

# THE ALTERNATION NULL-OVERT IN THE INTERPRETATION OF PRONOUNS IN DISCOURSE

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**Abstract:** This paper examines the difference in interpretation between null and overt third person singular pronouns in subject position in Romanian from a Centering perspective (Grosz and Sidner 1986, Grosz et al. 1995, Brennan et al. 1987). Our goal is to verify two hypotheses. First, we argue that the null pronoun is preferred over the overt one when it co-refers with the center of the previous sentence. Secondly, we claim that null pronouns are generally used in Continue transitions, while overt subjects occur in Shift transitions. The conclusion shows that, in Romanian, the null pronoun encodes the most prominent entity of the preceding utterance which has been identified with the subject in most of the cases discussed. The general tendency of null pronouns to appear in Continue transitions has also been verified, although we have also found situations in which overt forms are used to mark continuity.

**Keywords:** null pronouns, overt pronouns, salience, continuity, coherence

## 1. Introduction

Over the years, different theories have accounted for how anaphoric expressions can be linked to their antecedents at the discourse level. Centering Theory (Grosz and Sidner 1986; Grosz et al. 1995), a theory which examines the relation among center of attention, choice of referring expression and discourse coherence, has also looked into the problem of pronoun resolution (Brennan et al. 1987). In line with other cross linguistic studies that investigated the alternation null-overt (Kameyama 1985, 1986; Walker et al. 1990, 1994, Di Eugenio 1990, 1998, Turan 1996) and given the core ideas proposed by Centering, we hypothesize that the null pronoun is preferred over the overt one to resume the most salient term of the previous sentence. Typically, the subject has been identified as a strong indicator of salience and thus as the center of attention in the next utterance. For Romanian, we first need to determine how salience is assigned to a certain element, and then check whether we are on the right track with our hypothesis. Further, the connection between Centering transitions and the null-overt alternation will be explored.

To examine these issues, we have used constructed examples and texts taken from newspapers and narratives. The paper first presents a brief survey of Centering, and then proceeds to apply the theory to the Romanian examples. Section 4 contains the results of our study.

## 2. Centering

Centering Theory (Grosz and Sidner 1986, Grosz et al. 1995, Brennan et al. 1987) has been developed as a mechanism to handle anaphoric relations within a discourse segment, continuing the research on discourse structure advanced by Grosz and Sidner (1986).

An important concept within the centering model is that of centers of attention. They are defined as discourse entities whose function is to link an utterance to other utterances in the discourse. Basically, there are two types of centers: forward-looking centers and backward-looking centers. Thus, a discourse segment (DS) is made up of a sequence of utterances  $U_1, \dots, U_m$ . Each utterance is given a list of forward-looking centers,  $Cf(U_n)$  which is, in fact, a list of all the discourse entities under discussion that represent possible antecedents to which subsequent referring expressions can relate. The  $Cf(U_n)$  are ranked in the Cf-list according to

the degree of salience assigned to them by a speaker. Their prominence is determined by the following grammatical configuration hierarchy: subject > direct object > indirect object > adjuncts. The highest ranked element, the subject, is the least oblique argument and becomes the first element of the Cf( $U_n$ ); it is the most salient entity predicted to be the Cb of the following sentence. For this reason, it is also called the preferred center, Cp( $U_n$ ).

In addition to the set of Cfs, each utterance is assigned a backward-looking center, Cb( $U_n$ ). The Cb is the highest ranked entity in the previous utterance ( $U_{n-1}$ ) that is realized in the current utterance too. It is also called the preferred center of the prior sentence, representing a kind of anchor to the preceding utterance. It stands for the entity that the current sentence is about, a kind of topic of discussion. Each utterance has exactly one Cb except for discourse initial utterances which have no Cbs.

Centering Theory has a system of constraints and rules that govern the relation between pronouns and the potential antecedents in the Cf-list. They are presented below.

Constraints:

- a. There is precisely one Cb, which means that each  $U_n$  has exactly one backward-looking center.
- b. Locality of Cb( $U_n$ ). The Cb for  $U_n$  is chosen from the set of forward-looking centers of the previous sentence  $U_{n-1}$ . Cb( $U_n$ ) cannot be from Cf( $U_{n-2}$ ).
- c. Cb( $U_n$ ) is the highest-ranked element of Cf( $U_{n-1}$ ) that is realized in  $U_n$ .

Rules:

- a. If some element of Cf( $U_{n-1}$ ) is realized as a pronoun in  $U_n$ , then so is Cb( $U_n$ ).
- b. Continuing is preferred over retaining which is preferred over smooth shifting. The last transition is preferred over rough shift.

There are also three types of transitions from one utterance to the next that affect coherence: continue, retain and shifting. Note that the third transition has been further divided by Brennan et al. (1987) into ‘smooth shift’ and ‘rough shift’. Their definitions are given below:

Center Continuation: Cb( $U_{n+1}$ ) = Cb( $U_n$ ), and this entity is the most highly ranked element of Cf( $U_{n+1}$ ). In this case, Cb( $U_{n+1}$ ) is the most likely candidate for Cb( $U_{n+2}$ ) it continues to be Cb in  $U_{n+1}$ , and continues to be likely to fill that role in  $U_{n+2}$ .

Center Retaining: Cb( $U_{n+1}$ ) = Cb( $U_n$ ), but this entity is not the most highly ranked element in Cf( $U_{n+1}$ ). In this case, Cb( $U_{n+1}$ ) is not the most likely candidate for Cb( $U_{n+2}$ ), although it is retained as Cb in  $U_{n+1}$ , it is not likely to fill that role in  $U_{n+2}$ .

Center Shifting: Cb( $U_{n+1}$ )  $\neq$  Cb( $U_n$ ). The new backward-looking center is different from the old one. Shifting is further divided into:

Smooth Shift: Cb( $U_n$ ) = Cp( $U_n$ ).

Rough Shift: Cb( $U_n$ )  $\neq$  Cp( $U_n$ ).

Now, consider the following examples which illustrate the three transition phases:

- (1)
  - a. John<sub>i</sub> wanted to go out last night.
  - b. He<sub>i</sub> called Mary<sub>k</sub>.
  - c. He<sub>i</sub> invited her<sub>k</sub> to a posh restaurant.

- (2) a. John<sub>i</sub> wanted to go out last night.  
 b. He<sub>i</sub> called Mary<sub>k</sub>.  
 c. She<sub>k</sub> yelled at him<sub>i</sub>.
- (3) a. John<sub>i</sub> wanted to go out last night.  
 b. He<sub>i</sub> called Mary<sub>k</sub>.  
 c. She<sub>k</sub> has always loved going to posh restaurants.

In (1) above, the pronoun *he* encodes a Continue transition since the Cb in both (1b) and (1c) is the most salient element realized in the immediately preceding utterance that is also mentioned in the sentence under discussion. Example (2), on the other hand, illustrates a Retain since the Cb in (2c) is the same as that of (2b), but it is no longer the preferred center. In (3), the shift of attention has changed from John to Mary. John is no longer realized in the last sentence so it stops being a Cb. Mary is the new entity the sentence is concerned about. Moreover, it is in subject position which makes the transition a Smooth Shift.

The sentences above show that there is a strong relation between the highest ranked element, the use of the right anaphoric expression in subsequent utterances and coherence. The coming pages will explore how this combination influences the choice between null or overt pronouns in Romanian.

### 3. Ordering potential antecedents in Romanian

Recent research in languages that display the null-overt alternation of pronouns (Kameyama 1985 and 1986, Walker et al. 1990 and 1994 in Japanese, Di Eugenio 1990 and 1998 in Italian, Turan 1996 in Turkish) shows a general tendency with respect to the anaphoric potential of *pro* versus its overt counterpart. That is to say, in all these pro-drop languages, the null pronominal subject encodes a continue transition which means that it is used to realize the center of the previous utterance, i.e. the most salient entity. We want to verify whether this tendency applies to Romanian as well. In order to do this, first it is necessary to investigate which are the factors that determine the salience of an entity in Romanian. As shown in the previous section, forward-looking centers in a sentence are ordered according to the degree of salience assigned to them by the speaker. Among these possible antecedents, a specific one is the most privileged and is predicted to be the backward-looking center of the following sentence. For Romanian, we will look at the following factors that may give prominence to an element: sentence-initial position, grammatical hierarchy, psychological verbs and the subjective point of view.

#### 3.1 Sentence-initial position

According to Gordon et al. (1993), sentence-initial position contributes to the salience of an entity in the Cf-list in English. They conducted psycholinguistic experiments and discovered that the Cb is preferentially realized as a pronoun rather than a repeated name. To put it differently, it seems that pronouns are more felicitous than full NPs when they realize the Cb of the current utterance, which is the Cp of the previous one. In order to check whether prominence in Romanian is influenced by the initial position of the sentence, we will examine the construction ‘NP<sub>1</sub> ..... NP<sub>2</sub>’. The examples below show that when NP<sub>1</sub> is the subject in initial position and NP<sub>2</sub> the object (direct or indirect) in non-initial position, the null pronoun in the subsequent utterances can link to both of them yielding ambiguity. The reversed situation with the object NP<sub>1</sub> in initial position and the subject NP<sub>2</sub> in non-initial position lead us to the same results.

- (4) a. Ion<sub>i</sub> l- a întâlnit pe George<sub>k</sub>.  
 Ion him.ACC has met PE George  
 ‘Ion met George.’  
 b. Ø<sub>i/k</sub> Era obosit.  
 Ø<sub>i/k</sub> was tired  
 ‘(He) was tired.’
- (5) a. Pe George<sub>k</sub> l -a întâlnit Ion<sub>i</sub>.  
 PE.ACC George him has met Ion  
 ‘Ion met George.’  
 b. Ø<sub>k/i</sub> Era obosit.  
 Ø<sub>k/i</sub> was tired  
 ‘(He) was tired.’
- (6) a. Ion<sub>i</sub> i-a adus un hamster lui George<sub>k</sub>.  
 Ion him.DAT has brought a hamster to George  
 ‘Ion brought George a hamster.’  
 b. Ø<sub>i/k</sub> E un mare iubitor de animale.  
 Ø<sub>i/k</sub> is a big lover of animals  
 ‘He loves animals very much.’
- (7) a. Lui George<sub>k</sub> i-a adus un hamster Ion<sub>i</sub>.  
 to George him.DAT brought a hamster Ion  
 ‘Ion brought George a hamster.’  
 b. Ø<sub>k/i</sub> E un mare iubitor de animale.  
 Ø<sub>k/i</sub> is a big lover of animals  
 ‘He loves animals very much.’

All the examples above give rise to ambiguous readings as far as the empty pronoun is concerned because it can relate both to the entity in initial position (whether subject or object) and to that in sentence-final position (whether subject or object). This makes us suggest it is not the sentence-initial position that contributes to the prominence of an element in Romanian. Note, however, that in the sentences above the objects we considered are all arguments, obligatory elements required by the verb. If instead of an argument object we use an adjunct, the null pronoun in the next sentence realizes only the subject not the object as well, as in (4)-(7). See (8) and (9) below:

- (8) a. Ion<sub>i</sub> a ajuns acasă târziu ieri potrivit lui George<sub>k</sub>.  
 Ion has arrived home late yesterday according to George  
 ‘John arrived home late yesterday according to George.’  
 b. Ø<sub>i/\*k</sub> Era foarte obosit.  
 Ø<sub>i/\*k</sub> was very tired  
 ‘(He) was very tired.’
- (9) a. Potrivit lui Geroge<sub>k</sub>, Ion<sub>i</sub> a ajuns acasă târziu ieri.  
 according to Geroge, Ion has arrived home late yesterday  
 ‘According to George, John arrived home late last night.’  
 b. Ø<sub>i/\*k</sub> Era foarte obosit.  
 Ø<sub>i/\*k</sub> was very tired  
 ‘(He) was very tired.’

The fact that *pro* in (8) and (9) can only realize the subject, irrespective of its position in the sentence, indicates that arguments rank higher than adjuncts in Romanian and that sentence-initial position plays no role in influencing salience.

### 3.2 Grammatical hierarchy

A large number of CT researchers (Grosz and Sidner 1986, Grosz et al. 1995, Kameyama 1985, Brennan et al. 1987) point out that subjecthood is significant in determining salience. They order the entities in the Cf according to grammatical roles - Subject > Object(s) > others – as suggested by the following sentences:

- (10) a. John<sub>i</sub> apologized to Ben<sub>k</sub>.  
b. He<sub>i</sub> had not meant to offend him<sub>k</sub>.

In their view, it is natural to link *he* to John and *him* to Ben and not the other way round. This is not dictated by the semantics of the sentence; rather it is due to the fact that the subject position is considered to be the most prominent one and items occurring in this position are preferred antecedents for subsequent pronominal reference.

Likewise, Brennan (1995) conducted several psychological experiments and found out that the subject position is reserved for salient entities, while less prominent entities are introduced in object position. She discovered that when entities are introduced as objects, speakers tend to repeat them as full NPs in subject position before realizing them as pronouns. This backs up the centering hypothesis that the highest ranked entity in the Cf list is the subject. Brennan's example is relevant in this way. The basketball player forty-one is introduced as the object in the first utterance and is repeated as a full NP in subject position in the next utterance before being pronominalized:

- (11) a. Number thirty passes it of to ..... forty-one.  
b. Forty-one goes up for the shot  
c. and he misses.

The general tendency in Romanian seems to pattern like the English data. Example (12) shows that the subject is ranked higher than the object. The null pronoun links to the subject not to the object of the previous sentence. The situation in which the null pronoun refers to the object yields an unnatural reading. At least, this is how we perceive it as native speakers.

- (12) a. Ion<sub>i</sub> l-a invitat pe George<sub>k</sub>.  
Ion him.ACC has invited PE George  
'John invited George.'  
b. Ø<sub>i</sub> /\*Ø<sub>k</sub> L<sub>k</sub>-a servit cu o bere.  
Ø<sub>i</sub> /\*Ø<sub>k</sub> him.ACC has served with a beer  
'(He) served him a beer.'

We have previously shown that, in most cases, the null subject realizes an entity evoked in subject position. It cannot co-refer with an entity evoked in object position unless the latter is brought into the spotlight. This means that the element evoked in object position must be placed in subject position to acquire the status of the highest ranked entity. This way, it can be realized with an empty pronoun. Turan (1996) points out that the above situation holds for Turkish and dubs it the "Center Promotion Rule for Turkish. The same idea was also

supported by Brennan's (1995) experiments as shown above. If we look at some Romanian examples, we observe a similar tendency. This represents more evidence that salient entities are introduced in subject position as opposed to object position. Consider (13) below:

- (13) a. Ion<sub>i</sub> a încercat să rupă cartea<sub>k</sub> în două.  
 Ion has tried to tear book the in two  
 'John tried to tear the book into two pieces.'
- b. Dar cartea<sub>k</sub> era bine legată.  
 but book. the was well bound  
 'But the book was bound well.'
- c. Ø<sub>k</sub> Avea o copertă groasă.  
 Ø<sub>k</sub> had a cover thick  
 '(It) had a thick cover.'
- d. și Ø<sub>k</sub> era cusută cu ață.  
 and Ø<sub>k</sub> was sewn with thread  
 'and (it) was sewn with thread.'

'The book' in (13a) which occurs in object position has to be repeated subsequently in subject position in order to be referred to anaphorically with a null pronoun. If we skip (13b) and try to continue (13a) with (13c) and (d), the discourse fails to be coherent. The same lack of coherence can be observed if we omit (14b) below:

- (14) a. Fata<sub>i</sub> a adus o băătură într-un pahar de cristal pentru Ion<sub>i</sub>.  
 girl. the has brought a drink in a glass of crystal for Ion  
 'The girl brought a drink in a crystal glass for John.'
- b. Ion<sub>i</sub> a luat paharul.  
 Ion has taken glass. the  
 'John took the glass.'
- c. Ø<sub>k</sub> S-a uitat la el o secundă.  
 Ø<sub>k</sub> has looked at it a second  
 '(He) looked at it for a second.'
- d. și Ø<sub>k</sub> l-a băut încet uitându-se în ochii fetei.  
 and Ø<sub>k</sub> it.ACC has drunk slowly looking into eyes. the girl  
 'and drank it slowly looking into the girl's eyes.'

Summing up, the data presented above suggest that elements in subject position in Romanian seem to be more prominent than entities in object position which means that subjects rank higher than objects.

### 3.3 Psychological verbs

As observed by Turan (1996), in Turkish, the objects of some psychological verbs rank higher than the subjects, therefore they can be realized by null pronouns in subsequent utterances. Psychological verbs assign an Experiencer theta-role to one of their arguments, either the subject or the object. If the object is assigned an Experiencer role, the subject can be given either an Agent or a Theme role. In Turkish, an Experiencer object ranks higher than the subject if the latter is assigned a Theme role. It follows that the Theme in the subject position is thematically lower than the Experiencer in the object position. However, when the subject is an Agent, it ranks higher than the Experiencer.

In Romanian, psychological verbs such as *a calma* 'to calm down', *a liniști* 'to soothe', *a îngrijora* 'to worry', *a speria* 'to scare', *a supara* 'to annoy', *a încanta* 'to delight', *a surprinde* 'to astonish', *a amuza* 'to amuse' assign equal salience to both their objects and subjects. In the following examples, both the subjects and the objects of the utterances can be realized by a null pronoun and the resulting sentences are equally coherent.

- (15) a. *Tratamentul<sub>i</sub> l-a calmat pe Ion<sub>k</sub>.*  
treatment.the him.ACC has calmed PE.ACC Ion  
'The treatment calmed down John.'
- b. *Ø<sub>i</sub> Fusese descoperit de un medic celebru cu doi ani în urmă.*  
Ø<sub>i</sub> was discovered by a doctor famous with two years in track  
'(It) had been discovered by a famous doctor two years ago.'
- b'. *Ø<sub>k</sub> A început să se simtă mai bine.*  
Ø<sub>k</sub> has started SĂ REFL feel.SUBJ more good  
'He started feeling better.'
- (16) a. *Noile măsuri<sub>i</sub> l-au încântat chiar și pe Ion<sub>k</sub>.*  
new measures him.ACC have delighted even PE.ACC Ion  
'The new measures delighted even John.'
- b. *Ø<sub>i</sub> Î<sub>k</sub> ofereau șansa să-și continue studiile.*  
Ø<sub>i</sub> him. DAT offered chance. the SĂ him DAT.REFL continue. SUBJ studies.the  
'(They) offered him the chance to continue his studies.'
- b'. *Ø<sub>k</sub> A început deja să-și facă planuri de viitor.*  
Ø<sub>k</sub> has started already SĂ him.DAT.REFL make.SUBJ plans for future  
'(He) has already started to make plans for the future.'

In all the structures above, the subjects in the a sentences are assigned the Theme theta-role. We suggest that the Theme subject and the Experiencer object associated with psychological verbs rank equally in Romanian. This means that they can both be referred to by using a zero pronoun. However, let us see what happens when a psychological verb assigns an Agent role to its subject instead of a Theme.

- (17) a. *Ion<sub>i</sub> l-a supărat pe George<sub>k</sub> intenționat.*  
Ion him.ACC has annoyed PE George deliberately  
'John annoyed George deliberately.'
- b. *Ø<sub>i</sub> I<sub>k</sub>-a folosit mașina fără să-i ceară permisiunea.*  
Ø<sub>i</sub> his has used car.the without SĂ him.DAT ask permission.the  
'(He) used his car without asking for permission.'
- b'. *\*Ø<sub>k</sub> / Iar acesta<sub>k</sub> a hotărât să nu-i mai vorbească niciodată.*  
\*Ø<sub>k</sub> / and this<sub>k</sub> has decided SĂ not him.DAT more talk.SUBJ never  
'(He) decided not to talk to him anymore.'

In (17), the subject is not a Theme anymore, it is an Agent who acts deliberately to achieve the psychological changes on the direct object. We suggest that only the Agent subject can be realized with a null pronoun in the next sentence as shown in (17b). The use of a zero pronoun to link to the direct object results in incoherence as (17c) suggest. It is felicitous if it realizes the subject. However, the Experiencer object can be realized as a demonstrative in subsequent structures and the sentence is felicitous.



To sum up, the discussion so far indicates that the null pronoun can be used to relate to both the Theme subject and Experiencer object of psychological verbs, the resulting structures being equally coherent. On the other hand, when the subject has the agentive role, it ranks higher than the Experiencer object and is the only entity referred to anaphorically by an empty pronoun. These findings also support the hypothesis that the subject is the most salient entity on the forward-looking center list.

### 3.4 Subjective point of view

It has been observed that in English and Turkish (Turan 1996), entities introduced in non-subject rather than subject position are referred to by null pronouns when there is a change from an objective to a subjective point of view. As pointed out by Ehrlich (1990) and Wiebe (1990 and 1994), the objective point of view is associated with events presented objectively and independently of any character's consciousness. In contrast, subjective sentences reflect the beliefs, thoughts, emotions, judgments of the characters which may be true or false. They are signaled by subjective elements such as exclamations, epithets or verbs denoting private states. Such verbs can be perceptual like *see, hear, think, look at, feel*, emotive like *hate, like, love*, intellectual like *remember, believe, wonder*, reflecting entities from a character's consciousness. They trigger a subjective point of view bringing the entities in object position to the center of attention by projecting them through a character's consciousness.

Turning to the Romanian data, we observe that the subjective point of view makes the object position conspicuous enough to be realized with an empty pronoun in subsequent utterances. In (18b), the null subject realizes the Cp of the previous utterance, namely Ion. The use of the perceptual verb *think* triggers a subjective point of view which means that the indirect object *Maria* is perceived from Ion's perspective. In this way, *Maria* becomes a salient entity which can be realized with a null pronoun in the next utterance.

- (18) a. Ion<sub>i</sub> închise ochii.  
ION closed eyes. the  
'John closed his eyes.'
- b. Ø<sub>i</sub> Se gândi la Maria<sub>k</sub>.  
Ø<sub>i</sub> REFL thought at Maria  
'(He) thought about Mary.'
- c. Ø<sub>k</sub> Nu se schimbase deloc în ultimii ani.  
Ø<sub>k</sub> not REFL changed at all in last years  
'She had not changed at all over the past years.'

Likewise, in (19a), *Maria* is seen from the man's perspective which enables it to become a prominent entity, the Cp. Hence, its realization with a null pronoun in (19b).

- (19) a. Bărbatul<sub>i</sub> îi aruncă o ultimă privire Mariei<sub>k</sub>.  
man. the her.DAT trew a last look Maria  
'The man glanced at Maria for the last time.'
- b. Ø<sub>k</sub> Era mai frumoasă ca niciodată în rochia aceea lungă.  
Ø<sub>k</sub> was more beautiful like never in dress. the that long  
'(She) was more beautiful than ever in that long dress.'



### 3.5 Other factors

Apart from the factors analyzed above that may cause entities in object position to rank higher than those in subject position in Romanian, Braşoveanu (2003) identifies three more: world knowledge, focus and syntactic agreement. The first one is illustrated below:

- (20) a. Maria<sub>i</sub> l-a văzut pe Ion<sub>k</sub>.  
 Maria him.ACC has saw PE Ion  
 ‘Maria saw Ion.’  
 b. Ø<sub>k</sub> Se căsătorise deja cu Ioana.  
 Ø<sub>k</sub> REFL married already with Ioana  
 ‘(He) had already married Ioana.’

(Braşoveanu 2003: 3)

Since we have specific knowledge about how the world functions, we know that people get married to partners of the opposite sex. This enables us to interpret the null pronoun in the second utterance as being coreferential with Ion not with Maria.

Further, when the entities evoked in object position are focused, that is to say when they are phonetically stressed, their realization by a null pronoun in subsequent structures is clearly felicitous and coherent. An example is given below.

- (21) a. PE ION<sub>i</sub> l-a văzut Maria<sub>k</sub>.  
 PE. ACC Ion him.ACC has saw Maria  
 ‘Maria saw ION.’  
 b. Ø<sub>i</sub> / ?? Ø<sub>k</sub> Era într-un Ford.  
 Ø<sub>i</sub> was in a Ford  
 ‘(He/She) was in a Ford.’

The empty subject in (21b) can establish a co-reference relation with both the object and the subject of the preceding utterance. However, the situation in which it co-refers with the direct object is more plausible as the latter is phonetically focused and thus more salient than the subject.

Finally, syntactic agreement may force a reading in which the zero pronoun is used to realize the direct objects of the preceding utterance as shown below:

- (22) a. Un elev<sub>i</sub> are o prietenă<sub>k</sub>.  
 a pupil has a friend  
 ‘A pupil has a friend.’  
 b. Ø<sub>k</sub> Îl<sub>i</sub> respectă.  
 him.ACC respects  
 ‘(She) respects him.’

### 3.6 Concluding remarks

This section has investigated ordering forward-looking centers in Romanian discourse. It has been shown that, in general, entities evoked in subject position are more salient than those introduced in object position, which means that the former are realized via null pronouns in subsequent utterances. This supports the centering hypothesis that the highest ranked element in the Cf list is the subject. We believe our examples also backed up the assumption that in Romanian, the null pronoun encodes the most salient entity in the previous utterance, which

has been identified with the subject in most of the cases discussed. Interestingly, we have discovered that psychological verbs assign equal salience to both their Theme subject and Experiencer object contrary to the findings in other languages. However, when the subject is assigned the agentive role, it has been shown to rank higher than the Experiencer object which constitutes more evidence in favour of the idea that salient entities are placed in subject position in Romanian. Nevertheless, it seems there are several exceptions to the generalization observed above. Certain rhetorical relations enable objects to rank higher than subjects hence being referred to via null forms. Further, we have identified other situations in which null pronominal subjects realize the object rather than the subject of the previous utterance: the subjective point of view which brings entities in object position to the center of attention, world knowledge, focused objects and syntactic agreement.

#### 4. Null vs. Overt subjects in Romanian

This section is devoted to investigating the distribution of zero vs. overt Romanian subjects with regard to the centering transitions described in section 1. Following di Eugenio (1990 and 1998) and Turan (1996), we propose that null subjects are typically used in Continue transitions, while overt pronouns encode center Shifts. In a nutshell, empty pronouns encode the idea of continuity, whereas overt subjects signal change, interruption and discontinuity.

##### 4.1 Subjects in a continue transition

It has been suggested that Continue is the easiest to process of all centering transitions because the center of attention is the same in successive sentences. In a Continue transition, the Cb of the current utterance is the same as that of the previous one and is also the Cp. By keeping the same Cb, the speaker signals to the hearer that the same entity is in the spotlight in consecutive utterances.

In line with most of the research done in other pro-drop languages (di Eugenio 1990 and 1994, Kameyama 1985 and 1986, Turan 1996, among others), we argue that null subjects typically encode continue transitions, i.e. the center of attention remains the same in successive utterances. Evidence comes from constructed examples and texts taken from newspapers and narratives. For instance, in the following constructed example, we cannot use an overt pronoun in any of the subsequent utterances without affecting the coherence of the discourse. By keeping the same center of attention (Ion) in (23a) – (23d), the writer signals to the reader that the entire discourse is about that particular entity. The use of the null pronoun in consecutive utterances to realize Ion signals discourse coherence and referential continuity.

- (23)
- a. Ion<sub>i</sub> s-a dus la cumpărături cu mașina<sub>k</sub>.  
Ion SE has gone at shopping with car. the  
'John went shopping by car.'
  - b. Ø<sub>i</sub> A stat două ore în trafic.  
Ø<sub>i</sub> has stayed two hours in traffic  
'(He) spent two hours in traffic.'
  - c. În cele din urmă, Ø<sub>i</sub> a ajuns la piață.  
in those from track Ø<sub>i</sub> has arrived at market  
'Eventually, (he) got to the market.'
  - d. și Ø<sub>i</sub> a făcut cumpărăturile necesare.  
and Ø<sub>i</sub> has done shopping. the necessary  
'And (he) did the necessary shopping.'

Likewise, the text below supports our assumption regarding the use of null pronouns in Continue transitions.

- (24) a. Lomberg<sub>i</sub> a apărut în blugi și tricou.  
Lomberg has appeared in jeans and T-shirt  
'Lomberg showed up wearing a pair of jeans and a T-shirt.'
- b. Ø<sub>i</sub> Părea mai degrabă un DJ decât omul care rezolvă viitorul planetei.  
Ø<sub>i</sub> seemed more soon a DJ than man.the who solves future.the planet.the  
'(He) seemed more like a DJ than the man who handles the planet's future.'
- c. Ø<sub>i</sub> A făcut glume bune  
Ø<sub>i</sub> has made jokes good  
'(He) made good jokes.'
- d. și Ø<sub>i</sub> a atras ... audiența prin exemple anecdotice.  
and Ø<sub>i</sub> has attracted audience.the through examples anecdotic  
'And (he) attracted the audience's attention through anecdotic examples.'
- (Cristian Ghinea, *Dilema Veche* 192)

The same observations regarding the behaviour of null subjects are supported by Manoliu-Manea (1993) who investigates the Romanian null-overt alternation from the point of view of discourse pragmatics. According to her, when the role and referent of an entity remains constant in successive utterances, the use of the empty pronoun is required. On the other hand, a strong pronoun signals to the reader that the center of attention of  $U_{n-1}$  has changed and we are dealing with a new entity, a new agent / initiator. The following example from Caragiale's narratives is used by Manoliu-Manea (1993):

- (25) a. Madam Popescu<sub>i</sub> mai sărută o dată dulce pe maiorașul<sub>k</sub>.  
madam Popescu more kisses one time sweetly PE.ACC major.the  
'Mrs. Popescu kisses her dear major sweetly once more.'
- b. Ø<sub>i</sub> Îl<sub>k</sub> scuipă să nu-l deoache  
Ø<sub>i</sub> him.ACC spits SĂ not him.ACC cast.SUBJ an evil eye on  
'(She) spits at him for fear he might be bewitched by the evil eye.'
- c. și Ø<sub>i-l</sub><sub>k</sub> lasă jos.  
and Ø<sub>i</sub> him.ACC let down.  
'and (she) puts him down.'
- d. El<sub>k</sub> a pus sabia în teacă.  
he has put sword.the in sheath  
'He put the sword into the sheath.'
- e. Ø<sub>k</sub> salută militărește  
Ø<sub>k</sub> greets like a soldier  
'(He) salutes.'
- f. și Ø<sub>k</sub> merge într-un colț al salonului.  
and Ø<sub>k</sub> goes in a corner of drawing room.the  
'(He) goes to one of the corners of the drawing room.'
- (Ion Luca Caragiale, *Momente și schițe*: 86)

Utterances (25a) – (25c) reflect a Continue transition describing the activities performed by Mrs. Popescu. The overt pronoun in (25d) shifts the attention from Mrs. Popescu to her child through a Smooth-Shift; it brings him to the foreground.

Interestingly, the overt pronoun can be used even if the referent of the subject in the previous sentence does not change. This means there are cases in which it can be used in Continue transitions which, as pointed out earlier, are normally reserved for the null pronoun.

First, overt pronouns accompanied by focus particles are used to refer to the highest ranked entity of the prior sentence which should normally be realized via a null form. The explanation stems from the fact that the focused information cannot be null, otherwise we would confront with a violation of the discourse rules (Kuno 1987). Observe the following examples:

- (26) a. Fata babe<sub>i</sub>; ..... pornește cu ciudă ....  
daughter.the old woman.GEN starts with spite,  
'The old woman's daughter sets out feeling very annoyed.'
- b. Merge și ea<sub>i</sub>; cât merge, tot pe acest drum.  
goes and she how goes all on this road  
'She follows the same track for a while, too.'
- c. Se întâlnește și ea<sub>i</sub>; cu cățelușa cea slabă și bolnavă.  
REFL meets and she with puppy.the skinny and sick  
'She too comes across the sick skinny puppy.'

(Ion Creangă, *Povești*: 142)

Secondly, strong pronouns are used in Continue transitions when they express a contrary-to-expectation reading. Here is an example:

- (27) a. Fata<sub>i</sub>; se suie în pod și Ø<sub>i</sub>; vede acolo o mulțime de lăzi: unele mai vechi  
girl.the REFL climbs in loft and Ø<sub>i</sub>; sees there a crowd of trunks: some more old  
și mai urâte, altele mai noi și mai frumoase.  
and more ugly others more new and more beautiful  
'The girl climbs up into the loft and comes across plenty of trunks: some older and shabbier, other newer and nicer.'
- b. Ea<sub>i</sub>; însă, nefiind lacomă, s-alege pe cea mai veche și mai urâtă dintre toate.  
she however not being greedy REFL DAT chooses on most old and more ugly of all  
'However, not being greedy, she chooses the oldest and shabbiest of all.'

(Ion Creangă, *Povești*: 141)

In the situation described above, when the girl finds a variety of trunks, some old and others new, one would expect her to pick out the newest one. However, contrary to what one expects, she chooses the oldest and shabbiest of all. Although a null pronoun can be used in (27b) felicitously, this contrary-to-expectation construal is not possible unless an overt pronoun is used.

Thirdly, as Manoliu-Manea (1993) points out, the overt pronoun is used when the entity at the center of attention is the same in successive structures, but its thematic role changes. For instance, in (28) the subject Zibal remains the main actor in the two adjacent sentences. However, in (28a) the subject is assigned the Experiencer role while in the next utterance its role changes from the person who is going through a psychological experience to the person

who intentionally performs a range of activities. Thus, the shift from one thematic role to another requires a strong pronominal subject.

- (28) a. Zibal<sub>i</sub> are nevoie să se rezeme.  
Zibal has need SĂ REFL rest.SUBJ  
'Zibal needs to rest.'
- b. El<sub>i</sub> se sprijină în palma stângă pe poartă și cu dreapta își acoperă ochii.  
he REFL leans on in palm left on gate.the and with right.the REFL DAT cover eyes.the ACC  
'He leans upon his left palm against the gate and covers his eyes with the right hand.'

(Ion Luca Caragiale, *Nuvele și povestiri*: 47)

Further, when the center of attention shifts from one entity to another, the use of the strong pronoun is requested to mark the idea of interruption and change. In (29), the two people control the activity by turns. The use of a null pronoun instead of the full one would render the discourse ambiguous.

- (29) a. Fata<sub>i</sub> intră în casă.  
Girl.the enters in house  
'The girl enters the house.'
- b. Băiatul<sub>i</sub> vrea s-o urmeze.  
Boy.the wants SĂ her.ACC follow.SUBJ  
'The boy wants to follow her.'
- c. Ea<sub>i</sub> încuie repede ușa.  
she locks quickly door.the  
'She quickly locks the door.'
- d. El<sub>k</sub> încearcă să spargă geamul.  
he tries SĂ break.SUBJ window.the  
'He tries to break the window.'

#### 4.2 Center shift

Shifting from one Cb to another is a signal to the hearer that an entity previously talked about has left attentional state and a new discourse entity is at the center of attention. We have already shown in the previous section that overt pronominal subjects are typically used in Romanian to encode a shift transition, to mark the idea of interruption and discontinuity. Example (25) above is illustrative in this way. Sentences (25a)-(25c) are centered on Mrs. Popescu who is anaphorically referred to by means of a null pronoun to express textual continuity. (25d) shifts the center of attention from Mrs. Popescu to his son and this change is encoded by an overt pronoun. A null pronoun would be infelicitous in this context.

#### 4.3 Concluding remarks

Summing up, this section has examined the behaviour of null vs. overt pronominal subjects with respect to the Centering transitions. The data we analyzed enable us to draw the following conclusions: 1) In general, null pronouns are used to encode a Continue transition;

2) Overt pronouns can also occur in a Continue when they are accompanied by focal particles, when they give rise to a contrary-to-expectation reading; likewise when they signal a shift in the thematic role of the participant or they mark a change of attention from one entity to another, overt subjects also emerge in Continue transitions; 3) Finally, it has been shown that overt pronouns are normally used in shift transitions, when the previous centered entity has left ‘the stage’ and another one has taken its place.

## 5. Conclusion

The current analysis has concentrated on the interpretive differences between zero and overt pronominal subjects in Romanian discourse within the Centering Theory framework. In particular, we supported the assumption that null pronouns are typically utilized to realize the most salient entity of the prior utterance and to encode a Continue transition as opposed to strong pronouns which signal a shift of attentional state.

One important issue in this study concerned the factors that determine the most salient entity, i.e. the potential antecedent for anaphoric reference in subsequent utterances. Section 2 deals with the factors that trigger salience in Romanian. It has been shown that subjecthood is a strong indicator of salience; it evokes the entity that is predicted to be the center of attention in the next utterance. Consequently, subjects rank higher than objects in most of the cases, being realized by null pronouns. However, it has been argued that there are situations in which entities evoked in object position rank higher than those introduced in subject position: the subjective point of view which brings entities in object position to the center of attention, world knowledge, focused objects, syntactic agreement and certain rhetorical relations are among some of them. Interestingly, we have discovered that psychological verbs assign equal salience to both their Theme subject and Experiencer object contrary to what has been observed in other languages. However, when the subject is assigned the agentive role, it has been shown to rank higher than the Experiencer object which constitutes more evidence in favour of the idea that salient entities are placed in subject position in Romanian.

Another central problem the paper focused on was to present the functions of null vs. overt pronouns in subject position in Romanian and their correlation with the Centering transitions. We used both constructed examples and discourses from narratives which helped us observe the following tendencies: Generally, null pronouns are used to encode a Continue transition. Overt pronouns can also encode a Continue when they co-occur with focal particles, when they trigger a contrary-to-expectation reading; likewise when they signal a shift in the thematic role of the participant or mark a change of attention from one entity to another, overt subjects also appear in Continue transitions. Further, it has been shown that the presence of a full NP in a Continue marks a discourse segment boundary. In the end, we demonstrated that overt pronouns are normally used in shift transitions to signal that the previous center of attention is no longer the entity discussed about in the utterance under discussion. In conclusion, null pronouns serve to mark coherence in discourse by linking utterances to one another. They are makers of referential and thematic continuity, being responsible for the natural flowing of discourse as opposed to overt forms which signal a change of reference, center of attention and thematic role. However, this is not an exhaustive analysis of the alternation null-overt pronouns in Romanian discourse. Clearly, our analysis is



just a tentative proposal and further research is required to complete our understanding of Romanian anaphora in discourse.

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## References

- Beaver, D. 2004. Optimization of discourse anaphora. *Linguistics and Philosophy* 27: 3-56.
- Braşoveanu, A. 2003. Null pro – a centering approach. Ms., Rutgers University.
- Brennan, E. 1995. Centering attention in discourse. *Language and Cognitive Processes* 10 (2): 137-167.
- Brennan, S., Friedman, M. W. and Pollard, C. 1987. A centering approach to pronouns. In *Proceedings of the 25<sup>th</sup> Annual Meeting of the Association of Computational Linguistics*, 155-162.
- Chomsky, N. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
- Ehrlich, S. 1990. *Point of View: A Linguistic Analysis of Literary Style*. London and New York: Routledge.
- Di Eugenio, B. 1990. Centering Theory and the Italian pronominal system. In H. Karlgren (ed.), *COLING Proceedings of the 13<sup>th</sup> International Conference on Computational Linguistics*, vol. 2, 270-275. Helsinki.
- Di Eugenio, B. 1998. Centering in Italian. In M. Walker, A. Joshi and E. Prince (eds.), *Centering Theory in Discourse*, 115-137. Oxford: Clarendon Press.
- Gordon, P. C., Grosz, B. and Gilliom, L. 1993. Pronouns, names and the centering of attention in discourse. *Cognitive Science* 17: 311-347.
- Grosz, B., Sidner, C. 1986. Attentions, intentions and the structure of discourse. *Computational Linguistics* 12: 2-10.
- Grosz, B., Joshi, A. and Weintain, S. 1995. Centering: A framework for modeling the local coherence of discourse. *Computational linguistics* 21 (2): 203-226.
- Jaeggli, O., Safir, K.J. 1989. The null subject parameter and Parametric Theory. In O. Jaeggli and K. J. Safir (eds.), *The Null Subject Parameter*, 1-44. Dordrecht: Kluwer.
- Kameyama, M. 1985. Zero Anaphora: The Case of Japanese. PhD dissertation, Stanford University.
- Kameyama, M. 1986. A property-sharing constraint in centering. In *Proceedings of the 24<sup>th</sup> Annual Meeting of Association of Computational Linguistics*, 200-206.
- Kuno, S. 1987. *Functional Syntax*. Chicago: Chicago University Press.
- Manoliu-Manea, M. 1993. *Gramatică, pragmasemantică și discurs*, Bucureşti: Editura Litera.
- Turan, U. D. 1996. Null vs. overt subjects in Turkish discourse: A centering analysis. PhD dissertation, University of Pennsylvania.
- Walker, M., Iida, M. and Cote, S. 1990. Centering in Japanese discourse. In H. Karlgren (ed.), *COLING Proceedings of the 13<sup>th</sup> International Conference on Computational Linguistics*, vol. 2, 200-215. Helsinki.
- Walker, M., Iida, M. and Cote, S. 1994. Japanese discourse and the process of centering. *Computational Linguistics* 20 (2): 193-233.
- Wiebe, J. M. 1990. Identifying subjective characters in narrative. In H. Karlgren (ed.), *COLING Proceedings of the 13<sup>th</sup> International Conference on Computational Linguistics*, vol. 2, 401-406. Helsinki.
- Wiebe, J. M. 1994. Tracking point of view in narrative. *Computational Linguistics* 20 (2): 233-287.

## Sources

- Ion Luca Caragiale. 2002. *Momente și schițe*. Bucureşti: Editura Minerva.
- Ion Luca Caragiale. 2006. *Nuvele și povestiri*. Bucureşti: Editura Agora.
- Ion Creanga. 1987. *Povești și povestiri*. Bucureşti: Editura Minerva.
- Cristian Ghinea. 2007. *Dilema Veche*, nr. 192.



