# NEGATIVE POLARITY *KİMSE* AND FREE CHOICE *BİR KİMSE*: A UNIFIED SEMANTIC ANALYSIS

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Negative Polarity *Kimse* and Free Choice *Bir Kimse*:

A Unified Semantic Analysis

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# DECLARATION OF ORIGINALITY

I, Feyza Filiz, certify that

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ABSTRACT

Negative Polarity *Kimse* and Free Choice *Bir Kimse*:

A Unified Semantic Analysis

The goal of the present dissertation is a semantic study of the Turkish expression *Kimse* and; specifically, a unified analysis of two apparently distinct Polarity Sensitive Items, namely Negative Polarity and Free Choice *Kimse*. I show that *Kimse* is a "Polarity Sensitive" (PS) item with a dual nature. Specifically, I observe that bare *Kimse* acts like a Negative Polarity Item (NPI) but *Kimse* preceded by the indefinite determiner *Bir* 'a(n)' is an existential Free Choice (∃-FC) Item. In his analysis of similar phenomena, Chierchia (2013) argues that NPIs and FCIs must belong to a linguistically uniform class and, for that matter, fairly widespread class and proposes a unified analysis of Free choice and Negative Polarity in a variety of Germanic and Romance languages as well as some Slavic ones, namely an Alternative and Exhaustification-based Approach (AEA henceforth). Extending this theory to the dual nature of *Kimse*, I provide additional support to the idea that Polarity Sensitivity and Free Choice phenomena are related.

# ÖZET

## Olumsuz Kutuplanma Birimi *Kimse* ve Serbest Seçim Birimi *Bir Kimse*: Birleşik Bir Semantik Analiz

Bu tezde, Türkçe ifade *Kimse*'nin anlambilimsel olarak; özelde ise, görünürde, iki ayrı Kutuplanma Birimi olan Olumsuz Kutuplanma ve Serbest Seçim birimi *Kimse*'nin birleşik bir analizi amaçlanmaktadır. *Kimse*'nin iki yönlü bir kutulanma birimi olduğu gösterilmektedir. Özellikle, yalın *Kimse*'nin Olumsuz Kutuplanma birimi, *Bir Kimse*'nin Varoluşsal Serbest Seçim birimi olduğu gözlemlenmektedir. Chierchia (2013) benzer davranışları incelediği analizinde, Olumsuz Kutuplanma ve Serbest Seçim birimlerinin dilbilimsel olarak tek bir sınıfa; dolayısıyla, çok daha geniş çapta bir sınıfa ait olduklarını savunmaktadır. Germen, Romen ve Slav dillerini içeren bu çalışması ile, Olumsuz Kutuplanma ve Serbest Seçim birimlerinin birleşik bir analizini- Alternatif ve Güçlendirme-temelli Yaklaşımını (AGY)- önermektedir. Bu teoriyi, *Kimse*'nin iki yönlülüğüne genişleterek, Olumsuz Kutuplanma ve Serbest Seçim davranışlarının bağlantılı olduğu düşüncesini Türkçe ile desteklemekteyim.

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DEDICATION

I dedicate this thesis to my family.

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ABBREVIATIONS

| | |
|---|---|
| ALTs | Alternatives |
| AEA | Alternative Exhaustification-based Approach |
| NPI/∃-FC | An element having both negative polarity and FC uses |
| CN | Common noun |
| C | Context |
| E | Covert counterpart of *Even* |
| O | Covert counterpart of *Only* |
| D-ALTs | Domain alternatives |
| DE | Downward entailing |
| EI | Epistemic indefinite |
| ∃ | Existential |
| FCI | Free Choice Item |
| LF | Logical Form |
| NPI | Negative polarity item |
| PS | Polarity sensitive / Polarity sensitivity |
| PPI | Positive polarity item |
| PTQ | Proper Theory of Quantification (Montague) |
| σ-ALTs | Scalar alternatives |
| ∀ | Universal |
| UE | Upward entailing |

# CHAPTER 1

# INTRODUCTION: THE DUAL NATURE OF *KİMSE*

## 1.1 Introduction

This chapter illustrates three faces of *Kimse*: an NPI *Kimse*, an existential Free Choice *Kimse*, and a universal modified FC *Kimse*, of which only the first two is the object of this study. It, then, provides the general picture within which the present analysis is conducted and a roadmap of the entire dissertation. Before turning to these subjects, I will start by offering a brief illustration of the morphological make-up of *Kimse* and of my assumptions regarding it.

## 1.2 Morphological make-up of *Kimse*

The word *Kimse* is (historically derived by) a conditional marker –(i)sA and the question word *Kim* 'who', namely *Kim-(i)se*. However, in many uses of *Kimse*, it differs from *Kim-(i)se* in its morphological make-up; it is opaque in that the conditional marker –(i)sA is lexically fused into the question word *Kim* which results in the item *Kimse*. It should also be noted that *Kimse* is a full DP and hence cannot be accompanied by a noun; as it is shown in (1), it occurs as a free standing DP.

(1) a. i. Kimse gelmedi.
kimse come-neg-past-3sg.
'Nobody came.'

ii. *Kim-(i)se gelmedi.
kim-Cop.-Cond.

b. i. Kimse gelir -se beni ara.
Kimse come-Cond. me call-Imp.
'If anyone comes, call me.'

ii. *Kim-(i)se gelirse beni ara.
kim-Cop.-Cond.

c. i. Öğretmen ders anlat-an kimse–dir-∅. ii. ....*kim-(i)sedir
teacher teach-Sun.Rel kimse-AOR-3sg. kim-Cop.-Cond.
'A teacher is a person who teaches.'

Therefore, in this work, I will concentrate on the DP uses of *Kimse* and assume that in these uses it is not composed of two separate morphemes but a lexical unit which is historically derived by the fusion of –(i)sA and *Kim*.

### 1.3 A classification of *Kimse*

Based on the distribution and morphological make-up of *Kimse*, contrary to the canonical NPI treatment of *Kimse*, I observe three different uses and, correspondingly, three different interpretations arising in the presence of *Kimse*. Bare *Kimse* behaves as an NPI under negation, *Bir* 'a(n)' rescues *Kimse* in all types of contexts including positive sentences and leads to an existential FC reading. So, I treat *Bir Kimse* as a single lexical item in the following. As the third use, I will illustrate a different construction in which *Kimse* occurs. I will, briefly, illustrate these uses of *Kimse* in the following. Note that only the first two uses of *Kimse* will be in the scope of the present dissertation.

#### 1.3.1 NPI bare *Kimse*

When it is not modified by adjectival, relative clause, or preceded by *Bir*, *Kimse* is grammatical in the scope of the verbal negation –mA (2), the nominal negation *değil* (3), and the existential negation *yok* (4) (see Göksel & Kerslake (2005)).

(2) a. Kimse gel -me-di.
kimse come-neg-past-3sg.
'Nobody came.'

b. *Kimse gel -di -∅
kimse come-past-3sg.

(3) a. Kimse mutlu değil-∅.
kimse happy değil-3sg
'No one is happy.'

b. *Kimse mutlu-∅
kimse happy-3sg

(4) a. Burada kimse yok.
here kimse yok
'There is no one here.'

b. *Burada kimse var.
here kimse exist

In addition, like all NPIs do, *Kimse* appears in questions; particularly, in yes-no questions:

(5) Kimse gel -di mi?
kimse come-past-3sg. question marker
'Did anybody come?'

Therefore, in these cases, bare *Kimse* receives a plain existential interpretation. Based on this pattern, *Kimse* has been classified as a negative polarity item (NPI) (Zidani-Eroğlu (1997), Kelepir (2001), Göksel and Kerslake (2005), among others). Furthermore, *Kimse* and *Hiçkimse* have been used interchangeably. *Hiç* means 'ever' in questions (6a) and 'at all' in negative contexts (6b).

(6) a. Hiç İstanbul'da bulun-du-n mu?
ever İstanbul-DAT be-Past-2sg question marker
'Have you ever been in İstanbul?'

b. Hiç kitap oku-mu -yor -∅.
at all book read-Neg-Prog.-3sg
'He doesn't read a book at all.'

Thus, *Kimse* and *Hiçkimse* have become interchangeable with the meaning 'anybody at all' (see Kelepir (2001) and Göksel and Kerslake (2005).

(7) Ali (hiç)kimse-yi gör-me-di-∅.
Ali anybody-ACC see-neg-past-3sg
'John didn't see anybody (at all).'

Given this, researchers like Zidani-Eroğlu (1997) takes *Kimse* as licensed only by a negative operator. However, contrary to the previous literature which has limited itself to the observations above, *Kimse* is felicitous in a wider set of contexts. For example, it is observed that *Kimse* is grammatical in other DE contexts as well.

(8) Kimse-yi gör-ür-se-n, beni ara-∅.
kimse-ACC see-Aor-Cond-2sg me call-Imp.
'If you see anyone, call me.'

(9) Ben kimse-nin ara-dığ -ın -dan da şüphe duyu-yor -um.
I kimse-GEN call-Nom-Poss-Abl. DA doubt -Prog.-1sg
'I doubt that anybody called.'

(10) Çok az kişi kimse-ye sadık ol -abil –ir -∅.
very few person kimse-ACC loyal become-Abil-Aor-3sg
'A few people can be loyal to someone.'

1.3.2 Free choice *Bir Kimse*

Addition to its NPI use, *Kimse* is acceptable in Upward Entailing (UE) contexts on the condition that it is preceded by the indefinite determiner *Bir* 'a(n)' (Kubaş (2016)) and I observe that this use of *Bir Kimse* leads to an existential free choice interpretation.

(11) a. Bir kimse zengin ol –abil -ir.
bir kimse rich be-Abil-3sg
'Someone can be rich (It doesn't matter who, anyone)'

b. Ali bir kimse-yi seviyor.
Ali bir kimse-ACC
'Ali loves someone.' (A person, we cannot tell who.)

c. Liste-den bir kimse-yi seç -∅.
list - ABL bir kimse-ACC pick-2sg
'Pick someone from the list.' (A person, it does not matter who.)

Therefore, *Bir* rescues *Kimse* in both modal (11a) and non-modal (11b) UE contexts. Hence, in addition to its NPI use, *Kimse* has another use which is acceptable in non-negated contexts as well. This is why, while many scholars assumed that in contemporary Turkish *Kimse* has lost its indefinite use and has became a pure NPI, a few others propose that it is actually a bare noun meaning 'person' (see Kubaş (2016)). Based on my observations, even the latter view needs refinement as bare *Kimse* is an NPI and I assume *Bir Kimse* as sort of a different lexical item.

### 1.3.3 Whoever-type universal (∀) *Kimse*

This type of *Kimse* differs from the first two uses of *Kimse* in the sense that the question word *Kim* and the conditional marker –(i)sA are transparent (see Section 1.1). *Kim*-(*i*)*se* 'wh-' + 'if' corresponds to English free relative (FR) 'whoever'; hence, when this morphological make-up is used, I observe that *Kimse* 'wh-' + 'if' has a universal reading. It also needs to be modified to be able occur in positive contexts.

(12) Konferansa katıl -an kim-(i)se, ona (onlara) kitap ver.
Conference attend-RC who-cop.sA him/her(them) book give-imp
'Give book whoever attends the conference.'

Notice, also, that *Kim-(i)se* appears in correlative construction (see Akpınar (2019)). Hence, whoever-type *Kim-(i)se* differs from the NPI *Kimse* and existential *Bir Kimse*

in two ways: first, we can use the first part *Kim* in the subject position of the antecedent clause and the second part –(i)sA in the conditional clause without any change in meaning.

(13) **Kim** konferans -a katılır **-sa**, ona (onlara) kitap ver.
Who conference-Acc attend-sA him (them) book give-imp.
'Give book whoever attends the conference.'

Second, *Kim-(i)sA* requires a pronoun in the sentence unlike the first two classes of *Kimse*. Note, also, that in the same sentence, *Bir Kimse* has an existential reading whereas whoever-type *Kim-(i)se* has universal.

(14) a. Seni seven bir kimseyle görüşmelisin. [∃-reading]
You like-RC birkimse meet-neces.2sg.
'You should meet someone who loves you.'
(A person, it does not matter who.)

b. Seni seven kim-(i)se, onunla (onlarla) görüşmelisin [∀-reading]
You like-RC who-if her/him (them) meet-necess-2sg.
'You should meet whoever likes you.'

The discussion above and the third class of *Kimse* is beyond the scope of my study; so, in the present dissertation, I will concentrate on the first two uses of *Kimse*, namely, NPI *Kimse* and FCI *Bir Kimse*.

## 1.4 The dual nature of *Kimse*

Despite the differences between bare *Kimse* and *Bir Kimse*, the following chapters argue for a unified analysis of these two apparently distinct uses of Polarity Sensitive Item, conducted within Chierchia (2013)'s Alternatives and Exhaustification AEA approach.

I show in extensive formal detail that, once the alternative and exhaustification framework is adopted, NPI and FC uses of *Kimse* can be understood within one and the same system. The analysis proposes that they involve the same type of semantic ingredients (alternatives and exhaustification operators) and that the two different uses arise from different variations of the same alternatives and the different ways in which they are exhaustified.

In order to establish which classes of NPIs bare *Kimse* belongs to, I adopt a diagnostic that builds on Guerzoni (2004) and conclude that NPI *Kimse* involves a silent *Even* in its semantics, differently from pure NPIs like *Any* and *Ever*. I, then, lay out the details of the equally plausible semantic analyses of NPI *Kimse* which I label Degree Analysis and Domain Analysis, respectively. The former is based on the assumption that *Kimse* involves degrees in its lexical semantics, the latter is that it triggers domain widening in the sense of Kadmon and Landman (1993). These analyses have the common property in that both derive an NPI with only one type of alternatives and the same exhaustification operator but are complementary to each other in the sense that they have their own weakness and strengths.

As for the Free Choice *Bir Kimse*, I observe that it is free to occur in a number of contexts. My starting point is that *Bir Kimse* behaves like a plain indefinite in modal and negated contexts; it gives rise to an FC effect and loses this effect under negation. However, the point which becomes crucial is that unlike plain indefinites, *Bir Kimse* forces an FC reading in non-modal[1] as well. This empirical fact suggests that it is inherently an FCI. I show that FCI *Bir Kimse* gets an

[1] Note that I treat ignorance readings of *Bir Kimse* in absence of modal as an FC effect; it emerges relative to epistemic modality; thus, it is a sort of FC reading.

existential reading (hence ∃-FCI). In addition, I will, also, show that when it is modified, *Kimse* without *Bir* triggers an FC effect but its distribution is limited to deontic modal contexts.

## 1.5 The outline of the thesis

The dissertation is structured as follows. In chapter 2, I start by illustrating the main aspects of the framework I adopt for my study, namely Alternative and Exhaustification-based Analysis (AEA) by Chierchia (2013). The analysis derives implicatures via exhaustification operators over alternatives; hence, giving way to a novel application of alternative semantics. First, I will introduce the technical building blocks of AEA: alternatives and exhaustification. Secondly, I will illustrate with a few examples to show how alternative semantics works, what the role of implicatures in obtaining meanings is, and how exhaustification works. Thirdly, I present the problem of Free Choice and Negative Polarity *Any* as it relates closely to the topic of my study of *Kimse*. After illustrating the technical apparatus and the dual nature of *Any*, I conclude the chapter by outlining my explanation of the semantics and distribution of Turkish polarity sensitive item *Kimse* in terms of Chierchia (2013)'s theory of polarity sensitivity.

In Chapter 3, I propose that bare *Kimse* is an NPI that contains a covert *Even* in its semantics. To show this, I use Guerzoni (2004)'s negative bias in questions diagnostic. I, then, proceed to the presentation of the two possible analyses of NPI *Kimse* mentioned above. The motivation that will be offered for the first analysis is the resemblance between *Kimse* and minimizer NPIs. The second option finds its appeal in its resemblance with *ANY*. I conclude the chapter with a discussion as to which option could be more plausible for *Kimse*.

In Chapter 4 I investigate the uses of *Kimse* in positive contexts. I show that *Kimse* is free to occur in positive sentences on condition that it is accompanied by *Bir.* Specifically, I show that *Bir Kimse* patterns with the plain indefinite *Biri* 'someone' in modal and negative contexts but departs from it in that *Bir Kimse* forces an FC effect in absence of modal as well. Thus, I propose that *Bir Kimse* and *Biri* come with the same alternatives exhaustified by the same operator, but they differ in that the former obligatorily activates its alternatives whereas the latter optionally does so. Thus, I show that *Bir Kimse* is a Free Choice Item and it gets an existential reading in all circumstances; thus, I refer to it as ∃-FCI *Bir Kimse*.

In Chapter 5, I summarize the thesis, I discuss some limitations of the present analysis and I propose directions for further research.

# CHAPTER 2

## THE ALTERNATIVE EXHAUSTIFICATION BASED FRAMEWORK: CHIERCHIA (2013)

### 2.1 Introduction

In this chapter, I illustrate the main aspects of the framework I adopt for my analysis of *Kimse,* and I provide arguments for this choice. The framework of Alternative Semantics originated in the study of questions and focus (see. Hamblin (1973) and Rooth (1985), Kartunnen (1977)) and was then the extended to the study of a considerable number of phenomena such as indeterminate pronouns (Kratzer and Shimoyama, (2002)), indefinites (Kratzer and Shimoyama (2002), Menendez-Benito (2005), Aloni (2007)), disjunction (Alonso-Ovalle (2006), Aloni (2007), Simons (2011)), and scalar implicatures (Horn (1972), Grice (1975), Chierchia (2004), Saurland (2004), Fox (2007)). Specifically, Chierchia (2004), proposes an Alternative Based analysis that derives implicatures by semantic Exhaustification over alternatives, thus initiating a novel incarnation of the Alternative based Semantics, which has come to be known as Alternative Exhaustification Based Approach (AEA henceforth). Within this approach, Chierchia (2004) intended to provide, at the same time, a different understanding of polarity phenomena. Given this, in an attempt to introduce the main building blocks of AEA, this chapter starts with an informal illustration of Alternative Semantics in general, Scalar Implicatures, the role of Exhaustification in the derivation of Scalar Implicatures, and the problem of Free choice and Negative Polarity *Any* which relates more closely to the topic of my study of *Kimse.*

It is well known, since Ladusaw (1979), that English *Any* patterns with Negative Polarity Items as well as Free Choice ones both in its distribution and in its interpretation. Therefore, *Any* has drawn a great deal of attention in semantics literature. Specifically, there are two main approaches to this dual function of *Any*: a lexical ambiguity approach (Ladusaw 1979) and a unified analysis (see Kadmon and Landman's 1993, Chierchia 2013).

Having introduced the technical apparatus of AEA and the phenomena that have been addressed within it, in the beginning sections of this chapter, in Section 2.8, I will turn to Chierchia (2013)'s unified analysis of Free choice and Negative Polarity in a variety of Germanic and Romance languages as well as some Slavic ones. As I will illustrate below, the peculiarity of this unified approach is that it involves a more fine-grained definition of alternatives.

In the final section of the chapter, I evaluate the predictions this view makes when extended to an analysis of Free Choice and Negative Polarity uses of *Kimse.*

## 2.2 Alternative semantics

In producing and interpreting utterances, speakers process information relative to some minimally different alternative sentences that could have been uttered in the same context but were not because of grammaticality and felicity constraints.

Alternative Semantics (i.e., semantics based on alternatives) is a framework that studies in detail the source and form of these unuttered alternatives and their pragmatic and semantic effects. Specifically, this framework takes the semantic value of a given expression to be a set of alternatives of its ordinary denotation, rather than that the ordinary denotation itself. For example, whereas standard semantics considers the individual Mary to be the denotation of the name *Mary*,

alternative semantics takes the set of all semantic objects of the same semantic type to be its denotation, that is, the set of all individuals. Likewise, whereas in standard semantics sentences denote propositions, alternative semantics take them to denote sets thereof.

There are two different sources of alternative-based semantics: Hamblin's semantics of questions (which is formulated in Montague (1970, 1973)'s PTQ) which takes set of alternatives to be the only semantic values, and Rooth (1985)'s multi-dimensional semantics, in which sets of alternatives are taken to be focus values of expressions that pair with ordinary values. In this section, I will briefly illustrate the two approaches in turn.

On Hamblin's account, the meaning of a question is a set of propositions that serve as its possible answers, and the meaning of a declarative is the set containing the proposition it expresses. For example, the denotation of the declarative sentence *John called* and the interrogative sentence *Who called?* have the same semantic type, in that both denote sets of propositions, the former being special in that it is a singleton containing the proposition *that John called*[2], while the latter denotes a set of alternatives propositions like {*that John called, that Susan called, that Bill called* ....}. As to obtain these sets compositionally, Hamblin replaces the ordinary denotation of each sub-constituent of a question or assertion with the corresponding denotation-sets and combines sets with a special semantic rule that elevates at sets the old method of function application. Such a unified treatment is briefly illustrated in (15) and (16)[3].

[2] Following the common practice, I refer to propositions with the corresponding *that*-clauses.
[3] For any expression $\alpha$, $[\![ \alpha ]\!]_{\wp}$ stands for the intension of $\alpha$.

(15) a. John called.

b. meaning of *John* = {*John*}

c. meaning of *called* ={ $[[called]]_{¢}$ }

d. { $[[called]]_{¢}$ } combined with {*John*} = {λw. {$[[called]]_{¢}$ (w)(j)}}

e. {*that John called*}

(16) a. Who called?

b. [[*who*]] = {x: x is a person} = {*John, Bill, Susan*, …}

c. meaning of *called* = {$[[called]]_{¢}$}

d. { $[[called]]_{¢}$ } combined with {*John, Bill, Susan*…} = {λw. {

$[[called]]_{¢}$ (w)(j), {λw. { $[[called]]_{¢}$ (w)(B), {λw. { $[[called]]_{¢}$

(w)(S)…}

e. {*that John called, that Bill called, that Susan called*, …}

Contrary to the 'one-dimensional' system by Hamblin, Rooth (1985, 1992) maintains ordinary semantic values (e.g., the element of the set in (15c)) but adds true alternative score semantic values when focus is involved. The relevance of Rooth's analysis for the current discussion is twofold; it shows how set of alternatives allows us to understand the felicity condition of the use of focus in a sentence in a given context and provides an explicit analysis of focus sensitive operators like *Only* and *Even*[4]. In this account, the ordinary value of an expression ϕ is $[[\phi]]^{o}$ and the secondary one which is the focus semantic value is marked as $[[\phi]]^{f}$ (e.g. if $[[\phi]]^{o}$ is a proposition, $[[\phi]]^{f}$ is a set of propositions). For example, for *John called Paul and Sue* without focus, the ordinary value is the proposition that *John called Paul and Sue,*

[4] Because Rooth expresses the semantics of these operators as quantifiers over the sets.

and since there is no focus, the focus value is the singleton containing it. Whereas *John only called PAUL and SUE* with stress on Paul and Sue, the ordinary value is the same, but the focus value is a specific set of alternative propositions that differ from the assertion only in the position of its foci. Let us call this set of alternatives ALT, the following example involving the focus sensitive particle *Only,* illustrates this point.

(17) a. John only called [PAUL and SUE]

b. ALT: {John called Paul, John called Sue, ...., John called Paul and Sue, John called Paul and Mary, ...., John called Paul and Mary and Sue, ....}

Rooth proposes that *Only* takes sentential scope at LF and quantifies over alternatives to the proposition in its scope (a.k.a. its prejacent). The focus alternatives in (17b) are obtained by replacing the denotations of the focused elements in the *prejacent* (Paul and Sue) with any other objects of the same semantic type (individuals in our case). The contribution of *Only* in (17a) is to state that any proposition in (17b) that is different from (and not entailed by) the prejacent is false. According to Rooth's semantics *Only* is a binary operator which takes two arguments: a set C of propositions and a proposition as shown below:

(18) a. $\text{Only}_C$ [John called Paul and Sue]

b. $\text{Only}_C\ \phi$ is defined iff $\phi$ is true if defined then $\text{Only}_C\ \phi = \forall p \in C[p \rightarrow \phi \subseteq p]$

$\subseteq$ indicates *entailment*

In addition to providing an understanding of the semantics of sentences with focus sensitive articles, focus alternatives in Rooth analysis also plays an essential role in explaining the pragmatic restrictions of the use of focus. Sentences containing focus can be felicitously uttered only when there is a contextually available set of alternative propositions (the set C) that is a subset of their focus value. C may be the Hamblin style denotation of a question under discussion, in the context of an overtly uttered question. Rooth analysis does two main things that are relevant for the current discussion; it shows how the set of alternatives allows us to understand the felicity condition of the use of focus and provides an explicit analysis of focus sensitive operators like *Only* and *Even.*

Summing up so far, we have seen that in his analysis of questions Hamblin proposes that questions denote sets of propositions and, that those sets are derived by departing from a traditional semantic system in favor of one in which the meaning of any simple or complex expression is a set whose elements are our old denotations or alternatives thereof. Constituents containing no *wh-* phrase are taken to denote singletons containing their old fashion denotation. Rooth, on the one hand, adopts Hamblin alternatives and its compositional features; on the other hand, he maintains a traditional semantics for ordinary values.

Whereas in his AEA Chierchia adopts Rooth's two-dimensional analysis, he departs form Rooth in arguing for the existence of an unpronounced counterpart of *Only.* Specifically, he argues that the inference derived in (18) can also surface in the absence of overt focus-sensitive expressions. He provides the following example to show the fact that if one answers (19a) with the sentence in (19b), the answer is understood exhaustively, i.e. (19c). Following Gronendijk and Stokholf (1984),

he accounts for such a phenomenon by positing a phonologically null counterpart of *Only* (notated as O in (19d)).

(19) a. Who did John kiss?

b. John kissed Paul and Sue.

c. John only kissed Paul and Sue

d. $O_C$ [John kissed Paul and Sue]

Chierchia's semantics of O is in (20).

(20) $O_C = \lambda p\, \lambda w\, [p_w \wedge \forall p \in C\, [p_w \rightarrow \phi \subseteq p]]$

Notice that the difference between the semantics of covert *Only* and the semantics of silent O is that *Only* only presupposes its prejacent, but the operator O does not presuppose p, but it asserts p and negates all the alternatives.

## 2.3 Implicatures

Grice (1968) defines the notion of implicature as 'essentially what is communicated less what is said'. An implicature of an utterance arises when something can be inferred from that utterance without being part of what is literally said. This means that implicatures are not part of the truth conditions of an utterance (and therefore they are not entailed by that utterance either). To indicate that an utterance $\phi$ implicates $\psi$ in this sense, I will write $\phi \sim> \psi$. Consider the following conversation. B's utterance invites the inference that B is not going to the party, without this being part of what he literally says.

(21) A: Are you coming to the party?

B: I have to work. ~> I am not going to the party.

Since implicatures are not part of the literal meaning of an utterance, Grice points out that they are reinforcable. That is, the speaker might overtly confirm the implicature without sounding redundant. Consider the following example:

(22) A: Did you watch the TV series that I suggested?

B: I watched some episodes of it. ~> I didn't watch all of it.

The implicature might be reinforced without redundancy:

A: Did you watch the TV series that I suggested?

B: I watched some episodes of it, but I didn't watch all of it.

In addition, implicatures can be canceled. Cancellation amounts to the speaker's negation of the implicated proposition. Since implicatures are not part of the assertion, this does not result in the speakers contradicting themselves, as shown in (23). While the first part of B's sentence implicates that the speaker is not going to the party, the speaker might call this inference off without any contradiction.

(23) A: Are you coming to the party?

B: I have to work, but I am going to the party anyway.

As both implicatures and entailment are related to meaning, one might need to distinguish between them. Contrary to implicatures, entailment is part of the truth conditions of an utterance: it is the relation between two sentences in which the truth of one requires the truth of the other. For example, the sentence *John ate an apple* entails the one *John ate fruit* because, in all situations in which the former is true, the latter must be true. One of the crucial differences between implicatures and entailments is that, while implicatures are cancellable and reinforcable, entailments are not. For example, it would be a contradiction to say *John ate an apple but he didn't eat fruit* since the truth of the first enforces the truth of the second one. Similarly, *John ate an apple and he eats fruit* is a redundant statement.

Although implicatures differ from entailment, some of them are derived from the existence of entailment scales, and they are due to a fundamental connection between asymmetric entailment and informativity. These implicatures are called scalar implicatures, and I will focus on them in the following section.

### 2.3.1 Informativity and asymmetric entailment

Although regular entailment does not exclude equivalence, asymmetric entailment holds between a sentence $S_1$ and a sentence $S_2$ only if $S_1$ entails $S_2$, but $S_2$ does not entail $S_1$. If this is the case, typically, we are in a situation where $S_1$ is more informative than $S_2$. For example, (24a) asymmetrically entails (24b); thus, the former is more informative than the latter.

(24) a. Every student smiles.

⇓

b. At least some student smiles.

To see why (24a) is more informative than (24b), recall that propositions the sentences $S_1$ and $S_2$ denote, $p_1$ and $p_2$, are those subsets of the set of all possible worlds W, containing all and only those worlds in which they are respectively true. Since $S_1$ asymmetrically entails $S_2$, $S_1$ is true in a proper subset situation in which $S_2$ is true, thus $p_1$ is a proper subset of $p_2$ as it is seen in Figure 1. Whenever every student smiles ($S_1$), certainly some student smiles ($S_2$) but not vice versa. Since the truth of $p_1$, reduces the set of possible worlds among which the actual world may be found more than $p_2$ does, $S_1$ adds more information relative to our reality more than $S_2$ does. Hence, $S_1$ is more informative than $S_2$., and it is semantically stronger.

(25)

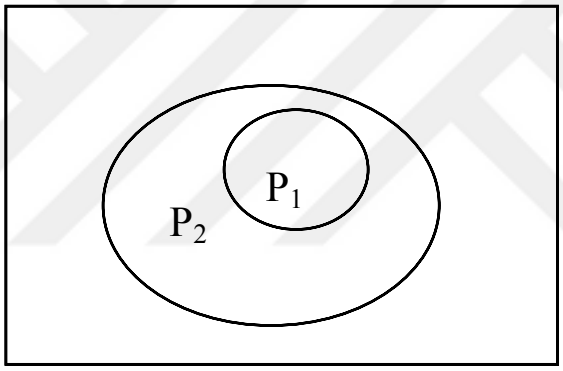



Figure 1. Asymmetric entailment

According to Grice, a cooperative speaker should always, in principle, opt for the strongest (most informative) statement. Violations of this principle lead to quantity-based implicatures, which I return to in the next section.

### 2.3.2 Quantity implicatures

Grice (1975) suggests that we can understand a lot regarding human conversation if we assume that it proceeds as if all the participants were obeying a "Cooperative Principle", that is as if their information exchange was regulated by pragmatic

maxims concerning both content and form of their utterances. It follows from this assumption that the participants of the conversation violate these pragmatic maxims only if they have excellent rational reasons to do so. Given this, such violations and the inferences we can draw from them result in implicatures or other rhetorical effects (such as irony, sarcasm, etc. …). The two Gricean maxims that are relevant to the study of scalar implicatures are the Quantity and the Quality Maxims. The maxim of quantity requires 'to be as informative as one possibly can and give as much information as needed, and no more'. The maxim of quality requires that speakers utter only what they believe to be true. Quantity implicatures arise from a tension between these two maxims. Explicitly, a speaker might utter a less informative statement when a more informative one could have been said, thus violates the maxim of Quantity to prevent a violation of the maxim of Quality. Consider the following Grice reasoning deriving the exclusive interpretation of *Or* as a result of a Quantity implicature (Gamut, 1991: vol:1, pg. 205; Chierchia, 2013, pg. 101). Grice starts with the assumption that *Or* is truth-conditionally inclusive.

(26) a. Joe or Bill will show up

b. Joe and Bill will show up.

First, notice that (26b) asymmetrically entails (26a) if *Or* is inclusive, that is if (26a) is true when Joe or Bill or both will show up.

i. The speaker makes use of (26a) and not (26b).

- This is a violation of the maxim of Quantity because

ii. (26b) is more informative than (26a).

- Therefore,

iii. If the speaker believed that (26b) holds, she would have said (26b).

- If the speaker violates the maxim of quantity, there must be a good rational reason why. We can infer that the speaker wants to avoid a violation of the maxim of quantity and conclude that

iv. It is not the case that the speaker believes that (26b) is true.

- If we have no reason to doubt this much, we can also assume that

v. The speaker has an opinion as to whether (26b) holds.

- So:

vi. The speaker takes (26b) to be false. That is, he believes that it is not the case that John and Bill will both show up.

- (vi) is the Quantity implicature resulting from the utterance of (26a).
- The conjunction of this inference with the truth-conditional inclusive reading of (26a) results in an exclusive interpretation:

vii. The speaker conveys that John or Bill (assertion) and not both (implicature) will show up.

### 2.3.3 Scalar implicatures

This section illustrates Chierchia's view on quantity implicatures. In this analysis, he takes quantity implicatures to be scalar implicatures, in the sense of Horn (1989), that is, implicatures deriving from inferences on scales rather than unordered sets of alternatives. Let us first see what Horn scales are.

In the study of implicatures, it is significant to explain how alternatives are determined since implicatures depend on reasonings about alternatives (i.e., the

things that the speaker might have said). Such reasoning can only be confirmed when the correct alternatives are considered.

For example, consider the utterance (27) in which the use of the quantifier *Some* gives rise to the implicature that not all of my friends came to the party.

(27) Some of my friends came to the party. ~> Not all of my friends came

Horn (1989) suggests that this reasoning is possible because *Some* and *All* are members of the same entailment scale, the scale in (28a) below, which is evoked by the use of *Some*, he proposes that scalar implicatures, in general, depend on the existence of 'scales' (that is ordered sets of alternatives) whose elements are ordered by entailment, as exemplified in (28):

(28) Horn Scales

| | | |
|---|---|---|
| a. | <all, most, many, some> | positive quantifiers |
| b. | <none, not all, few, no> | negative quantifiers |
| c. | <and, or> | connectives |
| d. | <must, should, may> | modals |
| e. | <…, 3, 2, 1> | numerals |

Now consider again the utterance in (27), which is repeated below as (29a): the implicature associated with *Some* arises from the using the scale in (29b) to generate relevant alternatives. The representation in (29c) shows that the alternatives *Some of my friends came* and *All of my friends came* are parts of the alternative set.

When the implicature is stronger, the reasoning triggers a scalar implicature (SI) as is sketched below:

(29) a. Some of my friends came to the party.

b. Scale <some, all>

c. Alternatives the Gricean reasoning operates over are the elements of C = {some of my friends came, all of my friends came}

d. The speaker utters "some of my friends came" …

e. The speaker believes that "not all of my friends came"

f. The speaker conveys that "some of my friends came and not all of them came".

As the example shows, scales are ordered as *n*-tuples of lexical items, which means that each element entails the items to its right belonging to the same lexical paradigm. For example, *All* and *Some* are called scale-mates and 'scale-mate-of' is a symmetric relation. According to the sketched reasoning here, within the implicature calculation, the alternatives to a sentence S are restricted to the set of 'S' which is obtained by the replacement of an expression with one of its scale-mates. Once the derived alternative is stronger, the reasoning illustrated above results in a scalar implicature.

## 2.4 Chierchia's exhaustification operator

Regarding Negative Polarity and Free Choice uses (which will be discussed in Section 2.6), some has tried to go into pragmatics but Chierchia has moved away from the pragmatic system by making use of alternative semantics and focus

sensitive operators that are silent and therefore, he has reformulated the idea in pure semantic and syntactic terms.

As we saw in the previous section that the quantifier *Some* in (29a) activates a set of alternatives in (29c). Once they are active, these alternatives must be factored into meaning, just like the alternatives activated through focus as in (17) in Section 2.2. Let us consider the example (30) to see that one way to do this is via the insertion of a covert exhaustification operator whose semantics is similar to *Only*. Notice that per se B's utterance is compatible with B being allowed to drink coffee as well. However, factually, in this context, we tend to interpret B's reply exhaustively, which means we will tend to interpret B's answer as in (31a). (31b) is a formal rendition of (31a).

(30) a. A: We have tea and coffee. Which one are you allowed to drink by your doctor?

b. B: I am allowed to drink tea.

(31) a. I am allowed to drink tea and I am not allowed to drink coffee.

b. $\Diamond p \wedge \neg \Diamond q$

where $\Diamond$ is the possibility modal, $\neg$ means *not,* p= I drink tea and q=I drink coffee

Following the Gricean reasoning, the hearer takes the speaker to convey the silent negation of the unspoken alternative {*drink coffee*} from its relevant alternatives {*drink tea, drink coffee*}. (31a) is logically stronger (more informative) than (30b). Therefore, negating the alternative {*drink coffee*} amounts to adding the implicature

to the utterance and then negating the result. Such an implicature adding to the sentence gives rise to strengthening. This process of strengthening through the covert negation of an unuttered alternative of the spoken utterance leads to exhaustification.

In the terminology introduced by Fox (2007), B's reply is exhaustified via a covert *Only* (O):

(32) $O(\Diamond p) = \Diamond p \wedge \neg \Diamond q$

= I am allowed to drink tea and I am not allowed to drink coffee

It should be mentioned that exhaustification is not found just in question-answer pairs and there is evidence that such an operation can take place in a wide variety of instances. (33) is another example. In (33), hearers typically interpret the sentence as conveying that the speaker only called John and Mary and she did not call any other individual(s) that might have been contextually relevant.

(33) a. I called John and Mary.

**O** (I called [John and Mary]$_F$)

The semantics of this alternative-sensitive exhaustification operator is as in (34) below[5]:

(34) *Only*-exhaustification

$O_C(p) = p \wedge \forall q \in C\,[q \rightarrow p \subseteq q]$

Where '$p \subseteq q$' means p entails

[5] We will see, in the remainder of the chapter, that Chierchia (2013) has a different view in that O targets alternative bearers and the role of contextual restrictions mentioned above is reduced in his approach. Therefore, I will change the semantics of these operators by changing C into ALT when I proceed under Chierchia (2013)'s AEA approach.

O is a binary operator that, like its overt focus sensitive counterpart, combine with sets of alternatives (that is C) and a proposition *p*. Regarding the definition in (34), the application of O conveys that *p* with its entailment is the only true member in the set of alternatives C. Such a mechanism contributes to the meaning once the alternatives are activated.

Returning now to SIs, Chierchia suggests that SIs are due to yet another instance of the presence of the exhaustifier O. For example, the implicature in (29), above, is derived in his theory via an application of O to the Horn-based set of alternatives in (29c) and the proposition asserted:

(35) a. Some of my friends came to the party.

b. $O_C$ (some of my friends came) = some of my friends came and NOT (all of my friends came)

where C = { < some of my friends came, all of my friends came > }

## 2.5 More on alternatives

In this section, we will see how, according to Chierchia, alternatives may enter into characterizing the distributional and semantic behavior of an item. I will illustrate this point by discussing a well-known fact about disjunction in possibility modal contexts. Consider the sentence in the following:

(36) You may eat ice cream or cake.

The literal interpretation of this sentence allows the listener to eat both ice-cream and cake. However, the sentence invites the exclusive inference that (s)he cannot eat

both. Such an inference is derived by taking into consideration that conjunction is a scale-mate of *Or* (as we saw in (28c) in Sec. 2.3.3.). Therefore, the logical form of (36) is represented in (37a), and the standard scale alternatives (σ-alternatives henceforth) are as in (37b).

(37) a. ◊ [p ∨ q]

where p = you eat ice cream, q = you eat cake, ∨ means *Or*

b. σ-alternatives = { ◊ [p ∨ q], ◊ [p ∧ q] }

where σ = scalar, ∧ means *and*

Besides, however, an ignorance inference is triggered in (36) that the speaker does not know which one of the disjunctions holds. Saurland (2004) proposes that each one of the disjuncts {p, q} is also included in the set of alternatives in addition to the conjunction for [p ∨ q][6]. These alternatives are called Domain alternatives (D-alternatives henceforth). Domain alternatives are all the subdomains of existential quantification (see Sec. 2.6.1 for details). So the D-alternatives for the sentence (36) are as in the following.

(38) D-alternatives = { ◊ p, ◊ q }

The full range of alternatives for (36) that looks as follows:

[6] He justifies this by the fact that disjunction corresponds to an existential quantification of over {p, q}, which means at least one member is true as in conjunction would correspond to a universal quantification over {p, q}.

(39) Extended scalar alternatives for (36)

$\Diamond [p \vee q]$

$\Diamond p$ $\Diamond q$ D-alternatives

$\Diamond [p \wedge q]$ σ-alternatives

According to the schema (39), each expression entails the expression above it and entailed by the ones below. The entailment works only in one direction; remember that when a sentence $S_1$ entails a sentence $S_2$ but the latter does not entail the former is the case of asymmetric entailment and the entailers are stronger (more informative) than the entailed ones. Therefore, due to the meaning of O, the excluded alternatives are the stronger ones (for example, the scalar alternative *You may eat both cake and ice cream* in (39) is the strongest member of the alternative set). When we exhaustify the assertion (36) concerning the set (39), we will get a contradiction:

(40) $O_C(\Diamond [p \vee q]) = \Diamond [p \vee q] \wedge \neg\Diamond p \wedge \neg\Diamond q \wedge \neg\Diamond[p \wedge q] = \bot$

Where C is as in (25), ⊥ means contradiction

= You can eat ice cream or cake and you cannot eat ice cream and you cannot eat cake and you cannot eat both ice cream and cake

As we saw above, the sentence in (36) is interpreted exclusively (the inference that *You can eat cake* and *you can eat ice cream* and *You cannot eat both*). With this inference, the result (40) is a contradiction because when we exhaustify the sentence *You may eat cake or ice cream*, we will have *You cannot eat cake and you cannot eat ice cream and you cannot eat both cake and ice cream.*

To overcome this contradiction, Fox (2007) suggests that a derivation is available in which the alternatives themselves undergo. In other words, first, the alternatives are individually exhaustified, then the results form the set of alternatives that undergo a second recursion of exhaustification.

(41) A: Which of the propositions in (39) is true?

= What are you allowed to eat from the set {the cake, the ice cream}?

B: ◊ p = You are allowed to eat ice cream.

This is how B's answer ends up interpreted exhaustively:

(42) O (◊ p) = ◊ p ∧ ¬ ◊ q

= O (You are allowed to eat ice cream)

= You are allowed to eat ice cream and you are not allowed to eat cake

Since in the above reasoning the alternatives O quantifies over are exhaustified counterpart of the alternatives, based on Fox (2007)'s idea, Chierchia (2013) assumes that the alternatives are actually exhaustified:

(43) Exhaustified alternatives (Exh-ALT)

$\mathbf{O}_{ALT}$ ◊ p $\quad\quad$ $\mathbf{O}_{ALT}$ ◊ q

$\mathbf{O}_{ALT}$ (◊ [p∧q])[7]

[7] Exhaustification of the scalar alternative (◊ [p∧q]) is vacuous because the scalar alternative is already the strongest member.

Now if we recursively exhaustify the assertion with respect to the alternatives in (43), we get (44):

(44) a. $O_{Exh\text{-}ALT}(\Diamond [p \vee q]) = \Diamond [p \vee q] \wedge \neg O_{ALT} \Diamond p \wedge \neg O_{ALT} \Diamond q \wedge \neg O_{ALT} (\Diamond [p \wedge q])$

b. $\neg O_{ALT} \Diamond p = \neg [\Diamond p \wedge \neg \Diamond q] = [\Diamond p \rightarrow \Diamond q]$

c. $\neg O_{ALT} \Diamond q = \neg [\Diamond q \wedge \neg \Diamond p] = [\Diamond q \rightarrow \Diamond p]$

d. $\neg O_{ALT} (\Diamond [p \wedge q]) = \neg \Diamond [p \wedge q]$

Once we place the appropriate equivalents in (30a), we finally come up to the formula in (45):

(45) $O_{Exh\text{-}ALT} \Diamond [p \vee q] = \Diamond [p \vee q] \wedge [\Diamond p \rightarrow \Diamond q] \wedge [\Diamond q \rightarrow \Diamond p] \wedge \neg \Diamond [p \wedge q]$

This means: one of $\Diamond p$ or $\Diamond q$ is true; and if one of the two is true, the other also must be true:

(46) $\Diamond q \wedge \Diamond p \wedge \neg \Diamond [p \wedge q]$

= You are not allowed to take them both, but each one is an allowable option.

Therefore, this whole process is a form of recursive exhaustification that Fox (2007) introduced originally:

(47) $O_{Exh\text{-}ALT}(\Diamond [p \vee q]) = O^{R}_{ALT}(\Diamond [p \vee q])$

## 2.6 Polarity sensitivity

### 2.6.1 Negative polarity items

Negative polarity items (NPIs) are expressions that are grammatical in negative contexts and other semantically related environments (Downward Entailing contexts). When an NPI is grammatical in a context, we say that it is licensed in that context. Examples with the English NPIs *Any* and *Ever* are given in (48)). Showing that these items are not licensed in examples (48a', 48b'), however, they become grammatical once these sentences are negated as in (48a, 48b).

(48) a. Mary didn't watch any movie.

a'. *Mary watched any movie.

b. I haven't ever seen such an excellent movie.

b'. *I have ever saw such an excellent movie.

Besides negative sentences, a plethora of other environments admit *Any* and *Ever* including but not limited to the restrictor of universal quantifiers, the antecedent of conditionals, the scope and restrictor of *Less then n* and *At most n,* the complement of *Without,* clauses embedded under *Surprise, Doubt,* neg. raising predicates, root questions, etc. as in (49):

(49) i. Conditionals

a. *If you are bored, there are any books on the shelf.

a'. If there are any books on the shelf, you won't be bored.

b. *If you are bored, you should ever watch the TV series Friends.

b'. If you ever watch the TV series Friends, you will become addicted.

ii. Embedded under the verb *doubt*

a. I doubt that there are any books on the shelf.

b. I doubt there ever were books on the shelf.

Ladusaw (1979) proposed that NPIs are licensed in the scope of a Downward Entailing (DE) function. A function f is Downward Entailing if and only if A entails B, then f (B) ⇒ f(A). In the subset inference (50b), the entailment relationship gives rise to the situation that the unprimed sentence entails the primed one in (51).

(50) a. Somebody saw a student from the Linguistics department

⇒ Somebody saw a student.

b. {x: x sees a student from Linguistics department} ⊆ {x: x sees a student}

Given this, the inference goes from the larger set to the smaller one, which is a property of Downward Entailing (DE) contexts. Thus the NPI *No* is licensed in a Downward Entailing context.

(51) Subset inference

a. Nobody saw a student.

⇓

a'. Nobody saw a student from ling. Dep.

As for today, Ladusaw's proposal remains the most successful semantic empirical generalization concerning the environments where the existential NPI *Any* occurs.

However, his analysis breaks down when it comes to the non-DE examples in which *Any* might also be grammatical; one such case is the one in which *Any* receives a Free Choice interpretation. I will illustrate this case in the following section.

### 2.6.2 Free choiceness

An example of Free Choice interpretations was already discussed within the discussion regarding disjunction in modal sentences (see Sec. 2.3.). Another similar example is given in (52a), which is understood as (52b). Just like in the example (50), here too, each disjunct is a permitted option to be chosen, but it is inferred that both *Music* and *Art* cannot be acceptable together (which is the exclusive interpretation of *Or*). This is what is described as a Free Choice effect (Kamp, 1973).

(52) a. You may choose music or art as your after-school activity.
b. You are allowed to choose music, and you are allowed to choose art, but you are not allowed to choose them both.

In addition to disjunction, indefinites like *Some*/*A* also give rise to Free Choice effects in possibility modal sentences. For example, the utterance in (53a) can be interpreted as in (53b), whose formal rendition is in (53c).

(53) a. You may choose some/an after-school activity.
b. You may choose an after-school activity; it does not matter which one
c. $\Diamond a_1 \wedge \Diamond a_2 \wedge \Diamond a_3 \wedge ...$: You may choose the activity $a_1$, and you may choose the activity $a_2$, …..
where conjunctive interpretation of a disjunctive construction signs the FC effect

### 2.6.3 The problem of English *Any*

Having introduced NPI and FC readings, I am now in the position to illustrate the dual nature of English *Any*. On the one hand, *Any* patterns with *Ever* and other NPIs in that it is typically ungrammatical unless it is in the scope of a DE function (see (48) above). In DE contexts, *Any* receives a plain existential interpretation. On the other hand, *Any* is also a Free Choice item, which is interpreted as having universal quantification force and can appear in this incarnation, in Upward Entailing contexts (54)[8].

(54) Yesterday Mary watched any movie that she found on TV.

Furthermore, in the scope of the possibility modal *May, Any* receives an existential FC reading similar to the one of Free Choice disjunction and plain existential indefinites discussed in the previous section. To see the parallelism, consider the following example:

(55) a. You may choose any after-school activity.

b. Interpretation: $\Diamond a_1 \wedge \Diamond a_2 \wedge \Diamond a_3 \wedge ...$

Therefore, Free Choice readings of *Any* can be either quasi-universal and not universal. The following example further reveals the reality of this ambiguous

[8] Although FC use of *Any* in the absence of a modal is deviant, it can be rescued by a postnominal modifier which is generally referred to as subtrigging effect which I will illustrate in Chapter 4.

(1) a. *I watched any movie.
b. I watched any movie I found on TV.

nature of *Any.* The sentences in (56) show that *Any* in the same environment can have two readings:

(56) a. If you date any person, you should think twice. [NPI *Any*]

b. If you date ANY person, you should think three times. [FC *Any*]

## 2.7 Derivation and prediction

Chierchia takes the similarity between FC disjunction and NPI/FC *Any* as a starting point for his analysis of *Any.* We have seen that disjunction gives rise to scalar effects in Section 2.3. and FC effects which can be explained in terms of implicatures within AEA. We also observed that some indefinites and *Any* raise the same interpretations as FC disjunction in the same environments. Given all this, Chierchia suggests that there must be a deep connection between FC phenomena and implicatures.

Crucially, he notices that the 'exclusive' components of FC disjunction and *Any* repeated as in (57) are due to an implicature since they can be called off without contradiction, as first observed in Kamp (1978) and Zimmerman (2000) (see (58)).

(57) a. You may choose art or music as your after-school activity.

b. You may choose any after-school activity.

The reader might recall that *Or* tends to be interpreted exclusively in positive statements (see Sec. 2.3., Sec. 2.4.2.) and *Any* receives an existential reading

triggering FC effect in the scope of possibility modals (see Sec. 2.4.3.) thus the implicatures in sentences (57a, 57b) are as in (58a, 58b) respectively.

(58) a. You may choose art or music as your after-school activity

= You are allowed to choose art and you are allowed to choose music

~> You are not allowed to choose them both

b. You may choose any after-school activity.

= You are allowed to choose activity a, you are allowed to choose activity b, you are allowed to choose activity c, …

~> You are not allowed to choose all of them

The implicatures in (58) can be canceled without contradiction:

(59) Implicature Cancelation

i. You may choose art or music; possibly both.

ii. You may choose any after-school activity; in fact, you may choose all of them if you like.

This pattern of cancelability is also observed in DE contexts as expected. Since DE contexts are entailment reversal, a DE function reverts the direction of the relation of semantics strength/informativity: If $S_1$ is more informative than $S_2$, $f(S_2)$ is more informative than $f(S_1)$ iff is DE. Given this, it is well known that Scalar Implicatures that are triggered by choice of a weak scalar item do not surface in DE contexts

because in these contexts, the choice of the weak scalar item results in the most informative statement.

Noticeably, also the exclusive components of FC *Or* and indefinites disappear in these contexts, as shown in (60).

(60) No FC in Downward entailing context

a. You cannot choose art or music.

Literal Meaning ⇔ You cannot choose art, and you cannot choose music.

b. You cannot choose any after-school activity.

$= \neg\ \exists x \in D$ [activity (x) $\wedge \Diamond$ you choose x]

$= \neg$ [you choose $a_1 \vee$ you choose $a_2 \vee \ldots$ ], for any activity $a_i \in D$

It should be noted that such similarity is limited to DE and modal contexts. In the absence of modal, plain indefinites and disjunction may lack FC effects while existential free choice items like *Any* require a modal interpretation. This will be discussed in Section 2.8.

Chierchia (2013) capitalizes on the idea that NPI/FC effects of *Any* is an implicature of sorts, thus he embeds all polarity phenomena in an account of implicatures.

## 2.8 Chierchia (2013)'s analysis

In the remainder of the chapter, I will show how Chierchia (2013)'s alternatives and exhaustification based treatment of the polarity sensitivity accounts for Negative Polarity and Free Choice items.

Following Kadmon & Landman (1993), Chierchia takes 'domain widening' and 'strengthening' to be crucial ingredients of a theory of negative polarity. Having investigating that Negative Polarity items appear with ease only in Downward Entailing contexts, Kadmon and Landman (1993) provided their well known 'domain widening analysis' as a lexical property of NPIs. In this semantic account, they suggest that *Any* is an indefinite determiner identical to *A* in all respects except that *Any* has the function of contextually widening the extension of a common noun (CN) it attaches to. For example, *Any vase* (any + CN) widens the domain of *Vases* (CN) relative to *A vase* (a + CN). Consider the following example uttered in a context where one has been told not to touch a precious vase:

(61) A: I didn't touch a $\text{vase}_C$

C = a contextually determined set of individuals

$[[\text{vase}_C]] = [[\text{ vase }]] \cap C$

(the set of relevant vases in the context of conversation)

= the set of precious vases

B: Not even a cheap one?

A: No, I didn't touch any vase.

[[vase]] = the set of all vases, precious or not

The widening effect is also associated with FC *Any* as in the example by K&L (1973):

(62) A: An owl hunts mice.

B: A healthy one, that is?

A: No, any owl (healthy or sick) hunts mice.

To account for the limited distribution of NPIs to DE contexts, Kadmon and Landman (1993) introduced the constraint that domain widening is only admissible if it leads to a semantically more informative statement. That is, widening is subject to a strengthening condition, which means these widening-based CNs are licensed insofar as the sentence containing them entails the same sentence without widening. This strengthening requirement is satisfied in (63a) where a statement with widening which entails the one with a narrower construal, it is not in (63b) as the sentence with widening is less informative than the one without (see Section 2.3.1. as to why).

(63) a. I didn't touch any vase. ⇒ I didn't touch a vase.

b. *I touched any vase. ⇏ I touched a vase.

Therefore, according to Kadmon and Landman's view, it is the lexical property of domain widening of NPIs together some general pragmatic principle derive their distribution. Besides developing the precise details of this idea, Chierchia (2013)'s view embeds the strengthening condition within his AEA to implicatures, where it finds independent motivation.

### 2.8.1 Negative polarity part of the system

It is well-known that if α is logically stronger than β, embedding them within a UE context preserves strength, while embedding them within a DE context reverses it (see Section 2.6.1); therefore, Downward Entailingness is also a scale reversal, besides licensing Polarity Sensitive Items (PSIs). Chierchia (2013)'s approach draws on this parallelism between scalarity and PSIs. Borrowing insights from Kadmon and

Landman (1993), Krifka (1995), and Lahiri (1998); Chierchia (2013) proposes that *Any* denotes an existential quantifier whose domain of quantification is wider than the set of individuals that are salient in the utterance, which usually functions as contextual domain restriction for ordinary determiners. For example, a universal statement like (64a) below is never understood as in (64b). The restrictor of the universal quantifier is always intended as a subset of D, that is a set of contextually salient individuals.

(64) a. Every student was at the party.

b. Every x in the set of individuals that is a student was at the party.

'Every student in the entire world was at the party.'

c. Every student in D was at the party.

The proposal is then that NPIs select for a wider domain restrictor than D. To see how this distinguishing property of polarity sensitive items results in a constraint on the alternatives, consider the following example in (65). As a starting point, Chierchia takes *Any* as an existential akin to *Some* or *A* for the reason that the truth conditions of the sentences in (65) appear to be the same. Then, since (65b) is perceived stronger than (65a), he distinguishes between such sentences through their domains of quantification. The domain D' associated with *Any books* is broader than D associated with *Books*. Thus D is a subdomain of D' as in (65c).

(65) a. There aren't $[_{NP,\ D}$ books] here.

$= \neg\ \exists x \in D$ [books (x) $\wedge$ here (x)]

There are not things in D which are books and are here.

b. There aren't [$_{DP,\ D'}$ any books] here

= ¬ ∃x ∈ D' [books (x) ∧ here (x)]

There are not things in D which are books and are here.

c. D ⊆ D'

The negation of the existence of an object with certain properties in a given domain always entails the negation of such an existence in any of its subdomains, therefore the statement with *Any* is stronger than the one with a regular existential determiner.

Having taken this into account, *Any* widens the domain D because it allows the involvement of more books in the set. For (65b), all books are members of the relevant set. As *Any* always widens the domain, in negative sentences widening the domain results in a stronger statement whereas in positive sentences it results in a weaker one. Therefore, the negative existential is stronger than the one whose restrictor is a subset of all possible books. According to this proposal, negative polarity items like *Any*/*Ever* are infelicitous in affirmative contexts because the widening of the domain lacks informational value as in (66a). That is, a statement of the existence of an object with certain qualities in a given domain (D') does not entail the existence of such an object in any of its subsets (D). Given this, in Upward Entailing contexts the utterance with a regular existential determiner which has a regular contextual domain restrictor D makes a stronger statement than the one where a wider domain is involved as in (66b).

(66) a. *There is any book.

b. There is a book.

Chierchia's renditions of this proposal is that *Any* is, in a sense, like a focused version of *Some* and *A/Some* in that they are both indefinites, whose difference is that the former, but not the latter obligatorily activates alternatives. Specifically, for *Any* comes with the lexical specification that the alternatives are subdomain alternatives, a counterpart of K&L widening as it will be clear below. Having assumed that *Any* comes with obligatorily active subdomain alternative, it follows from Chierchia's AEA approach that these alternatives must be exhaustified by the alternative sensitive operator that I illustrated in Section 2.2. By taking O as the standard device for exhaustification, Chierchia (2013) claims that the semantics of *Any* always requests the presence of O. This was exemplified in (63b), repeated as (67) below. The logical form of (67a) is (67b) in which O targets the alternatives associated with *Any*.

(67) a. There aren't $any_{F, D}$ books here.

b. $O_C$ [There aren't $any_{F, D}$ books here]

The truth condition of the utterance (67a) is below:

(68) $\neg\ \exists x \in D$ [books (x) $\wedge$ here (x)]

On the other hand, the alternatives for (67a) are as in (69):

(69) $\{\neg\ \exists x \in D'$ [books (x) $\wedge$ here (x)] : $D' \subseteq D\ \}$

Under this analysis, besides D-ALTs, NPIs like *Ever* and *Any* include also scalar alternatives (σ-ALTs): the conjunction of disjuncts.

As I stated above, Chierchia (2013) takes O as the default exhaustification operator. Now, I will show how O exhaustification yields a coherent result for NPIs like *Any*. For the plausibility of a covert O, consider the following dialogue:

(70) A: Did John go to European countries?

B: No, he didn't go to any countries.

As we saw above, B conveys that John did not go to any European countries in the domain of discourse (England, Moldova, Bulgaria, …) and asserts that none of them are such that John went to. These countries are elements of the linearly ordered sub-domain alternatives (D-ALTs) and conjunction of the disjuncts (σ-ALTs) which are always active for NPIs like *Any*. Recall that activating alternatives means that they are always factored into the meaning, and NPIs like *Any* incorporate them into the meaning via the exhaustifier O. This operator takes the alternatives and negates them if they are stronger than (asymmetrically entail) the assertion (see Section 2.3.1 for asymmetric entailment). That is, by the semantics of *Only*, all the alternatives other than the assertion itself must be false. Therefore, O negates all alternatives {*England, Moldova, Bulgaria, …*}. In UE environments the alternatives are stronger than the assertion: the existence of a European country that John visited in a given set entails its existence in any superset as shown in Figure 2: The largest domain belongs to *Any* and other linearly ordered subsets belong to alternatives. Note that every set is the subset of itself; that is, D' is also among the subsets.

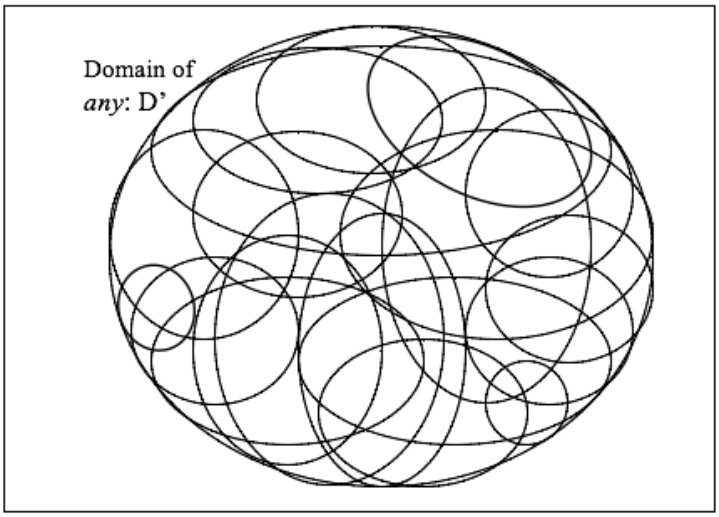



Figure 2. Subsets of D'

As the assertion is entailed by the alternatives, their negation is required by O exhaustification. If one says nothing exist in a smaller set (by the semantics of O: it negates all alternatives other than the assertion), but something exists in D' (as the assertion is positive) contradiction emerges because D' is among the alternatives. Therefore, negation of all these stronger alternatives means that for any possible subset of the domain of *Any* (D') *There is no country in that set where John go*, but this contradicts the assertion that *There is a country in D' where John went*.

(71) a. *John went to any countries.

b. O (John went to $any_{D', \sigma}$ countries]

c. $O (\exists w' \exists x \in D'_{w'} [country_{w'} (x) \wedge go_{w} (J, x)])$

$= \exists w' \exists x [[country_{w'} (x) \wedge go_{w} (J, x)] \wedge \forall p \in ALT [p \rightarrow \lambda w \exists w' \exists x$

$[[country_{w'} (x) \wedge go_{w} (J, x)] \subseteq p ]$

$= \perp$

However, negation reverts the entailment: the non-existence of a European country that John visited in the largest domain entails the non-existence any of its subsets (e.g. not going to any country entails not going to a specific country). As I stated above, D' is also among the alternatives; so, when one says there is nothing in the D' and nothing in any of its subsets, there will not be a contradiction. So, *Only* does not have any alternative to negate which means none of the alternatives is affected by *Only*. Therefore, NPIs occur in a DE context to satisfy this requirement:

(72) a. John didn't go to any countries.

b. O [John didn't go to $any_{D', \sigma}$ countries]

c. $O (\neg \exists w' \exists x \in D'_{w'} [country_{w'} (x) \wedge go_{w} (J, x)])$

$= \neg \exists w' \exists x [ [country_{w'} (x) \wedge go_{w} (J, x)] \wedge \forall p \in ALT [p \rightarrow \lambda w \neg \exists w'$

$\exists x \quad [country_{w'} (x) \wedge go_{w} (J, x)] \subseteq p ]$

To conclude, I have shown that *Any* like other NPIs such as *Ever* has obligatorily D-alternatives and σ-alternatives ordered by "⊆" and exhaustified by O. In its purest form, NPI *Any* can be shown as in the following.

(73) $[Any/Ever]_{[+D, +\sigma]}$

In the following section, I will come to the point where Chierchia's analysis for PSIs is a unified one in the sense that we can switch from an NPI to an FC.

2.8.2 How to derive free choice items

For this dissertation, I focus on the existential use of *Any* and Chierchia (2013)'s treatment of Existential Free Choice items. His argument is based on the idea that disjunction optionally activates both scalar and domain alternatives as illustrated in (74b), and when the domain alternatives are pre-exhaustified[9] (i.e., recursive exhaustification) as in (74c), the FC effect appears. In the reasoning sketched in (74), each row entails the one above it.

(74) a. $O_{Exh\text{-}DA}$ $O_{\circ A}$ (You may choose art or $_{[+\sigma, +D]}$ music)

b. ALT: ◊ [choose art ∨ choose music]

◊ choose art ◊ choose music ↑[10] D-alternatives

◊ [choose art ∧ choose music] ↑ σ-alternatives

c. Exh-ALT: ◊ [choose art ∨ choose music] ↑

**O** (◊ choose art) **O** (◊ choose music) Exh/D-alternatives

◊ [choose art ∧ choose music]

That the recursive exhaustification yields FC effect is illustrated in the following:

(75) $O_{Exh\text{-}DA}$ $O_{\circ A}$ (◊ [choose art ∨ choose music])

= ◊ choose art ∧ ◊ choose music ∧ ¬ (◊ [choose art ∧ choose music])

[9] Remember that the exhaustification of scalar alternatives is redundant since they are the strongest.
[10] The arrows indicate that elements in each level entail everything above them.

Differently from disjunction, ∃-FC *Any* obligatorily activates scalar and Domain alternatives.

(76) a. $O_{Exh\text{-}DA}\ O_{\sigma A}$ (You may choose any$_{[+\sigma, +D]}$ after-school activity)

b. $O_{Exh\text{-}DA}\ \ O_{\sigma A}$ ($\Diamond$ [choose $a_1$ $\vee$ choose $a_2$ $\vee$ …. ])

= $\Diamond$ choose $a_1$ $\wedge$ $\Diamond$ choose $a_2$ $\wedge$ ….

If an item admits recursive exhaustification, its distribution will not be limited to just DE contexts just like pure NPIs and FC interpretation is yielded. Therefore, it turns out to be that *Any* is both an NPI and an FCI but not a pure NPI like English *Ever*. The former allows pre-exhaustification of its D-alternatives, and the latter does not which is evidently seen in (77).

(77) a. You may choose any after-school activity.

b. *You may ever choose these after-school activities.

Chierchia applies this analysis to various items from different languages. For example, the pure NPI *Alcun* in Italian disallows pre-exhaustification of its alternatives while NPI/∃-FCI *Irgendein* in German allows it.

### 2.8.3 Free choice epistemic effects

According to Chierchia (2013)'s AEA, epistemic indefinites are a particular manifestation of existential free choiceness since they behave parallel semantically and interpretatively.

Let us go back to the example of disjunction in (36) which is repeated as (78). We established that the inference that the speaker does not know which disjunct holds arises. Such expressions encode lack of knowledge which is called ignorance.

(78) You may eat ice cream or cake.

= You are allowed to eat ice cream, and you are allowed to eat cake, but I don't know which.

Besides, I showed that the parallel behavior of ∃-FCI *Any* to FC disjunction in Section 2.6.3. The interpretation of (79a) involves a possibility modal with wide scope over an existential (i.e. a disjunctive) element as in (79b) that is understood as (79c) in which the possibility modal distributes over disjunctive operator which ends with a conjunction. This is fully parallel to disjunction in (78).

(79) a. You may choose any school activity.

= Each activity is a permissible option, and it doesn't matter which one.

b. $\Diamond$ [you choose $a_1$ $\vee$ you choose $a_2$ $\vee$ …], for any activity $a_i \in D$

c. $\Diamond$ you choose $a_1$ $\wedge$ $\Diamond$ you choose $a_2$ $\wedge$ …, for any for any activity $a_i \in D$

Another parallelism is that the Free Choice effects in both ∃-FCI and FC disjunction disappear under DE environment as shown in Section 2.7 :

(80) a. You can't eat ice cream or cake.

= $\neg \Diamond$ (eat ice cream $\vee$ eat cake) $\Leftrightarrow$ [ $\neg\Diamond$ eat ice cream $\wedge$ $\neg \Diamond$ eat cake]

= You cannot eat ice cream and you cannot eat cake.

b. Nobody chose any after-school activity.

=¬ ∃ x ∈ D ∃ y ∈ D' ◊ [person (x) ∧ activity (y) ∧ x chose y]

= There is no activity that is chosen.

However, this parallelism is restricted to DE and modal contexts. In non-modal contexts, however, ∃-FCI items like *Any* still requires Free Choice reading while ignorance effect of disjunction or a plain indefinite might disappear in the same context. For example, in (81a) we cannot force the FC effect disappear while for ordinary indefinites, it can be cancelled without deviancy as in (81b). The epistemic effect is an indifference reading in (81a) which means 'It does not matter who'.

(81) a. The professor wanted to see anyone from the Dep.. *He is John.

Interpretation: She wanted to see someone; it could have been Mary, it could have been Susan, … (It does not matter who)

b. The professor wanted to see a student from the Dep. He is John.

Under AEA approach, the key difference between ∃-FCI epistemic indefinites like *Any* and plain indefinites/disjunction is that the former obligatorily activates both scalar and pre-exhaustified Domain alternatives while the latter optionally activates both scalar and domain alternatives and Domain alternatives can be pre-exhaustified rather than an obligation. That is, alternatives of plain indefinites/disjunction are subject to relevance: they might be active or not and they can be pre-exhaustified depending on the context.

So far, we have established that the switch from NPI like *Ever* to NPI/FC like *Any* is minimal: obligatoriness of recursive exhaustification of the same type of

alternatives. Besides, the difference between a pure NPI or NPI/∃-FCI and FC disjunction is based on obligatoriness of alternatives they activate and recursive exhaustification as it is summarized in Table 1. Both *Any* and *Ever* require an exhaustifying operator that assigns "+" to the feature complex [σ, D] while it might get "−" for plain indefinites/disjunction.

Table 1. Activated Types of Alternatives and Recursive Exhaustification

| | D-ALTs | σ-ALTs | Recursive Exhaustification |
|---|---|---|---|
| Plain indefinites | optional | optional | optional |
| Disjunction | optional | optional | optional |
| NPI *Any*/*Ever* | obligatory | obligatory | NO |
| ∃-FCI *Any* | obligatory | obligatory | YES |

## 2.9 Conclusion and predictions

In this chapter, I showed Chierchia (2013)'s argument that the rich panorama of polarity sensitive items is based on alternative variations and the ways those alternatives are exhaustified. I started out by introducing alternative semantics in its simplest form. First, I presented that implicatures and scalar terms have one of the most critical roles in an alternative-based approach and that the device to get such scalar implicatures is exhaustification. Then I took a closer look at the system of scalar implicature because Chierchia (2013) argues that polarity sensitivity phenomena can be understood within such a system. For the technical details, I introduced alternatives and recursive exhaustification as well as the covert grammatical operator O. Specifically, I showed that Chierchia proposes that O must

always be factored into the semantics of *Any*. After such details, by looking at the problem of *Any*, I could show that items which have both NP and FC inferences have a unified analysis under Chierchia's AEA approach.

First and foremost, Chierchia's approach shows that NP/∃-FC items exist and have a unified analysis with NPIs, though I limited my examples only to *Any*. In this dissertation, I propose that Chierchia's AEA theory of polarity sensitivity items holds perfectly for Turkish polarity sensitive item *Kimse.* Specifically, I will propose that both NPI *Kimse* and NPI/∃-FCI *Bir Kimse* arise from different variations of the same alternatives and different choices as to how these alternatives are exhaustified.

# CHAPTER 3

# NEGATIVE POLARITY ITEM *KİMSE*

## 3.1 Introduction

In Chapter 1, we saw that NPIs like *Any* and *Ever* minimally differ from plain indefinites/disjunction in that the former obligatorily activate alternatives that need to be factored into the meaning of the utterance. In this chapter, I will discuss a second type of NPIs, which require DE contexts like the one we saw in the previous chapter (*Any*-type). Following Chierchia's terminology I will refer to these NPIs *Even*-NPIs and to *Any* and *Ever* as *Only*-NPIs. In order to account for the empirical differences from *Any* that these NPIs exhibit, Chierchia stipulates a second type of exhaustification in addition to *Only*: *Even* exhaustification.

So far, we observed that *Kimse* depends on DE contexts (see Chapter 1). The above distinction between different NPIs becomes relevant in establishing where *Kimse* belongs. To show which class *Kimse* belongs to, I make use of Guerzoni (2004)'s account of the bias of questions with minimizers that builds on Heim (1984)'s claim that such items have a covert *Even* in their semantics. I will provide examples which show that also *Kimse* triggers negative bias in questions. Hence, I will claim that it contains a silent *Even* in its semantics. After establishing this empirical fact, I will show that *Kimse* behaves similar to minimizers in some respects and *ANY* in some other. To account for the behavior of *Kimse*, I will propose two different analyses: A Degree-based and A Domain-based analyses.

The former option is based on the resemblance between *Kimse* and minimizers for which Chierchia (2013) suggests a degree analysis. In addition to the presence of a silent *Even*, minimizers like *Lift a finger* associate with the

semantically weakest element of the relevant pragmatic scale; they denote the low endpoint of the scale (Horn, 1989). Extending it to *Kimse* amounts to claiming that *Kimse* triggers degree alternatives and that it denotes the low endpoint of the contextually relevant scale of degrees. In evaluating this option, I will show what type of degree alternatives *Kimse* may have and I will prove why these alternatives must be exhaustified by E.

The second option which adopts the idea of domain widening by Kadmon and Landman (1993) is motivated by a similarity between *Kimse* to stressed *ANY*, for which Chierchia proposes a domain analysis in the spirit of K&L. Specifically, I will show that the semantics of *Kimse* may require a wider domain of quantification than the contextually provided one. According to this analysis, *Kimse* has only domain alternatives ordered by "⊆" that are all subsets of the widened domain and they are exhaustified by E.

My motivation for formalizing the details of these two different analyses is that each option has its own weaknesses in accounting for the behavior of *Kimse* and they complement each other with their strengths. Although I will present a discussion of the advantages and disadvantages of these analyses, I will not be in the position to make a conclusive choice between them. What is important is that both options can account for the fact that *Kimse* is negatively biased in questions and its alternatives are factored into meaning with the operator E. That is, whichever option we follow, it predicts that *Kimse* has a silent *Even* in its semantics which is my main claim in this chapter, further empirical evidence will be needed to bear on the choice between the two.

## 3.2 *Even* exhaustification

Recall from Section 2.2 that an exhaustivity operator combines with a proposition ϕ and the alternatives of ϕ to return a proposition that entails ϕ. That is, since the resulting proposition includes both ϕ and its quantity implicatures, the outcome is the strengthened counterpart of ϕ. We saw that Chierchia's treatment of scalar implicatures relies on the use of O which is, roughly speaking, a covert counterpart of the focus-sensitive operator *Only* (see Section 2.2 for their difference) to obtain strong meanings of this sort. For example, B's answer is interpreted as *I only went to Eastern countries,* and it is exhaustified by O as in (82).

(82) A: Did you go to European countries?
B: Well, I went to Eastern European countries.

(83) a. I went to EASTERN European countries
b. I only went to Eastern European countries.
c. **O** (I went to $[\text{Eastern}]_F$ European countries.

In addition to *Only*, there is another focus-sensitive operator which is related to the current account: *Even*. *Even* contributes a scalar and (possibly) an existential presupposition to a declarative sentence (Rooth (1985), Horn (1989)). Specifically, (84a) asserts (84b) and presupposes (84c):

(84) a. John even went to $[_F$ Moldova]
b. Assertion (p): John went to Moldova
c. Presupposition:

- Scalar: Moldova is the least likely country for John to go to
- Existential: John went to somewhere other than Moldova.

d. ALT: {John went to Russia, John went to Ukraine, ….}

Therefore, according to the semantics in (85), *Even* is a binary function which takes a contextually salient set of alternative propositions (C below) and a proposition p, then, returns the same proposition on the condition that p is the least likely among the relevant alternatives in C.

(85) $[\![\textit{Even}]\!] = \lambda C\, \lambda p : \forall q\, [q \in C \,\&\, q \neq p \rightarrow q >_{likely} p].\ p$

Just like *Only*, Chierchia stipulates that *Even* has also a covert counterpart. The sentence in (86a) shows that an *Even*-like operator (E henceforeth) can also obtain an exhaustive meaning in which hearers get the interpretation that speaker's ex came to the party, and he was the least likely person to do that as in (86b) (see Heim (1984) for silent *Even*).

(86) a. Imagine that my ex came to the party.

b. E ([My ex]$_F$ came to the party)

(from Chierchia 2013, pg. 80)

Like its overt counterpart, the semantics of the covert *Even* (E) requires the assertion to be the least likely among the alternatives:

(87) *Even*-exhaustification

$[[ E_C ]]^w (p) = 1$ iff $p(w) = 1 \wedge \forall q \in ALT_C [p <_C q] \, q \neq p \rightarrow q >_{likely} p$

Where '$p <_C q$' means p is less likely than a contextually relevant alternative q and $Alt_C$ is the set of such alternatives

Under AEA, Chierchia (2013) has a slightly different view in that O and E target alternative bearers, and the role of contextual restrictions mentioned so far is reduced in his approach. In addition, he uses the probability measure $\mu$[11]. Thus in the remainder of the chapter, I will use the following semantics for E:

(88) $E_{ALT} (p) = p \wedge \forall q \in ALT [p \angle_\mu q]$

Where p' $\angle_\mu$ q' says that p is less likely than q with respect to some contextually relevant possibility measure $\mu$.

3.3 The connection between entailment and likelihood

We saw that in the semantics of *Only*, it requires anything asymmetrically entails the assertion to be false; thus, *Only* is only about entailment. However, as we saw in the previous section, *Even* is more or less about likely propositions in addition to entailment unlike *Only*. Hence, in this section, I will show what the relation between entailment and likelihood is. Consider the semantics of *Even* given in (88) which is repeated as (89):

(89) $E_{ALT} (p) = p \wedge \forall q \in ALT [p \angle_\mu q]$

[11] The probability measure $\mu$ for how likely it is to find something in D:
$D \angle_\mu D' = {}_\mu(\lambda w \exists x \in D_w) <_\mu (\lambda w \exists x \in D'_w)$

Accordingly, the presupposition of *Even* is "for all qs in the set of ALT, p is less likely than q".

Now, let us see why entailment affects this presupposition. Consider likelihood as being true in more worlds; p is more likely than q if it is true in more worlds. Roughly speaking, once one selects a set of possible worlds that are plausible realities, p is more likely than q if p is true in more worlds because of the presence of the possibilities in which p is more likely. For example, given that Figure 3 represents a set of all possible worlds, a proposition that picks more plausible worlds than the other will be more likely. Consider p and q as sets of worlds; so, entailment of this sort can be represented as subset relation as shown in Figure 3.

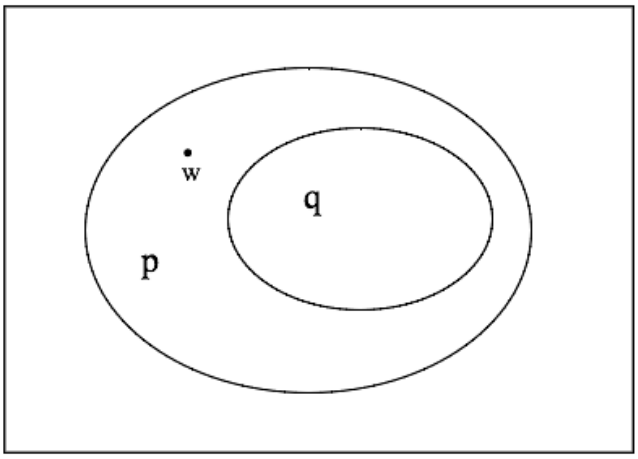



Figure 3. (Proper) subset relation

Thus, in such a situation, q will be a subset of p (because every time q is true, p will also be true; and, p might be true in some other occasions, too). Therefore, the entailment is "q entails p". If q asymmetrically entails p; that is, ($q \Rightarrow p$) holds but ($p \not\Rightarrow q$) does not, there will be at least one world in which p is true (which is represented by w in Figure 3). Thus, if q asymmetrically entails p, q will be a proper subset of p (see Section 2.3.1 for asymmetric entailment).

Now, let us talk about likelihood based on the entailment relation above. Since if q entails p, q is less likely; and, if q asymmetrically entails p, then, q is properly less likely; hence, q becomes a proper subset of p:

(90) $(q \Rightarrow p) \wedge (p \not\Rightarrow q) \rightarrow (q \subset p)$

Now, we invert p and q because we need the situation in which p is less likely than q. Therefore, p must entail all the alternatives and it also should not be entailed by any alternatives. So, p has to be the smallest; the least likely (the one that entails all other alternatives). Thus, p has to be the semantically strongest. However, once we do that, there will be contradiction as it adds the presupposition as part of the assertion as a strengthening effect. For example, when p is applied to the minimizer *Lift a finger* which is the weakest thing one can do, it will automatically generate a presupposition. Thus, this part will always be false because all the alternatives will be stronger. So, this observation connects the entailment facts with the likelihood facts.

Based on these observations, we would define the internal semantics of a minimizer like *Lift a finger* as something that is always going to fall as the lowest part of a scale. That is, a positive sentence will always be the semantically weakest, which means it will be the most likely. Thus, a clash occurs. However, when we negate the sentence, the scale also inverts the sentence with the minimizer; thus, it will be the strongest which means the least likely. Hence, the presupposition of *Even* is satisfied. So, this is how it works for *Even* with weak items.

## 3.4 *Even*-NPIs

Negative polarity items are commonly split into two classes: emphatic NPIs (91) and non-emphatic (pure) NPIs (92).

(91) a. Mary didn't drink a drop of alcohol. [emphatic NPIs]
b. I didn't see ANYBODY.

(92) a. Mary hasn't ever been in New York. [pure NPIs]
b. I didn't see anybody.

According to Chierchia, the difference lies in the types of alternatives they trigger and the choices as to how these alternatives are exhaustified. Given this, he refers pure NPIs as *Only*-NPIs as they are exhaustified by (a covert counterpart of) *Only* and emphatic NPIs as *Even*-NPIs as they are exhaustified by (a silent counterpart of) *Even,* as I will illustrate in the remainder of the section. I will use *Any/Ever* and stressed *ANY*/minimizers for the representatives of *Only*-NPIs and *Even*-NPIs, respectively. See Chapter 1 to remember how *Only* works for *Only*-NPIs and the following section for *Even*-NPIs. Now, I will illustrate *Even*-NPIs and how the analysis accounts for their distribution and semantic effects in turn.

In addition to pure/*Only*-NPIs like *Any*, most languages exhibit a second type of NPIs; that is, emphatic NPIs such as the English minimizer *Lift a finger*, Hindi *Ek Bhii* 'even one' (Lahiri, 1998) or stressed *ANY* (Krifka, 1995). These emphatic NPIs differ from pure NPIs empirically as in (93).

(93) A: I didn't touch any vase. [pure NPI]

B: Not even the most eye-catching one?

A: No, I didn't touch ANY vase. [emphatic NPI]

The difference between non-emphatic (pure) NPIs and emphatic ones is that the former activates both D-alts (domain alternatives) and σ-alts (scalar alternatives) exhaustified by O; the latter type of NPIs activates only σ-alts or only D-alts exhaustified via E.

Recall from Sections 3.2 and 3.2.1 that the semantics of the operator E requires the assertion to be the least likely among the alternatives. For example, as stressed *ANY* has scalar alternatives, E exhaustification is felicitous.

(94) a. I didn't touch ANY vase.

b. E ($\neg \exists x \in D$ [vase (x) $\wedge$ touch (I, x)])[12]

$= \neg \exists x \in D$ [vase (x) $\wedge$ touch (I, x)] $\angle_{\mu} \neg \exists x \in D_i$ [vase (x) $\wedge$ touch (I, x)]

However, in a positive context the assertion cannot be the least likely among the alternatives since the assertion part is entailed by all of the alternatives as we saw in the above discussion in Section 3.2.1; thus, E exhaustification yields an ungrammatical sentence.

(95) a. *I touched ANY vase.

b. E ( $\exists x \in D$ [vase (x) $\wedge$ touch (I, x)])

[12] For the purposes of this thesis, for simplification, I ignore intentionality which will not affect what I intend to say.

$= \exists x \in D\,[\text{vase}(x) \wedge \text{touch}(I, x)] \angle_{\mu} \neg \exists w' \exists x \in D_i\,[\text{vase}(x) \wedge \text{touch}(I, x)]$

$= \bot$

However, we have seen, so far, that the default exhaustification operator is O in AEA. So, how come E can be the exhaustifier in cases like emphatic NPIs? Chierchia (2013) introduces a principle that prevents the use of O with scales whenever it is indistinctive from E: Optimal Fit. In Chierchia (2013)'s view, this is a sort of 'Maximize presupposition' principle that arranges the choice of kinds of alternatives and operators:

(96) Optimal Fit

In exhaustifying $\phi$, use O unless $O(\phi)$ is trivial and there is a salient probability measure $\mu$.

A probability measure $\mu$ is salient iff one of the following holds:

(a) $\mu$ is salient in the context (b) ALT is totally ordered by "$\subseteq$"

Chierchia (2013, p. 153)

Therefore, so far, I illustrated O and E as the exhaustification operators (although, there are more operators that are not in the scope of this study). When both operators yield the same result, Optimal Fit gets involved in the process. That is, in AEA, Chierchia (2013) takes O as the default exhaustification operator. However, if using O leads to vacuity and there is a salient probability measure $\mu$, E must be picked (since it presupposes that a probability measure which is relevant). The reasoning of the second clause in (96) is that if the ordering of the set of alternatives are by

entailment, then the ordering regarding any probability measure $\mu$ is by entailment as well; since, whenever A $\subseteq$ B, $\mu$ (A) $\leq$ $\mu$ (B), for any $\mu$.

Exhaustification via O of *Even*-NPIs in negative sentences is trivial; and, that is why *Even*-NPIs must activate only either D-alts or σ-alts. Because when only one type of alternatives is used, the principle Optimal Fit is violated. For example, with only D-alts, there are no stronger alternatives; hence, O will do no work on them. Which is why it must be E. For example, minimizers pick only the σ-alts and stressed *ANY* picks only the D-alts (I will show in the following of the chapter in detail). Once only one type of alternatives is activated, the exhaustification of O is excluded based on Optimal Fit and that is why E exhaustification gets involved. Therefore, the difference between an *Only*-NPI and an *Even*-NPI is that the former puts together both types of alternatives whereas the latter picks only one type of alternatives.

## 3.5 Diagnostics for the presence of *Even* in NPIs (Guerzoni, 2004)

It is well-known that both pure NPIs like *Ever*, *Any*, and emphatic NPIs like *Lift a finger* and stressed *ANY* are licensed in questions.

(97) a. Did anyone help you?

b. Did ANYONE help you?

c. Did Mary lift a finger to help you?

d. Have you ever been in New York?

However, their behavior in questions differs with respect to their interpretations. Questions with NPIs like *Any* and *Ever* are used as neutral requests for information,

but NPIs like minimizer *Lift a finger* raise negative bias. Hence, the class of NPIs is separated into two subclasses in terms of their effect in questions. For example, the speaker in (98b) expects a negative answer.

(98) a. Did anyone help you? [neutral]

b. Did John lift a finger to help you? [negatively biased]

It is observed that questions with minimizers like (98b) *Did John lift a finger to help you?* are interpreted similar to the rhetorical ones since these items occupy the weakest element of their scale (Ladusaw 1979; Heim 1984; Wilkinson 1996; Han 1998).

(99) Can John lift even 1 pound? [negatively biased]

From Chierchia (2013; pg. 152)

Guerzoni (2004) points out the fact that 'rhetorical questions' do not properly reflect the rhetorical effect of questions with minimizers since the 'rhetorical' questions are not used to seek information but they are like negative assertions as discussed by Progovac (1993), Han and Siegel (1996). However, questions with minimizers although not neutral, cannot be used as negative assertions like (99); thus, they do not have 'rhetorical' flavor but 'negative bias' flavor (the speaker's expectation for a negative answer) while seeking for an answer. On the other hand, NPIs like *Any* and *Ever* do not have this flavor.

Guerzoni (2004) accounts for this distinction by proposing that yes/no questions with minimizers denote sets of proposition with different presuppositions

and only the negative answer. Hence, the speaker's use of such questions shows the negative bias towards to that answer. The above mentioned presupposition is explained by the presence of an *Even*-like element in the semantics of minimizers as Heim (1984) proposed (for other advantages of the proposal see Guerzoni (2004)).

It should be noted that the semantics of *Even* in questions depends on the scope and on the position of its focus on the scale as thoroughly developed by Guerzoni (2004) (see also for the scope of *Even* relative to negation by Lahiri (1998)). That is, a question with an overt *Even* is interpreted rhetorically when the focus is the scale low endpoint, while it is neutral when the focus is high endpoint. Hence, the former has the same flavor with minimizers. For example, a question like (99) which is repeated as (100a) asserted in a context where the alternatives are ordered on scale of 'difficulty'. On this scale, *Lifting 1 pound* is the low end point and *Lifting 500 pounds* is the high endpoint. Thus, (100a) is felt to be biased while (100b) is neutral:

(100) a. Can you lift even $[1 \text{ pound}]_f$? [negatively biased]

b. Can you lift even $[500 \text{ pounds}]_f$? [neutral]

Thus, once it is assumed that minimizers contain a silent *Even*, the similarity between questions involving *Even* which is associated with the low endpoint of the scale and the ones involving minimizers is natural (see Guerzoni (2004) for further explanation). A summary of the given NPIs is seen in Table 2.

Table 2. NPI Behaviors in Questions

| NPIs | Interpretation in Questions |
|---|---|
| *Any*/*Ever* | Neutral |
| Minimizers/stressed *ANY* | Negatively biased |

### 3.6 Degree semantics for minimizers in AEA

Degree semantics was proposed for scalar predicates like tall, short, etc., (Cresswell (1976), Heim 1985), among others). This proposal assumes that scalar predicates involve a degree argument. For example, according to this view, there is no way one is tall in absolute terms; one is always tall to a given degree. Thus, tallness is provided by the dimension relative to which degrees are measured. In addition, degrees are monotone. That is, for example, in the assertion *John is 6 feet tall, 6 feet* is intended to be the maximal degree to which John is at least tall. To obtain this: 6 feet is a set of degrees that contains all other lower degrees like *5 feet*, *3 feet*, etc. Given this, if John is 6 feet tall, he is also 5 feet, he is also 3 feet, so on and so forth; therefore, when the maximal degree of his tallness is taken, there is always an at least reading. Note that there is a crucial difference between the dimension of tallness (which is neutral as it is not giving us any information about the degree of it) and to be tall in the common use of this term, which amounts to being tall to a degree d that exceeds a contextual standard of tallness.

Chierchia (2013) makes use of degree semantics and the observation which connects the entailment facts with the likelihood facts (that we saw in Section 3.2.1) to account for the behavior of minimizers So, by adopting the idea of degree-based analysis, under such an alternative-based account Chierchia claims that the NPI behavior of minimizers are graded in a way that the endpoint of the process results in

an expression which targets a low point on a scale. An example of (*Even*-NPI) minimizers is provided in the following:

(101) John didn't lift a finger for the housework.

In AEA, the minimizer *Lift a finger* is taken to express a three place relation holds between a state of helping (which is the related dimension), an individual (the subject), and a degree on the scale of helping that is so low that it does not even count as helping in its common interpretation. The presence of a degree argument makes it an overt scalar expression. *Lift a finger* is *to help* to a degree that is too small for anybody to be able to do so at that degree. For example, $help_w$ represents the ordinary meaning of *To help* with a degree qualification as in (102a) where *d* is a variable over degrees, *x* is a variable over individuals, and *s* being a state of helping. Given the monotonicity of degrees, if one helps to a degree d, one also helps at any smaller non-null degree as is illustrated in (102b). (like tallness, $help_w$[13] is the dimension and to count as absolute *Help*, one has to help to a certain amount).

(102) a. $help_w$ (s, x, d) = s is a state of helping in w by x to at least degree d

b. $help_w$ (s, x, d) $\rightarrow$ $help_w$ (s, x, d $-$ n), for $0 < n < d$

The set of maximal degrees to which it is possible for someone to help in (103) is a wide ranging set of degrees from very small to very large: all the maximal degrees to which someone may help for anything at all.

[13] Here I use intentionality on purpose, because, now, we are talking about the possibilities of helping.

(103) Maximal Degrees

{d: ∃w'∈$ACC_w$ ∃x ∃s [$help_{w'}$ (s, x, d) ∧∀d'[$help_{w'}$ (s, x, d') →d'≤d ]]}

where $ACC_w$ is the set of worlds accessible from w

There is a smallest element in this wide-ranging set of degrees. Therefore, the function (104) results in the smallest degree of *Help* that still quantifies as help:

(104) MIN({ d: ∃w' ∈ $ACC_w$ ∃x ∃s [$help_{w'}$ (s, x, d) ∧ ∀d' $help_{w'}$ (s, x, d') → d' ≤d] } )

Thus, if an arbitrarily degree $d_{min}$ which is strictly smaller than (104) is chosen, it does not count as a degree to which it is possible for one help:

(105) $d_{min}$ < MIN ({ d: ∃w' ∈ $ACC_w$ ∃x ∃s [$help_{w'}$ (s, x, d) ∧ ∀d' [$help_{w'}$ (s, x, d') → d' ≤ d ] } )

Therefore, if one helps to degree $d_{min}$, he does not help in any significant way at all.

Thus, *Lift a finger* can be analyzed as in (106a) with obligatory scale of alternatives as in (106b):

(106) a. lift a $finger_w$ = λx λw ∃s[$help_w$ (s, x, $d_{min}$) ]

b. ALT (lift a finger) = {λx λw ∃s [$help_w$ (s, x, d') ] : d' > $d_{min}$}

D-ALTs are irrelevant to the semantics of minimizers, but they activate σ-ALTs that must be checked by an exhaustification operator (as the requirement in AEA).

Chierchia, then, compares the outcome of O and E exhaustification. First, both exhaustifiers correctly predict the ungrammaticality of minimizers in non-DE environments as both types of exhaustification derive inconsistency in these cases. Let me illustrate this point starting with O exhaustification. Consider the following positive sentence in (107). Given that $d_{min}$ is picked in such a way that the assertion part of (107a), namely, $\lambda w \exists s[help_{w'}(s, j, d_{min})]$, is entailed by all of the alternatives; because, in a positive sentence, $d_{min}$ is the weakest alternative (as I showed in Section 3.2.1, there is a connection between entailment and likelihood; thus, if $d_{min}$ is the weakest (entailed) one, it is the most likely). Therefore, recall that if the entailed element is true, all the other alternatives (entailers) must also be true. However, on the other hand, by the semantics of *Only*, all the alternatives other than the assertion itself must be false. So, (107) is contradictory.

(107) a. $O_{\sigma A}$ [John lifted a finger$_{+\sigma}$ ]

b. $O_{\sigma A}$ ($\exists$s [help$_{w'}$ (s, j, $d_{min}$ ) ] )

= $\exists$s [help$_w$ (s, j, $d_{min}$ ) ] $\wedge \forall p \in$ ALT [$p_w \rightarrow \lambda w \exists s$ [help$_w$ (s, j, $d_{min}$)] $\subseteq$ p ]

= $\perp$

Like O, exhaustification with E is also contradictory in UE environments. First, recall that E is also about likelihood. As I stated above, as the assertion part includes the minimizer which is the weakest element (by $d_{min}$) (therefore, the most likely) because it is entailed by all the other alternatives (they are less likely than *Lift a finger*). In a positive sentence, *Lift a finger* is the weakest element; thus, it is the most likely alternative. Now, recall that E exhaustification requires the assertion to

be the least likely among the alternatives. There is a clash. Thus, requirements of E are violated in UE contexts as the alternatives entail the assertion (see Section 3.2.1 for the connection between entailment and likelihood).

(108) a. E ($\exists$s [$help_w$ (s, j, $d_{min}$ )

= $\exists$s [ [$help_w$ (s, j, $d_{min}$ )] $\wedge$ $\lambda$w$\exists$s [$help_w$ (s, j, $d_{min}$ ) ] $< \mu$ $\lambda$w $\exists$s [$help_w$ (s, j, d')] ]

b. (a) is contradictory because:

$\forall$d' [$\lambda$w $\exists$s [$help_w$ (s, j, $d_{min}$)] $\supseteq$ [$\lambda$w $\exists$s [$help_w$ (s, j, d')]]

He, also, shows that both O and E yield semantically meaningful results in DE contexts. Consider the negative sentence in (109). (109b) says that it is not the case that there is no state of John's helping that reaches $d_{min}$ and there cannot be any state s that reaches a smaller degree than $d_{min}$ − n; which satisfy the condition of $d_{min}$ (there is no smaller degree than the minimal degree). It is consistent with the assertion, as it means *John didn't help*. Also, the implicature part is that *This state is the least likely among the alternatives*. The semantics of E requires it to be the least likely; hence, the result is coherent.

(109) a. E [John didn't lift a finger$_{+\sigma}$ .]

b. E ($\neg\exists$s [$help_w$ (s, j, $d_{min}$ )

= $\neg$ $\exists$s [ [$help_w$ (s, j, $d_{min}$ )] $\wedge$ $\neg$ $\exists$s [$help_w$ (s, j, $d_{min}$ ) ] $< \mu$ $\neg$ $\exists$s [$help_w$ (s, j, d')] ]

c. (b) is consistent because:

$\forall$d' [$\lambda$w $\neg\exists$s [$help_w$ (s, j, $d_{min}$)] $\subseteq$ [$\lambda$w $\neg\exists$s [$help_w$ (s, j, d')]]

O, also, predicts that *Lift a finger* is fine in negative contexts because all the alternatives are entailed by the assertion. Now, the assertion is the strongest; if the strongest alternative is false, all the other entailed (weaker) ones are also false. Thus, O exhaustification is trivial; it is consistent with lift a finger being in a DE context.

(110) a. $O_{\sigma A}$ [John didn't lift a finger$_{+\sigma}$ ]

b. $O_{\sigma A}$ ($\neg$ $\exists$s [help$_w$ (s, j, $d_{min}$ ) ] )

$= \neg \exists s [help_w (s, j, d_{min}) ] \wedge \forall p \in ALT [p_w \rightarrow \lambda w \neg \exists s [help_w (s, j, d_{min})] \subseteq p ]$

$= (\neg \exists s [help_w (s, j, d_{min})]$

Given that both O and E yield similar results, Chierchia (2013) follows the principle of Optimal Fit which prevents the use of O whenever it is vacuous and selects E (see Section 3.3). Therefore, the exhaustifier of minimizers is E which requires the assertion to be the least likely among its alternatives (see Section 3.2).

In conclusion, under AEA, minimizers have degree alternatives which are scalar (σ-) and they are factored into meaning via E exhaustification as opposed to *Only*-NPIs like *Any*/*Ever* as shown in Table 3.

Table 3. Classes of NPIs

| | Class of NPI | Type of alternatives |
|---|---|---|
| minimizers | *Even*-NPI | Degree alternatives |
| *Any*/*Ever* | *Only*-NPI | D-ALTs and σ-ALTs |

## 3.7 *Any* vs. stressed *ANY*

As I illustrated in Section 2.8, Kadmon and Landman (1993) proposed that *Any* serves as a domain widening indefinite. However, Krifka (1995) and Lahiri (1998) argue that such a distinction is only applicable for stressed *ANY* ((emphatic (*Even*)-NPI). According to this idea, *Any* widens the domain that restricts the interpretation of a common noun in the context of the conversation. The insight behind this is the following: speakers of utterances select domains of discourse. For example, the non-referential determiner *A* in *A student* is used within a contextually provided domain restriction ($D_C$) (thus, *A student* quantifies over students at the university, students in the department, etc.). Therefore, when the speaker utters *There isn't a student today* she means "a student in a $D_C$". K&L propose that NPIs are indefinites that invites one to consider a larger domain than $D_C$.

(111) A: There isn't a student today.
B: Is even John absent?
A: Yes, there isn't any student.

If *A student* has a salient domain D, *Any student* contains a broader domain than D: let us call it D'.

(112) a. a $\text{student}_D$
b. any $\text{student}_{D'}$,
where $D \subseteq D'$

*Any* has a synonymous non-NPI counterpart *Some*, and both *Any* and *Some* denote an existential quantifier with equivalent restrictions. K&L claim that *Any* comes with a broader domain of quantification than the domain of *some.* Therefore, K&L provides an account for the licensing condition of *Any*. They attribute these properties to the lexical semantics of *Any*.

In the spirit of K&L, as I illustrated in Section 2.8, Chierchia claims that *Any* is truth-conditionally equivalent to *Some*/*a* (113a) but it triggers a set of domain alternatives which are ordered by "⊆" as in (113b).

(113) a. $[[Any_{D'}]]=[[Some_{D}]]=\lambda P\, \lambda Q\, \exists x \in D'\, [P_w(x) \,\&\, Q_w(x)]$

b. $ALT([[Any_{D'}]])= ALT([[Some_{D}]] = \{Some_{D}: D \subseteq D'\}$

(Chierchia 2006, 2013)

Given that these linearly ordered D-alternatives do not form scale alternatives, *Any* is exhaustified by O[14]. Departing from K&L and building on the Krifka (1995)'s analysis of idea of emphatic *Any* and by on Lahiri (1998)'s analysis of Hindi NPIs, Chierchia (2013) revised K&L's idea of domain widening to 'a potential for domain widening'. When *Any* in not stressed, it does not trigger domain widening; whereas when it has focus, namely *ANY*, domain widening happens. Therefore, similar to the case of minimizers, *ANY* activates only one type of alternatives (D-alts); thus, O exhaustification is excluded by the principle of Optimal Fit and *ANY* is exhaustified by E.

[14] In fact, Chierchia first proposed that E is felicitous for *Any* (Chierchia, 2006) but then he argued that *Any* is exhaustified by O (Chierchia, 2013).

## 3.8 Towards an analysis of *Kimse*: The distribution of bare *Kimse*

As I showed in Chapter 1, bare *Kimse* is only grammatical in DE contexts (see Section 1.3.1). For example, bare *Kimse* is grammatical in the antecedent of a conditional which shares the property of being DE with negation (see Ladusaw (1979) and von Fintel (1998)), as shown in (114a). However, it becomes ungrammatical if occurring in the consequent of the same conditional, as it is shown in (114b).

(114) a. Bunu kimse-ye söylersen sana küs -er -im.
this kimse-Dat tell-Cond.-2sg you-Dat. be offend-Aor-1sg.
'If you tell this anyone, I will be offended.'

b. *Sana küs -er -se -m bunu kimse -ye anlat.
You-Dat. be offend-Aor-Cond.-1sg this kimse-Dat tell

(114a) disallows such use unless there is negation in the sentence:

(115) a. *Bunu kimse-ye söyle-∅.
This kimse-ACC tell-2sg

b. Bunu kimse-ye söyle-me -∅.
this kimse-ACC tell -Neg-2sg
'Don't tell anyone.'

On the other hand, *Kimse* has a non-NPI counterpart *Biri* 'someone' which is not restricted only to DE environments:

(116) a. Bunu biri-ne söyle-r -se -n, san-a küs -er -im.
this biri-DAT tell -Aor-Cond-2sg you-DAT be offend-Aor-1sg
'If you tell this someone (anyone), I will be offended.'

b. San -a küs -er -se -m, bunu biri -ne anlat-∅.
You-DAT be offend-Aor-Cond-1sg this biri-DAT tell-Imp-2sg
'If I get offended, tell this someone (anyone).'

Therefore, in cases *Kimse* is ungrammatical *Biri* can freely occur as its counterpart:

(117) a. *Bunu kimseye anlat.
b. Bunu birine anlat.
'Tell this someone, anyone.'

Note, also, that grammaticality only in DE contexts is a property of both *Only*-NPIs and *Even*-NPIs:

(118) i. a. Mary hasn't ever been in New York. [*Only*-NPI]
b. *Mary has ever been in New York.

ii. a. Mary didn't drink a drop of alcohol. [*Even*-NPI]
b. *Mary drank a drop of alcohol.

However, I further observe that bare *Kimse* raises negative bias in questions unlike *Only*-NPIs. As I illustrated in the distribution of *Kimse* in Chapter 1, *Kimse* is licensed in questions like all types of NPIs.

(119) a. Subject position

Kimse gel -di mi?
Kimse come-past question marker
'Did anyone come?'

b. Object position

Zeynep kimse-yi ara -dı mı?
Z. kimse-ACC call-past question marker
'Did Zeynep call anyone?'

However, if one utters a question containing *Kimse*[15], s/he signals that s/he expects a negative answer while the same question where *Kimse* is substituted by its non-NPI counterpart the plain indefinite *Biri* is always intended as a neutral request for information[16].

(120) Neutral

a. Partiye bölümden biri gel -di mi?
party-Dat. department-Abl. biri come-past question marker
'Did anyone from the department come to the party?'

Negative bias

b. Partiye bölümden kimse gel -di mi?
party-Dat. department-Abl. kimse come-Past question marker
'Did anyone (at all) from the department come to the party?'

[15] Recall, also, from Chapter 1 that many researchers uses *Kimse* with *Hiçkimse* interchangeably; thus, they translate it as 'anyone at all' in their studies (Kelepir (2001), Göksel & Kerslake (2005)).

[16] It should be noted that there is no consensus in the judgments regarding the negative bias of *Kimse*, but for those who accept it, that dialect requires an understanding.

For example, to a statement *A person didn't come*, asking the question *Kimse mi gelmedi?* is not redundant and answering the question with *Kimse gelmedi* makes the assertion (121a) stronger.

(121) a. A: Bugün mağaza-ya biri gel -me -di -∅.
today store -DAT biri come-Neg-past-3sg
'Someone/Anyone didn't come to the store today.'
(It is not the case that someone came to the store.)

b. B: Kimse mi gel -me-di -∅?
kimse ques. mark. come-Neg-Past-3sg
'Didn't anybody at all come?'

c. A: Yok, kimse gel -me-di -∅.
No, kimse come-Neg-Past-3sg.
'Yes, ANYBODY didn't come.'

Moreover, in a context in which the speaker aims to find someone who talked to anyone, s/he can only form a wh- question with *Biri* but not with *Kimse* because the speaker does not ask the question negatively biased.

(122) a. Kim biri -yle konuş-tu -∅ ?
who someone-Inst talk -Past-3sg
'Who talked to anyone?'

b. *Kim kimse-yle konuş-tu -∅ ?
who kimse -Inst. talk -Past-3sg

In this respect, *Kimse* patterns with *Even*-NPIs like minimizers and stressed *ANY*:

(123) a. Did you ever go to England? [Genuine question]

b. Was there anybody at the door? [Genuine question]

c. Was there ANYBODY at the door? [Negative bias]

d. Did Mary drink a drop of alcohol? [Negative bias]

(see Guerzoni 2004, Chierchia 2013)

### 3.9 Bare *Kimse* is an *Even*-NPI

In the previous section, I observed that bare *Kimse* patterns with *Even*-NPIs in that it gives rise to negative bias in questions like minimizers and stressed *ANY*. In fact, *Kimse* shares properties with both types of these *Even*-NPIs but also differs from both in some respects. On the one hand, like minimizers but unlike *ANY*[17], it does not need to carry emphatic stress. Stress makes difference in the interpretation of the same sentence with *Any* as in (123b,c) while stressed *KİMse* does not give rise to a different meaning as in (124a,b).

(124) a. Parti-ye kimse gel -me -di -∅.
party-DAT kimse come-Neg-Past-3sg
'Nobody at all came to the party.'

b. Parti -ye KİMse gel -me -di -∅.
party-DAT kimse come-Neg-Past-3sg
'Nobody at all came to the party.'

[17] NPI *Kimse* can be stressed but it does not have to have focus which leads me to take it unstressed. Besides, Turkish is taken to be a focus position language by most of the researchers (Kural (1994), İşsever (2003), Kornfilt (2005), Şener (2010), among many others).

On the other hand, like *ANY* and unlike minimizers, *Kimse* cannot co-occur with an overt *Even*[18]. *Bile* 'even' in (125c) is perceived as redundant and, its presence leads to unacceptability.

(125) a. Parti-ye kimse gel -me-di -∅.
party-Dat. kimse come-neg-past-3sg.
'Nobody at all came to the party.'

b. Parti-ye bir kimse bile gel -me-di -∅.
party-Dat. bir kimse even come-neg-past-3sg.
'Nobody at all came to the party.'

c. *Partiye kimse bile gel -me –di -∅.
party-Dat kimse even come-neg-past-3sg

In this respect, *Kimse* patterns with *ANY* lacking an overt marking of *Even* whereas minimizers do allow for it without any change in meaning.

(126) a. There wasn't ANYBODY at the door?

b. *There wasn't even ANYBODY at the door?

c. John didn't (even) lifted a finger to help me with the housework.

Given these empirical considerations, we can safely conclude that *Kimse* is an *Even*-NPI which includes a silent *Even* in its semantics as it patterns with *Even*-NPIs but not (pure) *Only*-NPIs in questions. However, due to the differences and similarities it exhibits with the two types of *Even*-NPIs (*ANY* and minimizers), rather than

[18] *Bir Kimse* requires especially an overt *Even* to have precisely the same interpretation with *Kimse*.

providing a single analysis for it, I entertain two hypotheses as a possible analysis for it. The two proposals I will develop below have in common that NPI *Kimse* must be exhaustified by E (it is an *Even*-NPI), but they differ in the type alternatives *Kimse* evokes, just like minimizers and *ANY*.

## 3.10 Two different options for *Kimse*: Degree analysis vs. domain analysis

Since *Kimse* triggers bias in questions, I proposed that it includes a silent *Even* in its semantics (*Even* is required to explain this negative bias). Regarding this empirical fact; hence the claim, I present two analyses regarding the alternatives of *Kimse*: (i) Degree analysis in which *Kimse* has degree alternatives (hence σ-alts); and, (ii) Domain analysis in which *Kimse* has domain alternatives ordered by " $\subseteq$ ".

### 3.10.1 Option 1: Degree analysis

The first analysis for *Kimse* I am about to illustrate extends to Chierchia (2013)'s degree semantics analysis for minimizers I presented in Section 3.5.

Let us assume that the predicate PERSON[19] denotes the binary relation between individuals and degrees in (127) which is true of an individual and a degree if and only if the individual is a *person* to degree d.

(127) a. $\text{PERSON}_w$ (x, d) = x is a person to (at least) degree d in w

b. $\text{PERSON}_w$ (x, d) $\rightarrow$ $\text{person}_w$ (x, d − n), for $0 < n < d$

[19] I use different notations for the dimension 'person' and the regular 'person'; I notate the dimension as PERSON and regular person as *person*.

Given that x is a PERSON to degree d, d is the maximal degree to which x is a PERSON and the set of all and only the maximal degrees to which it is possible for an x to be a PERSON is (128):

(128) $\{d: \exists w' \in ACC_w \exists x\ [person_{w'}(x, d) \wedge \forall d'[person_{w'}(x, d) \rightarrow d' \leq d]]\}$

where $ACC_w$ is the set of worlds accessible from w

This extensive set including all degrees must have a smallest member; that is, it is the smallest degree such that any individual who is a PERSON to that degree still accounts as a *person*, but any individual who is PERSON to a lower degree does not[20]. Thus, the function which is defined in (129) choses a very small degree of being a *person*:

(129) $MIN(\{d:\exists w' \in ACC_w \exists x[person_{w'}(x,d) \wedge \forall d'[person_{w'}(x, d') \rightarrow d' \leq d]\})$

I propose that *Kimse* is true of an individual if that individual is in the relation PERSON with a random degree $d_{min}$ which is strictly smaller than (129). As I stated above, the way in which it is picked, an x is a person to at least degree $d_{min}$ and at the same time, it is not possible for x to be even a person only to degree $d_{min}$.

(130) $d_{min} < MIN(\{d:\exists w' \in ACC_w \exists x[person_{w'}(x,d) \wedge \forall d'[person_{w'}(x,d') \rightarrow d' \leq d\})$

[20] This roughly amounts to a person that is at the border line; that is, x is such a person to a degree that x is not even a person, too. It might not be the case practically, but it technically works.

Therefore, in this way, *Kimse* can be analyzed along with the scale of alternatives:

(131) a. $\text{kimse}_{w} = \lambda x\, \exists x\, [\text{person}_{w}\, (x, d_{min}) ]$

b. $\text{ALT(kimse)} = \{\lambda x\, \exists x\, [\text{person}_{w}\, (x, d') ]: d' > d_{min} \}$

The degree qualification above is, then, what would make *Kimse* a scalar expression since degrees are monotone (see section 3.5). $Kimse_{w}$ represents the application of the relation PERSON to a degree that is the lowest possible degree in the PERSON related scale. Therefore, all the alternatives it evokes are semantically stronger than it is.

Now that we have scalar alternatives for *Kimse*, under the theory AEA I adopt, these alternatives must be exhaustified by an alternative sensitive operator (see Chapter 2 for the details). In the following, I will show why *Kimse* cannot be exhaustified by O but it is a polarity sensitive item whose alternatives are scalar which have to be exhaustified by E.

3.10.1.1 Alternatives of *Kimse*

So far, we established that *Kimse* can have degree scalar alternatives and it occupies the lowest point of its degree scale. In order for this analysis to work, one needs to make the additional assumption that these alternatives cannot take the value "–" but they have to be exhaustified.

(132) $[kimse]_{[+\sigma]}$

3.10.1.2 The exhaustification operator of *Kimse*

Given the semantic for *Kimse* I provide above, the same reasoning that Chierchia sketches in Section 3.5 applies to it: E will have to be the exhaustifier. Due to the correlation between entailment and likelihood I clarified in Section 3.2.1, only DE contexts will be suitable for degree *Kimse*. I observe that both O and E correctly predict the ungrammaticality of *Kimse* in non-DE environments as both types of exhaustification derive inconsistency in these cases; and, they both yield the similar results with respect to *Kimse* in DE environments: both predict its grammaticality under DE contexts as I sketched in Appendix A.

As both operators are felicitous, pursuing Chierchia (2013), I follow the principle of Optimal Fit that prevents the use of O with scales whenever it is indistinctive from E.

Given this, a sentence with *Kimse* can be analyzed as in (133). The assertion (133) says that it is not the case that there is an x to a degree $d_{min}$ and this x came. Therefore, there cannot be any x that reaches to any higher degree and came. That is, under negation, alternatives are entailed by the assertion; thus, they are weaker than the assertion; hence, more likely than the assertion. Given the requirements of E (the assertion must be the least likely) and the situation (133) in which the assertion is the least likely, the result of E exhaustification is semantically coherent.

(133) Kimse gelmedi.

a. Assertion : $\neg$ [$PERSON_w$ (x, $d_{min}$) $\wedge$ came (x)]

b. Alternatives: { [$\neg$[$PERSON_w$ (x, $d_{min}$) $\wedge$ came (x)] : d' > $d_{min}$ }

c. E ($Kimse_{+\sigma}$ didn't come)

= $\neg$[$PERSON_w$ (x, $d_{min}$) $\wedge$ came (x)] $\wedge$ $\forall$ d' > $d_{min}$ [$\neg$[$PERSON_w$ (x, $d_{min}$) $\wedge$ came (x)] $\subseteq$ [$\neg$[$PERSON_w$ (x, $d_{min}$) $\wedge$ came (x)

### 3.10.2 Option 2: Domain analysis

As the second option, I propose a domain alternatives analysis for *Kimse* based on the similarities between *Kimse* and stressed *ANY*; I use Kadmon and Landman (1993)'s idea of domain widening for *Any* and, to have coherent system, I use of the exhaustifying idea of AEA.

Recall from Section 3.7 that *Kimse* has a non-NPI counterpart *Biri* (it is not restricted only to DE). I propose that *Biri* comes always with a context domain D" and *Kimse* always with a superset D' (it is larger than D"). Therefore, D" is the subset of D':

(134) $D'' \subseteq D'$

Thus, I claim that *Kimse* has domain alternatives linearly ordered by $\subseteq$; that is they might overlap with each other (they are not proper ordered) as is shown in Figure 4.

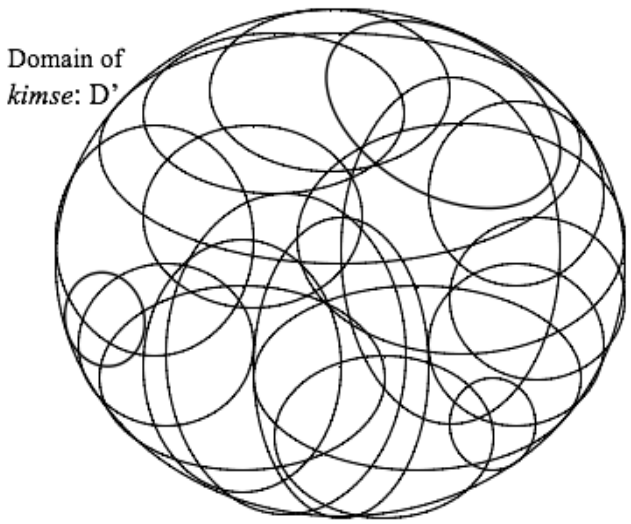



Figure 4. Domain of *Kimse* includes subdomains which can overlap

Given this, I suggest that both *Kimse* and *Biri* denote an existential quantifier with the difference that *Kimse* requires broader domain restrictor. Therefore, truth-conditionally, *Kimse* is equivalent to indefinite *Biri* 'someone' or 'a person' as in (135) but the alternation comes from widening the domain of quantification. That is, the distinction results from the activated set of alternatives: *Biri* 'someone' has more restricted set of alternatives than the alternatives of *Kimse* as in (135).

(135) $[[Kimse_{D'}]] = [[Biri_{D''}]] = \lambda P\, \lambda Q\, \lambda w\, [\exists w'\, \exists x \in D'_{w'}\, P_{w'}(x) \wedge Q_{w}(x)]$

(136) $[[Kimse_{D'}]]^{D\text{-}ALT} = [[Biri_{D''}]]^{D\text{-}ALT} = \{Biri_{D''} : D'' \subseteq D'\}$

Hence, *Kimse* means person with a larger domain and alternatives of *Kimse* are as in the following:

(137) $ALT([[Kimse_{D'}]]) = \{\lambda P\, \lambda Q\, \lambda w\, [\exists w'\, \exists x \in D'_{w'}\, (P_{w'}(x) \wedge Q_{w}(x))]: D'' \subseteq D'\}$

Given the lexical entry (135) for *Biri*, the meaning of a sentence including *Biri* is expressed as in the formula in (138b):

(138) a. Biri gel -di -∅.
someone come-past-3sg
'Someone came.'

b. $\lambda w\, \exists w'\, \exists x \in D_{w'}\, [person_{w'}(x) \wedge came_{w}(x)]$

I propose that the meaning of *Kimse* is just like the meaning of *Biri* 'someone' plus domain widening. Now, imagine that there are three people in the related domain: person a, person b, and person c.

(139) $D = \{a, b, c\}$

$D_1 = \{a\}$ $D_5 = \{a, b\}$

$D_2 = \{b\}$ $D_6 = \{a, c\}$

$D_3 = \{c\}$ $D_7 = \{b, c\}$

$D_4 = \{\ \}$ $D_8 = \{a, b, c\}$

If we assume that $D_1$, $D_2$, $D_3$, $D_4$ , $D_5$ , $D_6$ , $D_7$, and $D_8$ are possible domains; then, *Kimse* is associated with their union: $D = D_1 \cup D_2 \cup D_3 \cup D_4 \cup D_5 \cup D_6 \cup D_7 \cup D_8$[21]; thus, the domain of *Kimse* D corresponds to union of all possible subdomains as shown in Figure 5. Hence, D is the widest domain. Therefore, I propose 'meaning of *Kimse* is like meaning of '*Biri* + domain widening' in the sense that the domain of *Kimse* is the union of all the domains denote conceivable contexts.

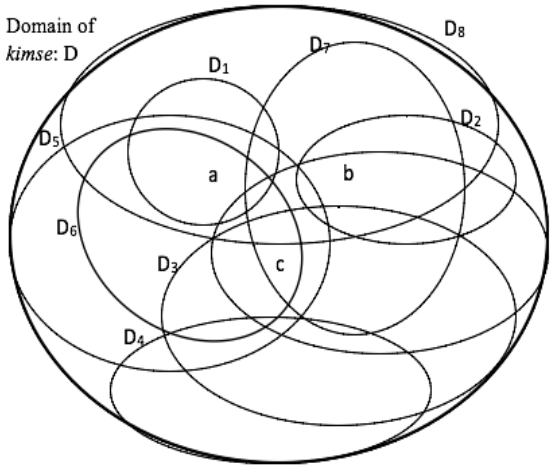



Figure 5. A toy domain for *Kimse*

[21] $D_8 = D$ which means D is also subset of itself.

Consider the sentence with the domain that we just set. The truth condition of the sentence (140b) must be equal to the one of *Biri* (140b).

(140) a. *Kimse gel -di -∅.
kimse come-past-3sg

b. Meaning

$\lambda w\ \exists w'\ \exists x \in D_{w'}\ [person_{w'}(x) \wedge came_{w}(x)]$

c. Alternatives

$\lambda w\ \exists w'\ \exists x \in D_{i,w'}\ [person_{w'}(x) \wedge came_{w}(x)]$, where $1 \leq i \leq 3$

Under this analysis, activated alternatives of *Kimse* have to broaden the plain meaning. Among the alternatives, the strongest one is picked by the speakers. Given this, even the widest choice of D gives rise to a true sentence; that is, the meaning of *Kimse* requires a silent *Even* (as Krifka (1995) and Lahiri (1998) propose for stressed *ANY*). Hence, the implicature for the assertion (140a) is as in (141).

(141) $\lambda w\ \exists w'\ \exists x \in D_{w'}\ [person_{w'}(x) \wedge came_{w}(x)] \subseteq_C \lambda w\ \exists w'\ \exists x \in D_{i,\ w'}\ [person_{w'}(x) \wedge came_{w}(x)]$

where $1 \leq i \leq 3$ and $p \subseteq_C q$ = p is stronger (hence less likely) than q relative to the related context

The implicature (141) is logically false because in the way the alternatives are picked, all of the alternatives in (140c) are stronger than the positive statement in (140b). For example, in Figure 5, alternatives a, b, and c are all subdomain of D which is the domain of *Kimse*; thus, they are all stronger than the assertion with *Kimse*. That is, all alternatives entail the assertion with *Kimse*. For example, in a positive context the existence of a person (say a) entails its existence in the superset D as well. Thus, the assertion (140) *There is a person that came* becomes weaker. However, according to the implicature (140), the statement (140b) cannot be weaker than its alternatives; thus, the assertion (140a) broadened by the implicature (141) is inconsistent.

Let us consider what happens in a negative environment. The entailment relation reverses in a negative context like (142): non-existence of a person in any of the subdomains ($D_1$, $D_2$, and $D_3$) entails the non-existence of it in the wider domain D (e.g. not coming of any person entails not coming of a specific person). So, the statement (142b) is stronger than all the alternatives in (142c). The fact that a statement is stronger than its alternatives is fine in a DE context.

(142) a. Kimse gel -me -di -∅.
kimse come-neg-past-3sg
'Nobody came.'

b. statement
$\lambda w \neg \exists w' \exists x \in D_{w'} [person_{w'}(x) \wedge came_{w}(x)]$

c. implicature
$\lambda w \neg \exists w' \exists x \in D_{w'} [person_{w'}(x) \wedge came_{w}(x)] \subseteq_C \lambda w \neg \exists w' \exists x \in D_{i, w'} [person_{w'}(x) \wedge came_{w}(x)]$

Therefore, the statement (142b) (strongest) and the implicature (142c) (the assertion cannot be weaker than its alternatives) are consistent, hence the sentence enriched by the implicature (142c) is coherent.

Given that we established the alternatives of *Kimse*, we have to decide the exhaustification operator. Now, I will show why it cannot be exhaustified by O which is the default operator.

### 3.10.2.1 Alternatives of *Kimse*

Under domain analysis, I proposed that *Kimse* has domain alternatives ordered by '⊆'. Besides, they always must be exhaustified. Therefore, like in degree analysis (see Section 3.9.1), in the system that I adopt, *Kimse* bears the feature [+σ] meaning, simply, that its alternatives are always activated.

(143) $[Kimse]_{[+\sigma]}$

### 3.10.2.2 The exhaustification operator of *Kimse*

Recall from Chapter 1 and Section 3.2 that for Chierchia, O is the default operator. Consider the following example:

(144) $O_{\sigma A}$ [kimse$_{+\sigma}$ gelmedi]

'Nobody came.'

In domain widening analysis, *Kimse* in a negative context has the strongest statement since if an x does not exist in the wider domain, it cannot exist in the smaller one as well. Saying that an *x didn't come* with a larger domain is already the strongest

alternative and therefore, there are no alternatives that are not entailed to say they are false. Recall that by the semantics of O all the alternatives other than the assertion itself must be false. Hence, the use of O is vacuous as is illustrated in (145).

(145) a. $O_{\sigma A}$ [kimse$_{+\sigma}$ gelmedi]

b. $O_{\sigma A}$ ($\neg\ \exists w'\ \exists x \in D_{w'}$ [person$_{w'}$ (x) $\wedge$ came$_{w}$ (x)] )

$= \lambda w\ \neg\ \exists w'\ \exists x \in D_{w'}$ [person$_{w'}$ (x) $\wedge$ came$_{w}$ (x)]) $\wedge \forall p \in$ ALT [p $\rightarrow \lambda w\ \neg\ \exists w'\ \exists x \in$ $D_{w'}$ [person$_{w'}$ (x) $\wedge$ came$_{w}$ (x)] $\subseteq$ p ]

Now, let us take E as the exhaustifier. As I stated above, under negation for D' $\subseteq$ D, saying that *x didn't come* with a larger domain is the strongest alternative, hence least likely. Given that E exhaustification requires the assertion to be the least likely among the alternatives; unlike O, E works because asserting the one with D entails all other alternatives under negation, and therefore, it is the least likely.

(146) a. E [kimse$_{+\sigma}$ gelmedi]

b. E ($\neg\ \exists w'\ \exists x \in D_{w'}$ [person$_{w'}$ (x) $\wedge$ came$_{w}$ (x)] )

$= \neg \exists w' \exists x \in D_{w'}$[person$_{w'}$(x) $\wedge$ came$_{w}$(x)] $\subseteq \neg \exists w' \exists x \in D_{i,w'}$[person$_{w'}$(x)$\wedge$came$_{w}$ (x)

## 3.11 Choosing between the degree and domain analyses

So far, I showed empirically that *Kimse* requires an *Even* in its semantics. To account for this fact, I presented two possible analyses for *Kimse*, namely, a Degree-based analysis and a Domain-based analysis. These two options are compatible in that, eventually, they both offer an analysis based on only one type of alternatives which

are exhaustified by E because both analyses predict the negative bias in questions. That is, both analyses account for the fact that *Kimse* has a covert *Even* in its semantics. In this section, I will discuss the advantages and disadvantages of these options that I propose without a conclusive decision.

For the first option, I adopt degree semantics and, particularly, the analysis for minimizers by Chierchia (2013). The degree analysis that I propose works in the way that the endpoint of a process results in an assertion that picks a low point on its contextually relevant scale. That is, *Kimse* is too vague to be used in a positive context. This analysis has the advantage of putting *Kimse* in the class of minimizers that do not show overt stress. However, the problem is that *Kimse* does not allow for an overt *Even* whereas minimizers do. Besides, this analysis has a weakness which is that such a degree analysis might be more plausible for minimizers in that they denote a three-place relation that takes a state, an individual, and a degree while *Kimse* is a person containing degrees (e.g. a person at the border line). However, the analysis technically works for *Kimse* as well.

The second option, namely Domain analysis, is an application of the idea of domain widening by Kadmon and Landman (1993). This analysis equates *Kimse* more to the stressed *ANY* in terms of domain. Hence, this analysis works in that *Kimse* is a domain widener denoting low scalar elements. That is, *Kimse* means 'person' with a wider domain than 'someone/person'. The advantage of the analysis is that *Kimse* does not allow for an overt *Even* just like *ANY*. On the other hand, there is the disadvantage that *Kimse* never has to be stressed whereas the analysis works for *Any* only when it is stressed (Krifka (1995), Lahiri (1998)). However, it is also

the case that, in Turkish, an overt prominence is never used when there are set of alternatives with focus sensitive operator like *Even*.[22]

In conclusion, both options account for the fact *Kimse* involves *Even* in its semantics; hence, it is an *Even*-NPI as shown in Table 4. So, I leave this decision to the readers as an open question.

Table 4. Degree and Domain Analyses for *Kimse*

| | Alternatives | Exhaustification | Yielded class of NPI |
|---|---|---|---|
| Degree analysis | Degree alternatives (σ-ALTs) | E | *Even*-NPI |
| Domain analysis | D-ALTs ordered by ⊆ (D-ALTs) | E | *Even*-NPI |

## 3.12 Conclusion

In this chapter, I illustrated two classes of NPIs, namely, *Even*-NPIs and *Only*-NPIs. I used the diagnostics for *Even* by Guerzoni (2004) to show that *Kimse* has a silent *Even* in its semantics, thus, it is an *Even*-NPI. I showed that *Kimse* patterns with *Even*-NPI minimizers in some respects and it does with *Even*-NPI *ANY* in other. Based on these behaviors, I provided two analyses for *Kimse*. I proposed a degree analysis as the first option based on the resemblance between *Kimse* and minimizers. Under this analysis, *Kimse* has degree alternatives which are exhaustified by E. Then, as the second option, I proposed a domain analysis adopting the idea of domain widening by K&L (1993). In this analysis, *Kimse* has domain alternatives ordered by ⊆ which are factored into the meaning of *Kimse* via E operator. After

[22] Turkish is taken to be a focus position language by most of the researchers (Kural (1994), İşsever (2003), Kornfilt (2005), Şener (2010), among many others).

discussing the strengths and weaknesses of the two analysis, I concluded that both analyses predict a silent *Even* in the semantics of *Kimse.*

The position of *Kimse* among the NPIs that I illustrated so far under AEA is seen in Table 5.

Table 5. Alternatives and Exhaustification Operators of Different NPIs

| | Alternative types | Exhaustification operator | Covert *Even* |
|---|---|---|---|
| Minimizers | Degree alternatives (σ-ALTs) | E | allow |
| *Kimse* | Degree-alternatives (σ-ALTs) $or_{exclusive}$ D-ALTs ordered by ⊆ | E | disallow |
| *Ever* | D-ALTs and σ-ALTs | O | disallow |
| *ANY* | D-ALTs ordered by ⊆ | E | disallow |
| *Any* | D-ALTs and σ-ALTs | O | disallow |

# CHAPTER 4

# EXISTENTIAL FREE CHOICE ITEM *BİR KİMSE*

## 4.1 Introduction

The main objective of this chapter is to show that *Kimse* is a Polarity Item which has two uses; and, that both can be understood within one and the same system. In the previous chapter, I illustrated the NPI use of *Kimse* and provided two semantic analyses regarding its behavior. In the present chapter, I will show that *Bir* 'a(n)' rescues *Kimse* in UE environments and the resulting item, namely *Bir Kimse,* is an existential FCI.

After illustrating the essential ingredients of this view, I will point out that *Bir Kimse*, disjunction, and plain indefinite *Biri* 'someone' all behave alike in modalized and DE contexts as they all give rise to an FC effect; thus, they trigger identical type of alternatives. In addition, I will show that they all admit recursive exhaustification (which in the system I am adopting here is responsible for FC effects). However, in non-modal contexts, the FC effect of the plain indefinite *Biri* can be cancelled, just like that of English *or* and *a* (see Chierchia (2013)), whereas this effect is obligatory for *Bir Kimse*. Applying Chierchia's analysis of the difference between *Or* and *A* on the one hand and FC *Any* on the other, I will account for the difference in Turkish in the following terms: while the activation of alternatives for *Biri* are subject to pragmatic relevance, the alternatives of *Bir Kimse* are always active. Therefore, I will argue that a simple switch can turn the plain indefinite *Biri* into an ∃-FCI *Bir Kimse*. Besides, I will show that *Bir Kimse* forces an FC reading even in absence of modal whereas *Biri* does not. Specifically, I will illustrate that, in these cases, *Bir Kimse* always results in an ignorance effect and

show that its ignorance effect as an FC effect relative to epistemic modality. Based on the similarities between German *Irgendein* and *Bir Kimse*, I will follow Chierchia (2013)'s analysis in which he proposes a silent modal for items like *Irgendein*. Therefore, my analysis of *Bir Kimse* will basically expand what Chierchia proposes for items that require FC readings in non-modal contexts. Finally, I will discuss a special FC interpretation that bare *Kimse* receives when it is modified.

In the end of the chapter, I will conclude that although *Kimse* is a Polarity Sensitive item which has two uses, unified analysis of *Kimse* is feasible within the AEA system.

## 4.2 *Kimse* in upward entailing contexts

As I observed in Chapter 1, bare *Kimse* is grammatical only in DE contexts, but the numeral *Bir* 'a(n)' rescues it in a number of UE contexts (Kubaş, 2016). For example, *Kimse* preceded by *Bir* 'a(n)' is free to occur in the following types of sentences.

(147) Necessity

a. *(Bir) kimse-yi seç-meli-sin.
a kimse-ACC pick-Nec.-2gs
'You should pick someone, (anyone, it doesn't matter who)'

Possibility

b. Beyza *(bir) kimse-yi döv –ebilir-∅.
Beyza a kimse-ACC beat-Abil-2sg
'Beyza can beat anyone.'

Imperative sentences

c. Sınıf-tan *(bir) kimse-yi seç-∅.
class-ABL a kimse-ACC pick-Imp.
'Pick anyone from the class.'

Episodic sentences

d. Ali *(bir) kimse-yi öldür-dü-∅.
Ali a kimse-ACC kill-Past-2sg
'Ali killed someone (a non-identifiable/specifiable person).'

Generic sentences

e. *(Bir) kimse anne -si -ni sev -er -∅.
a kimse mother-Poss-ACC love-AOR-3sg
'A person loves her/his mother, any person.'

Thus, although this use of *Kimse* comes together with a free morpheme *Bir* 'a(n)', due its special behavior in the remainder of the chapter I will treat '*Bir Kimse*' as a single lexical item. In addition, as I have shown in Chapter 1, *Bir Kimse* occurs as a freestanding DP unlike *Any* which is accompanied by a noun.

## 4.3 *Bir Kimse* under deontic modals: FC effect of *Bir Kimse*

In chapter 2, I showed to some length that disjunction in modal contexts have a free choice reading (see Sections 2.3.2, 2.5). In the present section, I will show in which respects *Bir Kimse* is parallel to FC disjunction and in which other respects it differs from it.

Similar to disjunction, *Bir Kimse* receives a FC interpretation under a possibility modal. (148a) has a possibility modal with a wide scope over an existential item which is equivalent to the disjunction in (148c); however, the

resulting interpretation is a universal one, that is one where the disjunctive element transforms to conjunction (see 148d).

(148) a. Bu yarışma-da, joker hakkı olarak bir kimse-yi arayabilirsiniz.
this quiz-DAT lifeline as bir kimse-ACC call-Abil-3pl
'In this quiz show, you can call anyone as your lifeline.'

b. $\Diamond \exists x \in D$ [person (x) $\wedge$ you call x]
= It is possible that x is a person and you call x, for x is an element of D

d. $\Diamond$ [you call $a_1 \vee$ you call $a_2 \vee \ldots$], for any person $a_i \in D$
= It is possible that you call $a_1$ or you call $a_2$ or you call $a_3$ or….

e. $\Diamond$ you call $a_1 \wedge \Diamond$ you call $a_2 \wedge \ldots$, for any $a_i \in D$
=You can call $a_1$ and you can call $a_2$ and you can call $a_3$ and .....
That is: you can call only one person but the choice is free.

As we saw in the case of disjunctions, the same effect emerges in the scope of necessity modals and with imperatives. Sentences (149a, b) indicate the presence of an obligation that can be satisfied by freely picking a person from a contextually relevant domain.

(149) a. Sa -na yardım ed-ecek bir kimse bul-malı-sın.
you-ACC hel -NOM bir kimse find-Nec.-2sg
'You must find someone to help you, any person.'

b. Sınıf-tan bir kimse-yi seç-∅.
Class-ABL bir kimse-ACC pick-Imp.-2sg
'Pick someone, any person.'

Interpretation: You are allowed to choose any person you want but you must pick only one person

= Each person is an allowable option but only one person should be picked

Noticeably, Turkish plain indefinite *Biri* 'someone' also displays an FC effect under necessity and possibility modals. In addition, *Biri* does not allow for a non-FC reading under deontic modality.

(150) a. Bu yarışma-da joker hakkı olarak biri-ni ara-yabilir-siniz.
this quiz-DAT lifeline as biri-ACC call-Abil.-2pl
'In this quiz show, you can call someone, any person.'

b. san-a yardım ed-ecek biri-ni bul-malı-sın.
you-DAT help-Nomin. biri-ACC find-Nec.-2sg
'You must find someone to help you, any person.'

All these features are manifestations of FC effects. Furthermore, also these FC effects vanish under DE contexts, just like those of disjunction (see Section 2.5). In sentence (151b), under negation *Bir Kimse* receives the same existential force as the NPI bare *Kimse* and the FC reading.

(151) a. You can't choose music or art.

$\neg \Diamond$ (choose music $\vee$ choose art) $\Leftrightarrow$ [$\neg \Diamond$ choose music $\wedge \neg \Diamond$ choose art]

= You can't choose music and you cannot choose art.

b. Bir kimse-yi ara –ya -maz-sın.
bir kimse-ACC call-Abil.-Neg-1sg
'You can't call anyone.'

$\neg \exists x \in D \Diamond$ [person (x) $\wedge$ you call x]

c. Readings for (b):
You can't call anyone (available)
It is not the case that you can call someone of your choice (unavailable)

So far, it is obvious that there is a striking parallelism between *Bir Kimse* and disjunction/ordinary indefinites (e.g. *Biri*): they trigger FC effect under possibility and necessity modals, and this effect disappears in DE contexts.

4.4 *Bir Kimse* under epistemic modality: Ignorance FC effect of *Bir Kimse*

Let us, now, turn to the difference between disjunction and *Biri* on the one hand and *Bir Kimse* on the other; this difference emerges in non-modalized episodic sentences. While plain indefinite *Biri* 'someone' allows for a non-FC reading in these cases, *Bir Kimse* cannot.

Now, consider the following episodic sentences in (151). *Bir Kimse* occurs in a non-modal context roughly meaning *Someone but I don't know who*. For the speaker's ignorance regarding the identity of the person, see Appendix B in which I provide the conversations following up the sentences below.

(152) a. O sırada bir kimse gel -ip biz-i selamla-dı-∅.
during bir kimse come-Adj we-ACC greet -past-3sg
'During that time, someone came and greeted us but I don't know the identity of the person.'

b. Karşı-dan bir kimse gel -di ve halk -a hitap et-ti -∅.
Across-ABL bir kimse come-past and public-DAT speak-past-3sg
'Someone came (by) and s/he spoke to the public. I don't know the identity of the person'

From the novel 'Gönül Nimetleri' by Necip Fazıl Kısakürek

In order to account for this "ignorance" reading in non-modal contexts, I follow Chierchia (2013)'s idea that in these cases, the item involves a silent modal whose modal base is epistemic. This is why the freedom of the "choice" in these cases is not intended as if any option was allowed deontically; but it is intended as if any option is possible for all the speaker knows. Hence, the uncertainty regarding the identity of the person that may verify the existential statement because in episodic sentences, the modality switches to epistemic. Nevertheless, this reading, too, is an FC one.

(153) $\Diamond a_1$ came $\wedge \Diamond a_2$ came $\wedge$ … for any person $a_i \in D$
where the modal base is set compatible with the speaker's knowledge
= For all the speaker knows, it might be any person

The same switch from deontic to epistemic modality is observed for *Biri* (see (154)).

(154) a. O sırada biri gel -ip biz-i selamla-dı -∅.
during biri come-adj. we-ACC greet -past-3sg
'During that time, someone came and greeted us.'
Interpretation: I don't know who

b. Karşı -dan biri gel -di ve halk -a hitap et-ti -∅.
Across-ABL biri come-past and public-ACC speak-past-3sg
'Someone came (across) and s/he spoke to the public.'
Interpretation: I don't know who

However, while it is possible for the speaker to use *Biri* in cases in which s/he is actually in the position to identify an individual that would verify her/his existential statement, *Bir Kimse* cannot. I, therefore, conclude that *Bir Kimse* comes with an obligatory FC interpretation even in non-modal contexts, while *Biri* does not. The

following example confirms this conclusion. The hearer in (155a) can inquire on the identity of the person who came and did the greeting, whereas this is pragmatically odd for the hearer of (155b) where the questioner uses *Bir Kimse*.

(155) a. A: O sırada biri gel-ip biz-i selamla-dı-∅.
during biri come-adj we-ACC greet-past-3sg
'During that time, someone came and greeted us.'

B: Kim-di?
Who-past
'Who?'

b. A: O sırada bir kimse gel -ip biz-i selamla-dı-∅.
During bir kimse come-adj we-ACC greet-past-3sg
'During that time, someone came and greeted us.'

B: #Kim-di?
Who-past
'Who?'

Moreover, *But I don't know who* is natural in (156a), but it redundant in (156b) which suggests that the speaker's ignorance is already conveyed by the choice of *Bir Kimse*:

(156) a. O sırada biri gel-ip bizi selamladı, ama kim olduğunu bilmiyorum.
During biri come-adj us greet-past but who be-NOM-ACC know-Neg-1sg
'During that time, someone came and greeted us, but I don't know who.'

b. O sırada bir kimse gelip bizi selamladı, #ama kim olduğunu bil-mi-yorum.
During bir kimse come-adj us greet-past but who be-Nomin-ACCknow-Neg-1sg
'During that time, someone came and greeted us, but I don't know who.'

Given this, on the one hand, the plain indefinite *Biri* is compatible with the speakers's ignorance but does not necessarily conveys it. *Bir Kimse*, on the other hand, does not have such an option. The contrast of the semantic properties with the indefinite *Biri* and *Bir Kimse* signals that the use of *Bir Kimse* obligatorily involves a free choice effect.

In the following two sections, I will provide semantics of *Bir Kimse* that predicts this. I will start by laying out the analysis of the obligatory FC reading of *Bir Kimse* in modal sentences in Section 4.5. I will, then, turn to its ignorance interpretation in non-modal contexts in Section 4.6.

## 4.5 Alternatives of *Bir Kimse*

In order to obtain FC readings, the relevant alternatives must be pre-exhaustified (see Sections 2.3 and 2.6.2). Given this, items that allow for recursive exhaustification may receive an FC reading and, items require it can only have FC reading. In the first group, there are disjunction and plain indefinites which may receive a FC reading because they activate both scalar and Domain alternatives and that these alternatives can be pre-exhaustified; FC *Any* falls in the second group because it comes with the requirement that its alternatives be pre-exhaustified (recursive exhaustification).

Given this, the observations in the previous section can be explained as follows: the plain indefinite *Biri* 'someone' and *Bir Kimse* both trigger scalar and Domain alternatives, but *Biri* optionally[23] activates its alternatives while *Bir Kimse* obligatorily does. (see Chierchia (2013, pp. 120-122) for optionality/relevance of alternatives). Furthermore, *Biri* merely allows for recursive exhaustification (it has

[23] When items activate both types of alternatives, the obligation of exhaustification gives rise to contradiction as we saw in Section (2.5). To prevent such a problem, Chierchia stipulates relevance of alternatives. When alternatives are subject to relevance, FC reading disappears without contradiction (see Chierchia (2013)).

the option not to have a recursive exhaustification) whereas *Bir Kimse* requires it (it has an obligatory FC reading). In both cases, the exhaustifier is O because it is the default operator for scalar and Domain alternatives in AEA. This section illustrates the details of this analysis.

*Bir Kimse* activates both σ-ALTs and D-ALTs and the D-ALTs are pre-exhaustified (pre-exhaustification of scalar alternatives are vacuous (see Chapter 1)). The FC effect of *Bir Kimse* signals the obligatoriness of its alternatives and recursive exhaustification[24].

(157) a. $O_{Exh\text{-}DA}\ O_{\sigma A}$ (You can call bir kimse$_{[+\sigma,\ +D]}$)



b. ALT: ◊ [call person a ∨ person b] assertion

◊ call person a ◊ call person b D-alternatives

◊ [call person a ∧ call person b] σ-alternative



c. Exh-ALT: ◊ [call person a ∨ person b]

O(◊ call person a) O(◊ call person b) Exh/D-alternatives

◊ [call person a ∧ call person b]

d. Strengthened truth conditions = ◊ you call a ∧ ◊ you call b

(You can call person a and you can call person b)

The exhaustification with respect to the pre-exhaustified set of alternatives in (157c) gives rise to the Free Choice effect:

[24] The arrow indicates the direction of asymmetric entailment.

(158) $O_{Exh\text{-}DA}\ O_{\sigma A}$ (◊ [call person a ∨ person b])

= ◊ you call a ∧ ◊ you call b ∧ ¬ (◊ [you call a ∧ you call b])

(159a) below shows how this applies to a concrete example. For the simplicity, I assume that the contextually relevant domain D contains only two people *a* and *b*.

(159) a. Bir kimse-yi ara-yabil-ir-sin.
bir kimse-ACC call-Abil-Aor-2sg
'You can call someone, anyone.'

b. ◊ ∃x ∈ D [person (x) ∧ you call x]
where {a, b} = [[person ]] ∩ D

c. ◊ [you call a ∨ you call b]
(You can call person a or person b)

= ◊ you call a ∧ ◊ you call b
(You can call person a and you can call person b)

Table 6 shows the types of alternatives and the notion of obligatoriness of activating these alternatives and recursive exhaustification for *Bir Kimse* and *Biri*.

Table 6. Alternatives of *Bir Kimse* and *Biri*

| | Types of alternatives | Active alternatives | Recursive exhaustification |
|---|---|---|---|
| *Bir Kimse* | σ-ALTs and D-ALTs | obligatory | obligatory |
| *Biri* | σ-ALTs and D-ALTs | obligatory (in modal)<br>optional (non-modal) | obligatory (in modal)<br>optional (non-modal) |

## 4.6 Deriving the epistemic FC effect of *Bir Kimse*

In this section, I turn to the analysis of *Bir Kimse* in episodic non-modalized sentences. As we saw above, in these cases the FC effect turns into an ignorance effect. I showed that the ignorance interpretation of *Bir Kimse* can be seen as a case of FC reading where the flavor of modality is epistemic (see Alonso-Ovalle & Menendez-Benito (2010)).

Another example of *Bir Kimse* in non-modal contexts with the above mentioned reading is given below:

(160) a. Ali bir kimse-ye aşık-∅.
Ali bir kimse-ACC love-1sg
'Ali loves someone.'

b. For all the speaker knows, it might be any person.
(The speaker is ignorant as to the identity of the beloved)

My proposal that the ignorance effect of *Bir Kimse* in non-modal contexts is an FC reading relative to epistemic modality, adopts Chierchia (2013)'s proposal that similar cases involve a covert epistemic modal at LF. One such a case is German *Irgendein* 'a/some'.

Chierchia argues for the necessity of this covert modal as follows. In the absence of modality, items that comes with obligatorily active alternatives and obligatory Exhaustification would generate a contradiction. (161) shows this point in a schematic fashion where only two alternatives, a and b, are available. Let us see in a schematic fashion. If the only two alternatives are a and b (domain alternatives), their pre-exhaustification would contradict the Exhaustification of the scalar alternatives.

(161) $(a \vee b) \wedge \neg Oa \wedge \neg Ob \wedge \neg(a \wedge b)$

$= (a \vee b) \wedge \neg(a \wedge \neg b) \wedge \neg(b \wedge \neg a) \wedge \neg(a \wedge b)$

$= (a \vee b) \wedge a \leftrightarrow b \wedge \neg(a \wedge b)$

$= \bot$ (if A then also B and at the same time not both is a contradiction.)

To overcome this problem, Chierchia stipulates the presence of a covert modal. Given this, for the ignorance interpretations by the speaker as in (160), a phonologically unrealized speaker-oriented modal ($\Box_S$) is inserted. Assuming a toy domain with two elements, under such a construal, the sentence (162a) *Ali bir kimseye aşık* says that the speaker knows that Ali loves someone (hence, the state of loving actually happens) and that for all the speaker knows, any member in the contextual domain might be the person who Ali loves.

(162) a. $O_{Exh\text{-}DA}\, O_{\sigma A}\, \Box_S$ [Ali bir kimseye$_{[+\sigma,\ +D]}$ aşık]

b. $\Box_S$ (A. loves a ∨ A. loves b) assertion

c. O ($\Box_S$ A. loves a) O ($\Box_S$ A. loves b) Exh-D-ALTs

($\Box_S$ (A. loves a ∧ A. loves b) σ-ALTs

d. $O_{Exh\text{-}ALT}\, \Box_S$ (A. loves a ∨ A. loves b)

$= \Box_S$ (A. loves a ∨ A. loves b) ∧ $\Diamond_S$ A. loves a ∧ $\Diamond_S$ A. loves b ∧ ¬ $\Box_S$ (A. loves a ∧ A. loves b)

(Ali loves someone and the speaker does not know who.)

Where S for subject, and A. is for Ali

## 4.7 Modified bare *Kimse*

Since we discussed FC use of *Bir Kimse* in this chapter, it is worth pointing out that even *Kimse* without *Bir* can occasionally obtain free choice readings. When accompanied by a modifier, *Kimse* is grammatical in a number of UE contexts; it occurs under modal contexts (see Kubaş (2016)).

(163) Possibility Modal

a. *(Zeki) kimse bu sınav-ı geç -er -∅ / geç-ebil-ir-∅
smart kimse this exam-Acc pass-Aor-3sg./ pass-Abil-Aor-3sg
'Anyone who is smart can pass this exam.'

Necessity Modal

b. İşe *(tecrübeli) kimseyi al-malı-sın.
job experienced kimse-Acc accept-Neces.-2sg.
'You must employ someone who is experienced.'

I observe that modified *Kimse* with possibility modal gets a universal free choice effect:

(164) a. Üniversite -den mezun ol-an kimse iş -e başvur-abil –ir -∅.
University-Abl graduate-RC kimse job-Dat apply -Abil-Aor-3sg
'Anyone who graduates from university can apply for this job.'

b. $\forall x \in D$ [graduate person (x) $\wedge \Diamond$ x applies for a job]

Interpretation: For every x element of D, x is such that x graduates from university, x applies for a job

However, when it is under necessity modal, it gets an existential free choice reading.

(165) a. İş-e üniversite mezunu kimse-yi al -malı-sın.
Job-Dat university garaduate kimse-Acc accept-Abil-3sg
'You must employ someone who is experienced.'

b. ∃x ∈ D [graduate person (x) ∧ ◊ you choose x]
Interpretation: For an x element of D, x is such that x graduates from university, you employ x

On the other hand, when modified *Kimse* is used in non-modal contexts, it becomes deviant:

(166) a. *Zeki kimse bu sınav-ı geç -ti -∅.
smart kimse this exam-Acc pass-Past-3sg.

b. *İşe tecrübeli kimse al -ın -dı -∅
job experienced kimse accept-Pass-Past-3sg.

Thus, although, it is more restricted, bare *Kimse* gets an FC reading on the condition that it is modified which supports the dual nature of *Kimse*. In this thesis, I concentrated on only existential free choice *Bir Kimse* but future research needs to be done for restrictions and FC readings of modified bare *Kimse* under deontic modality.

## 4.8 Switch from negative polarity *Kimse* to free choice *Bir Kimse*

So far, I analyzed *Kimse* within an alternative and exhaustification-based framework. In the previous chapter, I proposed two analyses for bare *Kimse* and their common property is relevant for the present discussion: bare *Kimse* is a negative polarity item. Also, in the present chapter, I concluded that *Bir Kimse* is an existential free choice item.

Now, I will address the differences between NPI *Kimse* and ∃-FCI *Bir Kimse*. First, NPI *Kimse* activates only σ-ALTs but ∃-FCI *Bir Kimse* triggers both σ-ALTs and D-ALTs. As I showed, if an item has only one type of alternatives, it has to be exhaustified by the operator E; if not, the default operator is O. Given this, NPI *Kimse* is exhaustified by E while ∃-FCI *Bir Kimse* is exhaustified by O. Besides, *Bir Kimse* requires pre-exhaustification of its alternatives but bare *Kimse* does not. Given all these, bare *Kimse* can survive only in DE contexts whereas *Bir Kimse* is not limited only to DE contexts[25].

(167) a. i. Kaza -da kimse öl -me-di -∅.
Accident-Loc kimse die-neg-past-3sg
'Anyone died in the accident.'

ii. Kaza -da bir kimse öl -me –di -∅.
Accident-Loc bir kimse die-neg-past-3sg
'Anyone died in the accident.'

b. i. Beyza bir kimse -yi döv -ebil –ir -∅.
Beyza bir kimse-Acc beat-Abil-Aor-3sg
'Beyza can beat anyone'

[25] Recursive exhaustification also yields the FC effect of *Bir Kimse* which is not in the scope of the relevant discussion.

ii. *Beyza kimse-yi döv –ebil –ir -∅.

Beyza kimse-Acc beat-Abil-Aor-3sg

In conclusion, NPI *Kimse* and ∃-FCI *Bir Kimse* can be understood as part of one and the same system. I regulate both NPI *Kimse* and ∃-FCI *Bir Kimse* with same ingredients and we can transform from one to other via a switch within the same framework by Chierchia (2013) as seen in Table 7.

Table 7. Properties of NPI *Kimse* and FCI *Bir Kimse* Under AEA

| | Types of alternatives | Exhaustification operator | Recursive exhaustification |
|---|---|---|---|
| NPI *Kimse* | σ-ALTs (Degree A.) $or_{exclusive}$ D-ALTs (Domain A.) | E | NO |
| FCI *Bir Kimse* | D-ALTs and σ-ALTs | O | YES |

## 4.9 Conclusion

In this chapter I mainly looked into FC use of *Kimse* in addition to its NPI use. First, I showed that *Bir Kimse* is an FCI with existential reading parallel to indefinite *Biri* in that they both activate the same alternatives and have FC reading under modal; hence, both activates σ-ALTs and D-ALTs. Then, I illustrated that the former has FC effect even in absence of modal whereas the latter does not have to have such effect. Therefore, I showed that alternatives of *Bir Kimse* are obligatorily activated and alternatives of *Biri* are subject to relevance. In addition, to account for the FC effect in non-modal contexts, based on the similar patterns of *Bir Kimse* with German *irgendein*, I used Chierchia (2013)'s overt modal idea and showed that *Bir Kimse* is an existential epistemic indefinite. Furthermore, I showed that when it is

modified, *Kimse* triggers FC effect under deontic modals but it loses its modality in non-modal contexts, which is important regarding the dual behavior of *Kimse* (NPI and FCI). In the end of the chapter, I discussed how I obtained a unitary analysis of *Kimse* in which the switch from NPI *Kimse* to FCI *Bir Kimse* is possible within one and the same system.

# CHAPTER 5

# CONCLUSION

## 5.1 Summary

The thesis starts with the observation that when *Kimse* is bare, it is only grammatical under negation; but, when it is preceded by the indefinite determiner *Bir* 'a(n)', it is free to occur in non-negative and even non-modal sentences. Hence, I referred to bare *Kimse* as the "NPI *Kimse*" and to *Kimse* preceded by *Bir* as the "FCI *Bir Kimse*". I then defined the problem of this "two uses of *Kimse*" as a general question this thesis aims to address. Is there a relation between Negative Polarity and Free Choice uses of the same item *Kimse*? That is, can these two phenomena be understood within one and the same semantic system?

The type dual nature *Kimse* exhibits is not limited to it but it is widespread across languages. Chierchia (2004, 2013) presents a framework in which Polarity Sensitive items with both NP and FC uses can be understood and explained systematically. In this work, he provides a uniform analysis of NP and FC phenomena in a number of Germanic, Slavic, and Romance languages (see Chierchia (2013)). He does so within Alternative Semantics and its application in the derivations of implicatures via exhaustification (see Fox (2007). In this sense, Chierchia's is an Alternative Exhaustification Based Approach (AEA) of Polarity. The present thesis addresses the problem of *Kimse* from the viewpoint of this framework by Chierchia. Therefore, I illustrated the ingredients he uses for his analysis. First, I showed why and by whom alternative semantics was proposed how it works. Then, I illustrated the building blocks that Chierchia (2013) makes use of for his analysis; namely, scalar implicatures, alternatives and exhaustification. For

the technical details, I showed how alternatives works and what exhaustification and recursive exhaustification of the alternatives give rise to (see Table 1) and, what the operators *Only* and *Even* do (see Chapter 2 for all).

After introducing the relevant components of AEA and their independent motivation in Chapter 2, I illustrated my analysis of NPI *Kimse* and argued that this items belong to the class of NPIs that involve *Even* in their semantics. In Chierchia's terms, emphatic NPIs. I arrived at this conclusion by applying a diagnostic inspired by work of Guerzoni's (see Guerzoni (2003, 2004)). After establishing this empirical fact of NPI *Kimse*, I illustrated the details of two potential analyses, both compatible with the view that *Kimse* is an *Even*-NPI: A Degree Analysis and a Domain Widening one. The degree based analysis builds on Chierchia's theory of minimizer NPIs like *Lift a finger* and finds its motivation in the resemblance between the behaviors of NPI *Kimse* and these items. The domain widening analysis, builds on Kadmon and Landman (1993)'s theory of *Any* and Krifka (1995)'s analysis of emphatic *ANY*. This analysis finds its motivation in the resemblance between NPI *Kimse* and stressed *ANY*. The empirical evidence presently at my disposal fails to bare on the choice between these two possible theories.

The Free Choice use of *Bir Kimse* is addressed in Chapter 4. I observed that FCI *Bir Kimse* behaves similar to plain indefinite *Biri* in modal and negated contexts; they both raise existential FC effect. Given this, I proposed that *Bir Kimse* and *Biri* activate same types of alternatives, namely, σ-ALTs and D-ALTs. However, I observed, also, that the FC effect of *Biri* is optional in non-modal contexts whereas the one of *Bir Kimse* is not. Thus, following Chierchia's treatment of disjunction and FCIs, I proposed that alternatives of *Biri* are subject to relevance but alternatives of *Bir Kimse* are obligatorily activated. In addition, I observed that *Bir Kimse* triggers

an ignorance reading in absence of modal which I treat as an FC effect; based on its similarity to German *Irgendein* (see Chierchia (2013), I pursued Chierchia's 'covert modal' idea. Given this, I claimed that *Bir Kimse* has its FC effect in nature independently from the context and it has an obligatory Recursive Exhaustification unlike *Biri*. As a specific conclusion of the analysis of *Bir Kimse*, I concluded that ∃-FCI *Bir Kimse* can be understood within a system which Chierchia applies to many similar items across languages.

With these investigations, as the general and most important result, I concluded that NPI *Kimse* and ∃-FCI *Bir Kimse* can be understood with the same reasoning; specifically, I proposed that these two uses of *Kimse* arise from different variations of the same alternatives and different choices as to how these alternatives are exhaustified.

## 5.2 Limitations and directions for further research

This study discusses two of the three uses of *Kimse* (see Section 1.3) and the third use of *Kimse*. The third use, which I labeled as the whoever-type *Kimse* remains to be analyzed. There is a reason for this choice. The third type of *Kimse* differs from the other two in some important respects. First, (i) its morphological make-up is more transparent than the others, (ii) it only exhibits universal readings and (iii) it is part of more complex syntactic structures (see Section 1.3). Further research needs to establish whether "whoever-type *Kimse*" can be understood with the same ingredients in the same system.

Besides, for the speakers of Turkish who do not accept the negative bias of *Kimse*, it can be analyzed with O exhaustification and with two types of alternatives (both D-ALTs and σ-ALTs).

## 5.3 Conclusion

Having investigated *Kimse* in semantic terms, in this dissertation, I have come to the conclusion that *Kimse* contributes to the idea that there is a striking relation between Negative Polarity items and Free Choice items. Specifically, I observed that *Kimse* has a dual nature; it has a negative polarity and free choice uses and I concluded that it is possible for NP and FC uses of polarity item *Kimse* to switch from one to other within the same formal system.

## APPENDIX A

## CHOOSING BETWEEN THE EXHAUSTIFIERS FOR THE DEGREE ALTERNATIVES OF *KİMSE*

First, when *Kimse* is used in a non-negated sentence, both O and E derive inconsistent results (which is desired since *Kimse* is ungrammatical in non-DE). To start with O, consider the following positive sentence in (1). Given that $d_{min}$ is picked in such a way that the assertion part of (1a), namely $\lambda w \exists w' \exists x[person_{w'}(x, d_{min}) \wedge came_{w}(x)]$, is entailed by all of the alternatives. That is, if an x is a person to a minimum degree and this x came (which amounts to the least possible person x came); then, all other xs to all higher degrees came as well (if the entailed one is true, all the other entailers must also be true). However, on the other hand, by the semantics of *Only*, all the alternatives other than the assertion itself must be false. This is impossible given the way $d_{min}$ is picked. So (1b) is contradictory.

(1) a. $O_{\sigma A}$ [kimse$_{+\sigma}$ geldi]

b. $O_{\sigma A}$ ($\exists w' \exists x$ [person$_{w'}$ (x, $d_{min}$) $\wedge$ came$_{w}$ (x) ] )

$= \exists w' \exists x$ [ [person$_{w'}$ (x, $d_{min}$) $\wedge$ came$_{w}$ (x) ] $\wedge \forall p \in ALT$ [$p \rightarrow \lambda w \exists w' \exists x$ [person$_{w'}$ (x, $d_{min}$) $\wedge$ came$_{w}$ (x) ] $\subseteq p$ ]

$= \perp$

A similar logic is going on when it is exhaustified with E. As I stated above, by the way $d_{min}$ is picked, the assertion part is entailed by all of the alternatives. Keeping this situation in mind, recall from Section 2.2.1 that if A entails B, B cannot be less

likely than A since A is true in fewer situations than B. So, given that E exhaustification requires the assertion to be the least likely among the alternatives, and *Kimse*, unlike normal scalar items (*Some*, *Biri*), has no [−σ] option: Its alternatives are always active. Hence, the positive sentence (2a) is contradictory just like (1a) while syntactically well-formed.

(2) a. E ((∃w' ∃x [$person_{w'}$ (x, $d_{min}$ ) ∧ $came_{w}$ (x) ]

= ∃w' ∃x [ [$person_{w'}$ (x, $d_{min}$ ) ∧ $came_{w}$ (x) ] ∧ ∃w' ∃x [$person_{w'}$ (x, $d_{min}$ ) ] < $\mu$ ∃w' ∃x [$person_{w'}$ (x, d') ∧ $came_{w}$ (x)] ]

(2a) is contradictory because (2b) says that an x is a person to a minimum degree and this x is the superset of all the other xs to higher degrees. That is, the least possible person x is the superset to all other more possible alternatives of x. Hence, there is a contradiction.

b. ∀d' [∃w' ∃x [ [$person_{w'}$ (x, $d_{min}$ ) ∧ $came_{w}$ (x) ] ⊇ ∃w' ∃x [$person_{w'}$ (x, d') ∧ $came_{w}$ (x)]]

Now that we established that in positive contexts, both O and E yield syntactically well-formed but semantically incoherent results which is desired, we must turn to negative contexts in which *Kimse* is grammatical.

Consider the following negative sentence in (3). The sentence (3) says that it is not the case that there is an x to a degree $d_{min}$ and this x came. Hence, there cannot be any x that reaches to any higher degree and came. Moreover, there cannot be any x that reaches to a smaller degree than $d_{min}$ ($d_{min}$ − m) either, for then there would

have to be a degree, $d_{min} - m < d_{min}$ that is maximal degree which an x to be a person in question, which is impossible by the definition of $d_{min}$ (see Sections 3.4 and 3.8.1). It follows that if (113a) is true, there is nobody at all which is consistent with the meaning of *Kimse* in negative contexts.

(3) a. E [kimse$_{+\sigma}$ gelmedi.]

b. E ($\neg\exists$w' $\exists$x [person$_{w'}$ (x, $d_{min}$) $\wedge$ came$_w$ (x)] )

= $\neg$ $\exists$w' $\exists$x [ [person$_{w'}$ (x, $d_{min}$) $\wedge$ came$_w$ (x)] $\wedge$ $\neg\exists$w' $\exists$x [person$_{w'}$ (x, $d_{min}$) ] $< \mu$ $\neg$ $\exists$w' $\exists$x [person$_{w'}$ (x, d') $\wedge$ came$_w$ (x)] ]

c. (b) is consistent because

$\forall$d' [$\lambda$x $\neg\exists$w' $\exists$x [[person$_{w'}$ (x, $d_{min}$) $\wedge$ came$_w$ (x) ] $\subseteq$ $\lambda$x $\neg\exists$w' $\exists$x [person$_{w'}$ (x, d') $\wedge$ came$_w$ (x)]]

If we exhaustify the same negative sentence with O, we get a similar result. Since all the alternatives are entailed by the assertion, there is nobody who came at all; the result of exhaustifying with O also predicts that *Kimse* is fine in negative contexts.

(4) a. O$_{\sigma A}$ [kimse$_{+\sigma}$ gelmedi]

b. O$_{\sigma A}$ ($\neg\exists$w' $\exists$x [person$_{w'}$ (x, $d_{min}$) $\wedge$ came$_w$ (x)] )

= $\neg\exists$w' $\exists$x [ [person$_{w'}$ (x, $d_{min}$) $\wedge$ came$_w$ (x)] $\wedge\forall$p $\in$ ALT [p $\rightarrow$ $\lambda$w $\neg\exists$w' $\exists$x [person$_{w'}$ (x, $d_{min}$) $\wedge$ came$_w$ (x)] $\subseteq$ p ]

## APPENDIX B

## PROOF FOR THE IGNORANCE READINGS IN (154)

For (154a), consider the whole context in which the writer uses *Bir Kimse*.

……O sırada bir kimse gelip bizi selamladı. Sordu:
'During that time, someone came and greeted us. Asked:'

— Nereden geliyorsun?
'Where are you coming from.'

— Rebeze'den geliyoruz.
'We are coming from Rebeze.'

……

— Şu deveyi satar mısınız?
'Will you sell this camel to me?'

— Evet, dedik.
'We said yes.'

O sırada adam deveyi alıp gitti.
'At that time, the man took the camel and disappeared'…….

Biz aramızda konuşmaya başladık; deveyi hiç bilmediğimiz birinin eline verdik, bedelini de almadık, ya deveyi alıp giderse, dedik?

'We started to talk; we said "We just handed our camel over someone we don't know anything about him and we didn't get anything in return; what if he doesn't come back?". '

From the novel Gönül Nimetleri by Necip Fazıl Kısakürek

The speaker refers *Bir Kimse* as ‘someone we don’t know anything about’. They are all worried just because they delivered their camel to someone they do not have any idea about. It is clear that the writer uses *Bir Kimse* to indicate this meaning.

The context in which the writer uses (154b) is as in the following.

….Ben pazar yerindeydim. Karşıdan bir kimse geldi ve halka hitap etti:

‘I was at the bazaar. Someone came and spoke to the public’

……..

….Ben de bu kimse kimdir, diye sordum?

‘And I asked “Who is this person?”.’

From the novel Gönül Nimetleri by Necip Fazıl Kısakürek

As the speaker asks for the identity of the person after referring him/her as *Bir Kimse*, it is clear that the writer uses *Bir Kimse* to show that the speaker doesn’t know the person in question.

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