A Comparative Study of Adjective Phrases
in Persian and Arabic based on X-bar Theory

دراسة مقارنة بين اللغتين الفارسية والعربية في المركب الوصفي وفق نظرية إكس بار

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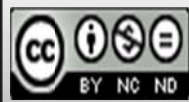
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Abstract

This paper is aimed at comparing the various adjective phrase categories in Persian and its Arabic equivalent in the light of X- bar theory to identify the similarities and differences of adjective phrases in both languages and to use the findings in teaching Arabic to Persian speakers. Persian adjective phrases and their categories are classified due to the argument that adjective takes in this language, then the equivalent Arabic adjective phrase is analyzed. By carrying out this study in a descriptive- contrastive analysis framework, the most important findings of this research is that X-bar theory is an efficient one when it comes to comparing Persian and Arabic adjective phrases. Furthermore, prepositional phrases play an important role in adjective phrases in Arabic.

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الملخص

يهدف هذا البحث إلى مقارنة فئات المركب الوصفي المختلفة في اللغة الفارسية وما يعادلها في اللغة العربية في ضوء نظرية إكس بار لتحديد أوجه التشابه والاختلاف للمركب الوصفي في كلتا اللغتين، واستخدام هذه النتائج في تعليم اللغة العربية للمتحدثين باللغة الفارسية. يتم تصنيف المركب الوصفي وفئاته في الفارسية وفقًا لعدد الموضوعات التي يتناولها ثم يتم تحليلها باستخدام المكافئ العربي لها.

أهم نتائج هذه الدراسة التي أجريت في إطار التحليل الوصفي التقابلي، هي فعالية نظرية إكس بار عندما يتعلق الأمر بمقارنة المركب الوصفي بين اللغتين الفارسية والعربية. علاوة على ذلك، يلعب المركب الحرفي دورًا مهمًا في المركب الوصفي في اللغة العربية

Introduction

The majority of traditional Persian grammarian have defined adjective, but the concept of adjective phrase (AP) does not exist in any of the traditional Persian grammar books in the sense that it is used in modern linguistics and it has never been the subject of critical scrutiny as an independent entity. The reason behind this absence might be attributed to the fact that interpreted as either predicative adjectives in the head clause or attributive adjectives that adjectives have always been regarded as dependents of a NP; accordingly, they were not deemed as a phrase possessing a characteristic of its own. For instance, Bateni (1995) describes AP as a complement that occur after NP and refuses to study AP as a separate entity. In Role and Reference Grammar framework, there is no such thing as AP. Therefore, adjectives are describe a NP and they can also have modifiers (Peyman et. al, 2015). Generative grammar, however, treats APs as a clear-cut separate entity in a way that it features prominently in most of recent approaches and discussions including X-bar Theory, Government and Binding Theory, dependency grammar theory, minimalist program, etc. This led us to do a comparative study of APs in Persian and Arabic, which have many common features, according to X-bar Theory.

Based on contrastive-descriptive methodology, this paper aims to determine the extent this theory is applicable to these languages separately and to make a comparison in this regard. The second objective of this study is to identify the similarities and differences of both languages as far as structure of an AP is concerned. X-bar Theory was chosen because of its special features, i.e., it talks about NPs, AdjPs, VPs and PPs and replaces countless rules with a limited number of general principles that encompass all the characteristics of each phrase. This

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theory forms the basis of Government and Binding Theory and minimalist program. In fact, although many theories and programs have been developed and propose ever since then, X-bar theory can benefit us in studying structure of various languages.

To the best of our knowledge, there are no other pieces of research specifically dealing with APs from the perspective of X-bar theory in Persian and Arabic. This enhanced our motivation to carry out this study and to be more resolute than ever.
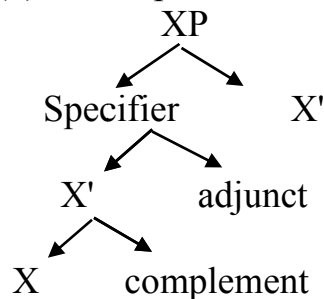
X-bar Theory

X-bar theory is a syntactic theory that was proposed by Chomsky in 1970. This theory studies the internal structure of the phrases and specifies the position and level of the syntactic structure. According to this theory, all phrases have a head that determines their syntactic category (Adger, 2002; Chomsky, 1981; Radford, 1981). Head is represented with either X or X^0. X with a double bar or XP are used as the notation for maximal projection. Jackendoff (1977) developed categories smaller than a phrase and bigger than the head which he called intermediate projection (X'). In X-bar theory, phrases have (at least) three parts- heads, complements, and specifiers- and invoke (at least) two relations, head- complement and specifier-head (Hornstein et. al; 2005: p. 22). A complement combines with X to form X' (1c). An adjunct combines with X' to form a higher X' (1b). The specifier combines with X' to form XP (1a). Complements are generally obligatory, whereas adjuncts are optional.

1) X-bar rule:
    a. XP $\longrightarrow$ (Specifier); X'
    b. X'* $\longrightarrow$ X'; (adjunct)
    c. X' $\longrightarrow$ X; (complement)

In rule 1, parentheses show that it is optional, and an asterisk signifies that it is recursive. Rule (1) can be presented as Fig (1):
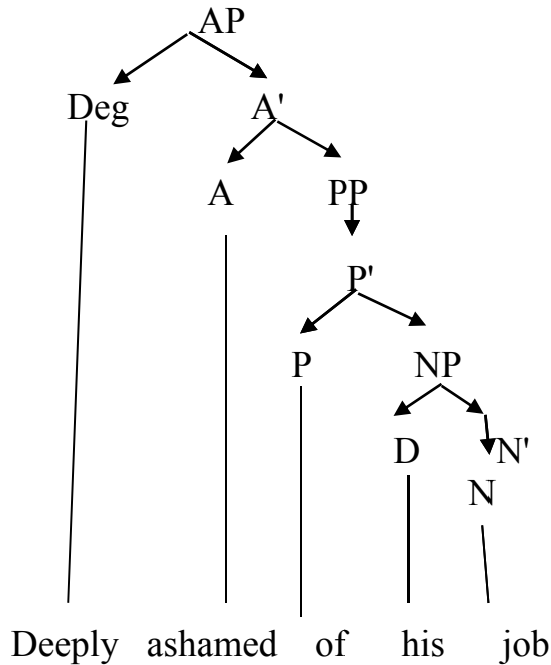

Fig (1): X-bar rule

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X stands for N, V, Adj, adv, finite INFL, C or determiner; for example in Fig (2) the word ashamed as a head of AP of (2) places in X position.

2) Deeply ashamed of his job

Deeply   ashamed   of   his   job

***Fig (2)*: AP in (2)**

According to Haegeman (1994: p.105) layered projection schema is universal but the relation between the head and specifier, complement and adjunct varies depending on the word order of every language. Hence, the symbol (;) as shown in (1) is used which suggests that these parts can be transposed according to the lexical order of the language. For instance, in languages like Persian with basic SOV word order, according to Karimi (1992b: p.126) the head in NP, AP, advP and PP is always final except for VP. So, we can capture these generalizations of head-final by simply changing the order of the head and complements in the X-bar rule (1) as shown in (3).

3) The basic phrase structure rules in Persian:

XP $\longrightarrow$ Specifier, X′

X′* $\longrightarrow$ X′, (adjunct)

X′ $\longrightarrow$ Complements, X^0

Structure of Adjective Phrase in Persian according to X-bar Theory

Each phrase consists of a head and it may have zero or more arguments. According to X- bar theory, all phrases are headed by one head (Haegeman; 1994: p.105) that determines the syntactic category of the phrase. So, the head of an AP is an adjective. Meshkat-al-Dini (2000)

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defines an AP as a series of words that has an adjective head. Mahutian (2008) believes that from a syntactic perspective, an AP starts with an adjective and its arguments can fall either on the right or left of it. Rahimian (2010: p.114) claims that "a phrase with an adjective head is called an AP and the minimum requirement for an AP is the existence of one adjective." Golfam (2011) sees an AP as a chain of words, the main element of which is an adjective.

These definitions show that an AP is comprised of a head that is an adjective plus its arguments. The question that needs to be answered is this: what are the constituents of Persian and Arabic APs? How are APs analyzed in Persian and Arabic based on X-bar Theory?

Meshkat-al-Dini (2000: p.183) writes, "Adverb of quantity or adverb phrases may precede an adjective in an AdjP and it may be followed by a NP, PP, AdjP as a complement." Tabibzade (2009:p.5) believes that complements of an adjective include PP, CP, or NP that some of which are obligatory and some optional. If a mandatory complement is omitted from an AP, it makes an ill-formed sentence. However, removing an optional complement does not have this effect. Rahimian (2010: p.116) holds that adverb, adverbial phrase, PP or arguments such as *Inchenin* and *Anchenan* places in specifier of adjective head, but most of APs take CP as their complement that usually goes after copulas in Persian.

Having considered the said issues about APs and arguments of adjectives in Persian, their structure will be discussed using X-bar Theory and then it will be compared to Arabic. According to X-bar theory, the head of APs is adjective. Similar to English, APs are head-initial in Persian. As a result, the structure of APs, based on rules (1), is as follows:

4) Adjective phrase rules in Persian:

a. AP⟶ (Specifier); A'

b. A'⟶ A'; (adjunct)

c. A'⟶ A; (complement)

1: (specifier) + Adjective

1.1. Adverb of Quantity + Adjective

5) *a .Xeili jāleb (Persian)*

 Very interesting.

 b.Rāʔi.un jidd.an (Arabic)

 interesting. INDEF very.INDEF

Very interesting.

The word *jaleb* as adjective head in (5a) occupies X in X-bar Theory. The word *xeili* is an adverb of quantity which places in Spec-AP. It is combined with the head and the adjective phrase *xeili jaleb* is

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formed. Sometimes, the adverb of quantity as adjunct is repeated more than once as in the adjective phrase *xeili xeili jāleb* (very very interesting).

In Arabic, adverbs of quantity such as *jidd.an* follow adjective as in (5b) that is an absolute object for the deleted verb and it's the equivalent of the word *xeili* in Persian. Thus, the Arabic example has the following word order: adjective + adverb of quantity. There's another equivalent for this example which is discussed in section 3. The tree diagram of sentences (5) is as follows:

Xeili   jāleb

Fig (3): **AP (5a)**

Rāʔi.un   jidd.an
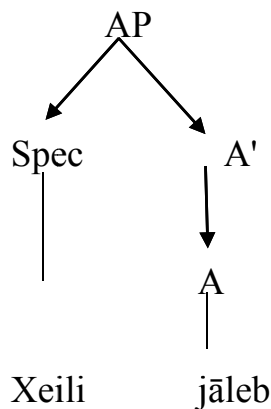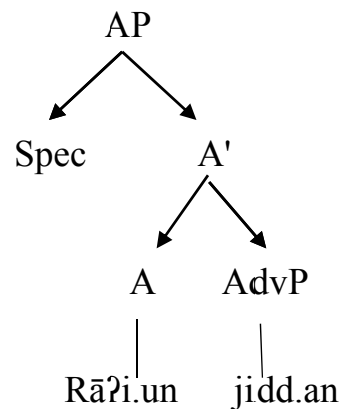
Fig (4): **AP in (5b)**

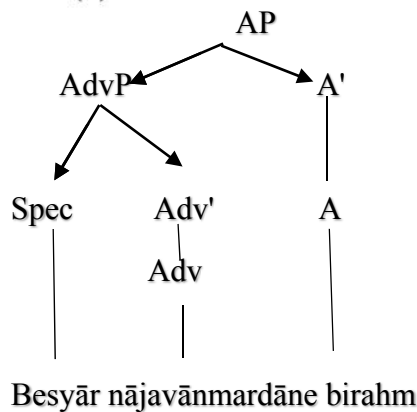*1.2. Adverb Phrase + Adjective*

6) a. *Besyār nājavānmardāne birahm* (Persian)
   Very   cowardly   cruel
   b.*Jabān.un   qāsi   al-qalb-i   jidd.an / li-al-ġāyat* (Arabic)
   Coward.INDEF cruel   the-heart-GEN very-INDEF/ for- the- very
   Very cowardly cruel

In 6(a) the word *birahm* is the head of AP.

Besyār nājavānmardāne birahm

Fig (5): **The AP of 6(a)**

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There are two Arabic equivalents for Persian example, but in Arabic Adj + Adj / AP + adverb of quantity can be used instead. As it is clear from the Arabic example, *Jabān* and *qāsi al-qalb*i are both adjectives. *jiddan* and *li-alġāyat* also denote quantity. The former is an adjective phrase and the latter is PP. The second example of 6(b) has this word order: Adj + AP + PP.

1.3. ānchenān/ inchenin + Adjective

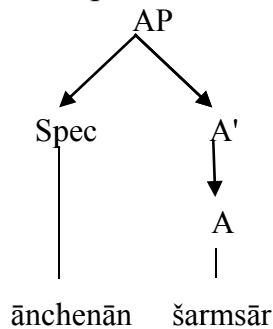7) *a. ānchenān šarmsār/ inchenin darmānde (Persian)*
　　　So embarrassed/　so　　helpless

　b. Miskinunu hākaḏa/ xajul　　li-darajat.in　　anna-hu (Arabic)
　　Helpless　　so / embarrassed　for- so.INDEF　that - he
　　　　　So helpless/ He is so embarrassed that….

In 7(a) ānchenān/ inchenin are in Spec-AP and the adjectives are in the head position.

Fig (6): **The AP of 7(a)**

Unlike Persian, demonstrative adjectives are not used in Arabic. As it is clear from the first Arabic example *hākaḏa*, which means *inchenin*, follows the adjective and the resulting combinations has this word order: Adj + NP and in the second Arabic example, there is not one-word equivalent for *ānchenān* in Arabic and it is translated in form of a sentence as: *Huva xajulun lidarajatin annahu.*

2-Adjective + (complement)

2.1. Adjective + ezafe + AP

8) *a. Sabz-e　　　tire (Persian)*
　　Green- ezafe　dark

　b. ʔaxḏzar-u　　dākin (Arabic)
　　Green- NOM　dark
　Dark green

In 8(a) adjective *sabz* is combined with ezafe, which is the first complement, and tire, the second adjective, which is the second complement, resulting in creation of the AP *Sabz-e tire.* Ezafe construction is an NP consisting of the head (an element with the feature

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[+N] such as N or A) its modifier(s), an optional possessor NP, and the ezafe particle e that is structurally utilized as a link between the head and its modifier (Karimi; 1999b:p.127). Haqshenas et. al (2008) have coined the term "adjective of an adjective" for the combination of two adjectives as in *sabz-e tire* (dark green),*charm-e ʔasl* (genuine leather), *ʔabi-ye roshan* (light blue), *ghermez-e kamrang* (light red) etc. It seems that an adverb of quantity can be inserted in this combination as in the examples of (9).
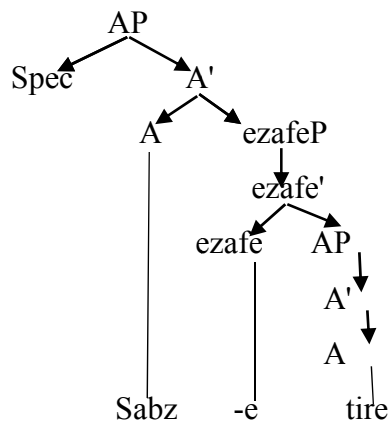

Fig (7)*:** **The AP 8(a)**   ***Fig (8): **The AP of 8(b)**
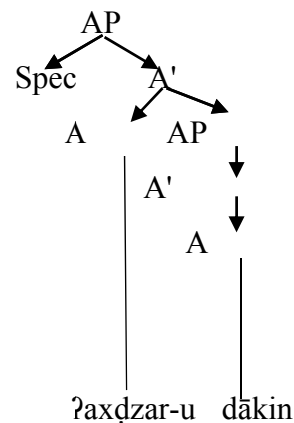
As it is shown in the example (8b), Arabic examples have the Adj + AP word order which is different from the Persian Adj +ezafe + AP as in 8(a). In fact, "ezafe" is not used in this sense in Arabic and this is one of the differences between the two languages. In Persian, ezafe is used both in genitive cases such as *Lebās-e man* (my dress) and attributive compounds like *ketāb-e mofid* (useful book). However, in Arabic, this type of ezafe is neither seen in genitive cases; for example, *moʕalimu al-madrasa* (school teacher) nor in attributive compounds such as tālibun mujtahidun (a hard work student). It's worth noting that the words ending in first person possessive suffix (*yāʔi motikallim*) are followed by ezafe, but it is not a case marker because it has a *taqdiri* (hypothetical) diacritic as in *haḏihi malābisi* (this is my dress). The word *malābisi* (my dress) is the predicate and in nominative case.

2.2. Adjective + ezafe+ Adverb of quantity + AP

9) *a. Sabz-e   xeili   tire (Persian)*
   Green-EZ   very   dark
  b. ʔaxḍar-u   dākin Jidd.an (Arabic)
   Green-NOM dark   very.INDEF

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Very dark green

The adjective *sabz* is the head and it is followed by the first complement, that is ezafe, and the second complement which consists of *xeili*, an adverb of quantity, and the adjective *tire*. As a result, the adjective phrase *Sabz-e xeili* tire was made. The Arabic equivalent example has Adj+ AP+ adverb of quantity structure. As mentioned above, "ezafe" is neither used in genitive cases nor in attributive compounds nor between an Adj and an AP/AdvP.
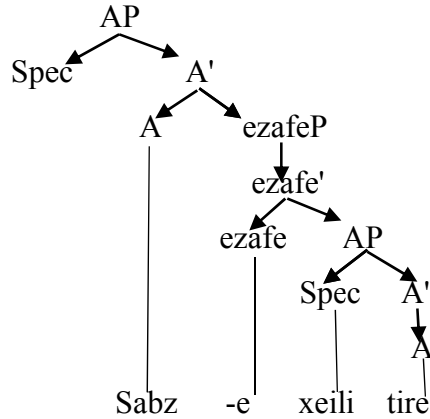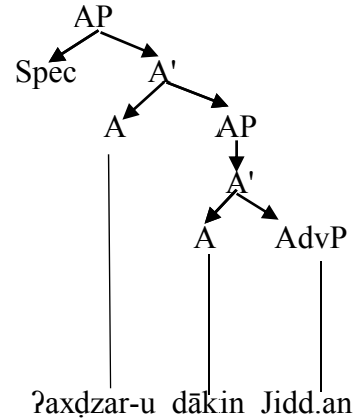

Fig (9): **The AP of 9(a)**   *Fig (10)*: **The AP of 9(b)**

2.3. Adjective + PP

10) *a. Maškuk   be serqat (Persian)*
     Suspicious of stealing

   b. Mašbuh.un   bi-al-sareqat/   Rāʔi.un.   li- al-ġāyat (Arabic)

     Suspicious- NOM of-the-stealing /interesting .INDEF for-the-very
     Suspicious of stealing / very interesting

   In this category, PP is a complement of adjective head. The second Arabic example *"Rāʔi.un.   li- al-ġāyat* "semantically belongs to 1-1 category but syntactically belong to this category.
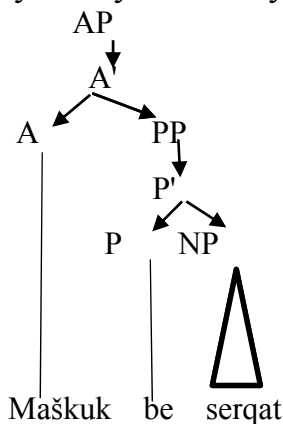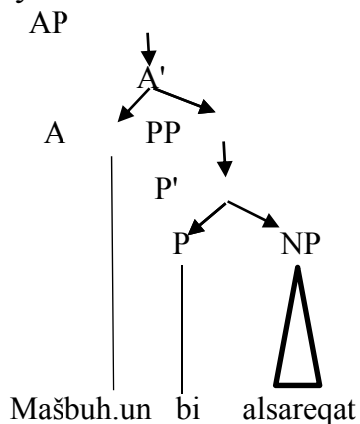

Fig (11): **The AP of 10(a)**   *Fig (12)*: **The AP of 10(b)**

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2.4. Adjective + ezafe + NP

11) *a. Gereftār-e   ʔeidz (Persian)*
       Suffering-EZ   AIDS
    b. Muṣāb-un   bi- maraḍ-i   al-ʔeidz (Arabic)
       Suffering-NOM from-illness- GEN the-AIDS
    Suffering from AIDS

       Adjective *gereftar* is fused first with the first complement, ezafe, and then with NP, *ʔeidz*, which is the second complement, resulting in making of the AP *gereftar-e ʔeidz* in 11(a).The Arabic equivalent has this structure: Adj + PP + NP
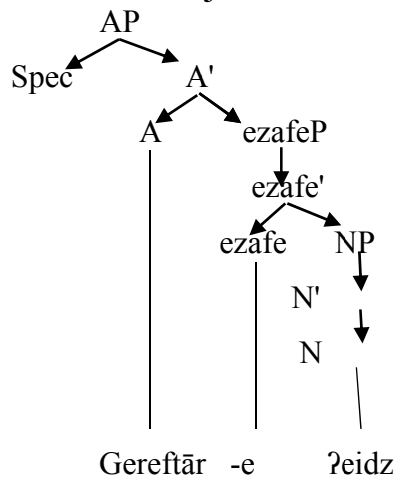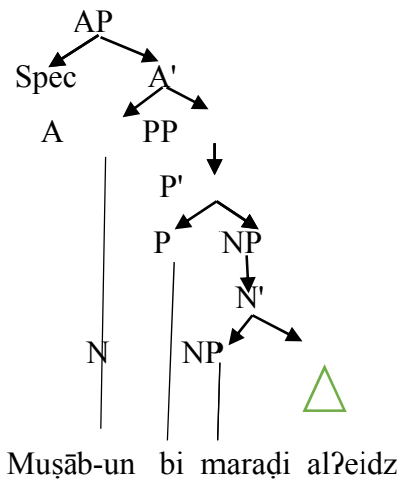

Fig (13): The AP of 11(a)   **Fig (14): The AP of 11(b)**

2.5. Adjective+ VP + CP

       Persian AP in this category is formed by combining the adjective *vajeb* with the CP as in 12(a).

12) a. *Vājeb   ʔast   ke hame raʔāyat konand (Persian)*
        Obligatory be. PRES.3SG that all observe   do.PRES.3PL
        It is obligatory to observe all.
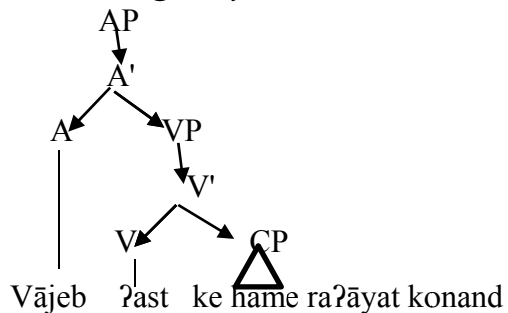   b. *Yalzam-u   li-al-jamiʕ-i an .../Yajib-u an yurāʕi-ya ...(Arabic)*
       Obligatory-NOM   for-the-all-Gen ...
       It is obligatory to observe all.

Vājeb   ʔast   ke hame raʔāyat konand   *(Fig (15): The AP of 12(a))*

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In 12(b) the first two Arabic equivalents are VP which is beyond the scope of the present study.

3. (specifier) + Adj + (complement)

3.1. Adverb Phrase+ adjective + PP

13) *a. Qat'an   mohtāt-tar   az   qabl(Persian)*
        Definitely cautious-more than before
        Definitely more cautious than before

   b. bi-al-taʔkid-i   ʔakθar-u   ħaḏir.an   min   al-sābiq (Arabic)
        for-the-emphasis-gen more-NOM cautious.INDEF than the-before

   c. bi-al-taʔkid-i   ħaḏir.un   ʔakθar-u   min   al-sābiq (Arabic)
        for-the-emphasis-gen   cautious.INDEF   more-NOM   than   the-before

More cautious than before

In the Persian example of this category, the complement *az qabl* which is a PP is combined with an adjective and the intermediate projection A' is formed. The intermediate projection is then combined with the specifier *qat'an* which leads to the creation of the maximal projection *Qat'an mohtāt-tar az qabl*. The first Arabic instance has a PP+ AdvP+ PP structure which does not correspond to the Persian structure. The second example, however, has a PP+ AP+ PP structure which corresponds to some extend to the Persian formulation of VP of this category.
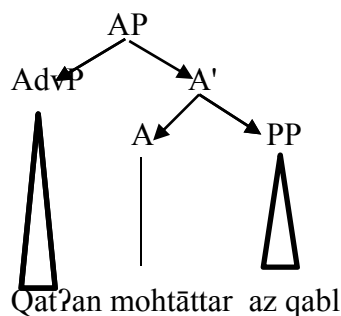
Fig (16): **The AP of 13(a)**

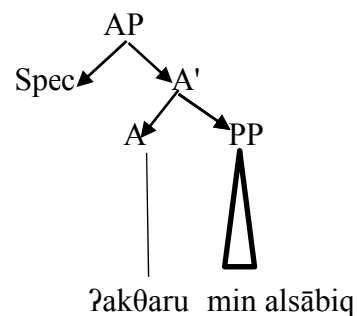*Fig (17):* **The AP of 13(b)**

Conclusion:

In this research, different kinds of adjective phrases in Persian and Arabic from the same category were analyzed by using X-bar theory. In order to make the comparison 9 Persian adjective phrases along with their categories were taken to identify the similarities and differences of adjective phrases in both languages. Persian adjective phrases and their

categories were classified due to the argument that adjective takes in this language, then the equivalent Arabic adjective phrase were analyzed. These classifications are shown briefly in table (1).

The results of this study done within a descriptive-contrastive analysis framework proved that Arabic and Persian adjective phrases differ in eight categories and are similar only in category 3.2.3 (adjective + PP) which is the most common AP word order in Arabic. Category 3.2.5 is outside the purview of subject of the present study. Furthermore, prepositional phrases play an important role in adjective phrases. The most important finding is that X-bar theory is efficient enough when it comes to comparing Persian adjective phrases versus those of Arabic with different word orders.

This comparative study can be very helpful because this important achievement can be exploited in teaching Arabic to speakers of other languages in general and to those of Persian language in specific.

AP in Persian	Equivalent AP in Arabic
Adverb of quantity + Adj	Adj + adv
AdvP + Adj	Adj + AP + adverb of quantity Adj + AP + PP
Demonstrative Adj + Adj	Adj + NP Adj + PP + IP
Adj + EZAFE + AP	Adj + AP
Adj + EZAFE + AdvP + AP	Adj + AP + adverb of quantity
Adj + PP	Adj + PP
Adj + EZAFE + NP	Adj + PP + NP
Adj + VP + CP	VP PP
AdvP + Adj + PP	AP + PP

Table (1): AP in Persian and its equivalent in Arabic

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Appendix 1:

AP: Adjective Phrase	PP: Prepositional Phrase	PST: Past	EZ: ezafe
NP: Noun Phrase	CP: Complementizer Phrase	PRES: Present	SG: Singular
VP: Verb Phrase	AdvP: Adverbial Phrase	NOM: Nominative	PL: Plural
IP: Inflectional Phrase	INCOMP: Incomplete aspect	ACC: Accusative	M: Male
INDEF: Indefinite	NEG: Negative marker	GEN: Genitive	F: Female
Adj: Adjective	N: Noun	Adv: Adverb	V: Verb

2-Abbreviation

Appendix 2:

letters	Transcription	letters	Transcription
أ	ʔ	ض	ḍ
ب	b	ط	ṭ
ت	t	ظ	ẓ
ث	θ	ع	ʕ

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ج	j	غ	ġ
ح	ħ	ف	f
خ	x	ق	q
د	d	ك	k̲
ذ	d̲	ل	l
ر	r	م	m
ز	z	ن	n
س	s	و	v
ش	š	ه	ħ
ص	ṣ	ى	y

3-Arabic Consonant Phonemic transcription

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