

# Telling “Even”s Apart

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## 1. Goals

The main goal of this paper is to provide an account for the Romanian *even* as an NP operator. *Even* in Romanian can be expressed with two different lexical items *măcar* and *chiar și*, both having the meaning of the English *even*. I will show that these two instances of *even*<sup>1</sup> are licensed in different contexts and they differ semantically. I will provide Romanian examples, showing the environments in which each instance of *even* is licensed. The second goal of this paper is to examine the semantic nature of the two morphemes meaning *even* (e.g. generic/universal *even* vs. existential *even*). The third aim of this paper is to check whether the formula illustrated in (1), formulated by Lee and Horn (1994) is licensed in Romanian and whether or not one or both instances of Romanian *even* comply to this formula.

(1)  $Any = Even + Indefinite$

The paper is structured as follows: in Section 2, I will start with a presentation of the theoretical background of *even* as presented in the literature. In Section 3, I will present the distributional properties of the two instances of *even* in Romanian, the contexts in which they may or may not occur. In Section 5, I will talk about Quantity Scale vs. Kind Scale trying to make a typology for the two instances of *even* under a scalar interpretation. Section 6 will represent a distinction between Romanian *even* in existential contexts versus Romanian *even* in generic contexts. Section 7 will represent an answer to the questions whether the two instances of Romanian *even* can be divided into generic/universal vs. existential and whether the formula expressed above ( $Any = Even + Indefinite$ ) is applicable. Section 8 will present the summary and the conclusions of the paper.

## 2. Introduction

According to Karttunen and Karttunen (1976), the sentences illustrated in (2) and (3) have identical truth conditions.

(2) Even Bill likes Mary.

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<sup>1</sup> There may be more than two instances of *even* (e.g. Giannakidou (2003) identifies three instances of *even* for Greek). For the purposes of my discussion I will resume to the two instances of *even*.

- (3) Bill likes Mary.

Furthermore, they claim that the perceived meaning difference between the two sentences exemplified above is at the level of presuppositions, saying that *even* in (2) triggers an “existence” presupposition, as illustrated in (4) and a scalar presupposition as illustrated in (5).

- (4) Other people like Mary besides Bill.  
 (5) Of the people under consideration, Bill is the least likely to like Mary.<sup>2</sup>

Based on these assumptions, Schwarz (2000) claims that there are two different meanings associated to the same lexical item *even* in English. Consider the following example:

- (6) Even Maria came to the party.

From the above sentence, one can infer:

- (7) a. Maria was the least likely person (of some contextually inferable set) to come to the party.  
 b. Everybody else (within the set) came to the party.

Karttunen and Karttunen (1976) attribute the differences illustrated above to scope ambiguity. On the other hand, Rooth (1985) claims that the source of the perceived ambiguity of the sentence is a lexical ambiguity of *even*.

As example (6) shows, *even* presupposes the existence of a pragmatic likelihood scale associated with the sentences (facts which are illustrated also in Fauconnier (1975), Lee and Horn (1994), Schwarz (2000) and Giannakidou (2003)).

A linguistic scale is defined as the set of linguistics alternates, or contrastive expressions of the same grammatical category, which can be arranged in a linear order by the degree of informativeness or semantic strength<sup>3</sup>.

Lee and Horn (1994) proposed an analysis in which the NPI *any* is treated as *even* + an existentially interpreted indefinite determiner and Free Choice *any* as *even* + a generically interpreted indefinite determiner. They extend their proposal crosslinguistically, showing that the formulas hold for languages with negative concord<sup>4</sup>. The analysis of English *any* as *even* + indefinite is very close to Lahiri’s (1998) analysis of Hindi NPIs.

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<sup>2</sup> Examples (2), (3), (4) and (5) are taken from Bernhard Schwartz (2000).

<sup>3</sup> Chierchia (2002) establishes a factual generalization relating scalar implicatures to polarity phenomena.

<sup>4</sup> Lee and Horn (1994) do not illustrate this formula as applied to Romanian.

Heim (1984) points out that there is a distributional difference between English NPIs which are semantically equivalent to expressions containing *even* (e.g. *so much as a dime* is equivalent to *even so much as a dime* and *the least bit of taste* is equivalent to *even the least bit of a taste*) and English NPIs such as *any* and *ever*, which are not equivalent to *even one* and respectively *even once*.

According to Lahiri (1998), based on Heim's explanation of the difference between these two types of NPIs<sup>5</sup>, there seems to be a distinction to be made between *any* and *even*-incorporated NPIs in English and so these facts pose a problem for Lee and Horn<sup>6</sup>.

Giannakidou (2003) shows that there are at least three instances of *even*, and that their distribution is regulated by polarity. There is a positive *even*, an NPI-*even* and a concessive *even*. She claims that "it is only an accident that English lacks the lexically distinct NPI-*even*".

### 3. Romanian Data & Distribution of Even

Based on the data presented above, the observation is that English has two different meanings associated with the same lexical item meaning *even*. Romanian has two instances of *even*, expressed with two different morphemes: *măcar* and *chiar și*.

In the following, I will show distributional properties of the two morphemes meaning even in Romanian.

#### 3.1 Affirmative Contexts

Both Romanian lexical items meaning *even* are licensed in affirmative contexts, as illustrated in examples (8) and (9):

- (8) Vreau *măcar* un măr.  
Want even/at least an apple  
'I want even an apple.'
- (9) Vreau *chiar și* un măr.  
Want even an apple  
'I want even an apple'

The inferences that can be made from the Romanian examples are the following: from (8), one can infer that "I want all kinds of food (or fruits), but

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<sup>5</sup> "The implicatures associated with *even* are more naturally satisfiable where there is a causal relationship between the restriction and the nuclear scope than in accidental generalizations. *Any* and *ever*, on the other hand, can simply appear in the restriction of a universal quantifier, since that is a downward entailment and there are no even-type implicatures to be satisfied" (Lahiri 1998)

<sup>6</sup> For the purpose of this paper, I will not be concerned with this problem here.

the least I want is an apple, an apple will suffice”<sup>7</sup>. From (9), one can infer that “I want many fruits, an apple is included, an apple is also accepted”.

Both instances of *even* in this context denote pragmatic scales. In the first sentence, the scale starts with the minimum quantity of food, whereas in the second sentence, the low point of the scale is the kind of food that the speaker wants. It seems that the two scales are of different nature, and I will return to this in a later section.

In sum, in Romanian there are two instances of *even*, *măcar* and *chiar și*, morphologically marked, which correspond to the two meanings of the English *even*. They both occur in affirmative contexts<sup>8</sup>, as illustrated above, and it seems that the pragmatic scales that they denote are of different nature.

### 3.2. Negative Contexts

This subsection shows that *măcar* can occur in negative contexts, whereas *chiar și* cannot. This is illustrated in the following examples:

- (10) Ion nu citește nici *măcar* o carte  
 Ion not read neg even a book  
 ‘John does not read even a book.’
- (11) #Ion nu citește nici *chiar și* o carte  
 John not read neg even a book.

### 3.3. Interrogative Contexts

In interrogative contexts, *măcar* is perfectly grammatical, whereas *chiar și*, even though not ungrammatical, sounds odd, as illustrated in the examples (12) and (13).

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<sup>7</sup> A distinction has to be made between *măcar* = *even* in Romanian and *cel puțin*, which means *at least*. Note that *măcar* ‘even’ and *cel puțin* ‘at least’ occur in different contexts, they are not interchangeable, as shown in the following examples (examples i. and ii. are from Farkas):

- i. *Are cel puțin un prieten în orașul ăsta.*  
 has at least one friend in city.the this  
 ‘He/she has at least one friend in this city.’
- ii. #*Are măcar un prieten în orașul asta.*  
 has at least one friend in city.the this  
 He/she has at least one friend in this city.
- iii. *Cel puțin trei prieteni vin la party.*  
 ‘At least three friends come to the party’
- iv. #*Măcar trei prieteni vin la party.*  
 ‘Even/At least three friends come to the party’

*Cel puțin* ‘at least’ marks the lowest point of a numerical scale. As far as I know, it can only appear in front of numerals.

<sup>8</sup> I will show that *măcar* is restricted in certain affirmative contexts.

- (12) Ai citit *măcar* o carte?  
Have2Sg read *măcar* a book?  
'Have you read at least/even a book?'
- (13) ??Ai citit **chiar și** o carte?  
'Have you read even a book?'

Example (13) is odd in the sense that a Romanian speaker would not ask such a question having in mind a minimum quantity of books.

### 3.4. Conditionals

In the scope of conditional clauses, *măcar* is licensed whereas *chiar și* is not licensed, as it is shown in the following examples:

- (14) Dacă Maria citește *măcar* o carte, va fi bine informată.  
If Mary read.3Sg even a book, will be.Inf well informed  
'If Mary will read even (at least) a book, she will be well informed.'
- (15) #Dacă Maria citește *chiar și* o carte, va fi bine informată.  
If Mary read.3Sg even a book, will.3Sg be well informed..  
'If Mary reads even a book, she will be well informed.'

### 3.5. Restriction of Universal Quantifier

In the restriction of a universal quantifier, *măcar* is grammatical, whereas *chiar și* sounds odd in the context under analysis. This fact is illustrated in the examples (16) and (17):

- (16) Fiecare student care a citit *măcar* o carte a trecut examenul.  
Every student who have.3Sg read even a book, has passed the exam  
'Every student who read even / at least a book has passed the exam.'
- (17) ???Fiecare student care a citit *chiar și* o carte a trecut examenul  
Every student who have.3Sg read even a book, has passed the exam  
'Every student who read even a book has passed the exam.'

### 3.6. Other contexts

An interesting generalization can be made from the following two examples. When answering a question, if the answer is negative, *măcar* is licensed in that context, *chiar și* being ungrammatical. When answering affirmatively, *chiar și* is grammatical, but *măcar* is not possible. I assume that this constitutes an evidence for the scalar nature of the two elements and also for the fact that they differ in nature<sup>9</sup>.

<sup>9</sup> One may follow Rooth (1985) who suggests that there is lexical ambiguity between even and its homophonous item even<sub>n</sub>, which is negated in the calculation of the

- (18) A: Ai sosete uscate?  
'Do you have dry socks?'  
  
B: Nu am nici *măcar* sosete umede  
'I don't even have wet ones'  
(It is not the case that I have dry socks, I don't even have wet ones)  
#Nu am nici *chiar și* sosete umede  
'I don't even have wet ones'
- (19) A: Ai sosete uscate?  
'Do you have dry socks?'  
  
B: #Am *măcar* sosete umede  
I have even / at least wet socks  
Am *chiar și* sosete umede  
'I have even wet socks'  
(Of course I have dry socks, I have even wet socks)

In this section, I have shown the distribution of the two lexical items meaning *even* in Romanian. From the contexts presented above, the observation is that *măcar* is licensed in environments in which NPIs are licensed: negative contexts, interrogative contexts, downward entailing contexts, scope of conditionals. *Chiar și* is only licensed in affirmative contexts.

However, we have seen that both may be licensed in affirmative contexts. In footnote 7, I mentioned that there are restrictions with respect of the affirmative contexts where *măcar* is licensed. The explanation is that if *măcar* occurs in affirmative contexts, it can only occur with attitude verbs, such as "want", or when the clause containing *măcar* is the argument of attitude predicates such as "be surprised", "be glad"<sup>10</sup>.

- (20) Mă mir că *măcar* un student a venit.  
Refl.1Sg wonder that even a student has come  
'I am surprised that even a student has come.'

But *măcar* may not occur in affirmative contexts, with the interpretation of even, denoting the minimum quantity of NP, whereas *chiar și* is perfectly licensed in affirmative contexts, denoting the kind most / least likely to hold.

- (21) \*Am citit *măcar* o carte.  
Have.1Sg read even a book

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presupposition. Example in (18) and (19) show that these items differ in nature and they may be in opposition.

<sup>10</sup> See Von Stechow (1999) for an analysis of NPI-licensing and attitude verbs.

- (22) Am citit *chiar și* o carte.  
 Have.1Sg read even a book.  
 ‘I read even a book.’

So far, I have presented two instances of *even* in Romanian, and I presented data showing the different distribution of the two items. *Măcar* occurs exactly in the contexts which license NPIs, whereas *chiar și* occurs in affirmative contexts. What follows represents an analysis of these two morphemes (both meaning *even*). The following analyses are based on scales (quantity vs. kind) and on generic vs. existential interpretation.

#### 4. Quantity Scale vs. Kind Scale

In this section, I will provide an analysis of the two morphemes meaning *even* in Romanian. My analysis is based on the distinction between quantity scale vs. kind scale. According to Lee and Horn (1994), the counterparts of *any* in many languages consist of an indefinite together with the morpheme corresponding to *even*. Their proposal is that *any* (or the corresponding term depending on the language) is equivalent to *even* plus an indefinite. Their conclusion is stated in (23):

- (23) A sentence containing *any* + indefinite presupposes the existence of a pragmatic scale of a particular sort.

(Lee and Horn 1994)

The indefinite / common noun (CN) is associated with two distinct semantic features: QUANTITY and KIND. The quantity scale is associated with existential readings and the kind scale is associated with generic / universal readings. In the following, I will return to the analysis for the Romanian data and I will show which instance of the Romanian *even* is associated with each type of scale.

##### 4.1. Quantity Scale

The elements of a quantity scale are quantities of CNs. The low end of the quantity scale represents the quantity of the CN for which the utterance is least likely to hold, the minimum quantity. In English, the indefinite, focused by *even*, denotes the minimum quantity, and therefore the low end of the scale has to be the minimum quantity of the CN. According to Lee and Horn (1994), *any* associated with a quantity scale may be paraphrased by *even a single* (for count nouns) or *even a bit* (for mass nouns).<sup>11</sup> In the following example, the two sentences are equivalent, denoting the bottom of the scale, the minimum number:

- (24) a. There isn't any person available now.

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<sup>11</sup> I will restrict my analysis to count nouns for Romanian.

- b. There isn't even a single person available now.

In Romanian, minimum quantity of a noun is represented by *măcar*. From that and from the data presented below, I conclude that in Romanian, *măcar* is associated with the quantity scale. When it is the focus of an indefinite, it denotes the minimum quantity of that indefinite.

- (25) a. Nu e nici o persoana disponibilă.  
'There isn't any person available.'
- b. Nu e nici *măcar* o persoana disponibilă.  
'There isn't even / at least one person available.'  
#Nu e nici *chiar și* o persoana disponibilă.  
'There isn't even any person available'
- (26) a. Nu am nici o banană  
'I don't have any bananas'
- b. Nu am nici *măcar* o banană  
'I don't have even / at least a banana'
- c. #Nu am nici *chiar și* o banană.  
'I don't have even a banana'

In sum, I have shown that Romanian *măcar* is associated with the quantity scale. An important fact to point out is that *chiar și* is not allowed in these contexts, therefore it cannot be associated with the quantity scale.

#### 4.2. Kind scale

According to Lee and Horn (1994), the elements of the kind scale are kind of CNs, such as: *the most delicious food, the most awful apple*. The low end of this type of scale is represented by the kind of the CN for which the utterance is least likely to hold. The kind scale is different from the quantity scale, in which the low end is fixed as the minimum quantity of the CN. According to Lee and Horn (1994), *any* associated with the kind scale may be paraphrased by *even* + (contextually appropriate) superlative, as illustrated in the example below:

- (27) a. I like any apple.
- b. I like even the least delicious apple.

In Romanian, the instance of *even* associated with the kind scale is *chiar și*. In the following examples, I show that *chiar și* is grammatical in contexts of Kind scale, whereas *măcar* is ungrammatical in the same contexts:



- (28) a. Imi place orice mar  
'I like any apple.'
- b. Imi place *chiar și* cel mai amar mar  
'I like even the most bitter apple'
- c. #Imi place *măcar* cel mai amar mar.  
'I like even the most bitter apple'
- (29) a. Orice catel e dragut  
'Any puppy is cute'
- b. *Chiar și* cel mai urât catel e dragut  
'Even the ugliest puppy is cute'
- c. #*Măcar* cel mai urât catel e dragut.  
Even the ugliest puppy is cute

In sum, I have shown in this section that, in Romanian, the two different instances of *even* are associated with the two types of scales: *măcar* is associated with the quantity scale, whereas *chiar și* is associated with the kind scale. This distinction is very clear, as I have shown in the examples presented, there is no interference, the two lexical items are in complementary distribution. Therefore, Romanian displays lexical specialization with respect to the type of scale: *măcar* projects a quantity scale, whereas *chiar și* projects a kind scale.

Before I can conclude, I have to reach to one more generalization, namely, the difference between generic vs. existential instances of *even* in Romanian. This is presented in the next section.

## 5. Generic vs. Existential

In this section I provide a distinction between the two instances of *even* in Romanian, in concord with the distinction between generic and existential contexts. The following examples prove that in Romanian, *chiar și* is associated with generic/universal NPs, whereas *măcar* is associated with existential NPs.

- (30) Citesc orice carte, *chiar și* o carte de Fratii Grimm. (∀)  
'I read any book, even a book by Brothers Grimm'  
#Citesc orice carte, *măcar* o carte de Fratii Grimm
- (31) Orice catel vrea un os. *Chiar și* un catel bolnav vrea un os. (∀)  
Any puppy wants a bone. Even a sick puppy wants a bone.  
# *Măcar* un catel bolnav vrea un os.
- (32) Nu citesc nici o carte. Nu citesc nici *măcar* o carte (∃)  
'I don't read any book. I don't read even a book'

#Nu citesc nici *chiar și* o carte.

- (33) Nici un student nu a venit la party. Nici *măcar* un student nu a venit la party.  
 ‘No student came to the party. Not even a student came to the party’.  
 #Nici un student nu a venit la party. *Chiar și* un student nu a venit la party.

These examples show that *chiar și* appears in contexts with generic NPs, whereas *măcar* occurs in contexts with existential NPs. Note that *măcar* occurs in negative contexts, and, as we have previously seen, *chiar și* is not licensed in negative contexts (or at least it is odd). Romanian is a negative concord language. Lee and Horn (1994) claim that in many negative concord languages, the lexical item corresponding to *any* has an explicit negative morpheme incorporated in it. In these languages, *any*-counterparts will be paraphrased by *not even a single* rather than *even a single*. Data from Romanian contradict this assumption because of a few reasons. First, *măcar* can occur in affirmative contexts, with existential indefinites, although it is restricted to certain affirmative contexts. Secondly, it is interesting that this morpheme meaning *even*, intervenes between the negative element *nici* and the indefinite noun, acting as a Negative Polarity Item. It seems that the negative particle *nici* is in agreement with the overt negation.

In sum, I have shown so far that each of the two instances of *even* in Romanian are associated with the two different types of scale, as follows: *măcar* is associated with the quantity scale and *chiar și* is associated with the kind type scale. Furthermore, I have shown that Romanian *măcar* precedes an existential NP, whereas *chiar și* can only precede a generic NP. In the above discussion I also expressed my doubts and also my interest for further research about the element *măcar*, which acts like an NPI.

In the remaining of this paper, I will provide the conclusions I have drawn from the Romanian data presented so far in this paper.

## 6. Summary

For English, Lee and Horn (1994) have reached the following conclusions: the NPI *any* could be paraphrased as *even a single* plus an indefinite, and it is associated with the quantity scale, expressing the minimum quantity of the CN. The Free Choice *any* could be paraphrased as *even* plus superlative plus indefinite and it projects a kind scale, denoting the kind of the CN which is least likely to hold in a given context. Their conclusion is illustrated in (34):

- (34) NPI *any* (existential) = *even (a single)* + CN → quantity scale  
 FC *any* (generic) = *even* + superlative + CN → kind scale

The same conclusions I have reached for Romanian, on the basis of the data presented, using each of the two instances of even in Romanian: *măcar* and *chiar și*. The correspondent of the English NPI *any* is expressed by *măcar* plus an indefinite and it projects a quantity scale, denoting the minimum quantity of the indefinite in a given context. The Romanian correspondent of the English Free Choice *any* is expressed by *chiar și* plus a superlative plus a CN and it projects a kind scale, denoting the kind of noun least likely in a given context. This conclusion is illustrated in (35):

(35) The correspondent of the English NPI *any* (existential)  
 = *măcar* + CN → quantity scale

The correspondent of the English FC *any* (generic/universal)

= *chiar și* + superlative + CN → kind scale

In sum, in this section I have shown that the formula illustrated in (1), NPI = *even* + indefinite, formulated by Lee and Horn (1994) holds for Romanian, with the two different instances of even *măcar* and *chiar și*.

## 7. Conclusions

First, in Romanian, *even* can surface in two different instances: *măcar* and *chiar și*. This is not random, there are two distinct lexical items each associated with the two different interpretations of the English *even*. They are both licensed in affirmative contexts, but there are restrictions for *măcar* in these contexts. Only *măcar* is licensed in negative contexts and in the scope of conditionals, whereas *chiar și* is not. In interrogative contexts and in restriction of universal quantifiers, *măcar* is grammatical, but *chiar și* sounds odd (although not ungrammatical).

Furthermore, using the distinction quantity scale vs. kind scale, I have shown that one instance of the Romanian *even* (*măcar*) projects a quantity scale, representing the minimum quantity, whereas the other instance (*chiar și*) projects a kind scale (superlative). Also, I have shown that one instance is licensed in existential contexts – *măcar*, whereas the other is licensed in generic/universal contexts - *chiar și*.

Finally, based on the data from Romanian and on the previous literature (I am referring here to Lee and Horn 1994), I have shown that the formula for English *any* as being equal to *even* plus indefinite holds for Romanian. The fact that I have demonstrated that Romanian behaves like other languages concerning *even* + indefinite being the correspondent of English *any* represents a proof that this formula holds crosslinguistically.

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