$ how   Subj   swim$_{1sg}$
     'I know how to swim.'   → free style, butterfly, etc.

However, Romanian *know* with subjunctive clauses can also receive a different interpretation, reporting the subject's ability to perform an action as self-knowledge, in (3). We label this instance *ability know*.

(3) Ştiu   să   înot.
     know$_{1sg}$ Subj   swim$_{1sg}$
     'I know to swim'.

While both (2) and (3) involve self-ascription, (2) points to a certain manner of performing the action, whereas (3) points to the general ability to perform. Thus, Romanian has an overt way of resolving the ambiguity created by the English *know how* construction, and as we will see in section 4, it has a "built-in" *de se know* which quantifies over *centered possible worlds*[2].

The paper is organized as follows. Section 2 introduces the Romanian subjunctive mood and points out some of the environments relevant to this paper. In section 3, we discuss the availability of *de se* and *non-de se* readings of the Romanian subjunctive, especially in interaction with intensional predicates such as *want* and *know*. Section 4 identifies a new instance of the verb *know* in Romanian in a subjunctive setting and sketches its semantic analysis. Section 5 concludes the paper.

2. The Romanian Subjunctive

The Romanian subjunctive is realized by the subjunctive marker *să*. With some intensional predicates (e.g. *want*), only embedded subjunctive clauses are allowed (4a); other intensional verbs allow only for the indicative (5a); finally, some intensional verbs allow for both indicative and subjunctive clauses in their complements, as in (6):

(4) a. Ion   vrea   **să**   se   joace.   √ subjunctive
         John   want$_{3sg}$ Subj   refl$_3$ play$_{3sg}$
         'John wants to play'.

     b. #Ion   vrea   **a**   se   juca.   # infinitive
         John   want$_{3sg}$ Inf   refl$_3$ play$_{3sg}$
         'John wants to play.'

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[2] Inspired by Anand (2006).

(5)   a. Maria crede/i-a spus/a visat **că**   Ion i-a scris.   √indicative
            'Mary believes/said/dreamt that   John wrote to her.'

       b. #Maria crede/i-a spus/a visat **să** Ion i-a scris.   #subjunctive
            Mary   believes/said/dreamt Subj John wrote to her
            (lit.) 'Mary believes/said/dreamt John wrote to her.'

(6)   a. Maria ştie   **să**   joace tenis. √subjunctive
            Maria knows Subj   play   tennis
            'Maria knows to play tennis.'

       b. Maria ştie   **că**   (Alex) joacă tenis.   √indicative
            Maria knows Ind.   (Alex) plays tennis
            'Maria knows that (Alex/she) plays tennis.'

A property of the Romanian subjunctive is that with intensional verbs it gives raise to both control[3] and obviative[4] readings. Control is optional in subjunctive constructions, thus allowing for flexible binding relations with the main clause[5]. Under a control reading, we have agreement with the main subject and a bound variable interpretation, as in (7a).

(7)   a. Vrea PRO **să**   plece. [control reading]
            want$_{3sg}$ Subj   go$_{3sg}$
            'S/he wants to go.'

       b. (Ea$_i$) vrea   pro/ea$_k$/el   **să**   plece. [obviative reading]
            (she$_i$) want$_{3sg}$ pro/she$_k$/he   Subj   go$_{3sg}$
            'She wants her/him to go.'

Summing up the Romanian facts, so far we have made the following observations: (a) the subject of embedded clauses in control constructions is PRO; (b) *pro* appears in obviative cases, it cannot be coindexed with the matrix subject, and it can alternate with a lexical subject.

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[3] In control constructions the subject of the matrix clause co-refers with the embedded subject.

[4] The term obviation refers to an obligatory disjoint reference effect holding between the subject of a subjunctive complement and the matrix subject (Landau, 2004:856).

[5] This is not possible in Spanish where when the subjunctive is used, the embedded subject has to be of a different person than the matrix subject, in this case, 3rd person (even though the morphology is the same for 1st and 3rd person) as can be seen in (1a); the complement of an intensional verb such as *want* can only be realized as an infinitival clause when the embedded and matrix subjects co-refer, as in (1b):

(1)   a.   Quiero que vaya   b.   Quiero PRO   ir
             want$_{1sg}$ that SUBJ-go$_{3sg}$ want$_{1sg}$ INF-go
             'I want him/her to go.'   'I want to go.'

This puzzle shows that Romanian is different from other Romance languages, such as Spanish, as it can have both PRO and *pro* as subjects of the embedded subjunctive clauses, with different functions (e.g., control vs. non-control). In the next section, we follow up on the distinction between PRO and *pro* headed subjunctive clauses under propositional attitude verbs.

3. *Non-De Se* Readings of the Romanian Subjunctive

According to Chierchia (1989), PRO headed embedded (infinitival and gerund) clauses are inherently *de se*. However, Romanian does not allow embedded infinitival constructions with control verbs, hence PRO is the subject of embedded finite clauses in control constructions, whereas *pro* or an overt NP are the subjects of subjunctive embedded clauses in non-control constructions.

We argue that Romanian PRO constructions allow, in certain conditions, both *non-de se* and *de se* interpretations. The idea is that PRO sometimes is interpreted as a pronoun and the clause it appears in denotes a proposition, while other times, PRO is interpreted as an abstractor and the clause denotes a property; whichever the case, PRO is always 'controlled' (rather than having PRO as always linked to properties, and as such always *de se*, and *pro* as denoting propositions). The following scenarios illustrate these interpretations.

Scenario 1: *Leo is looking at a picture and is hoping that the person in the picture will become a doctor one day.*

In a case such as the one described in scenario 1, the Romanian subjunctive can be used to report *de se* and *non-de se* beliefs, in that it allows us to affirm (8) about Leo, who can either realize, or not, that the person in the picture is himself. The *de se* reading comes about if Leo knows that the desire is about himself, while the *non-de se* reading is available for a situation in which Leo's wishes are not self-related.

(8) Speră PRO să ajungă doctor într-o zi. [*de se/non-de se*]
     Hope$_{3sg}$ Subj. become$_{3sg}$ doctor one day
     a) 'He hopes to become a doctor one day.' [*de se*]
     b) 'He hopes he becomes a doctor one day.' [*non-de se*]

To elaborate on these readings, in the *de se* interpretation, the hoper hopes to become a doctor. Syntactically, PRO moves upwards and at LF it leaves a trace, as in (9b):

(9) a. (lit. Rom. (8a)) He hopes PRO becomes a doctor…
     b. LF: [λ$_i$ t$_i$ becomes a doctor]
     c. The interpretation of embedded clause: λx. λw. x becomes a doctor in w.

In the *non-de se* interpretation, the complement clause denotes a proposition. Given our scenario, this means that Leo does not know that he is the guy in the picture.

(10)   a.   (lit. Rom. (8b)) He hopes PRO/pro$_i$ becomes a doctor…
       b.   LF: λw.[[**PRO/pro$_i$**]]^g becomes a doctor in w
       c.   Interpretation of embedded clause: λw. Leo becomes a doctor
            in w

Another scenario that perhaps shows more clearly the *non-de se* interpretation of the Romanian subjunctive is the following.
Scenario 2: *Dana's son Alex, at six months, has discovered that he can suck (his) fingers. Once in a while, he would reach with one hand and take his other hand and put it in his mouth, unaware that he was holding his own hand. He was probably thinking that it was somebody else's hand, or a different object, otherwise he would not have to make it go to his mouth.*

(11)   Alex   vrea   PRO   **să**   sugă   degetul[6].
       Alex   want$_{3sg}$ Subj   suck$_{3sg}$ finger-the
       a) 'Alex wants to suck his finger.' [*de se*]
       b) 'Alex wants to suck the finger.' [*non-de se*]

These data show that both *de se* and *non-de se* readings are available in the Romanian subjunctive constructions embedded under intensional verbs, and that these interpretations are not dependent on the presence of PRO. This is possible if indeed the Romanian subjunctive can denote both properties and propositions.
       However, not all constructions containing an intensional predicate and an embedded subjunctive clause allow for these interpretations. As it will be shown in the next section, in subjunctive environments, the intensional predicate *know* behaves differently from other attitude verbs such as *want* and *hope*, in that, in contrast to what we have seen above, it makes available only a *de se* interpretation for its complement.

4.   "Ability know"

Romero (2005) discusses different instances of the verb *know*, addressing the declarative, interrogative and concealed meanings of the verb. We discuss an additional instance in Romanian, which to our knowledge has not been observed before. In the philosophical literature, this is known as 'know how' *know*, and we label it here *ability know*. Our claim is that it has some resemblance with *interrogative know* and also with the modal *can*.
       As mentioned before, in Romanian, the verb *a şti* 'to know' behaves differently than other intensional verbs such as *a dori* 'to want' and *a spera* 'to hope'. First, in subjunctive constructions, the matrix subject of the verb *to know*

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[6] It should be noted that Romanian also has a reflexive construction that parallels example (11):
   1.   Alex   vrea   **să-**   **şi**   sugă   degetul. [*de se*]
        Alex   want$_{3sg}$ Subj   Reflx.   suck$_{3sg}$ finger-the
        'Alex wants to suck his finger.'

must be coindexed with the subject of the embedded clause. PRO guarantees this coindexation. Second, a peculiarity of *ability know* is that it can only take a subjunctive complement where PRO only has a *de se* reading. The *non-de se* reading illustrated above is not available with *ability know*. To point out the differences between the usual *to know*-s versus *ability know*, we first look briefly at Romero's (2005) analysis for the different types of *know* and in particular at the declarative and interrogative *know*-s which are of relevance to us here.

The first instance of *know* discussed by Romero (2005) concerns the declarative meaning of this verb (in the indicative), as rendered in (12).

(12) Ştiu   că   înot.
      know$_{1sg}$ that   swim$_{1sg}$
      'I know that I'm swimming'

The sentence in (12) could be uttered, for example, in a situation where there is some *x* who is swimming for the first time and who is being currently watched at it by person *y*. *x* is commenting on *y* being surprised by this, perhaps sudden, swimming, and is informing the surprised *y* that she is in fact aware that she is swimming. According to Romero, indicative *know* has the interpretation in (13):

(13) $[[know_{decl}]] = \lambda p_{<s,t>}.\lambda x_e.\lambda w.\forall w' \in Dox_x(w) [p(w') = 1]$
                                                    (Romero, 2005:5),
      i.e., x knows p in w iff for all w' $\in$ Dox$_x$, p(w') is true based on the
      doxastic alternatives of x in w (what x knows in w)

The denotation in (13) also accounts for the epistemic reading of the verb *to know*. Some more examples are given below:

(14) I know that Paris is the capital of France.

(15) Maria   ştie   că   (ea)/Alex   a   venit   ieri.
      Maria   knows   that   (she)/Alex   Aux   came$_{3sg}$ yesterday
      'Maria$_i$ knows that she$_i$/Alex came yesterday'

Another instance of *know* is the *interrogative know*. For this, Romero (2005:5) adopts Karttunen's (1977) semantics for questions, where "an interrogative clause is a function from worlds to the set of true answers of that interrogative in that world" and Heim's (1994) proposal for the strongly exhaustive use of *know*. An example is given in (16):

(16) Ion   ştie   cine   a   venit.
      Ion   knows   who   Aux   came$_{3sg}$
      'John knows who came'
              is true <u>iff</u> for all John's belief worlds w', the set of true
              answers to the question in the belief world w' is exactly the

same as the set of true answers in the actual world w (Romero, 2005:5).

Another example is given in (17), and the semantics of *interrogative know*, in (18):

(17) Ştiu   cum   să   înot   (în stilul   ăsta).
      $know_{1sg}$ how   Subj $swim_{1sg}$ (in style-the this)
      (lit.) 'I know how swim' (in different styles; defining the manner of
       action, brass, crawl, …)

(18) $[[know_{qu}]] = \lambda q_{<s,<<s,t>,t>>}.\lambda x_e.\lambda w.\forall w' \in Dox_x(w)\ [q(w') = q(w)]$
                                                        (Heim, 1994:9; Romero, 2005:5)

Next, we identify the additional instance of the verb *know* in Romanian and we label it *ability know*. In the following subsection 4.1, we spell out the differences in interpretation between this new *know* and the ones mentioned above, and propose a semantics for *ability know* which takes into account parallelisms with *interrogative know*, and also with the modal *can*.

Even though we are not aware of any linguistic discussion of *knowing how* in Romanian, the general distinction between *epistemic know* and *ability know* has been debated before in the philosophical literature. Gilbert Ryle, among others, has pointed out the fundamental distinction between knowing that something is the case and knowing how to do something. According to Ryle, 'knowledge-how' is an ability (a complex of dispositions), while 'knowledge-that' is rather a relation between a thinker and a true proposition (Jason & Williamson, 2001:411). David Lewis envisioned knowing what an experience is as being able to remember, imagine, and recognize the experience. Possession of such abilities is knowing-how (Lewis, 1990:516; Jason & Williamson, 2001:411). Jason & Williamson, on the other hand, "contest the thesis that there is a fundamental distinction between knowledge-how and knowledge-that" and argue that "Ryle was wrong to deny that "knowledge-how cannot be defined in terms of knowledge that" (1971, p. 215). Knowledge-how is simply a species of knowledge-that" (J&W, 2001:411).

Roughly summing up the arguments, the philosophical debate on this issue has been divided between whether 'knowledge-how' should be considered a subset of 'knowledge-to', or, whether they are completely distinct in interpretation. This issue will not be resolved in this paper, where *knowing how* will be treated as a kind of *de se* knowledge.

In English, *know* constructions can only appear with an infinitival clause when preceded by the complementizer 'how' (or a *wh-* element). The meaning of an utterance such as (19) includes both the knowledge and the ability of performing an action, and also the different "subcategories" of this action, meaning that the person knows, for example, how to stay afloat, and/or also different swimming styles.

(19)   I know how to swim.

(20)   Ştiu   cum   să   înot.
       know$_{1sg}$ how   Subj.   swim$_{1sg}$
       'I know how to swim'

In contrast to English, Romanian has two distinct ways of expressing (19), both structure- and meaning-wise. On the one hand, it can use the *know how* construction seen in English, with the interpretation, for instance, that the swimmer knows different swimming styles. On the other hand, in order to have the interpretation of swimming ability, Romanian makes use of a second option, illustrated in (21):

(21)   a.   Ştie   să   înoate.
            know$_{3sg}$ Subj.   swim$_{3sg}$
            'S/he knows to swim.'

       b.   Ştiu   să   scriu
            know$_{1sg}$ Subj.   write$_{1sg}$
            'I know to write'

As mentioned before, a peculiarity of *ability know* is that it is only possible with a *de se* interpretation. The subjunctive embedded clause always represents a property self-ascribed by the subject of the matrix clause. This correlates with the fact that generally ability is a property, which is what we have in (21) with the embedded subjunctive clause. What (21) specifically points out is the ability aspect of the action.

At this point, one of the questions that arise is in what way does *ability know* differ from the declarative and the interrogative *know*s and also from the modal *can*. Answering this question enables us to give *ability know* a firmer ground on its own right. We look first at *ability know* in comparison with declarative *know*.

4.1 *Ability know* vs. *Declarative know*

Two main differences distinguish declarative *know* from our postulated *ability know*. First, as shown in (22), declarative *know* illustrates factive knowledge and can only be used in indicative constructions and not with the subjunctive mood.

(22)   Ştie   că   Ion   a   venit   ieri   [factive *know* + ind.]
       knows   that   John   Aux   came   yesterday
       'S/he knows that John came yesterday.'

A second important difference is that with the epistemic/declarative *know* the events in the actual world have to support the claim (the subordinate clause must be true so-to-speak[7]), as in (23) where the action has been done before. This is not the case for the subjunctive, in (24), which confirms the ability of the speaker to perform the action, but there is no evidence as to whether the action has actually taken place or not.

(23) Știu   că   înot   bine. [indicative: has been done before]
     know$_{1sg}$ that swim$_{1sg}$ good
     'I know that I swim well.'

(24) Știu   să   înot   bine. [subjunctive: ability without evidence]
     know$_{1sg}$ Subj swim$_{1sg}$ good
     'I know (how to) swim well.'

Also, in (23), the speaker is aware of the fact that he performs the action well. In contrast, in (24) the claim is about the ability of the speaker (the speaker claims that he has the ability to perform the action), not necessarily based on fact (actual swimming).

A similar situation can be found if we look at *ability know* in comparison with interrogative *know*. In this case, we will see that Romanian has a distinct way of encoding/expressing the ability aspect of an action, in contrast with, let's say, the manner of the action.

4.2 *Ability know* vs. *Interrogative know*

English appears to be ambiguous with respect to the reading of the *interrogative know* explained above, whereas Romanian has an explicit way of illustrating and of teasing apart this ambiguity. This is shown in (25) versus (26):

(25) Știu   cum   să   înot.
     know$_{1sg}$ how   Subj   swim$_{1sg}$
     'I know how to swim.'

(26) Știu   să   înot.
     know$_{1sg}$ Subj   swim$_{1sg}$
     'I know to swim.'

For Romanian speakers, the utterance in (26) with the embedded subjunctive has a more specialized meaning. While (25) may have both interpretations – manner and ability, (26) can only be about ability. In the appropriate context, speaking of ability, (25) is either dispreferred or not used at all.

Now recall that we proposed that the meaning of *ability know* also resembles a modal interpretation, in the sense that it has an ability 'built-in'

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[7] See also Farkas (2003).

factor, similarly to the modal *can*. The question here is whether it would be feasible to give this *ability know* the same denotation as for the modal. The answer is no, because they are not interchangeable in the same environments. We turn to the points of difference below.

4.3 *Ability know* Contrasted with the Modal *Can*

The modal *can* may be used with inanimate subjects, while *ability know* cannot, as it can only have a *de se* (self-acknowledgement) interpretation.

(27)   Maşina   poate   să   meargă   repede.
        Car-the can$_{3sg}$ Subj   go$_{3sg}$ fast
        'The car can go fast.'

(28)   #Maşina   ştie   să   meargă   repede.
        Car-the   know$_{3sg}$ Subj   go$_{3sg}$ fast
        'The car knows to go fast.'

Also, in a situation where a person may have had the ability to perform a certain action, but is presently unable of doing so:

(29)   Ştiu   să   dansez,   dar nu pot.
        Know$_{1sg}$ Subj   dance$_{1sg}$, but not can$_{1sg}$
        'I know to dance, but I cannot.'

In a situation where a person is capable of performing a well known or rehearsed action, such as counting in one's sleep, in Romanian, this would be felicitous with the modal, but not with *ability know*:

(30)   Pot   să   numere   în somn.
        can$_{3pl}$ Subj   count$_3$ in sleep
        'They can count in their sleep'

(31)   #Ştiu   să   numere   în somn.
        know$_{3pl}$ Subj   count$_{3sg}$ in sleep
        'They know to count in their sleep.'

In sum, we showed similarities and differences between *ability know* and the other instances of *know* (declarative, interrogative) as well as between *ability know* and the modal *can*. On the basis of this information, we can now propose a semantics for ability know.

4.4 Proposed Semantics for *Ability know*

Ability know reports the subject's ability to perform an action as self-knowledge. In (32) we adopt a *centered possible worlds* semantics for *ability know* (following Anand, 2006:14-15 '*de se* ascription'):

(32) $[[\textbf{know}_{ability}]] = \lambda f_{<e,<s,t>>}.\lambda x_e.\lambda w = 1$ iff
for all $\{<w',x'> \mid <w',x'> \text{ DOX-AB}_x<w,x>\} \subseteq f$, where w',x'
DOX-AB$_x$<w,x> iff <w',x'> is compatible with all the properties
that x in w self-ascribes the ability of performing

The proposal in (32) builds on *de se* ascription. We cannot have plain *de se* ascription of properties, because somebody who knows (how) to swim does not necessarily know that she is swimming. It is about abilities. Thus, the formulation in (32) sketches a way of implementing this idea through quantification over centered worlds in which the subject does the things that in the actual world she believes (*de se*) she can do. The proposal is preliminary, and ideally future work would allow a more detailed compositional analysis.

5.   Conclusions

In this paper we explored the Romanian subjunctive and its use in *de se/non-de se* belief reports. Our account includes the following observations. With some intensional predicates, the subjunctive may have both *de se* and *non-de se* interpretations. Other intensional verbs, such as the verb *to know* in subjunctive contexts, only allow for a *de se* reading. It is the choice of matrix verb, and not the embedded PRO subject, that is responsible for the *de se* interpretation. It was observed that the Romanian subjunctive distinguishes an additional meaning of the verb *know*, which differentiates between action (manner) and ability. We labeled this instance *ability know* and suggested that Romanian has an overt way of resolving the ambiguity created by the English 'know how' construction through this *ability know*. We conclude that *ability know* is specific enough to be granted its own semantic instance and that it resolves the beforesaid ambiguity by having a "built-in" *de se 'know'* which quantifies over centered possible worlds.

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