

Form & Position of Nominal Modifiers in Indo-Iranian

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Nominal modifiers in Indo-Iranian languages show an (apparently parametric) alternation in form & position. In Western Indo-Iranian (WI-I) (Farsi, Kurdish, Zazaki, Hawrami), modifiers standardly occur postnominally and “link” to N via an Ezafe particle (Ez), which is either invariant (Farsi, Sorani), or inflects for ϕ -features (Kurmanji, Zazaki, Hawrami). The modifiers show no agreement (1a-d).

- (1) a. otâq - **é** besyar kucik
room-**EZ** very small
'very small room' (Farsi)
- b. minál - **i** pcúk - **i** bash
children-**EZ** small-**EZ** good
good, small children' (Kurdish: Sorani)
- c. çav-**ê** res
eye-**EZ(M)** black
'the black eye' (Kurdish: Kurmanji)
- d. çav-**ên** sor
eye-**EZ(P)** red
'the red eyes' (indicates great anger) (Kurdish: Kurmanji)
- e. zerež-**o** g+rd
partridge-**EZ(M)** large
'large partridge' (Zazaki)

In Eastern Indo-Iranian (EI-I) Pashto, modifiers occur prenominaly, exhibit no Ezafe, and agree directly with N in case (direct vs. oblique) and ϕ -features (gender and number) (2a,b):

- (2) a. wegay alék
hungry(**DMS**) boy'
b. wege péghla
hungry(**DFS**) girl

Goals of this paper:

- to present the forms of the nominal in WI-I and EI-I.
- to analyze this variation, deriving both series from a single syntactic source.
- to relate this variation to certain other phenomena, specifically possessive fronting in Pashto and linker elements in southern African languages.

1.0 Ezafe: A Brief Snapshot

Ezafe occurs in Mod. Persian (Farsi), Kurdish (Sorani, Kurmanji), Zazaki (Dimili) and Hawrami (Gorani). The pattern shows increasing complexity in that order:

1.1 Farsi (Samiian 1994; Ghomeshi 1997; Ghozati 2000; Kahnemuyipour 2000; Samvelian 2005)

Farsi demonstratives and numerals are prenominal: (1a,b)

- (1) a. on mard b. sé tá dokhtar
that man three CL daughters

But N modifiers/complements are always postnominal and linked to N by Ezafe. Farsi shows the simplest form of Ezafe; the only variation is phonological (é/yé):

(2) Modifiers & complements of Ns

- a. otâq - **é** besyar kucik
room-**EZ** very small 'very small room' (AP)
- b. del - **é** sang
heart-**EZ** stone 'stone heart' (NP)
- c. xune - **yé** [kenar - **é** dærya]
house-**EZ** next - **EZ** sea 'house on the beach' (PP)
- d. manzel - **é** John
house-**EZ** John 'John's house' (NP)
- e. shahr - **é** Tehran
city -**EZ** Tehran 'Tehran city' (NP)
- f. Ali - **é** Ghozati
Ali -**EZ** Ghozati 'Ali Ghozati' (NP)
- g. tæxrib - **e** shæhr
destruction-**EZ** city 'destruction of the city' (NP)
- h. hordan - **é** âb
drinking-**EZ** water 'drinking of water' (NP)
- i. forunshandé - **yé** ketâb
seller -**EZ** books 'seller of books' (NP)
- j. ketâb - **é** sabz - **é** jâleb
room-**EZ** green-**EZ** interesting 'interesting green book' (AP*)

- (3) a. âgâ - **yé** Imam
Mister -**EZ** Imam 'Mister Imam'
- b. tamâm - **é** sherkathâ
all-**EZ** companies 'all/the-totality-of? companies'
- c. tamâm - **é** - **în** sherkathâ
all-**EZ** the companies 'all/ the-totality-of? the companies'

1.2 Kurmanji (Pikkert 1991)

Kurmanji Ezafe is more complex than Farsi; it inflects for number & gender, and shows a distinction between “primary” and “secondary” Ezafe:

Primary Ezafe (EZ) (Definite Nominals)

- Masculine Ezafe: **-ê** (-**ye** for nouns ending in vowels)
- Feminine Ezafe: **-a** (-**ya** for nouns ending in vowels)
- Plural Ezafe: **-ên** (for both masculine and feminine nouns)

- (4) a. çav-ê res
eye-EZ(m) black ‘the black eye’
- b. kurr-ê biçûk
son-EZ(m) small ‘the small son’
- (5) a. keçik-a mezin
daughter-EZ(f) big ‘the big (old) daughter’
- b. bêvil-a drêj
nose-EZ(f) long ‘the long nose’
- (6) a. kitêb-ên nû
book-EZ(pl) new ‘the new books’
- b. çav-ên sor
eye-EZ(pl) red ‘the red eyes’ (indicates great anger)

Secondary Ezafe (2EZ) (Indefinite nominal or non-initial Ezafe)

- 2nd Masculine Ezafe: **-î**
- 2nd Feminine Ezafe: **-e**
- 2nd Plural Ezafe: **-î** (for both masculine and feminine nouns)

- (7) a. qelem-a min
pen-EZ(f) me
‘my pen’
qelem-a drêj
pen-EZ(f) long
‘the long pen’
- b. kitêb-a bas-e nû
book-EZ(f) good-2EZ(f) new
‘the good new book’
- c. kitêb-ên bas-î nû
book-EZ(pl) good-2EZ(pl) new
‘the good new books’

Indefinite Article (INDEF)

- (i) **-ek** ‘a/an’ (for singular nouns; **-yek** for singular nouns ending in vowels)
- (ii) **-ne** ‘some’ (for plural nouns)

- (8) a. xani-yek
house-INDEF(sg) ‘a house’
- b. xani-ne
house-INDEF(pl) ‘some houses’
- c. xani-yek-î biçûk
house-INDEF(sg)-2EZ(m) small ‘a small house’
- d. xani-n-e biçûk
house-INDEF(pl)-2EZ(pl) small ‘some small houses’
- e. xani-n-e bas-î nû
house-INDEF(pl)-2IZ(pl) good-2IZ(pl) new ‘some good, new houses’
- (9) a. bav-ê heval-a zuh-a min
father-IZ(m) friend-IZ(f) sister-IZ(f) my ‘my sister’s (girl)friend’s father’
- b. qulem-a min
pen-IZ(f) my ‘my pen’
- c. nav-ê wê
name-IZ(m) her ‘her name’
- d. kurr-ek-î min
son-INDEF(sg)-2IZ(m) mine ‘a son of mine’

	Definite Ezafe	Indefinite Ezafe
Masculine	-ê	-î
Feminine	-a	-e
Plural	-ên	-e

2.0 Pashto Nominals (Tegey & Robson 1996)

Pashto nominals exhibit no Ezafe and generally resemble English. Numerals and demonstratives are prenominal. But attributive As and possessive are also prenominal; RCs are postnominal:

- (10) a. **pindzə** pəghle
five girls ‘five girls’
- b. **agha** moṭar
that car ‘that car’
- (11) a. **wəgay** alək
hungry boy ‘hungry boy’
- b. [**de asad**] [**nəway**] moṭar
of Asad new car ‘Asad’s new car’
- c. agha njaləey [**tse kamis akhli**] de Rābyā khór da
that girl who dress bought of Rabya sister is
‘That girl who bought a dress is Rabya’s sister’

Pashto distinguishes 2 numbers (S/P), 2 genders (M/F), 2 cases (Direct/Oblique). Attributive As agree in these features according to membership in one of 4 declension classes (*təg-* 'thirsty' below is class 2):

- (12) a. [**təgay alək**] wobə ghwāri **MDS**
thirsty boy water want3S 'the thirsty boy wants water'
- b. [**təgi aləkān**] wobə ghwāri **MDP**
thirsty boys water want3P 'the thirsty boys want water'
- c. [de **təgi alək khwla**] wəcha wa **MOS**
of thirsty boy mouth dry was 'the thirsty boy's mouth was dry'
- c. [de **təgi aləkān khwla**] wəcha wa **MOP**
of thirsty boys mouths dry were 'the thirsty boys' mouths were dry'
- d. [**təge pəghla**] wobə ghwāri **FDS**
thirsty girl water want3S 'the thirsty girl wants water'
- e. [**təge pəghlə**] wobə ghwāri **FDP**
thirsty girls water want3P 'the thirsty girls want water'
- f. [de **təge pəghlə khwla**] wəcha wa **FOS**
of thirsty girl mouth dry was 'the thirsty girl's mouth was dry'
- g. [de **təgo pəghlo khwla**] wəcha wa **FOP**
of thirsty girls mouths dry were 'the thirsty girls' mouths were dry'

3.0 The Nature of Ezafe

3.1 Ezafe as a Case-marking Element

Samiian's Generalization (Samiian 1994): Ezafe occurs with [+N] complements & modifiers following a [+N] head.

(13) Complements of As

- a. asheq - e Həsəən
in love-EZ Hasan 'in love/enamored with Hasan'
- b. negəran - e bəche
worried-EZ child-PL 'worried about the children'
- c. montəzer - e Godot
waiting-EZ Godot 'waiting for Godot'

(14) Complements of Nominal Ps

- a. beyn - e mən-o to
between-EZ you and me 'between you and me'
- b. vəsət - e otaq
in-the-middle -EZ room 'in the middle of the room'

- c. dor - e estəx
around-EZ pool 'around the pool'
- d. bəqəel-e dər
by-EZ door 'by the door'
- e. kenar - é dərya
next - EZ sea 'on the beach'

(15) Full and Reduced RCs (Samvelliian 2005)

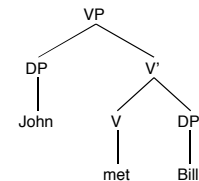
- a. otāq- i [ké bozorg ast]
room-REL -that big is
'room that is big'
- b. in java`n -e [az suis bar gas`te]
this young- EZ from SW back turn
'this young man back from Switzerland'
- c. aks-e [c`a`p s`ode dar ruzna`me]
photo-EZ publication become in newspaper
'the photo published in the newspaper'

Samiian's Hypothesis (Samiian 1994): Ezafe is a dummy case marker (cf. *of*).
But: Why would modifiers need case? Case normally marks arguments!

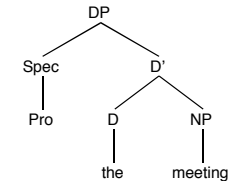
3.2 Nominal Modifiers as D-Complements (Larson 1991)

Complex Determiner Hypothesis (Keenan and Stavi 1986): Restrictive modifiers are arguments of D.

(16) a. meet(x,y)



b. THE(X,Y)



- (17) a. meet λy λx [**meet'**(x,y)]
- b. every λQ λP [∀x[Q(x) → P(x)]]
- c. some λQ λP [∃x[Q(x) → P(x)]]
- d. the λQ λP [∃y∀x[[Q(y) ↔ y = x] ∧ P(x)]]

(18) **Transitive Ds**

- a. EVERY(X,Y) iff $Y \subseteq X$
- b. SOME(X,Y) iff $Y \cap X \neq \emptyset$
- c. NO(X,Y) iff $Y \cap X = \emptyset$
- d. THE(X,Y) iff $Y \subseteq X$ & $|Y| = 1$
- e. MOST(X,Y) iff $|Y \cap X| > |Y - X|$
- f. BOTH(X,Y) iff $Y \subseteq X$ & $|Y| = 2$

(19) **Intransitive Ds (Pronouns)**

$HE_n(X)$ iff $g(n) \in X$

(20) **Ditransitive Ds**

- a. MORE-THAN(X,Y,Z) iff $|Y \cap X| > |Z \cap X|$
- b. AS-MANY-AS(X,Y,Z) iff $|Y \cap X| \geq |Z \cap X|$
- c. EVERY-EXCEPT(X,Y,Z) iff $ALL(X, (Y-Z))$ & $NO(X,Z)$
- d. NO-EXCEPT(X,Y,Z) iff $NO(X, (Y-Z))$ & $ALL(X,Z)$

Intersective Modifiers

(21) a. *every* $\lambda Q \lambda P \forall x [[Q(x) \ \& \ \mathbf{R}(x)] \rightarrow P(x)]$ (Bach & Cooper (1978))

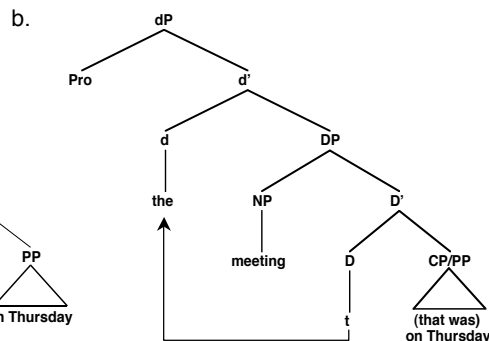
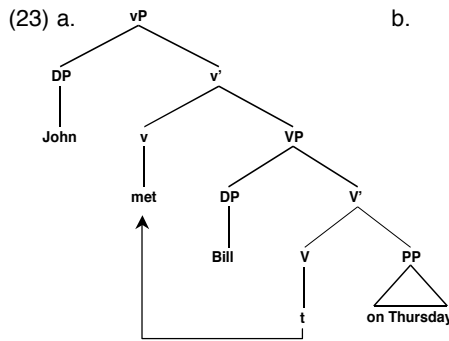
b. *some* $\lambda Q \lambda P \exists x [[Q(x) \ \& \ \mathbf{R}(x)] \rightarrow P(x)]$

c. *the* $\lambda Q \lambda P \exists y \forall x [[Q(y) \ \& \ \mathbf{R}(x)] \leftrightarrow y = x] \ \& \ P(x)$

(22) a. EVERY(X,Y,W) iff $(Y \cap W) \subseteq X$

b. SOME(X,Y,W) iff $(Y \cap W) \cap X \neq \emptyset$

c. THE(X,Y,W) iff $(Y \cap W) \subseteq X$ & $|Y \cap W| = 1$



This syntax and semantics can be generalized to all postnominal modifiers; all can be analyzed as initial arguments of D, stranded by D-raising:

(24) a. [dP Pro [d' **the** [DP lecture [D' t [DP **Thursday**]]]]]

b. [dP Pro [d' **some** [DP stars [D' t [XP **visible**]]]]]

c. [dP Pro [d' **every** [DP jewel [D' t [XP **stolen**]]]]]

The syntax can also be extended to complements of triadic Ds, as in (25):

(25) a. [dP Pro [d' **every** [DP boy [D' t [PP **but/except Bill**]]]]]

b. [dP Pro [d' **more** [DP women [D' t [PP **than men**]]]]]

Radical Extension (Keenan and Stavi 1986): All (intersective) nominal modifiers are semantic complements of D. D+mods form a “complex determiner”.

Syntactic consequence: With intersective As, prenominal position must be derived, even with modifiers that cannot surface postnominally (26):

(26) We saw the **interesting/new/large/stone** house **t**
(cf. *the house **interesting/new/large/stone**)

3.3 Case in DP (Larson & Yamakido 2005, 2006)

Suppose DP, like VP, is governed by its own version of Case-theory.

- [+N] complements of D bear a case feature that must be checked.
- D/d checks one case on its internal argument, just as V/v checks one Accusative case on an internal argument of V.

Consequences:

- D will in general check Case on its NP restriction.
- DP-modifiers that do not bear Case features (PPs, (disguised) CPs) can remain in situ
- DP-modifiers that do bear Case features (APs) must move to a site where Case is checked, unless some other means is made available.

- a. [de asad] agha moṭar
of Asad that car
'that car of Asad's'
- c. de asad agha pindzə nor der lay kitábúna
of Asad those five other very big books
'those five other very big books of Asad's'

Pashto possessive phrases are PP-like (oblique). If d bears (EPP), these examples might be assimilated to AP movement, with d probing for an inherent case feature valued on the possessive PP (Gen) & externally merging this XP.

(33) **Derivation for de asad agha moṭar "that car of Asad's"**

- a. [DP [NP moṭar] [D' agha [XP de asad]]]
Merge Initial arguments of D; D agrees with AP on T
- b. [dP d [DP [NP moṭar] [D' agha [XP de asad]]]]
Merge little d
- c. [dP agha-d [DP [NP moṭar] [D' agha [XP de asad]]]]
Raise D
- d. [dP Pro [d' agha-d [DP [NP moṭar] [D' agha [XP de asad]]]]]
Project DP Subject
- e. [dP [AP de asad] [dP Pro [d' agha-d [DP [NP moṭar] [D' agha [XP de asad]]]]]]
d attracts Gen XP

This view would need to generalize to Pashto PPs, since possessors raise to their left edge as well:

- (34) a. de asad [pp pə chāqú]
of Asad with knife
'with Asad's knife'
- b. de asad [pp lə nəwi moṭar na]
of Asad from new car from
'from Asad's new car'

4.2 "Linkers" (Baker and Collins (to appear), Collins ('03,'04))

Collins (04) discusses the "linker" morpheme in N|uu, a southern Khoisan language, which precedes various types of nominal expressions in VP (35a-c) and direct objects of causativized verbs (35b):

- (35) a. ku -a si fioo ku anki ŋ glari
3sg Decl Fut find 3sg father Lk Upington
'He will find his father in Upington'
- b. ku -a si |qhō⁵ ŋ !haeka
3sg Decl Fut dance Lk tomorrow
'He will dance tomorrow'
- c. gja úao-a a ꜱhoa ŋ ku mari (!ʔama)
2sg want-Asp 2sg talk Lk 3sg money about
'Do you want to talk about his money?'
- d. n - a kx'u |q'ōa-a ku ŋ ꜱqhee
1sg Decl make hunt-Asp 3sg Lk duiker
'I made him hunt a duiker'

The linker phenomenon shows interesting properties. Linkers do not appear between a transitive verb and its direct object:

- (36) a. n -a ꜱhāu-a !qhaa
1sg Decl pour-Asp water
'I poured water'
- b. n -a si ||ʔau -|ʔe ||aβa
1sg Decl Fut bury -put.in bone
'I will bury the bone'
- c. ku -a si ||x'oo Ooo-ke
3sg Decl Fut chop wood-pl
'He will chop wood'

Temporal expressions (but not locatives) can also appear preverbally, in which case the linker drops.

- (37) a. ku -a si !haeka |qhō⁵
3sg Decl Fut tomorrow dance
'He will dance tomorrow'
- b. *ku -a si glari |qhō⁵
3sg Decl Fut Upington dance
'He will dance in Upington'

This phenomenon appears similar to Ezafe if one looks at the pattern of heads and complements in DP and VP.

- Ezafe does not appear between the head of dP/DP (d/D) and its internal nominal complement (NP). Linkers do not appear between the head of VP (V) and its direct object.
- Ezafe appears before all other [+N] complements and modifiers. Linkers appears before all other [+N] complements and modifiers (except in the DO construction)

- Ezafe disappears when a modifier appears preverbally (e.g., Pashto APs). Linkers disappear when a modifier appears preverbally (e.g., N|ju locatives and why-interrogatives)
- Baker and Collins (to appear), Collins ('03,'04) argue that the linker is a case-marking element.

Summary

- Variation in Indo-Iranian (WI-I vs. E I-I) presents an interesting parametric difference in nominal structure wrt position & form of modifiers.
- Under the Complex D Hypothesis, these variations are derivable from a single source, with Ezafe lgs. displaying the base pattern.
- The Pashto AP raising account is potentially extensible to other raisings possessors.
- Ezafe shows striking similarities to so-called "linker phenomena" discussed by Baker and Collins (to appear), Collins (2003,2004)
- These convergences suggest that the correct analogy in nominal structure is not DP:TP/IP but rather DP:VP, with both categories thematic, both projected similarly, and both deploying Case theory.

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