

The Ezafe Construction: Persian and Beyond

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Goals:

- Provide an overview of the Ezafe construction in Persian and my syntactic account of it.
- Explore the behaviour of Ezafe or Ezafe-like elements in a few other Iranian languages, as a starting point for a larger project to study linkers cross-linguistically.

1. Introduction

- There have been various accounts of this construction in Persian:
 - a case marker (Samiian 1983, 1994; Larson and Yamakido 2008)
 - a vowel inserted at PF to identify constituenthood or to link it to its modifiers (Ghomeshi 1997; Ghaniabadi 2010)
 - a (phrasal) affix to mark the presence of a syntactic dependent (Samvelian 2007, 2008)
- There have been accounts of Ezafe in some other Iranian languages, e.g. Zazaki (Larson and Yamakido 2006, Toosarvandi and van Urk 2014), Hawrami (Holmberg and Odden 2005), Kurdish (Karimi 2007).
- More recently, Ezafe has been proposed in other languages, e.g. Romanian (Irimia et al. 2014), Albanian (Franco, Manzini and Savoia 2015)
- In order to gain a deeper understanding of this phenomenon, in this talk, we will take close look at its realization and distribution in Persian and briefly at a few other languages. This will pave the way for exploring the “linker” phenomena in other languages in future and deciding whether all the cases labeled as Ezafe (inside and outside Iranian languages) should be treated as the same phenomenon.

2. The Distribution of Persian Ezafe

- Ezafe is an unstressed vowel –e (-ye after vowels) which appears between a noun and its modifier (N-e Mod), and is repeated on subsequent modifiers, if they are present, except the last one (N-e Mod₁-e Mod₂-e Mod₃).
- Ezafe is present with post-nominal modifiers as shown in (1).

(1) Presence of Ezafe with post-nominal modifiers

a.	(ye)	kif-e	charm ¹	b.	(ye)	mard-e	chaaq
	a	bag-Ez	leather		a	man-Ez	fat
		'a/the leather bag'				'a/the fat man'	

¹ Standard Persian does not have a definite article. Without the indefinite article, the unmarked interpretation of a modified noun phrase is definite. There is a marker of definiteness, used in colloquial Persian (see Kahnemuyipour 2014).

- | | | | |
|----|-----------------------------------|----|------------------|
| c. | sag-e qahveyi-ye gonde | d. | ketaab-e Ali/man |
| | dog-Ez brown-Ez big | | book-Ez Ali/I |
| | 'big brown dog' | | 'Ali's/my book' |
| e. | posht-e dar | f. | man-e divune |
| | behind-Ez door | | I-Ez crazy |
| | 'behind the door' | | 'crazy me' |
| g. | Ali-ye Mohammadi ² | | |
| | Ali-Ez Mohammadi | | |
| h. | gorbe-ye iraani-ye sefid-e Maryam | | |
| | cat-Ez Persian-Ez white-Ez Maryam | | |
| | 'Maryam's white Persian cat' | | |

- Ezafe only appears with post-nominal modifiers, never appears on a bare noun or on pre-nominal elements.

(2) Absence of Ezafe with bare nouns or pre-nominal modifiers

- | | | | | | |
|----|----------------|----|-------------------|-------------|---------------------|
| a. | ketaab-(*e) | b. | do (taa) – (*e) | ketaab | |
| | book-Ez | | two classif.-Ez | book | |
| | | | 'two books' | | |
| c. | in-(*e) | d. | har/hich-(*e) | ketaab-(i) | |
| | this-Ez | | each/no-Ez | book-indef. | |
| e. | tanhaa-(*e) | f. | in-(*e) | do-(*e) | ketaab ⁴ |
| | only-Ez | | this-Ez | two -Ez | book |
| | 'the only man' | | 'these two books' | | |

- When there is a combination of pre-nominal and post-nominal modifiers, the contrast with respect to the appearance of Ezafe is evident (3).

(3) Combination of pre-nominal and post-nominal modifiers

- | | |
|----|---------------------------------------|
| a. | in do ketaab-e qatur-e jaaleb |
| | this two book-Ez thick-Ez interesting |
| | 'these two interesting thick books' |
| b. | in tanhaa so'aal-e bi-ma'ni |
| | this only question without-meaning |
| | 'this only meaningless question' |
| c. | in ketaab-haa-ye baa-arzesh |
| | this book-pl.-Ez with-value |
| | 'these valuable books' |

² When speaking about a very well-known person, the Ezafe is often dropped: e.g. Ali Daayi (famous Iranian soccer player).

³ The same adjective can be used post-nominally and take on the meaning “lonely”. The noun will have to be marked with an Ezafe, as expected. An example contrasting with (2e) is given in (ia) below. Both the pre-nominal and post-nominal adjectives can appear on the same noun, as shown in (ib).

(i) a.	mard-e tanhaa	b.	tanhaa mard-e tanhaa
	man-Ez only		only man-Ez only
	'the lonely man'		'the only lonely man'

⁴ Note that the form in (2a) is grammatical with *-e* if *-e* is stressed and taken to be the homophonous definite colloquial marker (see Kahnemuyipour 2014). Only *-e* as Ezafe marker is relevant here.

Summary: There is a clear correlation between the presence of Ezafe and the order of nominal elements. The noun marks a clear boundary for the Ezafe marker: all elements preceding it lack the Ezafe, while the noun itself and all elements following it (except the final one) are marked with the Ezafe.

- We explore this correlation in three other domains in the (morpho)syntax of Persian.

3. Ezafe and word order: Further evidence

3.1. The superlative

- Unlike the simple/comparative forms, which are post-nominal and are preceded by the Ezafe marker, the superlative form is always used pre-nominally without the Ezafe vowel (4), discussed in more detail in section 4.4.

(4)	a. bad-tarin ketaab	vs.	ketaab-e bad(-tar)
	bad-super. book		book-Ez bad-comp.
	‘the worst book’		‘bad/worse book’
	b. qashang-tarin maashin	vs.	maashin-e qashang(-tar)
	nice-super. car		car-Ez nice(-comp.)
	‘the nicest car’		‘nice(r) car’

- Note that examples like (5) are not counterexamples to the generalization about superlatives. Here the superlative is not modifying the head noun, but used in a partitive construction, with the obligatory plural marker and ambiguous singular/plural interpretation of the noun phrase.

(5)	qashang-tarin-e doxtar-*(haa)
	beautiful-super.-Ez girl-pl.
	‘the most beautiful of the girls’

3.2. Evidence from the formal/literary register

- In the formal (and particularly the literary) register, adjectives can be used pre-nominally without the Ezafe vowel rather productively. No more than one adjective can be used.^{5,6}

(6)	a. bichaare	vs.	xalq-e bichaare
	poor/pitiable		people-Ez poor/pitiable
	‘poor people’		

⁵ Native speakers have the intuition that without the Ezafe vowel, the adjective has to go before the noun. A Persian speaker asked to say "good man" without using the Ezafe vowel answered: *xub* (good) *mard* (man). Note that *xubmard* is not used as a lexicalized compound in Persian.

⁶ It appears that these pre-nominal adjectives act as a unit with the following head noun when further modified, see for example (6e). This suggests some type of compound formation. If so, the restrictions on the number and form of the adjective may also be viewed in the context of similar restrictions discussed about compounding in section 3.3.

b. sabz baanu⁷
green lady
'the green lady'

vs. baanu-ye sabz
lady-Ez green

c. ... **bi-shomaar iraani-haa-yi** ke dar saraasar-e jahaan paxsh shode-and⁸
without-number Iranian-pl.-rel. that in whole-Ez world spread become-3pl.
'the innumerable Iranians who have spread all around the world'

d. **bozorg mard-e** kuchak⁹
big man-Ez little
'little big man'

3.3. Evidence from compound formation

- In Persian compounds consisting of a modifier and a head N, the dominant pattern is one where the adjective (or modifying noun) comes before the noun, and no Ezafe is used (7) (some of these are due to Ghomeshi 1996 and Lazard 1992)¹⁰:

(7)	a. gol-aab flower-water 'rose-water'	b. bozorg-mard big-man 'great man'
	c. ketaab-xune book-house 'library'	d. kaar-xune work-house 'factory'
	e. siyaah-cheshm black-eye 'one having black eyes'	f. bad-zaat bad-nature 'mean person'

- While the head-final pattern in (7) is more dominant, there are some 'compounds' with post-nominal modifiers without the Ezafe marker. Some such examples and their counterparts using Ezafe are given in (8):

(8)	a. maadar-bozorg mother-big/grand 'grandmother'	vs.	maadar-e bozorg mother-Ez big/grand 'big/grand mother'
	b. aab-porteqaal water-orange 'orange juice'	vs.	aab-e sib water-Ez apple 'apple juice'
	c. pesar-amu son-uncle 'cousin'		?pesar-e amu son-Ez uncle 'uncle's son'

⁷ Used in reference to Zahra Rahnavard, a prominent figure of the 2009 post-election uprising in Iran, known as the Green Movement. Zahra Rahnavard is currently under house arrest along with her husband Mir Hossein Mousavi, himself a presidential candidate of the disputed election. Another candidate of the same presidential election, Mehdi Karroubi, has also been under house arrest.

⁸ Taken from the Toronto-based Persian weekly Shahrvand, April 2012, issue no. 1380, page 4.

⁹ The Persian title of the 1970 Arthur Penn movie starring Dustin Hoffman.

¹⁰ In all these cases, one could form a syntactic noun phrase, similar to the ones in section 2, as N-Ez A. Meanwhile, these syntactic phrases would lose the idiomatic meaning.

d. sib-zamini	vs.	?sib-e	zamini ¹¹
apple-ground		apple-Ez	ground
'potato'			
e. tim-melli	vs.	tim-e	melli
team-national		team-Ez	national
'(Iran's) national (soccer) team'		'national	team'

- The compounds in (8) are different from those in (7) in several ways:
 - The head-final formation in (7) is much more productive than the apparently head-initial forms in (8).
 - The forms in (8) typically occur with very frequent forms only, suggesting that they originated in syntactic phrases with the Ezafe (N-Ez Mod.) which have lost their Ezafe vowel over time due to frequent use (see especially (8b)).¹²
 - The head-initial forms exemplified in (8) typically have a more transparent meaning than the head-final ones, once more underlining the syntactic phrase origin.¹³
- Given these differences, I take the head-initial compounds in (8) to be 'historical' compounds (originating as a syntactic phrase with the Ezafe and then losing the Ezafe over time), but the right-headed compounds as 'true' compounds.
- Crucially, I take the productive head-final compound formation of Persian as an indication for the base order of nouns and modifiers in Persian.¹⁴ This view is perhaps best understood in a framework that takes all word formation to occur in the syntactic component by rules of syntax – "syntax all the way down", as held, for example, by the proponents of Distributed Morphology (Halle and Marantz 1993, Marantz 1997, and subsequent authors).
- Note that Ghaniabadi (2010) treats the use of the post-nominal adjective (without the Ezafe marker) in the context of the colloquial definite marker (9) as a case of compounding on a par with the compounds discussed here. In Kahnemuyipour (2014), I argue that they should not be treated as compounds and will provide an alternative analysis.

(9) ketaab gerun-e
 book expensive-def.
 'the expensive book'

- The data illustrated so far paints the picture shown in (10) with respect to the correlation between the presence of the Ezafe and word order.

¹¹ The form with Ezafe is typically used in contrast to *sib-e deraxti* apple-Ez tree (lit. tree apple) 'apple'.

¹² In fact, with the more recent popularity of other types of juices, e.g. apple juice among many others, more head-initial forms without the Ezafe can be encountered. Still, if you take a fruit/vegetable, whose juice is not typically consumed, the only possible form is N-Ez N (e.g. *aab-e kaahu* juice-Ez lettuce 'lettuce juice').

¹³ The form in (8a) might be an exception to this. In present day Persian, the form with the Ezafe will not convey the meaning 'grandmother'. It is hard to know whether the form without the Ezafe is historically related to the one with the Ezafe and whether at an earlier stage the meaning 'grandmother' could be obtained more readily from the form with Ezafe.

¹⁴ Note that, in a language like English, where modifiers are consistently pre-nominal, compounds, too, are head-final.

(10) Correlation between the Ezafe and order of nominal elements

a. N-Ez	Mod	Most common: Fully productive syntactically
b. Mod	N	Prenom. mod, the superlative, productive in compounds & formal register
c. N	Mod	Limited to ‘historical’ compounds
d. *Mod-Ez	N	NEVER!

- The picture in (10) shows a clear asymmetry between pre-nominal and post-nominal modifiers which requires an explanation. Extending this correlation to a more cross-linguistic perspective, we should expect the Ezafe to occur only in languages with a head-initial noun phrase and not a head-final one (in accordance with (10d)).

Supportive evidence: All the West Iranian languages with Ezafe such as Persian and Kurdish dialects (e.g. Hawrami and Zazaki) have a head-initial noun phrase (see Samvelian 2008: 342). Ezafe is not found in languages such as Germanic (e.g. English or German) or Romance (e.g. French or Italian) with head-final noun phrases.¹⁵

4. Toward an explanation of the Ezafe-word order correlation

- How can we account for the (nearly) perfect correlation between presence of Ezafe and word order both in Persian and cross-linguistically?
- In the generative tradition, word order variations are commonly captured via syntactic movement (displacement).¹⁶ There are two ways one can approach the current problem:
 1. Take the post-nominal (Persian) order as basic and derive the pre-nominal (English) order (Larson and Yamakido 2008).
 2. Take the pre-nominal (English) order as basic and derive the post-nominal (Persian) order (this talk).
- How do the above movement possibilities relate to the issue of the presence of overt morphology, namely the Ezafe vowel?

¹⁵ The cross-linguistic claim about the presence or absence of the Ezafe certainly requires further investigation. Note, however, that the claim is only about the absence of Ezafe in languages with head-final noun phrases. Thus, the existence of languages with head-initial noun phrases and no overt realization of something akin to the Ezafe marker cannot be taken as evidence against this generalization. Of course, in Romance languages, where some modifiers can appear post-nominally, no ‘Ezafe’ is used. Also, Samvelian (2008) points to the optionality or absence of Ezafe in some (North) Western Iranian languages or Southern Kurdish dialects. The correspondence between syntactic relations and overt morphological realization is never perfect, as known in other domains such as case.

¹⁶ There is a large body of work, particularly inspired by Kayne (1994), attempting to account for this type of word order asymmetries by positing a universal base order and various (restrictions on) movement patterns (see, e.g. Cinque 1996, 1999, 2002, 2005, 2010, Belletti 2004, Rizzi 2003).

- A. For option 1, there is complementarity between movement and overt morphology: When the Ezafe is present (Persian post-nominal order), no movement takes place; when there is no overt morphology (Ezafe), movement derives the pre-nominal order (English).
 - B. For option 2, movement and overt morphology go hand in hand: When there is no movement (pre-nominal (English) order), there is also no overt morphology (no Ezafe); when movement derives the (post-nominal (Persian), there is overt morphology (Ezafe).
- Both A and B have precedence in the syntactic literature:
 - Complementarity of movement and (overt) morphology: most profoundly alluded to in Cheng's (1997) account of the typology of wh-questions,¹⁷ but also used in the realm of case.

Important case to be discussed in 4.1: Larson and Yamakido (2008) - In Persian, the modifiers are case-marked by the Ezafe marker. In English, where Ezafe is not available, the modifier has to move to get case-licensed.¹⁸

- Direct connection between overt morphology and overt movement: alluded to in the realm of agreement (see e.g. Kayne (1994) with respect to Hungarian adpositions, Aoun, Benmamoun and Sportiche (1994) with respect to Arabic subject-verb agreement, etc.)

The approach adopted in this talk: In Persian, the overt morphology (Ezafe) is realized as a reflex of the overt establishment of the relation between the modifier and the noun via phrasal movement.¹⁹ When there is no overt movement (English, Persian pre-nominal modifiers), there is no overt morphology.²⁰

4.1. Ezafe as case marker: Larson and Yamakido (2008)

- Following Samiian (1994), Larson and Yamakido (2008) suggest that Ezafe is inserted to case-license [+N] elements, namely APs, NPs (attributive or possessive), and nominal PPs. According to their proposal, relative clauses (CPs) and non-nominal PPs do not require case and can thus appear in their base position without the need for a licensing Ezafe.²¹

¹⁷ It is worth noting that Cheng's generalization does not appear to be borne out for Persian, a language with no wh-particle and yet no wh-movement to SpecCP (see Kahnemuyipour 2001).

¹⁸ Larson and Yamakido (2008) do not discuss the cases of Persian pre-nominal adjectives that were considered in section 3. If adjectives are base-generated post-nominally, it is not clear how they end up in the pre-nominal position in these cases. Given that some of these occur at the level of word formation, it may be difficult to attribute their alternative order to case.

¹⁹ The Ezafe has an invariant form in Persian (-e or -ye after vowels). In some other Iranian languages/dialects with richer morphology (e.g. Kurdish dialects such as Hawrami, Kurmanji, and Zazaki) the form of the Ezafe varies depending on phi features and other properties of the noun (see Kurmaji examples in (13) below, also Holmberg and Odden 2005, Larson and Yamakido 2006, and Samvelian 2007, 2008). These may be taken as support for the agreement view of Ezafe. We return to more examples below.

²⁰ In Kahnemuyipour (2014), I propose that it is only phrasal movement and not head movement that leads to the appearance of Ezafe.

²¹ From a cross-linguistic perspective, they argue that languages such as English also have a head-initial base order for their noun phrases. Meanwhile, as they lack an overt case marker like the Persian Ezafe, the [+N] elements, including adjectives will have to undergo movement to get case.

- c. ān mēnōy ī-š gannā-īh ī dām-ān ī ohrmazd aziš būd
 that spirit REL-him foul-ness CNCT creature-OBLp CNCT Ohrmazd from was
 ‘that spirit, from whom stench came to Ohrmazd’s creatures’
 (Middle Persian, Skjærvø 2009: 225)

- Even today, in many West Iranian languages, closely related to Persian, Ezafe is used for both post-nominal modifiers as well as finite restrictive relative clauses (see Samvelian 2008, also Bassols-Codina 1992).²⁴

- (13) a. xānu-y la sar şâx
 house-Ez at on mountain
 ‘the house on the mountain’ (Sorani, Samvelian 2008: 346)
- b. aw şâr-a-y (ka) dît-mân
 that town-def-Ez (that) see.past-1pl
 ‘the town that we visited’ (Sorani, Samvelian 2008: 347)
- c. mâl-â mazin-â Narmîn-ê
 house-Ez.Fem.Sg big-Ez.Fem.SgNarmin-OBL.Fem
 ‘Narmin’s big house’ (Kurmanji, Samvelian 2008: 344)
- d. mirov-ê ku min dît-î
 man-Ez.Masc.Sg that I.OBL see-Past
 ‘the man who I saw’ (Kurmanji, Samvelian 2008: 347)

- In Modern Persian, restrictive relative clauses are introduced by the particle *-i*, known as the relative particle, distinct in form from the Ezafe vowel *-e*. Therefore, Persian grammarians often state that the Ezafe vowel cannot be used with a restrictive relative clause, a point picked up by Larson and Yamakido (2008). The example in (11a) involving a reduced relative clause is repeated in (14a) with the full relative clause counterpart given in (14b).

- (14) a. in javaan-e [az suis bargashte]
 this young-Ez from Switzerland returned
 ‘this young man who has returned from Switzerland’
- b. javaan-i [ke az suis bargashte (ast)]
 young-REL that from Switzerland returned is
 ‘the young man who has returned from Switzerland’

- This relative particle has always puzzled Persian linguists. In light of the above discussion, I suggest that the relative marker should be analyzed as an allomorph of the Ezafe marker, perhaps conditioned by the syntactic context of the full relative clause. If so, the full finite relative clause may be seen as yet another counterexample for Larson and Yamakido’s (2008) strict generalization about the absence of Ezafe in this context.
- Meanwhile, the strongest evidence against L&Y’s treatment of Ezafe as a case marker in Modern Persian comes from prepositional phrases.

²⁴ In these examples, I am adhering to the transcription conventions used in the original source to avoid potential misrepresentation of Kurmanji and Sorani data.

- Following Karimi and Brame (1986, 2013), Larson and Yamakido (2008) correctly classify Persian prepositions into two categories, one noun-like and the other ‘true’ prepositions. The noun-like prepositions have nominal properties, e.g. can be pluralized or be used in other nominal structures. Interestingly, they also take the Ezafe marker, when followed by a noun (15), unlike true prepositions (16).²⁵ These are not problematic for Larson and Yamakido.

(15) a. zir-e sandali
under-Ez chair
‘under the chair’

b. baalaa-ye miz
above-Ez table
‘above the table’

(16) a. dar(*-e) ganje
in closet
‘in the closet’

b. baa(*-ye) maadar
with mother
‘with (the) mother’

- Crucially, Larson and Yamakido claim that true (non-nominal) PPs following a noun do not need to be case-licensed and should therefore appear without the need of a licensing Ezafe preceding them. This is contrary to fact (17) (see also Samvelian 2007, 2008). This is a serious problem for Larson and Yamakido’s analysis of Ezafe as case.

(17) a. Mohammad [aks*(-e) dar ganje]-raa be Ali dad
Mohammad picture-Ez in closet –acc. to Ali gave
‘Mohammad gave the picture in the closet to Ali.’

b. ne-mi-tavaanest-am tasmim be-gir-am [sobh-haa-ye baa maadar]-raa
neg.-dur.-can.past-1sg. decision subj.-get-1sg morning-pl.-Ez with mother acc.

bishtar dust daar-am yaa [sobh-haa-ye baa kabutar-haa]-raa
more friend have-1sg or morning-pl.-Ez with pigeon-pl. – acc.

‘I could not decide whether I liked the mornings with Mother more or the mornings with the pigeons.’ (*Yek ruz maande be eyd-e paak*, Z. Pirzaad, p. 80, cited in Samvelian 2008)

- Turning to the other approach to account for word order variations, i.e. one which takes the pre-nominal (English) order of modifiers as basic and derives the post-nominal (Persian) order, there are two possibilities: one involves head movement e.g. Ritter 1991, Cinque 1994, etc., and the second one phrasal movement, e.g. Cinque 2005, 2010, Pearce 2002, Shlonsky 2004, among many others. The present work sides with the second approach for the account of the Persian Ezafe construction in section 4.3.²⁶ Thus, it is important to first establish the head vs. phrasal status of the modifiers and their structural relation to the noun.

²⁵ The Ezafe marker is optional for a few of the nominal prepositions, for example *ru* ‘on’.

²⁶ In Kahnemuyipour (2014), I provide a head-movement analysis of post-nominal adjectives used in the context of the colloquial definite marker in Persian. Crucially, no Ezafe appears in this context.

4.2. Persian Post-nominal modifiers: Heads or phrases

- While it was widely assumed for some time that all the elements in the Ezafe Domain (except for the possessor) are non-maximal (see, e.g. Samiiian 1994, Ghomeshi 1997, Kahnemuyipour 2000), the head status of the elements within the Ezafe domain is undermined once we expand our dataset, e.g. cases of PPs (17) above and (reduced) relative clauses (11), but also adjectives with intensifiers and complements (18) (see also Samvelian 2007, 2008)^{27,28}

- (18) a. saalon-e [**por az jam'iiyat**]-e sinemaa
 hall-Ez full of population-Ez cinema
 'the movie theater filled with people'
- b. raftaar-e [**xeyli dur az entezaar**]-e shahrdaar
 behaviour-Ez very far from expectation-Ez mayor
 'the mayor's totally unexpected behaviour'

- The existence of phrasal modifiers rules out the possibility of treating all post-nominal modifiers as heads. As we will see in section 4.3, post-nominal modifiers are taken to be XPs which reside in the specifiers of functional projections above the noun. Under this view, in accordance with Bare Phrase Structure (Chomsky 1995), a bare adjective is treated as A/AP and can occupy a structural position similar to that of an AP with a complement.²⁹
- Below, I develop a phrasal movement analysis of the Ezafe construction using what is known in the literature as roll-up movement (see, for example, Cinque 2005, 2010, Pearce 2002, Shlonsky 2004, etc.).^{30,31}

²⁷ If the relative particle used with fully finite relative clauses is analyzed as an allomorph of the Ezafe marker as suggested in section 4.1, a fully finite relative clause will constitute yet another example of a phrasal modifier used in the Ezafe construction.

²⁸ While we have seen examples of nouns taking PPs (as adjuncts) requiring the Ezafe marker, some nouns with a more thematic relation with the PP seem to allow both possibilities, with or without the Ezafe. Some examples are given in (i) below. I leave the analysis of such cases for future research but it does appear that there is a subtle semantic difference between the two options.

(i) a. bahs(-e) bâ Hassan
 argument-Ez with Hassan
 b. porsesh(-e) az ra'is-jomhur
 question-Ez from president

²⁹ This uniform analysis of bare adjectives and phrasal modifiers in Persian has been challenged by Ghaniabadi (2010). For Ghaniabadi, bare adjectives are heads and head-adjoined to the noun, while AP/PP modifiers are phrasal in the specifiers of functional projections above the NP. In Kahnemuyipour (2014), I provide several arguments against his differential treatment of bare and phrasal modifiers.

³⁰ A variant of the "roll-up" movement, known as 'Intrapolation' movement (e.g. Rackowski & Travis 2000, Kahnemuyipour and Massam 2006), may also be considered. In this approach, the modifiers are located in heads of functional projections above N/V and the inverse order is derived by successive movement of complements to the empty specifiers in their shared maximal projection. I am not pursuing this option here, as it would have to take the modifiers to be heads and as such would face the same problem as the head movement analysis discussed above.

³¹ Holmberg and Odden (2005) propose a 'roll-up' derivation of the Izafe construction in Hawrami which differs in many details from the possibilities discussed in this paper. I am abstracting away from their proposal here.

4.3 Roll-up movement analysis of the Persian Ezafe construction

- **Cinque (2010)** develops a system in which the base order of the noun phrase is universally head final. In this system, adjectives have two possible sources: direct and indirect modification.
 - Direct modification: lower in the structure, rigidly ordered and is associated with individual-level, nonrestrictive and nonintersective readings.
 - Indirect modification: higher structurally, has a reduced relative clause as its source, is not rigidly ordered and has stage-level, restrictive and intersective readings.

Some English examples: In *visible visible star*, the first *visible* means ‘visible now’ (stage-level), whereas the second one means ‘generally visible’ (individual-level). An example such as *his unsuitable acts* could mean ‘those of his acts which were unsuitable’ (restrictive) or ‘all of his acts which happened to be unsuitable’ (nonrestrictive). Finally, in *the beautiful beautiful dancer*, the first occurrence of *beautiful* refers to the beauty of the person (intersective) and the second one to the beauty of the dancing (nonintersective).

 - A slightly revised version of Cinque’s general schema given in (19) is adopted here.^{32,33}
 - For Cinque, any variation of the order shown in (19) is the result of phrasal movement in a roll-up fashion.
- I extend the roll-up analysis to the Persian Ezafe construction. As such, the Persian DP is taken to be head-final, with the NP merged at the bottom of the tree structure and the APs residing in the specifiers of projections above it.³⁴ The Demonstrative (Dem) and the Numeral are heads higher up in the tree structure in accordance with (19). In addition, there are intermediate AgrP projections enabling the roll-up derivation (following Cinque 2010, among many others). As we will see below (also (13) above, in some Iranian languages/dialects, Ezafe shows morphological agreement, providing support for the Agreement status of these intermediate projections. The relevant structures and roll-up movements are shown schematically in (31).
- Under this view, the Ezafe marker can be seen as the surface realization of the suggested inversion process, i.e. a linker in the sense of den Dikken (2006). Crucially, the height of the movement corresponds to the realization of the Ezafe marker.

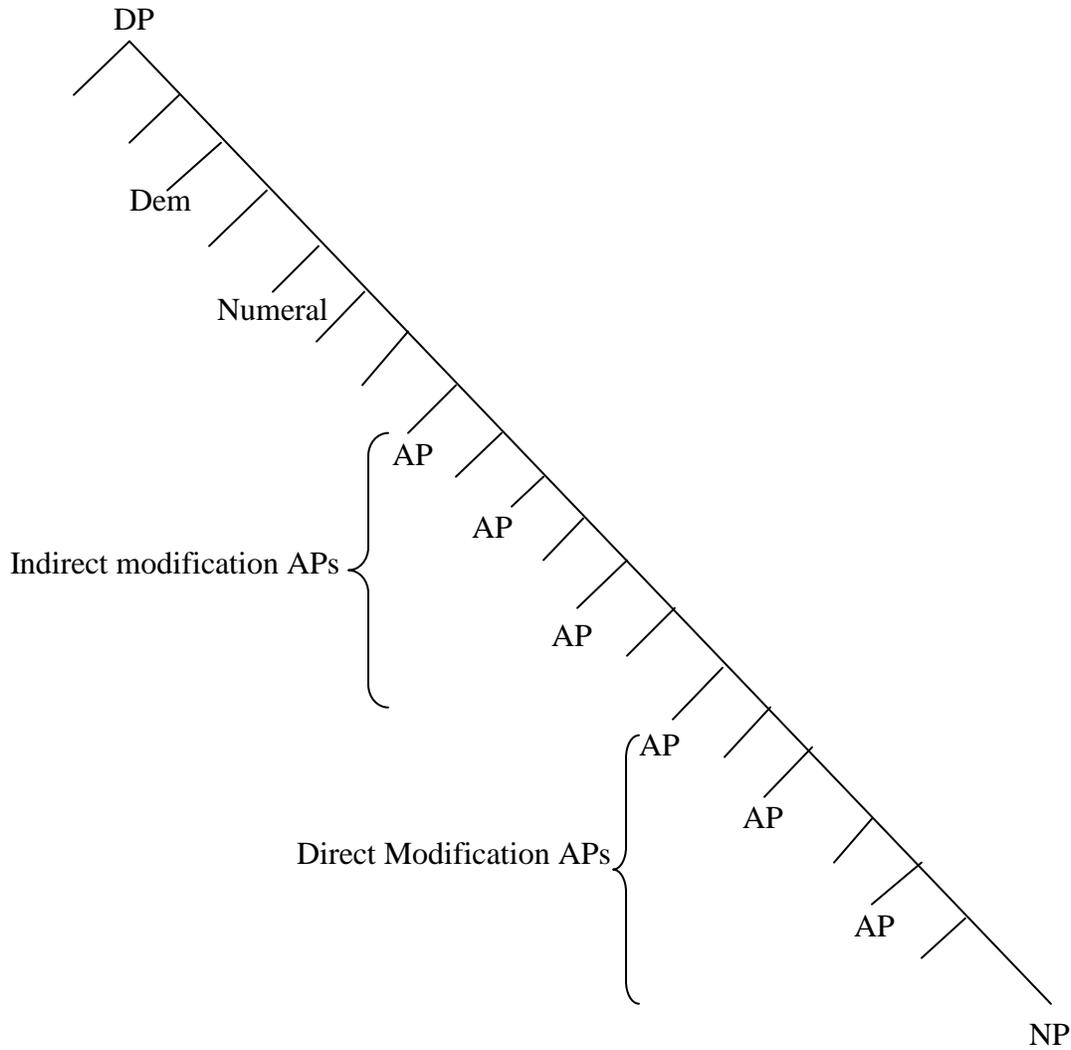
³² I am using *Numeral* for Cinque’s (2010) *Num* to avoid confusion with *Num* as the locus of the number feature (plural vs. singular), and the head of Number Phrase (Ritter 1992). In this structure, Numeral stands represents cardinal numbers. Ordinal numbers are discussed in section 4.4.

³³ It is worth noting that whether the source of the adjective ordering is due to a universal base order (a la Cinque) or anchored in semantic notions such as scope (see, for example, Ernst 2001) is beside the point here. The crucial point for the discussion below is the existence of such an order.

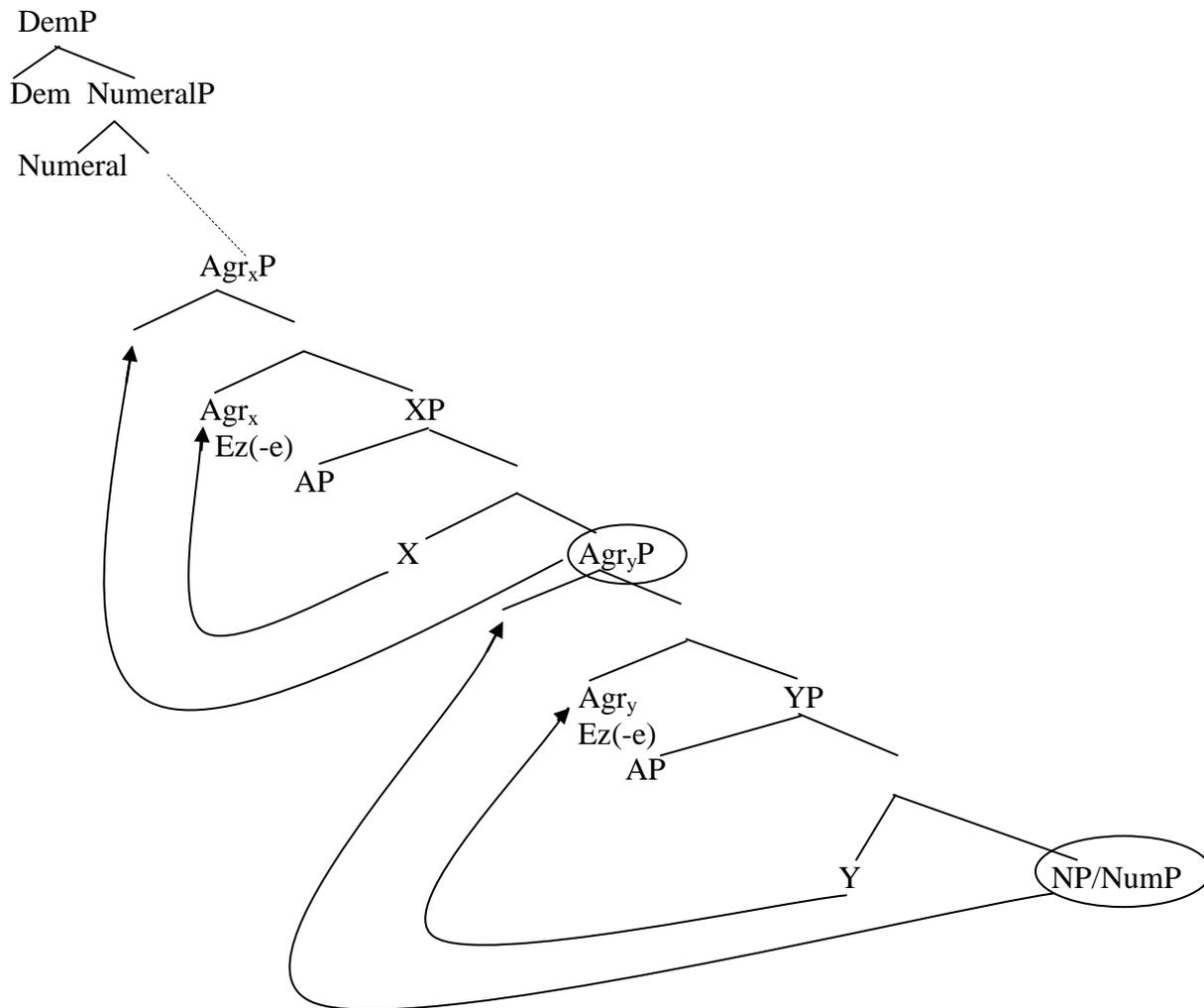
³⁴ I am assuming that number is realized on N and moves as part of the NP complex. Note that the plural suffix is tagged along with the noun in the Ezafe construction. If one takes number (Num) to head its own projection (Ritter 1992), then the roll-up movement should start with NumP in Persian, with N raising to Num first.

- Under this view, the order of elements found in a language like English can be seen to reflect the base generated order of elements and as involving no movement at all (see, for example, Cinque 2010). Alternatively, one can take English to involve the same movements ‘covertly’. The Ezafe marker then finds an explanation in the context of the correlation between (overt) movement and morphology discussed above.

(19) Structure of DP (adapted from Cinque 2010)



(20) Deriving the Ezafe construction via roll-up movement



- The roll-up derivation shown in (20) combined with the base structure in (19) leads to some predictions about the order of adjectives in Persian.

- According to Cinque (2010), direct modification adjectives are rigidly ordered while indirect modification adjectives are not. Cinque argues that many adjectives can have either a direct or an indirect modification source. As such, while “the big red dog” is the preferred order, as it reflects the order of adjectives within the domain of direct modification, “the red big dog” is also acceptable because “red” can be used as an indirect modifier too.

- The same is true of Persian. Thus, both *sag-e qermez-e bozorg* (dog-Ez red-Ez big) and *sag-e bozorg-e qermez* (dog-Ez big-Ez red) are acceptable.³⁵

³⁵ Some speakers report an acceptability difference between Persian and English with respect to the variability of the order of adjectives. In other words, while in English, even if both orders are possible, one is highly preferred in the unmarked case, in Persian, the preference is undermined, if not totally lost. Why should this be? It would be

- Crucially, if unambiguously direct modification adjectives are used, then English shows a strict order and the roll-up analysis makes the prediction that Persian should exhibit the mirror-image order. This prediction is borne out, as shown in the examples in (21).³⁶

- (21) a. fizikdaan-e hasteyi-ye javaan
 Physicist-Ez nuclear-Ez young
 *fizikdaan-e javaan-e hasteyi
 ‘a young nuclear physicist’
- b. mashrubxor-e sangin-e qabli
 drinker-Ez heavy-Ez former/previous
 *mashrubxor-e qabli-ye sangin³⁷
 ‘the former/previous heavy drinker’
- c. zabaanshenaas-e nazari-ye baa-este’daad
 linguist-Ez theoretical-Ez with-talent
 ?? zabaanshenaas-e baa-este’daad-e nazari
 ‘talented theoretical linguist’
- d. dalil-e asli-ye qeyre-qaabele-qabul
 reason-Ez main-Ez unacceptable
 ??dalil-e qeyre-qaabele-qabul-e asli
 ‘the unacceptable main reason’

4.4. The missing Ezafe: Superlatives and ordinals in Persian

- Recall that the superlative, as shown in (22), is consistently pre-nominal and as such is not part of the Ezafe construction (see also Samiian 1983, Ghomeshi 1997, Ghaniabadi 2010).

- (22) a. jaaleb-tarin ketaab vs. ketaab-e jaaleb-tar
 interesting-SUP book book-Ez interesting-COMP
 ‘the most interesting book’ ‘more interesting book’
- b. ajib-tarin so’aal vs. so’aal-e ajib-tar
 strange-SUP question question-Ez strange-COMP
 ‘the strangest question’ ‘stranger question’

- The behaviour of the superlative is especially interesting given that the derivationally related simple and comparative forms of the adjective are post-nominal and require the Ezafe. This derivational relation is particularly important in the context of a non-lexicalist theory which takes word formation to be part of syntax (i.e. syntax all the way down, a la Distributed Morphology, Halle and Marantz 1993, and subsequent authors), undermining the possibility

interesting to see if there is a general difference between languages (or adjectives) which reflect the base order and those which are derived via roll-up movement. I leave a more thorough investigation of this issue for future research.

³⁶ This discussion is inspired by Cinque’s (2010) presentation of similar facts in English and Italian.

³⁷ This is ungrammatical for the relevant sense. In the given order, “heavy” could only have a predicative meaning, i.e. heavyweight. This is true for both English and Persian.

of treating the superlatives, on the one hand, and simple and comparative adjectives, on the other, as distinct lexical items which are merged in different positions of the structure (see, for example, Ghaniabadi 2010).

- Cinque (2010, 31-32) discusses superlatives as one of the cases where the strict order of direct modification adjectives can be violated: a long white plane vs. the whitest long plane. More strikingly, this reversal of order is observed even with the more rigidly ordered non-intersective adjectives: an occasional hard worker vs. the hardest occasional worker. Cinque suggests that the superlative morpheme is merged high in the structure of DP and the relevant adjective is attracted to this high position (see also Matushansky 2008, among others).
- Extending Cinque’s analysis to Persian, I propose that in the formation of the superlative, the adjective is attracted to the superlative morpheme which is high in the DP structure. As such, the superlative adjective, like other high elements such as the demonstrative or the numeral lies outside of the Ezafe domain, i.e. it is consistently pre-nominal and lacks Ezafe.
- The behavior of ordinals in Persian lends further support to the analysis of the superlative. There are two ways to express an ordinal phrase in Persian, as shown in (23).

- (23) a. moshkel-e chaarom
 problem-Ez fourth
 ‘the fourth problem’
- b. chaarom-in moshkel
 fourth-*in* problem
 ‘the fourth problem’

- Once again, we see the correlation between the order of noun and modifier and the presence of Ezafe. Interestingly, the same morpheme *-in* used with the superlative is used in (34b) with the same effect: pre-nominal ordinal and no Ezafe marker. This provides further support for breaking down the superlative marker *-tarin* into the comparative marker *-tar* and *-in*.

Summary of properties of Persian Ezafe:

- Ezafe appears with post-nominal modifiers and never with pre-nominal modifiers
- Ezafe appears with adjectives, possessors, as well as PP modifiers, reduced relative clauses and (arguably) with full relative clauses
- Ezafe is not present with superlative adjectives (which are also prenominal)
- Ezafe never appears on a bare noun, or on a predicative adjective (the latter not shown above)
- Ezafe is iterative

d. mirov-ê ku min dît-î
 man-Ez.Masc.Sg that I.OBL see-Past
 ‘the man who I saw’

(Kurmanji, Samvelian 2008: 347)

Bahdini Kurmanji⁴⁰: According to Franco, Manzini and Savoia (2015), in this dialect, Ezafe can be used independently of nominal modification, namely before a predicative adjective. They use this in support of their analysis of Ezafe as a D element selecting the adjective. (They also provide examples showing Ezafe appearing before finite verbs in this language.) This is very different from the distribution of Ezafe in Persian.

(29) (au) je/ja mazən-e
 3sg Ez.Masc./Ez.Fem. big-is
 ‘S/he is big.’ (adapted from Franco, Manzini and Savoia 2015)

Zazaki (Northwestern Iranian): Postnominal with Ezafe agreeing in phi-features (number and gender) and case (Nom or Oblique, two-way case distinction in Zazaki)

(30) a. kutik-o gırs mı vinen-o
 dog(Masc.)-Ez.Masc.Sg.Nom big 1Sg.Obl. see.pres.-3Sg.Masc.
 ‘The big dog sees me’
 b. Ez kutik-ê gırs-i vinen-a
 1Sg.Nom. dog(Masc)-Ez.Masc.Sg.Obl. big-Obl.Masc.Sg. see.pres.-1Sg.
 ‘I see the big dog.’ (adapted from Toosarvandani and van Urk 2014)

- When used in the possessive construction, case on Ezafe is always realized as Obl. in agreement with the case on the possessor:

(31) a. ga-yê Alik-i vaş wen-o
 Ox(Masc.)-Ez.Masc.Sg.Obl. Alik(Masc.)-Obl.Masc.Sg. grass eat.pres.-3Sg.Masc.
 ‘Alik’s ox is eating grass.’
 b. Ez ga-yê Alik-i vien-a
 1Sg.Nom ox(Masc.)-Ez.Masc.Sg.Obl. Alik(Masc.)-Obl.Masc.Sg. see-pres-1Sg.
 ‘I see Alik’s ox.’

(adapted from Toosarvandani and van Urk 2014)

Note: In the Zazaki possessive construction, Ezafe agrees in phi-features with the possessed noun. So, in (31), if we replace Alik(Masc.) with Fatik(Fem.), agreement on Ezafe won’t change.

5.3. Reverse Ezafe

- **Question:** Given the established correlation between the order of the noun and its modifiers in the Persian Ezafe construction (10), could we ever have anything resembling the Ezafe in a language with head-final NP? Would such a language constitute a counterexample to the generalization in (10)?

⁴⁰ I do not know how different this dialect is from the one Samvelian (2008) uses in her work, referred to in (28).

- This is what Larson (2009) calls Reverse Ezafe (leading to Mod-REZ N) and uses Gilaki and Mazandarani as examples. Masali seems to show such a pattern.

Gilaki (Northwestern Iranian, Caspien):

- (32) surx-ə gul
red-ə flower
'red flower'

(adapted from Larson 2009)

Mazandarani (Northwestern Iranian, Caspien):

- (33) gat-e sere
big-e house
'big house'

(adapted from Larson 2009)

Masali (Dialect of Taleshi, Northwestern Iranian, Caspien):

- (34) az sər-a bar-i vind-əm-a
1Sg. red-a door-Obl. saw-1Sg.-Tr.
'I saw the red door.'

(cited in Franco, Manzini, Savoia 2015, originally from Paul 2011)

- I have not looked closely at Mazandarani or Masali yet, but we carefully reviewed a Grammar of Gilaki (Rastorgueva et al. 2012), sifting through about 150 pages of text. The Gilaki data in (35)-(38) below are all adapted from Rastorgueva et al. 2012.
- We found around 200 noun phrases with nominal or adjectival modification. Over half of them involved the Ezafe construction, N-Ez Adj or N-Ez N:

- (35) a. utaaq-ə xaali
room-Ez empty
'empty room'
- b. sərguzəšt-ə ita xaanəvaar-ə fəqir
story-Ez one family-Ez poor
'the story of one poor family'
- c. mu-yə siya-yə girinji
hair-Ez black-Ez curly
'curly black hair'
- d. vəsət-ə taabestaan
middle-Ez summer
'middle of the summer'

- There were about 100 potential cases of REZ. Of these, all except one involved postpositions: N-ə P; in about half of those the postposition was *miyan* "inside" and the rest other postpositions, namely *durun* "inside", *ru* "on", *amara* "with", *vasi* "for", *bija* "side, beside".

- (36) a. aab-ə miyan
water-ə inside
'in(side) the water'
- b. dər-ə bija
door-ə side
'by the door'
- c. zahak-ə amara
children-ə with
'with the children'
- d. ab-ə ja
water-ə from
'from the water'

- This raises the possibility that these are instances of genitive marking, which is how all of them are glossed in the grammar. Adpositions assign genitive case to their nominal complements in other languages, e.g. Arabic. Also, with the nominal status of some prepositions in Iranian languages, this possibility is even more natural. Note that, in Gilaki, unlike Persian, the possessor appear before the possessum and is marked with the same genitive marker. This is true of possessive pronouns as well.

- (37) a. aahu-yə chum-an
deer-gen eye-plural
"deer's eyes"
- b. mi xaxur-za
my sister-child
"my niece"

- There was only one example of a prenominal adjective with such marking in the grammar. The authors of the grammar do state that –ə is productively used to form nouns, adjectives and adverbs. This raises another possibility for the analysis of this vowel.

- (38) pisxaal-ə rish
small-ə beard
'small beard'

6. Conclusion

- I showed that there is a near-perfect correlation between the order of the noun and other nominal elements and the presence of the Ezafe marker in Persian, with the noun clearly demarcating the distribution of the Ezafe marker: no Ezafe on elements surfacing before the noun and an Ezafe for every element following it.
- I argued that these facts are best captured in a system which takes the merge position of the noun in the DP to be final and the surface order derived via roll-up phrasal movement.
- We briefly looked at the status of Ezafe and Ezafe-like elements in some other Iranian languages and observed a good range of variation. In order to gain a better understanding of the nature and typology of linker elements used in these and other languages, the relevant data need to be much more closely examined.
- Crucially, we cannot start with the assumption that these linkers are all the same element in all these languages, and pick properties from different languages to draw unified conclusions about them. Each language should be investigated with respect to all the properties discussed for Persian in this talk. It is conceivable that these elements may have developed different functions in different languages even if they have the same historical source.

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