

## ملخص البحث

### لبس الإنباع التركبي في اللغة العربية

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تعتبر ظاهرة اللبس من الظواهر المعقدة و الشائعة في كل اللغات. وتسير هذه الظاهرة إلى وجود تركيب لغوي يمكن تفسيره على أكثر من وجه. وهناك عدة أنواع من اللبس اللغوي، مثل اللبس المعجمي، و اللبس التركيبي، و اللبس الدلالي، و اللبس المصطلحي. فمثلا ينجم اللبس المعجمي عن وجود عدة دلالات لكلمة معجمية في الجملة (أو ما يعرف بـ"المشترك اللفظي"). و ينتج اللبس التركيبي عن البنية النحوية لمكونات الجملة و عن طبيعة العلاقات النحوية بين مكوناتها. و متركز الدراسة الحالية على ظاهرة لبس الإنباع التركبي في اللغة العربية، و متبين أن هذا النوع من اللبس يقع غالبا نتيجة لإنباع أربعة أنواع رئيسة من المكونات النحوية بمكونات أخرى. و هذه المكونات هي: الجار و المجرور، و الصفة، و الظرف، و جملة الصلة. و ستوضح الدراسة أن أنواع هذا اللبس الموجودة في اللغة العربية توازي مثيلاتها في اللغة الإنكليزية تقريبا، مما يساعد على تعزيز عالمية اللغة العربية و يسهم في البحث عن القواعد الكلية التي أكد عليها تشومسكي و أتباعه في معظم أدبيات نظريات النحو التوليدي التحويلي، و نظريات المبادئ و الأطر اللغوية الكلية.

كلمات مفتاحية: اللبس، اللبس التركيبي، اللبس الدلالي، المشترك اللفظي.

## Attachment Ambiguity in Modern Standard Arabic

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### Abstract

The main purpose of this article is to shed some light on attachment ambiguity in English and Modern Standard Arabic (henceforth, MSA).<sup>1</sup> Ambiguity, generally referred to as *Ilabs* in MSA, refers to situations where a linguistic expression can have more than one interpretation. The article starts with a general overview of ambiguity, highlighting its main types and manifestations. Then an attempt will be made to provide a detailed account of attachment ambiguity. This kind of ambiguity is a type of structural ambiguity which results from the syntactic structure of the sentence and in particular from the various attachment possibilities of certain constituents. Four main types of attachment ambiguity will be examined and analysed, including the attachment of prepositional phrases, relative clauses, adjective phrases and adverbials. It will be shown that the types of attachment ambiguity found in MSA are similar to the ones available in English.

**Keywords:** Structural ambiguity, Attachment Ambiguity, Arabic Ambiguity.

### 1. Introduction

Ambiguity is a pervasive phenomenon in all human languages. A linguistic expression is said to be ambiguous if it has more than one interpretation. For example, if one says, "I went to the bank", this utterance can be understood in more than one way because of the different senses of the word "bank", which can mean either "a riverside" or "a financial institution." The study of ambiguity is an area of research that spans many disciplines including syntax, semantics, logic, philosophy, literature, pragmatics, politics, machine translation, corpus analysis, and computer science. It is also a rich source of humour as can be seen in the following example from Pinker (1994) "Two cars were reported stolen by the Groveton police yesterday." In this example the humour comes from the fact that it can mean either "the police reported the incident of stealing the car" or "the police stole the car." Also the

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<sup>1</sup> It should be pointed out that the term *Modern Standard Arabic* is used here to refer to the variety of Arabic used by educated Arabs in formal writings, academic circles, news bulletins and religious ceremonies in the majority of the Arab countries.

example "cleaning ladies can be delightful" from Aitchison (2008, 17) can mean either "ladies who clean can be delightful", or "to clean ladies can be delightful."

There are many types of ambiguity, including lexical, metaphorical, anaphoric, scopal, referential, idiomatic and structural ambiguities (Kreidler (1998); Player (2004); and Coman and Preda (2008)). For example, lexical ambiguity results from the different senses of a certain lexical item. For instance, in "I saw a bat" the word "bat" can mean either "a piece of wood used to hit the ball in some sports", or "a small nocturnal flying mammal," and as a result the example can have two different interpretations. The same situation exists in Arabic. For example, the word "ʿayn" can mean "an eye", "a spring of water" and "a spy". The word "mawlaa" can mean "a master", "a slave" and "an ally." The word "khaal" can mean "an uncle" and "a mole". For example, a sentence like "raʿay-tu khaalaha" can mean either "I saw her uncle" or "I saw her mole." The ambiguity of this example stems from the availability of different meanings of the word "khaal," a type of ambiguity generally referred to in MSA as "*lmushtarak llafdhii*".

Another kind of ambiguity which, unlike lexical ambiguity, does not result from the semantic properties of a certain lexical item is structural ambiguity. This kind of ambiguity comes from the syntactic structure of the sentence, i.e., from the way constituents can be grouped together within the sentence. For example, the sentence "I will invite Peter and John or Mary" is structurally ambiguous. It has at least two different interpretations. According to the first interpretation, either "Peter and John" or "Mary" will be invited; and the second interpretation suggests that either "Peter and John" or "Peter and Mary" will be invited. This ambiguity is structural and comes from the different coordination possibilities available in this example.

Also the Arabic sentence "zurtu alqusuura wa almasajida alkabiirata" (I visited the large palaces and mosques) can mean either (both the palaces and the mosques that I visited were large) or (I visited some palaces and mosques, and the mosques (only) were large). As will be shown in section (4.3.), the ambiguity of such examples comes from the internal structure of the sentence, i.e., from the availability of several modification possibilities within the sentence.

## 2. The Research Objectives

The main objective of the study is to explore some syntactic and semantic aspects of a major type of structural ambiguity in MSA, namely, attachment ambiguity. Structural ambiguity is a complicated phenomenon which has been subject to too much dispute in the linguistic literature regarding its exact nature and the types of ambiguity that can be regarded as structural (Kreidler (1998); Ceccato et al. (2004); Player (2004); and Coman and Preda (2008)). The situation is even more complicated when it comes to structural ambiguity in MSA, a topic which has not received much attention in the Arabic linguistic literature.

Generally speaking, the traditional Arab grammarians concentrated on one main issue, namely, the necessity of avoiding ambiguity in all its forms and manifestations. They viewed avoiding ambiguity as a well-formedness condition on the use of language, assuming that communication could be taken as the most crucial function of language, and that ambiguity would negatively affect this function. According to those grammarians, any syntactic operation should be prohibited if its application could give rise to ambiguity (Hasan (1985), Al-Galaayeni (1993), Al-Sameraa'e (2000) and Hassaan (2007) and the references cited therein).

For instance, in the ambiguous example "daḍat salwaa leilaa" (lit. invited Salwa Leilaa) it is not clear which NP *Salwa* or *Leilaa* is the subject and which is the object because the two NPs do not manifest any overt case-marking features. In such cases, fronting the object, i.e., placing it before the subject, is completely prohibited in spite of the fact that such an operation is normally allowed in this language. In such cases, the first NP following the verb, i.e., *Salwa* in this example, must be taken as the subject. Furthermore, ellipsis should be avoided if its application can result in ambiguity.

On this view, if ambiguity is avoided, then all syntactic rules can apply in a straightforward manner, provided that all the other necessary conditions are met<sup>2</sup>. Accordingly, the traditional view of ambiguity is somehow limited in that it has not offered any

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<sup>2</sup> Strangely enough, Abdullah (2006) points out that according to the traditional Arab grammarians the subject could be in the accusative case, instead of the nominative, provided that ambiguity is avoided. See also Hassaan (2007) for a similar observation.

comprehensive, systematic study of this complicated phenomenon. Therefore, this article attempts to provide some insight into the real nature and the different types and manifestations of a major kind of structural ambiguity in this language, namely, attachment ambiguity.

### **3. The General Framework**

It has been argued that structural ambiguity can be divided into two main types: deep structure ambiguity and surface structure ambiguity (Fromkin and Rodman (1983); Kreidler (1998); and Fromkin, Rodman and Hyams (2003); among many others). Deep structure ambiguity is assumed to result from having a single surface structure with two or more different deep structure representations. In other words, this type of ambiguity is revealed only in underlying deep structure representations. On the other hand, surface structure ambiguity results from having one deep structure with multiple surface structure representations. To illustrate, consider the following example from Kreidler (1998, 170):

1. The chicken is too hot to eat.

This example is ambiguous between two readings. It can mean either "the chicken is too hot to eat anything" or "the chicken is too hot to be eaten by anybody". This example illustrates deep structure ambiguity in that its ambiguity can be explained only at deep structure, given that deep structure is an abstract level of representation that contains all the information required for semantic interpretation. Furthermore, the ambiguity here cannot be accounted for by appealing to the structural relations that hold between the constituents of the ambiguous sentence or to the surface ordering of constituents within this sentence.

By contrast, surface structural ambiguity emerges in cases where a given sentence can have more than one derivation as a result of the availability of more than one way of grouping its constituents at surface structure. For example, in a sentence like "I met some old men and women", the adjective "old" can be grouped with the noun "men" to form one NP constituent which, in turn, is conjoined with another NP, "women," and according to this structure the sentence means "I met some men and women, and the men were old." On the other hand, "men" and "women" can be grouped together to form one complex NP within which both "men" and "women" are modified by the adjective "old." According to this structure, the sentence can be interpreted as "I met some men and women, and both of them were old."

Given the fact that deep structure ambiguity relies largely on certain purely abstract semantic properties of the sentence rather than on the structural ordering of constituents within the sentence, we will focus in this study on surface structure ambiguity and consider it as the only genuine type of structural ambiguity. Accordingly, structural ambiguity in this work refers to a kind of ambiguity in which a single underlying structure can have multiple surface structures with different interpretations.

The general framework adopted in this study will be a standard version of the Principles and Parameter theory (Chomsky (1982) and (1991); and Rizzi (1990), among many others) and in particular X-bar theory, since the basic aim is to study the structure of ambiguous sentences; and the ambiguity of such sentences comes from the way constituents are grouped together. Therefore, it is sufficient for our present purposes to show how the different interpretations of these sentences can be represented structurally. Nonetheless, our analysis can also be compatible with some other more up-to-date approaches such as the Minimalist Framework (cf. footnote 4, below).

Following the basic insights of Ceccato et al. (2004), Player (2004) and Coman and Preda (2008), we will assume that there are many types of structural ambiguity, including categorial ambiguity, attachment ambiguity, coordination ambiguity and elliptical ambiguity.<sup>3</sup> Furthermore, we will assume in this study that structural ambiguity in English, as well as in Arabic, is a surface structure syntactic phenomenon. The following section will focus on the main topic of this study, namely attachment ambiguity and its different types and characteristics in English and MSA. It will be shown that this kind of ambiguity results from the availability of various attachment possibilities of certain constituents to other constituents within the sentence.

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<sup>3</sup> According to the above authors, categorial ambiguity comes from the fact that in certain instances a certain word can belong to more than one syntactic category. NP-structure ambiguity results from the different modification possibilities within nouns phrases in certain cases. Attachment ambiguity stems from the various attachment possibilities of certain constituents. Coordination ambiguity comes from the availability of various coordination possibilities of constituents as a result of using certain coordinators. Finally, elliptical ambiguity comes from the availability of different interpretations resulting from the use of ellipsis.

#### 4. Attachment Ambiguity

Attachment ambiguity is a very productive source of structural ambiguity. It can be divided into the following four main types: prepositional phrase attachment, relative clause attachment, adjective phrase attachment and adverb phrase attachment. This classification is based on the fact that prepositional phrases, relative clauses, adverbs and adjectives can attach to different categories within the sentence. In many cases, it is difficult to determine what attaches to what, and this will eventually result in sentences with more than one reading. The following subsections provide a detailed analysis of attachment ambiguity, starting with PP-attachment.

##### 4.1. PP-Attachment Ambiguity

PP-attachment ambiguity is a major source of structural ambiguity. This kind of ambiguity results from the fact that in some cases PPs can attach to various constituents within the same sentence. To illustrate, consider the following example:

2. I saw the man with a telescope.

This sentence can mean either "I saw the man who was holding a telescope," or "I used a telescope to see the man", depending on the constituent to which the PP "with a telescope" is attached. If it is attached to the NP "the man", the first interpretation is obtained, and the PP will have an adjectival modification function. The second meaning becomes available if this PP is attached to the verb "saw" and, hence, it assumes an adverbial function indicating how the action (of seeing the man) was carried out<sup>4</sup>.

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<sup>4</sup> The whole discussion in this study can be easily recast within the Minimalist Framework as proposed in Chomsky (1995) and later works. Within this framework, we can assume that speakers select lexical items from their mental lexicon and combine (*merge*) them to form larger constituents such as phrases and sentences. On this account, structural ambiguity results from the choice of the elements the speaker *merges* together. For instance, as pointed out by Radford et al. (2009, 332), an example like *Frank spotted the man with a telescope* the DP is first formed and then merged with the verb to form the VP *spotted the man*, after that the PP *with a telescope* is merged as an adjunct with the VP to form the larger VP *spotted the man with a telescope*. According to this structure, the example is interpreted as "Frank used a telescope to spot the man." On the other hand, another structure with a different interpretation is also available. According to this structure, *the man* and the adjunct PP *with a telescope* are merged to form the DP *the man with a telescope*. This DP is then merged with the head verb *spotted* to act as its complement. This structure corresponds to the interpretation where "Frank spotted a man and this man has a telescope."

PP-attachment ambiguity is also very common in MSA since prepositional phrases in this language, as is the case in English and in many other languages, can have different attachment possibilities, as can be seen in the following examples:

3. ?anaa qaabaltu lmuhandisiina fii lsharikati.  
I met the engineers in the company  
I met the engineers in the company.
4. huwa qara?a risaalatan li-salwa.  
he read a letter to-Salwa  
He read a letter to Salwa.
5. Leila Darabat rajulan bi-saaqin khashabiyatin.  
Leila hit a man with-leg wooden  
Leila hit a man with a wooden leg.

The example in (3) is ambiguous. It can mean either "I met some engineers and this meeting took place in the company" or "I met some engineers who work in the company". The ambiguity of this example arises as a result of the different attachment possibilities of the PP "fii lsharikati" (in the company). This PP can attach to the verb "qaabaltu" (met), and in this case it will have an adverbial function as a modifier of the verb, showing the location of the meeting, and thus resulting in the first interpretation. The second interpretation arises if the PP is attached to the NP "lmuhandisiina" (the engineers), and in this case the PP has an adjectival function as a postmodifier of this NP.

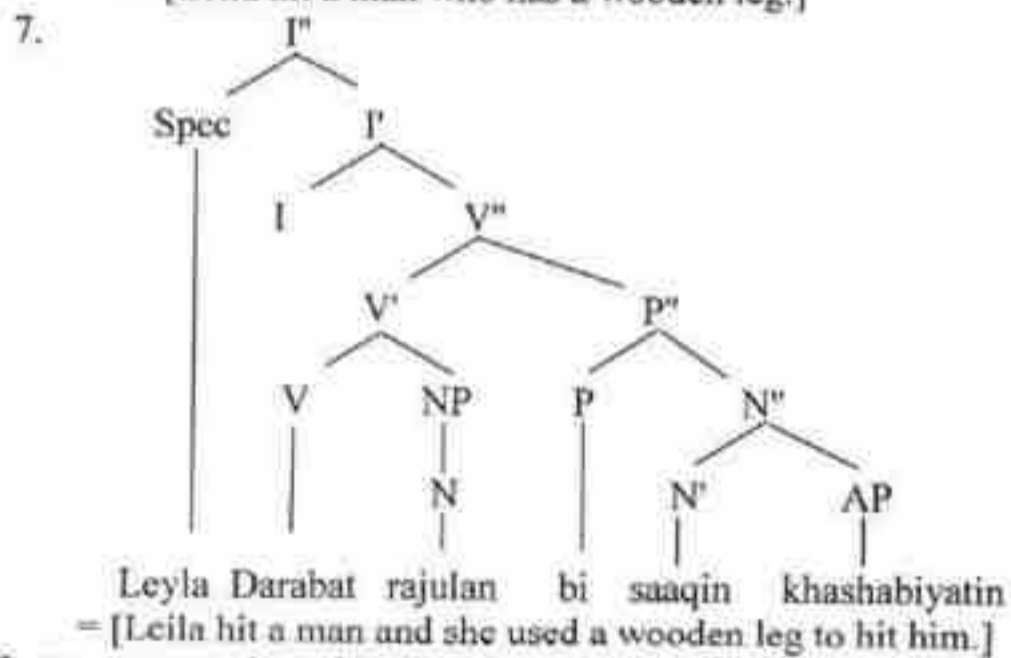
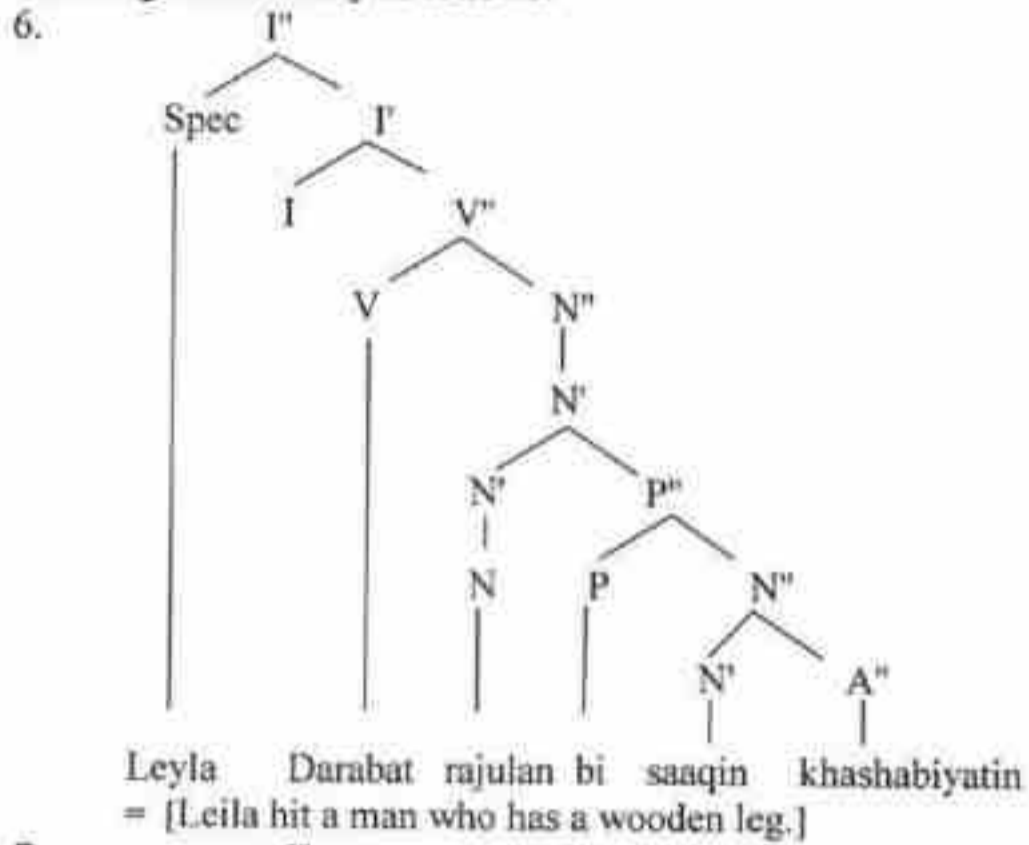
Example (4) can also have the following two interpretations: "He read a letter which was addressed to Salwa," and "He read to Salwa a certain letter which might have been addressed to someone (other than Salwa)." Again, the PP "li-Salwa" (to Salwa) can attach to the NP "risaalatan" (a letter) as a modifier, giving rise to the first interpretation, and alternatively it can attach to the verb "qara?a" (read), resulting in the second interpretation.

The example in (5) is also ambiguous and can have the following two different readings: "Leila hit a man and she used a wooden leg to hit him," and "Leila hit a man who has a wooden leg." The ambiguity of this example comes from the fact that the PP "bi-saaqin khashabiyatin" (with a wooden leg) can modify either the verb "Darabat", yielding the first reading, or the NP (rajulan), resulting in the second reading. The structural ambiguity which results from the

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different attachment options of the PP in this example, and of the previous two as well since they share the same structure, can be represented diagrammatically as follows:



In the first representation, the PP "bi-saaqin khashabiyatin" modifies the NP "rajulan" and forms with it one constituent, a larger NP, whereas in the second representation, the PP and the NP are two independent constituents, and the PP here adverbially modifies the verb phrase and its head the verb 'Darabat'.

#### 4. 2. Relative Clause Attachment Ambiguity

Another common type of attachment ambiguity is generally referred to as relative clause attachment ambiguity. This kind of ambiguity results from the fact that relative clauses can have various attachment possibilities within the sentence, as shown in the following examples from Kroeger (2005, 27) and Sekerina et al. (2003, 375), respectively:

8. The woman on the committee that I met with yesterday.

9. John shot the servant of the actress who was on the balcony.

In example (8) the relative clause "that I met with yesterday" can attach either to "the woman", or to "the committee", resulting in two different interpretations. This example can mean either "I met the woman", or "I met the committee". The relative clause "who was on the balcony" in (9) can modify either "actress" or "servant". In other words, it is not clear whether it was the actress or the servant who was on the balcony. According to Sekerina et al. (2003), English speakers generally prefer the "local attachment" interpretation, i.e., the attachment to the closer constituent, namely the attachment of the relative clause to the closer NP, *actress*, in the above example<sup>5</sup>.

Relative clause attachment ambiguity can also be found in Arabic. Like the situation in English, in this language relative clauses can have various attachment possibilities, as can be seen in the following example:

10. ?anaa qaabaltu ?ibna ?al rajuli llaðii darasa fii London.

I met son the man who studied in London.

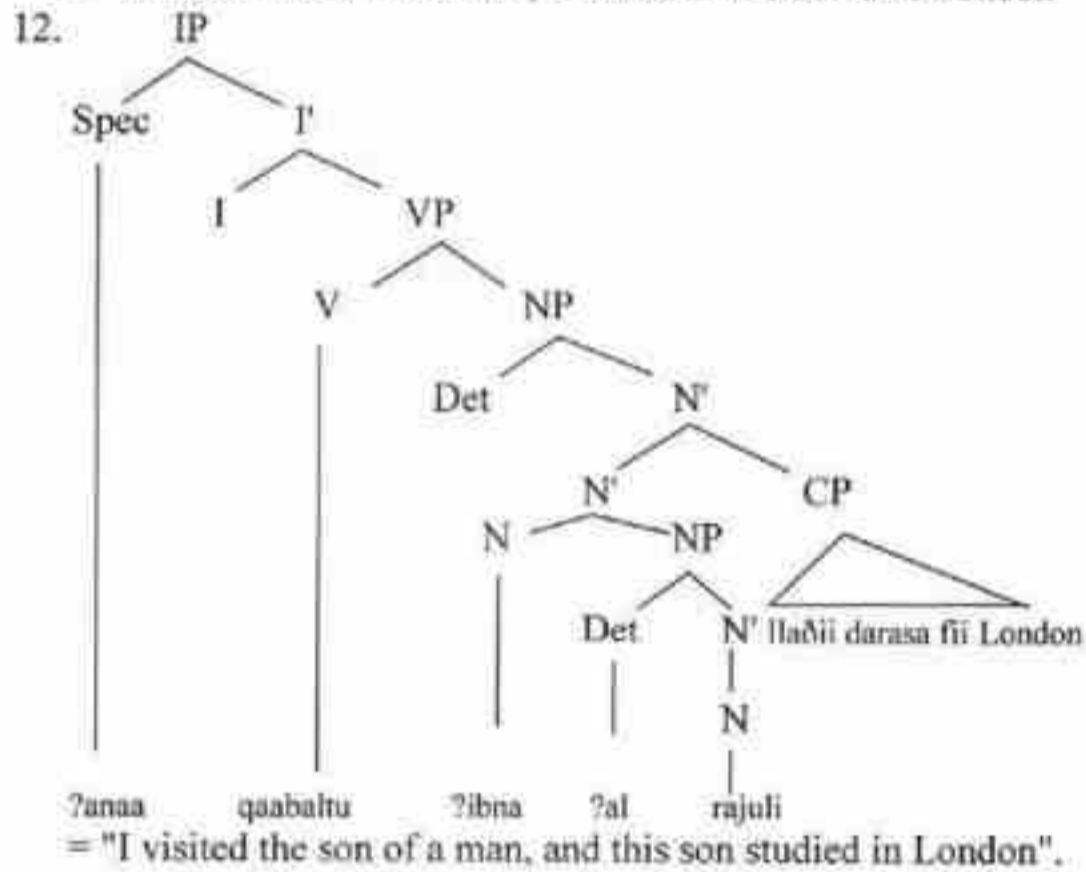
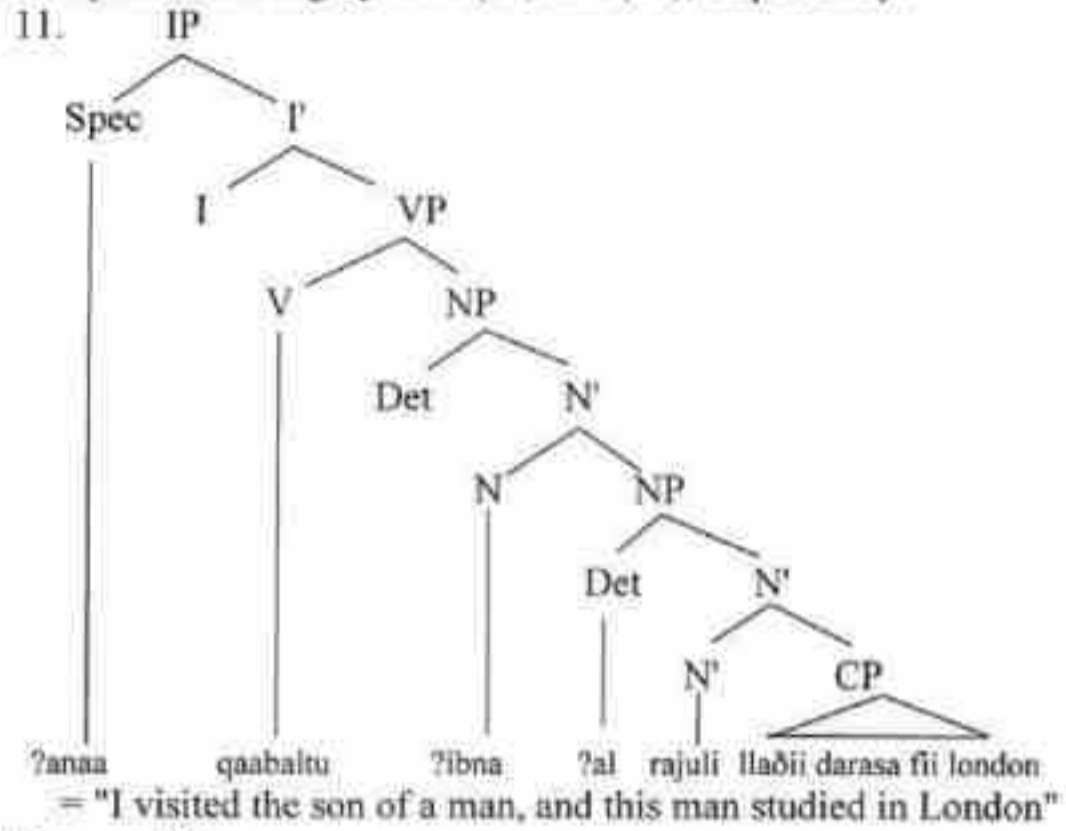
I met the son of the man who studied in London.

This example has two readings as a result of the availability of various attachment possibilities of the relative clause "llaðii darasa fii London" (who studied in London). This relative clause can attach to and hence modify either the NP "?alrajuli" (the man) or both nominals within the *?idhafa* construction "?ibna ?alrajuli" (man's son). If it modifies only "?alrajuli", the example then means "I visited the son of a man, and this man studied in London". If the relative clause is attached to "?ibna ?alrajuli", it will modify the whole construction, resulting in the following interpretation "I visited the son of a man, and this son studied in London".

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<sup>5</sup> Many studies suggest that local (low) attachment is preferred in English (Carreiras and Clifton (1993); Frazier and Clifton (1996); and Fernandez (2003)).

The two attachment possibilities of the relative clause in this example along with its two different interpretations discussed above can be represented roughly as in (11) and (12), respectively:



According to the first representation, the relative clause modifies the lower NP that contains "?alrajuli" (the man) only, whereas according to the second the relative clause modifies the higher NP containing both "?ibna" (son) and "?alrajuli" (the man).

Another situation where relative clause attachment causes structural ambiguity is in cases where a relative clause modifies a coordinate NP structure, as can be seen in the following example:

13. Plans and ideas that are of great importance.

In this example the relative clause "that are of great importance" can modify either "ideas" or both "plans" and "ideas". Thus, according to the first possibility only the ideas are of great importance, whereas according to the second both the plans and the ideas are very important.

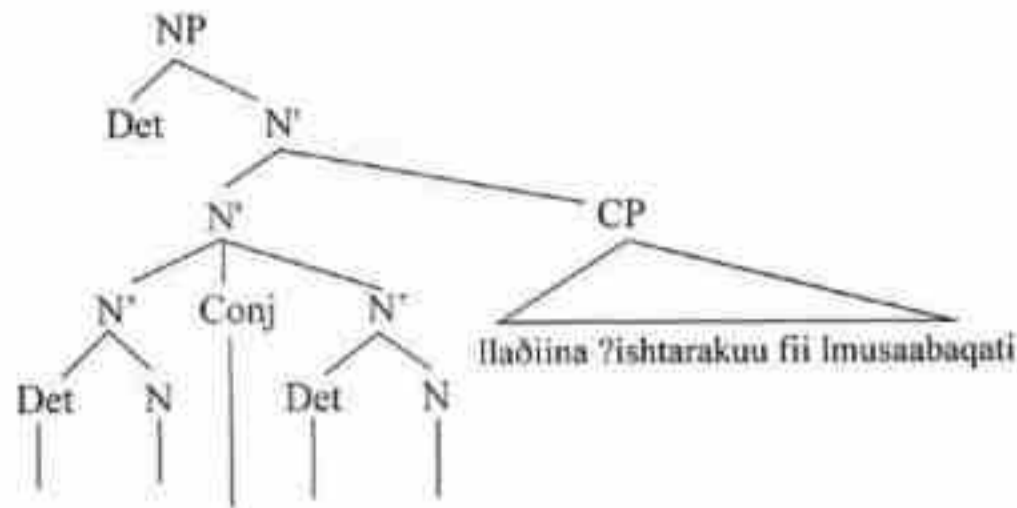
Relative clause attachment ambiguity can also be found in MSA in situations where a relative clause is used to modify a coordinate NP structure. In this case, the relative clause can be attached either to one of the NPs or to both NPs within the coordinate NP structure, as illustrated in the following example:

14. daḍaw-tu lmuḍalimiina wa ltullaaba llaḍiina ?ishtarakuu  
invited-I the teachers and the students who participated  
fii lmuṣaabaqati.  
in the competition.

= I invited the teachers and the students who participated in the competition.

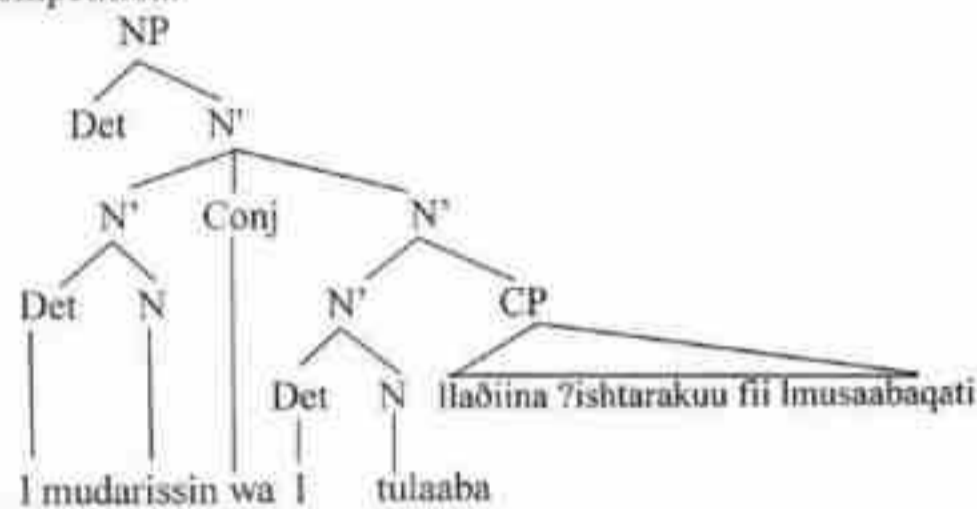
Example (14) has two interpretations, depending on which category the relative clause "llaḍiina ?ishtarakuu fii lmuṣaabaqati" (who participated in the competition) is attached to. If it is attached to the NP "ltullaaba" (the students), it will modify only this NP, and the example then means "I met some teachers and I also met some students and those students participated in the competition." According to this interpretation, only the students, not the teachers, participated in the competition. On the other hand, if the relative clause is attached to the complex NP containing the two NPs "lmuḍalimiina" (the teachers) and "ltullaaba" (the students), it will modify both of these NPs, and the meaning of the example in this case is that "I met some teachers and some students, and both of the teachers and the students participated in the competition." These two interpretations can be represented structurally as in (15) and (16), respectively (irrelevant details omitted):

15.



I mudarissin wa I tulaaba  
 = "Both of the teachers and the students participated in the competition."

16.



= "Only the students participated in the competition."

In (15) the relative clause is attached to the N' dominating both "Imudarsiina" (the teachers) and "Itulaaba"(the students), whereas in (16) it is attached to the N' dominating only "Itulaaba."

#### 4.3. AP-Attachment Ambiguity

The attachment of APs can give rise to structural ambiguity especially in cases where a head noun is preceded by two modifiers, a noun and an AP. Stageberge (1978) points out that the sequence Adjective-Noun-Noun within NPs can give rise to structural ambiguity because it permits different modification possibilities. In this sequence, the adjective can modify, i.e., can be attached to, either of the two following nouns, as illustrated in the following examples from Stageberge (1978, 4), Kreidler (1998, 169) and Haegeman (2006, 12), respectively:

17. A small animal hospital.
18. Dirty language lab.
19. A Flemish language teacher.

The first example in (17) can mean either "a small hospital for animals" or "a hospital for small animals", depending on which NP, "animal hospital" or "animal", is modified by the adjective "small". The same situation can be found in example (18), where the adjective "dirty" can modify either "language" or "language lab", resulting in the following two different interpretations: "a lab used for analysing dirty language", or "a language lab which happens to be dirty".

Example (19) is also ambiguous between two readings. It can mean either "a teacher (of any nationality) who teaches Flemish" or "a language teacher who is a Flemish national", depending on whether the adjective "Flemish" modifies the noun "language" only or the combination of the two nouns "language" and "teacher".

AP-attachment ambiguity in MSA appears mainly in two main cases: in noun phrases containing an AP modifying an *idhafa* constructions, and in coordinated NPs modified by an AP. *Idhafa* (annexation) construction refers to a nominal sequence in which a noun is usually followed by a (definite) genitive noun phrase (Fehri (1993)), as in:

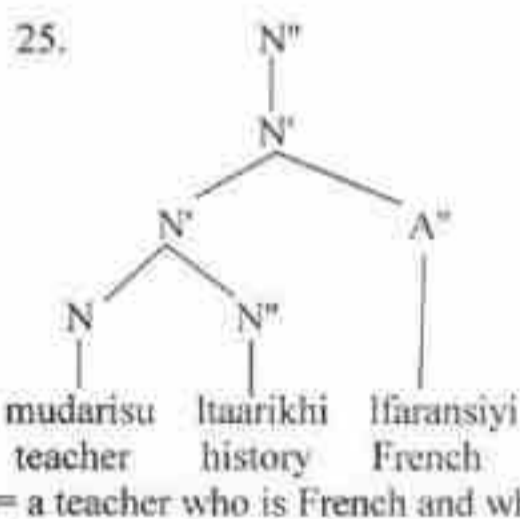
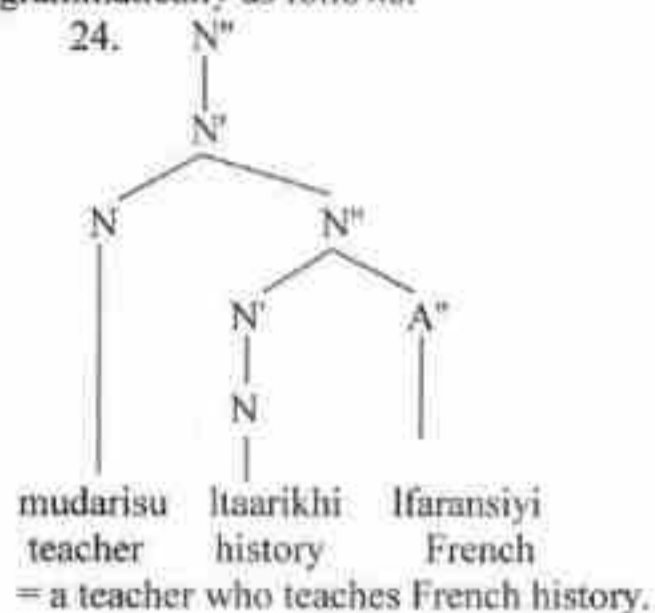
20. kitaabu rrajuli  
book the man (+genitive)  
= the man's book.

AP-attachment ambiguity usually appears in situations where an AP modifies the *idhafa* construction, as illustrated in the following examples:

21. ?ibnu rrajuli lðakiyi.  
son the man the clever  
= the clever man's son.
22. ghurfatu lfataati ljamiilati.  
room the girl the beautiful  
= The beautiful girl's room.
23. mudarisu ltaarikhi lfaransiyyi.  
teacher the history the French  
= The French history teacher.

Example (21) can mean either the man or the son is clever, depending on which element "rrajuli" (man) or "?ibnu rrajuli" (man's son) is modified by the adjective "lðakiyi" (clever). In (22) it is not clear

whether it is the room or the girl that is beautiful, since it possible in principle for the adjective "ljamilati" (beautiful) to modify either "lfataati" (girl) or "ghurfatu lfataati" (the girl's room). Example (23) has two meanings: either "a teacher (of any nationality) who teaches French history" or "a teacher who teaches history and this teacher is French." The structural ambiguity of this example can be represented diagrammatically as follows:



As can be seen from the above representations, the ambiguity of this example comes from the availability of two modification possibilities. In other words, the adjective "lfransiyyi" (French) can modify either "ltaarikhi" (history) as in (24) or "mударisu ltaarikhi" (history teacher) in (25).

Another source of AP-attachment ambiguity comes from the attachment possibilities of AP within coordinate NP structure. The basic idea here is that ambiguity arises because the AP can attach to or

modify either the closest NP (i.e., lower attachment) or both NPs of the coordinate NP structure (i.e., higher attachment), as shown in the following example from English:

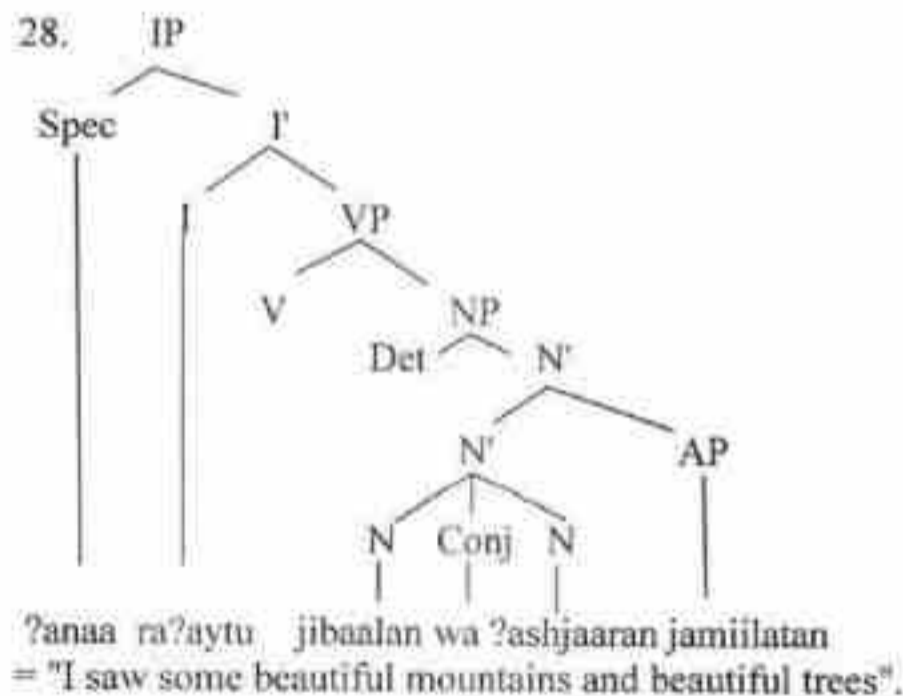
26. Young men and women.

In this example the adjective "young" can modify either "men" or both "men" and "women". Thus, according to the first reading only the men are young; and according to the second both the men and the women are young.

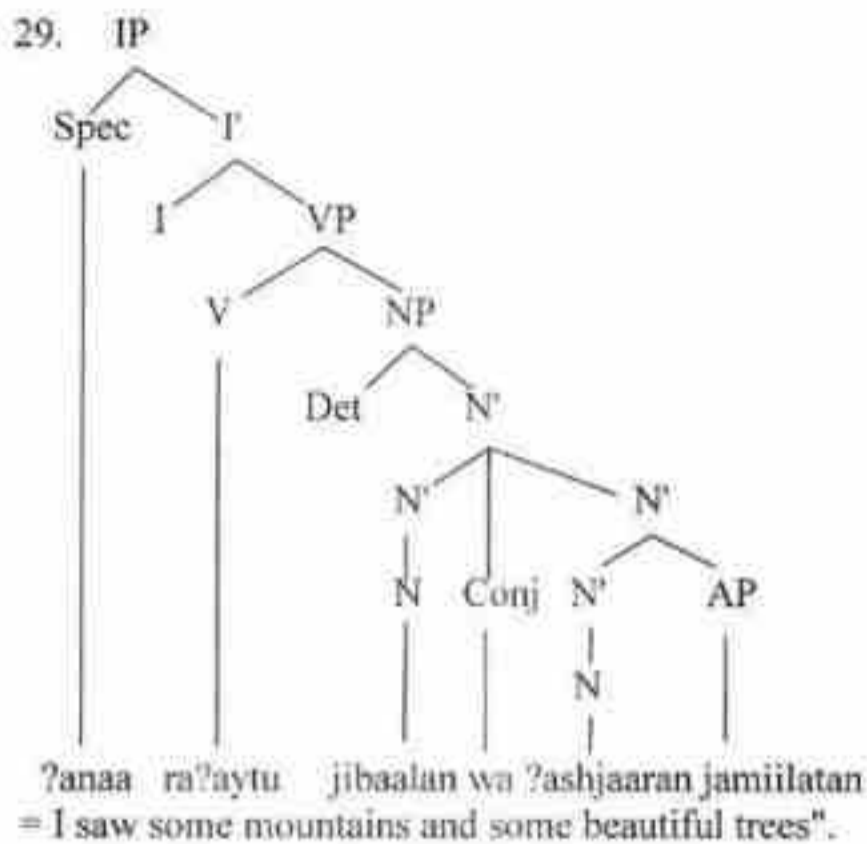
Like the situation in English, Arabic also exhibits identical cases of structural ambiguity resulting from the attachment of AP within coordinate NP structures. Again, the structural ambiguity in such instances results from the fact that an AP can modify either one NP or both NPs of the coordinate NP structure, as illustrated in (27):

27. ?anaa ra?aytu jibaalan wa ?ashjaaran jamiilatan.  
 I saw mountains and trees beautiful  
 = I saw the beautiful trees and mountains.

The ambiguity in this example comes from the fact that the adjective "jamiilatan" (beautiful) can modify either "?ashjaaran" (trees) or the two coordinate NPs "jibaalan" (mountains) and "?ashjaaran" (trees). Accordingly, the two interpretations of the example are: "I saw some mountains and some beautiful trees" and "I saw some mountains and some trees and these mountains and trees were beautiful". These two different interpretations can be represented as in (28) and (29):







In the first representation, the adjective "jamiilatan" (beautiful) modifies both "jibalan" (mountains) and "?ashjaran" (trees) and hence, according to this reading, both the trees and the mountains were beautiful, whereas in the second representation this adjective modifies only "?ashjaran" and, therefore, according to this representation, only the trees were beautiful.

#### 4.4. Adverbial Attachment Ambiguity

The use of adverbs can sometimes create structural ambiguity in situations where it is not clear with which constituent the adverb is associated, as illustrated in the following example:

30. He read the letter that he received yesterday.

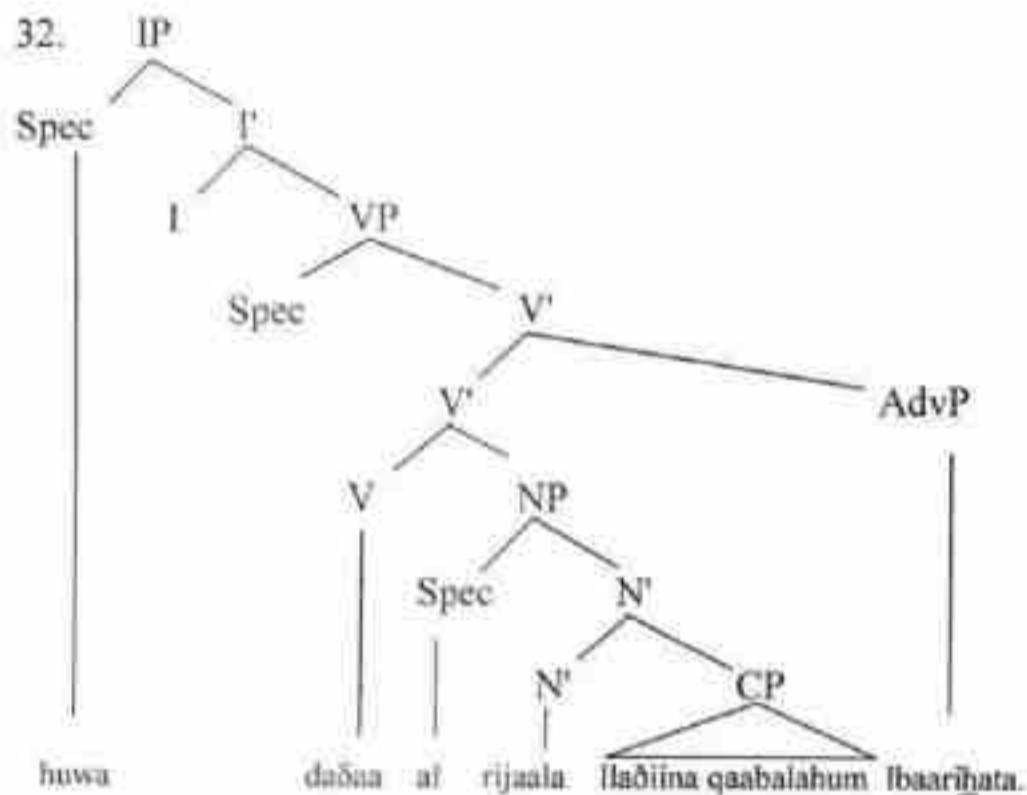
In this example, the ambiguity comes from the fact that the adverb "yesterday" can be associated with either the verb "read" in the main clause or with the verb "received" in the subordinate clause. Accordingly, the example can mean either "He received a letter and read it, and the process of reading this letter happened yesterday", or

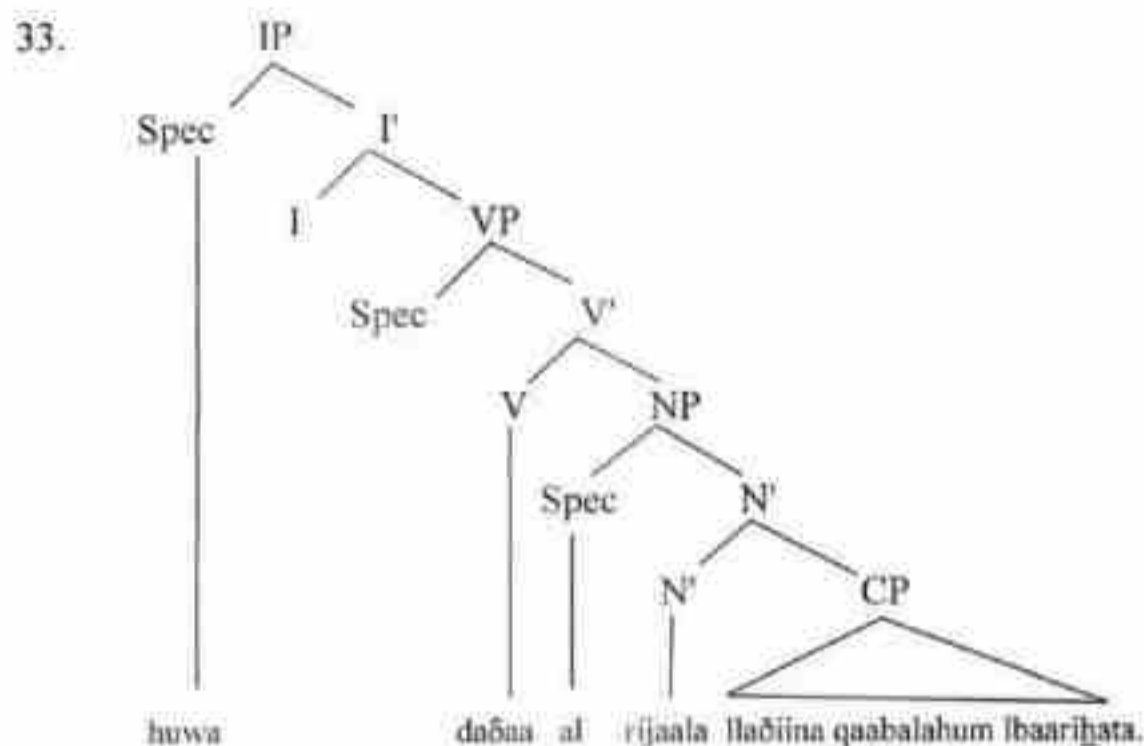
"He read the letter at some point in the past, and the time at which he received this letter was yesterday."

An identical situation can also be found in Arabic, where adverbs can be structurally associated with more than one constituent. Consider the following example:

31. huwa daḏaa lrijaala llaḏiina qaabalahum lbaarihata.  
 he invited the men whom met-he-them yesterday  
 He invited the men whom he met yesterday.

This sentence is ambiguous between the following two readings: "He invited some men and the invitation took place yesterday" and "He invited some men whom he met and the time at which he met them was yesterday". These two different interpretations can be represented as in (32) and (33), respectively:





The first interpretation in (32) corresponds to associating the temporal adverb "lbaarihata" (yesterday) with the verb "da'aa" (invited) and the second interpretation in (33) with the verb "qaabala" (met).

## 5. Conclusion

This study has provided a detailed analysis of the main characteristics and the various syntactic manifestations of attachment ambiguity in MSA. It has been shown that attachment ambiguity can be classified as a type of structural ambiguity. A sentence is said to be structurally ambiguous when it has more than one interpretation as a result of having more than one structural representation. Attachment ambiguity stems from the various attachment possibilities available for certain constituents. These possibilities are responsible for creating different structural representations and, hence, for the availability of various interpretations. The study has examined four main types of attachment ambiguity in MSA, including the attachment of prepositional phrases, adjective phrases, adverbial phrases and relative clauses.

In spite of the effort made in this study to analyse and identify the various types of attachment ambiguity in MSA, much work remains to be done. For instance, the question of how to resolve structural ambiguity is an important topic that has not been addressed

in this study because of the limitations of time and space, an issue which will be left for future research.

It should be noted, however, that this study opens up many exciting new research areas. For example, the analysis of attachment ambiguity may have some potential applications in software engineering related to language parsing and machine translation because of the extensive presence of this kind of ambiguity in a language like MSA. Furthermore, this study can have some important implications for language acquisition. It can provide some basic theoretical background that may help researchers understand how attachment ambiguity, along with the other types of ambiguity, can be acquired, processed and handled.

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## Attachment Ambiguity in Modern Standard Arabic

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### Abstract

The main purpose of this article is to shed some light on attachment ambiguity in English and Modern Standard Arabic (henceforth, MSA).<sup>1</sup> Ambiguity, generally referred to as *llabs* in MSA, refers to situations where a linguistic expression can have more than one interpretation. The article starts with a general overview of ambiguity, highlighting its main types and manifestations. Then an attempt will be made to provide a detailed account of attachment ambiguity. This kind of ambiguity is a type of structural ambiguity which results from the syntactic structure of the sentence and in particular from the various attachment possibilities of certain constituents. Four main types of attachment ambiguity will be examined and analysed, including the attachment of prepositional phrases, relative clauses, adjective phrases and adverbials. It will be shown that the types of attachment ambiguity found in MSA are similar to the ones available in English.

**Keywords:** Structural ambiguity, Attachment Ambiguity, Arabic Ambiguity.

### 1. Introduction

Ambiguity is a pervasive phenomenon in all human languages. A linguistic expression is said to be ambiguous if it has more than one interpretation. For example, if one says, "I went to the bank", this utterance can be understood in more than one way because of the different senses of the word "bank", which can mean either "a riverside" or "a financial institution." The study of ambiguity is an area of research that spans many disciplines including syntax, semantics, logic, philosophy, literature, pragmatics, politics, machine translation, corpus analysis, and computer science. It is also a rich source of humour as can be seen in the following example from Pinker (1994) "Two cars were reported stolen by the Groveton police yesterday." In this example the humour comes from the fact that it can mean either "the police reported the incident of stealing the car" or "the police stole the car." Also the

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<sup>1</sup> It should be pointed out that the term *Modern Standard Arabic* is used here to refer to the variety of Arabic used by educated Arabs in formal writings, academic circles, news bulletins and religious ceremonies in the majority of the Arab countries.