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**Arabic " ANY "**  
**" أي " في العربية**

**Abstract :**

There are many analyses that attempt to account for Polarity Items (PI) *any*. Among such analyses are Ladusaw's (1980), Kadmon and Landman's (1993), and Linebarger's (1987). In this paper, I illustrate the problems of these analyses and I provide a unified analysis of *any* in its different contexts and usages. This suggested analysis is based on the semantic structure of the verb.

ملخص البحث :

هناك تحليلات نظرية للأدوات الاستقطابية (أيّ) . ومن ضمن تلك التحليلات: Ladusaw (1980) ، Kadmon and Landman (1993) ، و Linebarger (1987) .  
في هذا البحث ، يشير الباحث إلى المشكلات التي تكشف تلك التحليلات الآتفة الذكر ومن ثم يعطي تحليلاً موحداً للأداة الاستقطابية (أيّ) في سياقاتها واستخداماتها المتعددة . ويعتمد هذا التحليل على البنية الدلالية للفعل.

## Introduction

Polarity Items (PIs) has been the focus of rigorous research. I compare some of the influential analyses like Ladusaw's (1980), Linebarger's (1987), and Kadmon and Landman's (1993). More specifically, I show the shortcomings of these analyses and provide an analysis. In the first section, I show that these analyses have problems in accounting for Free choice (FC) any in Arabic conditional sentences and Polarity sensitive (PS) any. Then, I propose a semantic analysis that explains and the behavior of any by directly attributing its licensing to the verb's telicity.

## 0. The International Phonetic Alphabet (IPA)

It is standard in modern linguistics to use the IPA to represent all the distinctive sounds of different languages (Ladefoged, 1993: 275-280). IPA uses a set of symbols and diacritics along with ordinary Roman letters. Following this basic linguistic tradition, I display the Arabic consonants in the IPA symbols in the following table:

Place of Articulation	Pronunciation	IPA symbol
dental	ث	θ
	ذ	ð
alveolar	ط	t̪
	ض	d̪
	ص	s̪
postalveolar	ش	ʃ
velar	خ	x
	غ	ɣ
uvular	ق	q
pharyngeal	ح	ħ

	ع	ʔ
glottal	أ	ʔ

### 1. Basic Analyses

There are many analyses of PIs. In this section, three important analyses are explained.

#### 1.1 Linebarger's analysis (1987)

Linebarger distinguishes between direct and indirect licensing of PIs. She argues that indirect licensing is a pragmatic process, whereas direct licensing is in the scope of negation. Her proposal includes the conditions for direct and indirect licensing:

##### i. Direct PI licensing:

PIs are directly licensed if they occur in the immediate scope of negation. This is the polarity sensitive (PS) any.

Consider the following example:

(1) I am surprised that we do not have any sugar.

The PS any is directly licensed by negation not in which any occurs in its immediate scope.

##### ii. Indirect PI licensing:

Indirect licensing is when the PI implicates a sentence that preserves the truth of the original sentence. This indirect licensing is considered to be "negative implicature (NI)".

Consider these examples:

(2) a. I am surprised that we have any sugar.

b. I expected that we do not have any sugar.

According to Linebarger, any in (2a) is licensed through NI. (2a) implies (2b) and any sugar in (2b) is licensed by being in the immediate scope of negation. Hence the PI in (2a) is licensed since (2b) ensures the truth of (2a). The PI in (2a) is referred to as a Free Choice (FC) any.

PIs in Modern Standard Arabic include: ayya ʃai 'any thing' and ʔaħad 'somebody'. Consider the following examples:



- (3)  $\int$ alyyun ma  $\int$ akala ayya  $\int$ ai.  
 Ali-nominative not ate anything  
 Ali did not eat anything.
- (4) ma  $\int$ ata  $\int$ aħadun.  
 not came somebody-nominative  
 Nobody came.

*ayya  $\int$ ai* and  *$\int$ aħad* are directly licensed according to Linbarger's analysis since these PIs occur in the immediate scope of the negation (i.e. ma).

However, Linbarger's analysis suffers from a fundamental problem of over-licensing. Let us examine the following Arabic example:

- (5) \*ħatta  $\int$ alyyan  $\int$ akala ayya  $\int$ ai.  
 even Ali-accusative ate anything  
 \*Even Ali ate anything.

This sentence suggests that Ali was the most likely person not to eat anything. According to Linebarger, the PI *ayya  $\int$ ai* is indirectly licensed by (6) serving as NI for (5):

- (6) Ali ate something but he was the most likely person not to eat anything.

According to Linebarger's analysis, (6) guarantees the truth of (5); hence the example in Arabic, as well as its counterpart in English in (5), should be correct as predicted by Linbarger's theory. Nonetheless, the falsehood of (5) indicates that there is a problem with Linebarger's analysis.

## 1.2. Ladusaw's analysis (1980)

Ladusaw proposes that PIs are licensed if they are in the scope of a downward entailing operator (DE) which reverses the direction of entailment:

O is a DE operator if  $A \rightarrow B$  then  $O(B) \rightarrow O(A)$

Consider the following examples:

- (7) a. Nobody ate any fruit.  
b. Nobody ate bananas.

any fruit is licensed since it is in the scope of nobody. nobody is DE because of the validity of (7b). (7a) entails (7b) because the predicate ate any fruit in (7a) is replaced by a more informative predicate which is ate bananas. This predicate is stronger since everything that falls under the former predicate falls under the latter predicate. In other words, any fruit implies that all kinds of fruits are not eaten and bananas are only one example of such fruit. Consequently, the PI any fruit is licensed by the DE “nobody”.

Here is another example:

- (8) a. \*Everybody ate any fruit.  
b. Everybody ate bananas.

everybody is not DE since (8a) does not entail (8b). Therefore, any fruit is not licensed because it does not occur in the scope of DE.

### 1.3 Kadmon and Landman (1993)

Kadmon and Landman argue that although delimited DE accounts successfully for the distribution of “any”, yet it neither relates to the semantics of any nor does it provide a rationale for its distribution. They suggest that “any” is licensed as long as the widening it induces creates a stronger statement. As a result, the wide interpretation entails the narrow interpretation. Kadmon and Landman (1993: p. 359) believe that any contributes reduced tolerance of exception to the following NP. Consider this example:

- (9) a. lam ʔamliK baʔaʔisan.  
not have-I-jussive potatoes-acc  
I do not have potatoes.
- b. lam ʔamliK ʔayya baʔaʔisan.



not have-I- jussive any potatoes-genitive

I do not have any potatoes.

Suppose that someone invites twenty people for dinner and he plans to offer them potatoes. He asks his wife if there are enough potatoes. The wife may say the sentence (9a) implying that she does not have large enough quantities of potatoes to make French fries for twenty people. The husband may suggest that a small quantity of potatoes would be enough for the dinner. But she even excludes small quantities of potatoes. She does not have any potatoes at all as indicated by (9b). In (9b), any is licensed because it creates a stronger statement for the wide interpretation entails the narrow interpretation:

(10) **Wide interpretation:** I don't have potatoes in large or small quantities.

**Narrow interpretation:** I don't have potatoes in large quantities.

The statement in (9b) is strong since everything that falls under the wide interpretation falls under the narrow interpretation. The narrow interpretation is simply a statement before widening is applied.

Now we are in a position to examine how FC "any" in conditionals and PS "any".

## 2. Conditional:

The truth of the conditional differs in formal logic and natural languages.

The conditional sentence in logic stands for a material implication that is only truth-functional (Allwood et al, 1995: 37). In other words, the implication is always true if the antecedent is false irrespective of the truth-value of the consequent. In propositional logic, the material implication is interpreted as if ...then consisting of an antecedent, represented as p, and a consequent,

represented as  $q$ . Logically, the truth value of the material implication of the sentence  $p \rightarrow q$  is true if  $p$  is false irrespective of the truth-value of  $q$ . The sentence becomes false only if  $p$  is true and  $q$  is false  $p$  (Allwood et al, 1995: p.37, 110).

However when the conditional if...then is used in a natural language, Arabic for that matter, the truth-values change from those in logic. Consider the following examples:

- (11) a.  $\text{ʔi}\check{\text{d}}\text{a qaraʔta kitaaban, fasayattasi}\text{ʔu ʔufuqk.}$   
 if read-you a book-acc, will-be-broadend mind-your-acc  
 If you read a book, your mind will be broadened.
- b. \* $\text{ʔi}\check{\text{d}}\text{a lam taqraʔ kitaaban, fasayattasi}\text{ʔu ʔufuqk.}$   
 if not read-you-jussive a book-acc, will-be-broadend mind-your-acc  
 \*If you didn't read a book, your mind will be broadened.
- c.  $\text{ʔi}\check{\text{d}}\text{a lam taqraʔ kitaaban, falan yatasi}\text{ʔa ʔufuqk.}$   
 if not read-you a book-acc, will-not-be-broadend mind-your-acc  
 If you didn't read a book, your mind will not be broadened.
- d.  $\text{ʔi}\check{\text{d}}\text{a qaraʔta kitaaban, falan yatasi}\text{ʔa ʔufuqk.}$   
 if read-you a book-acc, will-not-be-broadend mind-your-acc  
 \*If you read a book, your mind would not be broadened.

The example (11b) shows the asymmetric behavior of the conditional in logic and in a natural language. Basic to logic, this sentence should be true because  $p$ , i.e. not reading the book, is false regardless of the truth-value of  $q$  or the consequent of the condition - that is, the broadening of the mind. On the other hand,



the truth-value of the conditional completely changes in the natural languages such as Arabic and English, as it is evidential in (11b). If the conditional behaves similarly in logic and natural languages, we would expect (11b) to be true. But it is not the case. As for (11d), the conditional is false in both logic natural languages.

The truth of the conditional is preserved as the antecedent is strengthened in logic. So  $p \rightarrow q$  logically entails  $p \wedge r \rightarrow q$  regardless of the truth-value of  $r$  <sup>(1)</sup>. When the implication  $p \wedge r \rightarrow q$  is translated in a natural language, the truth-value differs from logic:

- (12) \*ʔiða .qaraʔta ʔayya kitaabin wa lam tafhamhu,  
fasayattasiʔu ʔufuquk.  
if read-you any book-gen and not understand-you, will-  
be-broadend mind-your-acc  
\*If you read any book and you didn't understand it, your  
mind will be broadened.

In formal logic, (12) is true since the statement  $p$ , reading any book, is true and the consequent  $q$  is true (Allwood et al, 1995: p. 37). However (12) is false in Arabic as well as in English as indicated by the asterisks. Had the treatment of the conditional been similar in logic and a natural language, we would expect (12) to be grammatically correct. Therefore the treatment of the conditional in a natural language should not be equal to the treatment of the material implication in formal logic.

Let us now examine how the PI in Arabic conditionals is licensed. Different analyses have been proposed in the literature: Ladusaw (1980), as discussed in section (1.2) above, argues that DE is the only operator that can license PI in a sentence such as:

- (1) The strengthening of the antecedent of a conditional is to have two statements, represented as  $p$  and  $r$ , leading to  $q$ . The conditional  $p \wedge r \rightarrow q$  reads as if the statements  $p$  and  $r$  then  $q$ .



- (13) *ʔiða qaraʔta ʔayya kitaabin, fasayattasiʔu ʔufuquk.*  
 if read-you any book-gen, will-be-broadend mind-your-acc

If you read any book, your mind will be broadened.

*ʔayya kitaabin* is licensed by *ʔiða*, which is a DE according to Ladusaw. Similarly, Ladusaw's theory predicts that *ʔayya kitaabin* is also licensed by *ʔiða* in a strengthened antecedent. Consider again this example:

- (14) \**ʔiða qaraʔta ʔayya kitaabin wa lam tafhamhu, fasayattasiʔu ʔufuquk .*

if read-you any book-gen and not understand-you, will-be-broadend mind-your-acc

\*If you read any book and you didn't understand it, your mind will be broadened.

If *ʔayya kitaabin* is licensed in (14), then the sentence should be good which is untrue.

Thus, Ladusaw's analysis makes the wrong prediction by turning a bad sentence into an acceptable one.

Heim argues that it is not DE that licenses PI in the antecedent of the conditional (Heim, 1984: 98-102). She instead suggests limited DE to license PI. For instance in (11), the PI is actually licensed by the limited DE reflected in the validity of the strengthening inference of the following sentence:

- (15) *ʔiða qaraʔta alħarba wa asslim, fasayattasiʔu ʔufuquk*

If you read War and Peace, your mind will be broadened.

The NPI *ʔayya kitaabin* in (13) is licensed as result of the validity of strengthening inference of (15). To illustrate, if any book, that is beneficial, can broaden one's mind, then War and Peace, the famous novel, will certainly broadens the mind leading to the licensing of the PI in (13). Heim's analysis does not differ

from that of Ladusaw's in relating the grammaticality of the NPI to the validity of strengthening inferences. However, Heim's analysis of delimited DE differs from Ladusaw's DE analysis. More specifically, Heim's analysis does not assume all strengthening inferences to be valid, but only those inferences that are based on the context (Heim, 1984: p. 102). In other words, the premise and the conclusion of the conditional are interpreted against the same pragmatic restriction. For example, the pragmatic restriction on (13) restricts the antecedent and the conclusion to books that one understands. Thus if one reads a book and understands it, his mind will be broadened. However, (14) is not compatible with the same pragmatic restriction (Fauconnier, 1975) as (11); thus, (14) does not follow from (13) making (14) unacceptable. Therefore relating DE to the semantics of the conditional explains why certain inferences are valid while others are not.

Now let us see how Kadmon and Landman's analysis work in the conditional sentence. Kadmon and Landman base their analysis of NPI any in the conditional sentence on the semantics of the NPI and the semantics of the conditional. As was shown above, the premise and the conclusion of the conditional sentence should be controlled by the same pragmatic restriction.

Let us consider this example:

(16) ?iða qara?ta kitaabin, fasayattasi?u ?ufuquk.

if read-you book-acc, will-be-broadend mind-your-acc

If you read a book, your mind will be broadened.

From the first insight, books that can broaden one's mind are those of substantial and important content<sup>1</sup>. The semantic

(1) Even though, people will not totally agree on defining the sense of importance as it is a relative and subjective issue, there is, however, a general assumption that well-known books in various fields of knowledge, i.e. *A Briefer History of Time* by S. Hawking, make up the possible list of books that can broaden the mind.



interpretation of books that broaden one's mind changes when any is used:

(17) ?iða qara?ta ?ayya kitaabin, fasayattasi?u ?ufuquk.

if read-you any book-genitive, will-be-broadend mind-  
your-acc

If you read any book, your mind will be broadened.

?ayya in(17) widens the interpretation of the books that broaden the mind so that it is no longer restricted to books of important content as indicated by the narrow interpretation of (16). We notice that the widening of ?ayya affects the pragmatic restriction of the conditional in a way that makes it more general and hence it creates a stronger statement or what Kadmon and Landman call a reduced tolerance to exceptions. Thus books of some substantial content can also broaden one's mind. As a result, ?ayya in (17) is licensed since it widens the interpretation of the NP kitaabin so that it creates a strong statement in which a wide interpretation entails a narrow interpretation and both interpretations are controlled by the same pragmatic restriction as illustrated below:

(18) .

**Wide interpretation:**

?iða qara?ta ?ayya kitaabin hammin aw lais hammin,  
fasayattasi?u ?ufuquk .

If you read a book, whether important or not, your mind will be broadened.

**Pragmatic restriction:**

If you read a book whether it is important or not so that you understand, your mind will be broadened.

**Narrow interpretation:**

?iða qara?ta ?ayya kitaabin hammin, fasayattasi?u ?ufuquk.

If you read any important book, your mind will be broadened.

**Pragmatic restriction:**



If you read an important book that you understand, your mind will be broadened.

Kadmon and Landman's analysis is interesting but it has three problems (Krifka, 1995: p.5-6):

First, any picks up the widening effect if only it is stressed. For instance, if one says I don't have any potatoes where any is unstressed, there is no widening effect as the interpretation becomes there are some potatoes but not enough to use for cooking.

Second, the concept of reduced tolerance to exceptions is untenable. For example, Krifka indicates that any prime numbers in a sentence like this sequence doesn't contain any prime numbers does not have the widening effect that Kadmon and Landman argue for.

A third more serious problem is that Kadmon and Landman's analysis of any does not stem from a theoretical principle. At best, it might function as a semantic descriptive generalization. In section 3, I propose an analysis of any that subscribes to the general semantic basis of the verb.

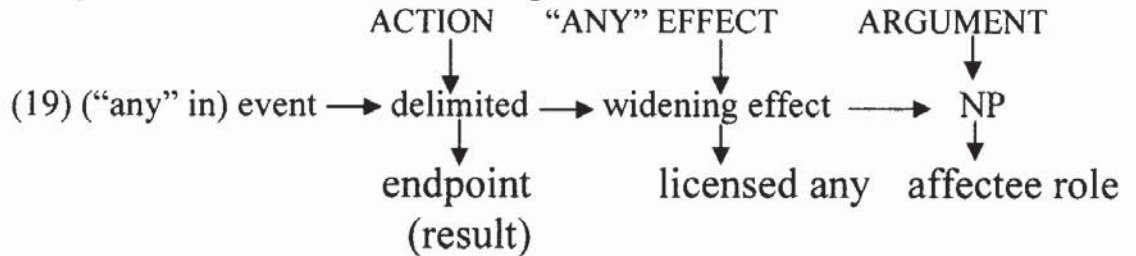
### 3. Aspectuality and PI Licensing

I argue that PI licensing is directly linked to the verb phrase semantics. More specifically, it is dependent upon the aspectual structure of the verb. This should not come as a surprise because after all "any NP" is a semantic argument of a verb; hence, it is semantically influenced by the verb. Below, I explain the aspectual analysis of PI and show how such analysis accounts for PS and FC any.

#### 3.1 Aspectual analysis

Aspect refers to the temporal properties of the verb's event structure<sup>(1)</sup>. Verbs vary in their event structure. For example the event may involve a definite endpoint as in he built a hospital where "build" is an event that reaches its end by establishing the hospital. The event can be ongoing in time as in he loves his father where the event of loving has no endpoint. It is important however not to confuse tense with aspect (Tenny, 1987: p. 14-15). Tense refers to time as determined by the context in which the sentence is said, while aspect focuses on the internal time of the event.

Below I propose an aspectual analysis of PI licensing. This analysis is based on the following model:



This model consists of three semantic components: the action or the event, the NP argument, and "any" effect. I explain each of these components below and I discuss the examples of PIs in 3.2:

### 1. ACTION

I argue that the PI "any" is used with verbs that involve delimited events. These verbs are associated with events that have an endpoint. In the next section, tests will be provided to prove the delimitedness of the verbs used with "any". The delimited<sup>(2)</sup> action or event of the verb may be thought of as a measurable scale of points that the event passes by until it reaches its final endpoint (Levin & Rappaport, 2006: p. 95-96). For example, the verb ate in Ahmad ate an apple involves an event that progresses

(1) The event specifies the time period a verb takes. See Vendler (1967) for more details.

(2) An event that has a final point is also called *telic* and *atelic* for an event with no endpoint.



in a scale till the apple is consumed. The scale represents “a specified degree of changes” that the telic or delimited event (Levin & Rappaport, 2006: p. 96). The changes lead to the final result that is reached by the endpoint of the action.

## 2. “ANY” EFFECT

Kadmon and Landman’s proposed that any is licensed once its basic semantic effect, i.e. widening, is established. The widening of any is to extend the interpretation of the noun phrase from a set of particular individuals to a wide generalization (Kadmon and Landman, 1993: p. 359-362). Dayal (1988: p.441 and 459) preserves this widening effect spirit into her licensing principle “contextual Vagueness”. I argue that such widening effect can only be possible if the event of the verb reaches an endpoint which is a result that can be generalized.

## 3. ARGUMENT

As the event reaches its endpoint, the widening effect of any is established. As a result of the any widening, the NP, the semantic argument of the verb, becomes affected by the result of the action of the verb and it is assigned the affectee semantic role. For instance, the verb ate in a sentence like Ali ate the food has a definite endpoint. When the eating event reaches its end, Ali becomes influenced by the result of the action. On the other hand, a non-delimited event has no affectee semantic role to assign. For instance, a sentence like they see the picture involves a verb that is atelic; thus, the NP they cannot be affected by the action of the verb.

Now let us see how such analysis applies to FC any in conditional sentences and to PS any.

### 3.2 FC and PS any Licensing

Let us first examine FC any in conditionals:



(20) ?iða qara?ta sami ?ayya kitaabin hammin, fasayattasi?u  
?ufuquh.

if read Sami any book-genitive, will-be-broadend mind-  
his-acc

If you read any book, your mind will be broadened.

The verb qara?ta involves a telicevent since the event has a definite endpoint. There are tests that are usually used in the literature to prove a delimited verb. One of these tests is the use of durative adverbials like in an hour (Tenny, 1987: p. 21-22):

(21) qara?ta sami alħarba wa asslim fii ?a?riin sa?atin/  
\*li?a?riin sa?atin.

Sami read War and Peace in twenty hours/ for twenty  
hours.

According to the native speakers I asked, the first durative adverbial in twenty hours is possible while for twenty hours is not. This suggests that the event of the reading finishes in twenty hours. The second adverbial for twenty hours involves an ongoing event or iterative with no definite endpoint. Another evidence for the telicity of the event of reading is the possibility of using a comparative adverb like tamaaman “completely”. This adverb indicates that the event reached its final end.

The use of these adverbials suggests to us that the event of the verb progresses in a measurable scale of points until the event reaches its final endpoint. This is consistent with Dayal’s observation that any is used with events that are bounded (i.e. delimited) temporally and that it is associated with scalar properties (1998: p. 453, 471). For example, the scale has measurable points that the event passes by:

initial stage → halfway through the action → endpoint

In example (20), the endpoint of the reading event leads to the widening effect of any. The effect of broadening the mind can be extended to the whole class of books that one can benefit from.

Hence any is licensed. Therefore, Sami is influenced by event and assigned an affectee role. As for those books that one reads and does not understand as the example (12) above indicates, the event is considered to be a non-delimited event; it is ungrammatical because any is not licensed. Therefore, no result can be produced from such event and no affectee role is assigned.

Next, let us consider PS any:

(22) lam ʔamlik ʔayya baṭaṭisin.

not have-I-jussive any potatoes-genitive

I do not have any potatoes.

The event of ʔamlik culminates in a specific endpoint, by which the person has no potatoes completely. The telicity of the event can be proven by point adverbials like at (specific time point) (Pustejovsky, 1991: p. 50):

(23) lam ʔamlik ʔayya baṭaṭisin fiḡ as-Saadisat-i massaʔan.

I do not have any potatoes at six o'clock in the afternoon.

The adverbial indicates that the event reached its final endpoint by six and hence there were no potatoes at all. There is a scale that measures the progress of the event that starts with having some potatoes and then there is a gradual consumption that ultimately uses up all the available quantity of potatoes. As a consequence, the person becomes affected by the absolute lacking of potatoes as the widening effect of any is produced.

In conclusion, the PI any, whether it is FC or PS, is licensed only if it is part of a verb culminating in a specific point. The licensing of any leads to the widening result by which the semantic NP argument of the verb becomes affected.

#### 4. Conclusion

In this paper, I attempted to achieve two goals: first, I examine Arabic FC and PS any based on the analyses Ladusaw's (1980), Kadmon and Landman's (1993), and Linebarger's (1987). I have shown that there are problems with these accounts. Secondly, I proposed an analysis of Arabic any that avoids the problems of



the previous accounts. This analysis can be drawn from the aspectual structure of the verb phrase. The proposed analysis consists of three components: the delimited event of the verb, the semantic effect of any, and the affected NP argument of the verb. Any whether it is used as FC or PS is licensed if the verb has an endpoint. Thus the NP argument is assigned an affectee semantic role because it is influenced by the endpoint result. The widening effect of any is the result of the verb's delimited event which is extended to the whole class of the NP, used with any.

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