SENTENCE-LEVEL PRONOMINAL SUBJECTS IN ROMANIAN*

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Abstract: The current paper aims at investigating the interpretive differences between null and overt pronominal subjects in Romanian in intra-sentential environments. In order to do this, we make use of Reinhart's (1983, 1997, 1999, 2000) pronoun resolution strategies, namely semantic variable binding and pragmatic covaluation. More specifically, we hypothesize that null pronominal subjects are interpreted via binding, whereas overt forms get the covaluation interpretation. We argue that the availability of a bound variable reading for null pronouns and that of a covaluation interpretation for overt elements also follows from accessibility theory proposed in Ariel (1990, 1991, 1994). The conclusion shows that the overt pronoun can also act as a variable bound by an operator, but this possibility is blocked by accessibility predictions. Our analysis is supported by a corpus of Romanian examples that take into account different types of antecedents.

Keywords: null pronouns, overt pronouns, binding, covaluation, accessibility.

1. Introduction

Over the years, much of the theoretical linguistic research has given pronominal dependencies a lot of attention. Binding Theory, originally developed by Chomsky (1981), and its subsequent reformulations propose a generative approach to intra-sentential anaphora in which the relation between an anaphoric form and its antecedent is regulated by syntactic constraints[1]. Later work (Reinhart 1983, 1997, 1999, Heim 1993) points out that anaphora resolution is better accounted for if we take into account a combination of syntactic, semantic and pragmatic factors. In response to the problems raised by the purely syntactic account, other theories (Ariel 1990, 1991, 1994) show that anaphora resolution is influenced by notions such as topicality, salience, distance, competition and accessibility. Our analysis of the null/overt pronoun variation makes use of the two strategies of pronoun resolution proposed in Reinhart and of the notion of accessibility described by Ariel. It will be shown that the combination of these two accounts will help us shed some light on the Romanian pronominal subjects. Before tackling the Romanian data, a presentation of the key notions put forward by the two accounts is in place.

2. Binding versus covaluation

The core idea in Reinhart's theory is that there are two strategies for the interpretation of pronouns: a pronoun can either be linked to an antecedent by a grammatical operation in logical syntax called variable binding (pronouns and reflexives are interpreted as variables bound by a λ-operator) or by means of value assignment in discourse (co-reference / covaluation). The two mechanisms are presented in (1) and (2) and are illustrated in (3) and (4):

(1) A-Binding (based on logic and syntax):
α A-binds β iff α is the sister of a λ - predicate whose operator binds β.

* The authors would like to thank the University of Bucharest for the financial support (IDEI UB grant no. 14). This paper is a partial result of the research carried out so far.

[1] Chomsky's (1981) Binding principles state that: 1. An anaphor must be bound in its governing category; 2. A pronoun must be free in its governing category; 3. An R-expression must be free in all domains.

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(2) Covaluation

A pronoun is interpreted via covaluation when it is assigned a value from the discourse storage.

(3) a. Lucie didn't show up today.
b. Lili thinks she's got the flu. (Reinhart 1999)

(4) a. Binding: Lili (λ x (x thinks x has got the flu))
b. Covaluation: (λ x (x thinks z has got the flu)) & z = Lucie)
c. Covaluation: (λ x (x thinks z has got the flu)) & z = Lili)

According to Reinhart, the pronoun she in (3b) can be processed in two distinct ways: by means of binding or by covaluation. Under the first interpretation, she is viewed as a variable which gets bound by the λ - operator as illustrated in (4a). Thus, the predicate refers to the set of individuals who think that they have got the flu and the sentence states that Lili is part of this set and thinks that she herself has the flu. Under the covaluation construal, the free variable z is assigned a value from the discourse storage. If (3b) is uttered in the context of (3a), the pronoun can be identified with Lucie because Lucie is an available discourse entity in this situation. However, the pronoun can also be associated with the entry Lili generating an interpretation as that in (4c).

The conditions under which binding and covaluation are felicitous are given below:

(5) (Variable) binding condition
β can be construed as a variable bound by α iff
a. α c-commands β, and
b. β is a free variable, and
c. In the local domain of α, β is not a pronoun. (Condition B) (Reinhart 2000)

(6) Covaluation Rule I
α and β cannot be covalued if
a. α is in a configuration to bind β, (namely, α c-commands β) and
b. α cannot bind β and
c. The covaluation interpretation is indistinguishable from what would be obtained if α binds β.

Let us look at the example below to understand how these conditions regulate the anaphor-antecedent relationship:

(7) a. Mary admired her.
b. *Mary (λ x (x admired x))
c. *Mary (λ x (x admired y)) & y = Mary)

The free variable x cannot be bound by Mary in (7b) because Condition B is violated and the pronoun is not locally free. This rules out the binding reading. Further, in order to see if the pronoun can be assigned a value by pragmatics, we need to check whether Rule I holds. According to Reinhart, covaluation represents a more distant relation including a comparison between two competing representations with the result that it is possible whenever it triggers a different interpretation from that given by binding. Thus, if we apply Rule I to (7), we observe that Mary is in a configuration to bind the pronoun but binding is ruled out by Condition B. An

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interpretation by covaluation is also ruled out for (7), because binding and covaluation trigger identical semantic interpretations in violation of (6c). An example like (8) illustrates more clearly how binding and covaluation can generate different semantic interpretations:

(8) Every wife thinks that only she respects her husband. (Reinhart 1997)
(9) a. Binding: Every wife (λ x (x thinks that (only x (λ y (y respects y's husband))))
b. Covaluation: Every wife (λ x (x thinks that (only x (λ y (y respects x's husband))))

(9a) states that every wife thinks that she is the only one who respects her husband, that is to say she thinks that other wives do not respect their husbands. On the other hand, when the possessive is interpreted via covaluation, the sentence entails that every wife thinks that she is the only one who respects her husband which means she thinks that other wives do not respect her husband.

3. Accessibility Theory

Interestingly, Ariel (1990, 1991, 1994) offers an approach that can account for anaphora resolution within and across sentences. She proposes that the choice of referring expression used to retrieve a previously mentioned entity relies on the notion of degree of accessibility. Thus, there is a correspondence between anaphoric expressions that code a specific degree of accessibility and the salience of the antecedents they are in search of. The more salient the antecedent, the higher is the degree of accessibility coded by the referring expression used to resume it. Ariel dubs anaphoric expressions "accessibility markers" and proposes the following ordering to represent their degree of accessibility:

(10) zero < reflexives < agreement markers < cliticised pronouns < unstressed pronouns < stressed pronouns < stressed pronouns + gesture< proximal demonstrative (+ NP) < distal demonstrative (+ NP) < proximal demonstrative (+ NP) + modifier < distal demonstrative (+NP) + modifier < first name < last name < short definite description < long definite description < full name < full name + modifier

According to this ranking, the null pronoun is the highest accessibility element of all and, thus, it will retrieve a highly accessible antecedent, while names and definite descriptions are much lower in accessibility and will be identified with less salient referents. The low or high degree of accessibility associated with a specific referring expression is thought to be influenced by three factors: informativity, rigidity (the ability to refer to a unique referent) and attenuation (phonological size). The more informative, rigid and stressed an anaphoric expression is, the lower the degree of accessibility it is associated with. The less informative, rigid and attenuated an element is, the higher the degree of accessibility it codes. It follows that zero pronouns resume more salient antecedents than overt pronouns since they code a higher degree of accessibility.

The degree of accessibility coded by an antecedent is determined by the interaction of several factors: saliency (given by grammatical function, high vs. low physical saliency, order of mention), competition between antecedents, distance (the larger the distance between anaphor and antecedent, the lower the degree of accessibility), unity (the greater the cohesion, the higher the accessibility of the referent). Thus, according to Ariel, the most highly accessible antecedents are the discourse participants (i.e the speaker and the hearer) and the

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discourse or sentence topic (the subject of a sentence). The examples below show how accessibility theory works:

(11) The feed pipe lubricates the chain, and it should be adjusted to leave a gap half an inch between itself and the sprocket. (Ariel 1994: 11)

In the example above, the pronoun it can be understood to refer to either the feed pipe or to the chain. However, taking into account accessibility, the unstressed pronoun is a high accessibility marker in English so it is in search of a highly accessible antecedent. Since the subject/topic of a sentence is more accessible than the object, the feed pipe is the intended antecedent for the pronoun. Next, let us have a look at another example:

(12) a. Jane$_i$ kissed Mary$_j$, and then she$_i$ / *$_j$ kissed Harry.
b. Jane$_i$ kissed Mary$_j$, and then SHE*$_i$ / $_j$ kissed Harry. (Ariel 1990: 65)

In (12b), the stressed pronoun is lower in accessibility than the unstressed one; hence it cannot be identified to the subject Jane which is highly accessible. It actually refers to the object Mary which is a less accessible antecedent. In (12a) the unstressed pronoun codes a high degree of accessibility, thus being dependent on the most salient antecedent which is Jane.

4. The null-overt distinction in Romanian

For Romanian, we propose that null pronouns are interpreted via binding whereas overt pronominal subjects get the covaluation interpretation (Reinhart 1983, 1997, 1999, Heim 1993). In our analysis, accessibility theory (Ariel 1990, 1991, 1994) sketched above plays an important role in capturing the null-overt variation, as will be shown shortly.

The most important factor that will be taken into account in our study is the type of the antecedent involved. We want to check whether all types of antecedents can establish an anaphoric relation with the two types of pronouns via both binding and covaluation.

4.1 Proper names

We first look at sentences in which the antecedent is a proper name. Consider (13) below ([e] stands for the null pronoun):

(13) Ion crede că [e] / el e inteligent.
Ion thinks that [e] / he is intelligent
'Ion thinks that he is intelligent.'

The null pronoun in (13) is linked to the referent Ion by binding. More precisely, it is turned into a variable which gets bound by the λ- operator. Thus, the matrix predicate denotes the set of individuals who think that they are intelligent and the sentence entails that John is part of this set and thinks that he himself is intelligent.

We propose that the overt pronoun allows a binding construal too, since all the conditions for variable binding are satisfied, that is to say the pronoun is turned into a variable, it is c-commanded by the antecedent and Condition B is not violated. However, the overt form also admits a covaluation reading in which *el* 'he' remains free, being eventually given a value from the discourse storage. *El* is identified with Ion in this situation, because Ion happens to be the only available discourse entry at this point. If the discourse contained

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more entries say – Ion and Ben – the null pronoun could have linked to Ben. The interpretation triggered by assigning a value from the discourse to *el* 'he' states that Ion thinks that somebody else, not himself, is intelligent and all the members of the set assign the property of being intelligent to this specific person. Covaluation is possible because it yields a different semantic interpretation from that generated by binding.

The interpretations triggered by the two pronouns are illustrated below:

(14) a. the null pronoun - John (λ x (x thinks x is intelligent)) – binding
b. the overt pronoun - ?John (λ x (x thinks x is intelligent)) - binding
- John (λ x (x thinks y is intelligent) & y = John) - covaluation

So far, we have established that zero pronouns act as bound variables, while overt forms can be resolved via both binding and covaluation. However, accessibility theory (Ariel 1990, 1991, 1994) gives priority to the null pronoun over the full form to be processed via binding. This is because an antecedent in subject position is highly accessible and salient, so that the highest accessibility marker will be used to establish an anaphoric relation with an NP in that position. According to Ariel's hierarchy, a zero pronoun displays the highest degree of accessibility. It is higher than an overt pronoun so it will be preferred over its overt counterpart to retrieve the referent John. Therefore, the overt pronoun which is more informative, rigid and unattenuated than the null pronoun should look for a less salient antecedent some place else in the discourse. It will be associated with the discourse referent John which happens to be the only one available at this point. It follows that overt pronouns could allow an interpretation by binding given that Reinhart's conditions for variable binding are satisfied. Nevertheless, accessibility theory strengthens that idea that binding is more suitable for zero forms, while covaluation suits the overt pronouns better.

4.2 Definite descriptions

With definite descriptions, the two pronouns receive the same readings as with proper names. The null form is interpreted by means of binding, whereas the overt pronoun can get both the covaluation and the binding interpretation. Consider the following example and its representations in (16):

(15) a. Băiatul crede că [e] / el e inteligent.
boy. the thinks that [e] / he is intelligent
'The boy thinks that (he) is intelligent.'

(16) a. the null pronoun - The boy (λ x (x thinks x is intelligent) – binding
b. the overt pronoun - ?The boy (λ x (x thinks x is intelligent)) - binding
- The boy (λ x (x thinks y is intelligent) & y = John) - covaluation

Under the binding interpretation**,** the matrix predicate denotes the set of individuals who think that they are intelligent and the sentence entails that 'the boy' is part of this set and thinks that he himself is intelligent. Under the covaluation construal, the reference assigned to the free variable happens to be the boy. 'The boy' and 'he' refer independently, but they happen to refer to the same entity in the discourse. Accessibility again blocks the binding construal for overt pronouns. The null pronoun refers to the subject 'the boy' because it occupies the highest position in the sentence (the Spec IP) and is thus extremely salient. The overt pronoun

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can search for a more distant referent, a covaluation reading sounding more natural as far as it is concerned.

4.3 Indefinite descriptions

Indefinite descriptions give rise to the same interpretations as far as the null/overt variation is concerned. Consider:

(17) Un băiat crede că [e] / el e inteligent.
a boy thinks that [e] / he is intelligent
'A boy thinks that (he) is intelligent.'

(18) a. the null pronoun - A boy (λ x (x thinks x is intelligent) – binding
b. the overt pronoun - ?A boy (λ x (x thinks x is intelligent)) - binding
- A boy (λ x (x thinks y is intelligent) & y = John) - covaluation

4.4 Quantifiers

Further, turning to sentences with quantified NPs, the same situation holds true. Semantically, overt pronouns are expected to allow the covaluation and the binding interpretations, whereas null forms get bound by the lambda operator only. The examples below are relevant:

(19) Nimeni nu crede că [e] / el va pica examenul.
nobody not think that [e] / he will fall exam.the
'Nobody thinks that he will fail the exam.'

(20) a. the null pronoun - Nobody (λ x (x thinks x will fail the exam)) – binding
b. the overt pronoun - ?Nobody (λ x (x thinks x will fail the exam)) - binding
- Nobody (λ x (x thinks y will fail the exam) & y = John)- covaluation

(21) Fiecare băiat crede că [e] / el va izbândi in viață.
every boy thinks that [e] / he will succeed in life
'Every boy thinks he will succeed in life.'

As shown in the preceding section, binding is subject to c-command which means that only a very restricted syntactic configuration can permit a bound variable construal. The quantified NP subject is in Spec IP from where it can c-command both pronouns. Condition B is met, therefore both pronouns can get bound by the quantifier. In accessibility terms, however, the null form should be interpreted as coreferent with the subject (a highly accessible antecedent) because it is the highest accessibility marker. The overt pronoun, coding a lower degree of accessibility should be coreferent with something other than the topic of the sentence.

Summing up, it has been shown that at sentence level, null pronouns are interpreted via binding. Overt pronouns get the covaluation reading, but contrary to our expectations, they can also act as bound variables if we assume a syntactic-semantic interpretation only. Accessibility theory proposes a preference of the null forms overt the overt ones to retrieve an antecedent in the current focus of attention. Thus, the null pronoun which codes the highest degree of accessibility in Romanian being less informative, less rigid and more attenuated than the overt form, are used to refer to the element in Spec IP, the highest position in the

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sentence. The overt pronoun which is lower in accessibility will thus be linked to a less salient referent which can be found somewhere else in the discourse.

4.5 Overt pronouns as bound variables

It is interesting to note, however, that there are certain syntactic environments in which only overt pronouns can act as bound variables because null pronouns are not permitted. As noted by Montalbetti (1984) for Spanish, inside PPs, overt pronouns can be interpreted as bound variables because empty forms are not felicitous. Romanian seems to pattern like Spanish in similar situations as shown by the following example:

(22) Fiecare băiat vrea ca Maria să iasă cu el / *[e].
every boy wants that Maria to get out.SUBJ with he
'Every boy wants Maria to go out with him.'

In (22), the use of the null pronoun is ungrammatical; therefore the overt form can be construed by means of binding. Under the binding interpretation, (22) receives the following reading: given a set of boys consisting of John, Ben, Tom and Bill, each of them wants to go out with Maria. It seems that (22) can also receive the covaluation reading if the pronoun is given a value from the discourse storage or if the utterance is accompanied by a pointing gesture towards a person salient in the current communication situation. In this case, the sentence entails that every boy in the set consisting of John, Ben, Tom and Bill wants Maria to go out with a specific 'him' indicated by a pointing gesture. However, the analysis of null versus overt pronouns in object positions is beyond the scope of this article and will constitute the subject of future research.

In addition to the case noted above, when focal particles such as *şi* 'too', *chiar* 'even' or *numai* 'only' are present, empty forms are ruled out and only overt pronouns get bound by the quantifiers. This is illustrated in (23) and (24).

(23) Nici un student nu se gândeşte că numai el / *[e] a luat notă bună.
no a student not self thinks that only he has taken mark good
'No student thinks that only he has got a good mark.'
(24) Fiecare student se gândeşte că şi el / *[e] a luat notă bună.
every student self thinks that even and he has taken good mark
'Every student thinks that even he has got a good mark.'

Another situation in which overt pronouns can get the binding interpretation and zero forms are excluded, appears when these elements occupy the post-verbal position which is a focal environment (Zubizarreta 1996). In preverbal position (a topical position), full pronouns cannot be interpreted as bound variables unlike the empty forms. In (25) the overt pronoun in postverbal position is bound by *fiecare student* 'every student' just as its null counterpart in preverbal position in (25). Note, however, that the null form is ruled out in post-verbal position because phonologically null forms cannot be focused. Thus, we claim that the impossibility of using a null form in post-verbal focused positions makes possible the interpretation of their overt counterparts as bound variables.

(25) Fiecare student crede că va reuşi EL.
every student thinks that will succeed HE
'Every student thinks that he will succeed.'

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(26) Fiecare student crede că [e] va reuşi.
every student thinks that will succeed
'Every student thinks that he will succeed.'

5. Conclusion

The goal of this paper has been to provide an analysis of the Romanian pronominal subjects at sentence level. We aimed at investigating whether the use of a null pronoun versus the use of an overt form gives rise to different interpretations. Thus, it has been observed that the null-overt contrast is visibly encoded in the distinction between variable binding and covaluation (Reinhart 1983, 1997, 1999) in Romanian. When the zero pronoun is used, it is interpreted by binding. When its overt counterpart is used, it can get both the binding and the covaluation construal, but the former is eliminated by accessibility theory (Ariel 1990, 1991, 1994). This was because null pronouns are considered to be high accessibility markers; hence they prefer to corefer with the topic of the sentence. Overt forms, on the other hand, are regarded as lower accessibility markers which should link to less accessible antecedents (elements which are not the sentence topic). To back up our analysis, we looked at sentences with different types of antecedents. We have not investigated all the contexts in which the null-overt contrast may appear in Romanian. For example, deeply embedded clauses seem to suggest the same idea that null pronouns prefer to be locally bound, while overt pronominal subjects are interpreted through pragmatics. However, the investigation of such contexts as well as that of other structures displaying the null-overt distinction will have to be left for further inquiry.

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