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 stand ordinarily postnominally and "link" to N via an Ezafe particle (Ez), which is either invariant (Farsi, Sorani), or inflects for \( \phi \)-features (Kurmanji, Zazaki, Hawrami). The modifiers show no agreement (1a-d).

(1) a. otåq - â besyar kucik
   room-EZ very small
   'very small room'
   (Farsi)

b. miná - d 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-én sor
   eye-EZ(P) red
   'the red eyes' (indicates great anger)
   (Kurdish: Kurmanji)

e. zerež-ô gîrd
   partridge-EZ(M) large
   'large partridge'
   (Zazaki)

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

(2) a. wagay alsk
    hungry(DMS) boy'

b. wàgüh pêghla
    hungry(DFS) girl

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 demonstrates and numerals are prenominal: (1a,b)

(1) a. on mard b. sê tâ 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 (\( \varepsilon / \dot{\varepsilon} \)):

(2) **Modifiers & complements of Ns**

| a. otåq - â besyar kucik | room-EZ very small | 'very small room' | (AP) |
| b. del - ë sang | heart-EZ stone | 'stone heart' | (NP) |
| c. xune - yë [kênar - ë dãrya] | house-EZ next - EZ sea | 'house on the beach' | (PP) |
| d. manzel - é John | house-EZ John | 'John's house' | (NP) |
| e. shahr - ê Tehran | city-EZ Tehran | 'Tehran city' | (NP) |
| g. tæxrib - ë shaehr | destruction-EZ city | 'destruction of the city' | (NP) |
| h. hordan - ë åb | drinking-EZ water | 'drinking of water' | (NP) |
| i. forunshandé - yë ketáb | seller - EZ books | 'seller of books' | (NP) |
| j. ketáb - ë sabz - ë jâleb | room-EZ green-EZ interesting | 'interesting green book' | (AP*) |

(3) a. ågå - yë Imam
    Mister - EZ Imam | 'Mister Imam'

b. tamâm - ë sherkathá
    all-EZ companies | 'all/the-totality-of? companies'

c. tamâm - ë in sherkathá
    all-EZ the companies | 'all/the-totality-of? the companies'

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.
1.2 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: -ē (-ē for nouns ending in vowels)
- Feminine Ezafe: -a (-ya for nouns ending in vowels)
- Plural Ezafe: -ēn (for both masculine and feminine nouns)

(4) a. çav-ē res
  - eye-EZ(m) black ‘the black eye’
  b. kurr-ē biçük
  - son-EZ(m) small ‘the small son’

(5) a. keçık-ā mezin
  - daughter-EZ(f) big ‘the big (old) daughter’
  b. bêvil-ā drēj
  - nose-EZ(f) long ‘the long nose’

(6) a. kitêb-ēn nû
  - book-EZ(p) new ‘the new books’
  b. çav-ēn sor
  - eye-EZ(p) red ‘the red eyes’ (indicates great anger)

**Secondary Ezafe (2EZ) (Indefinite nominal or non-initial Ezafe)**
- 2nd Masculine Ezafe: -i
- 2nd Feminine Ezafe: -e
- 2nd Plural Ezafe: -ēn (for both masculine and feminine nouns)

(7) a. qelem-ā min
  - pen-EZ(f) me ‘my pen’
  qelem-ā drēj
  - pen-EZ(f) long ‘my long pen’
  b. kitêb-ā bas-e nû
  - book-EZ(f) good-2EZ(f) new ‘the good new book’
  c. kitêb-ēn bas-i nû
  - book-EZ(p) good-2EZ(p) 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-i
  - biçük
  - house-INDEF(sg)-2EZ(m) small ‘a small house’
  d. xani-n-e
  - biçük
  - house-INDEF(pl)-2EZ(pl) small ‘some small houses’
  e. xani-n-e
  - bas-i nû
  - house-INDEF(pl)-2IZ(pl) good-2IZ(pl) new ‘some good, new houses’

(9) a. bav-ē heval-a zuh-a min
  - father-iz(m) friend-iz(f) my ‘my sister’s (girl)friend’s father’
  b. qulem-a min
  - pen-iz(f) my ‘my pen’
  c. nav-ē wê name-iz(m) her ‘her name’
  d. kurr-ek-i
  - min
  - son-INDEF(sg)-2IZ(m) mine ‘a son of mine’

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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; RCSs are postnominal:

(10) a. pindzo paghle
  - five girls ‘five girls’
  b. agha moţar
  - that car ‘that car’

(11) a. wagay alak
  - hungry boy ‘hungry boy’
  b. [de asad] newcar moţar
  - of Asad new car ‘Asad’s new car’
  c. agha najlee [tse kamis akhil] de Râbyâ khôr da
  - that girl who bought a 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 (tag- ‘thirsty’ below is class 2):

(12) a. [tagay alik] wobe ghwari \[thirsty boy water want3S\]
    ‘the thirsty boy wants water’
   b. [tagi alikan] wobe ghwari \[thirsty boys water want3P\]
    ‘the thirsty boys want water’
   c. [de tagi alik khwla] wacha wa \[of thirsty boy mouth dry was\]
    ‘the thirsty boy’s mouth was dry’
   d. [de tagi alikan khwla] wacha wa \[of thirsty boys mouths dry were\]
    ‘the thirsty boys’ mouths were dry’
   e. [tage peghia] wobe ghwari \[thirsty girl water want3S\]
    ‘the thirsty girl wants water’
   f. [de tage peghia khwla] wacha wa \[of thirsty girl mouth dry was\]
    ‘the thirsty girl’s mouth was dry’
   g. [de tago peghio khwla] wacha wa \[of thirsty girls mouths dry were\]
    ‘the thirsty girls’ mouths were dry’

3.0 The Nature of Ezafe

3.1 Ezafe as a Case-marking Element


(13) Complements of As
   a. asheq - e Hæsan \[in love-ez Hasan\]
      ‘in love/enamored with Hasan’
   b. negæran - e bæche \[worried-ez child-PL\]
      ‘worried about the children’
   c. montæzer - e Godot \[waiting-ez Godot\]
      ‘waiting for Godot’

(14) Complements of Nominal Ps
   a. beyn - e mæn-o to \[between-ez you and me\]
      ‘between you and me’
   b. væsæt - e otaq \[in-the-middle -ez room\]
      ‘in the middle of the room’
   c. dor - e estaëxr \[around-ez pool\]
      ‘around the pool’
   d. bæqæl-e dær \[by-ez door\]
      ‘by the door’
   e. keny - é dæraya \[next - ez sea\]
      ‘on the beach’

(15) Full and Reduced RCs (Samvellian 2005)
   a. otâq - i [ké bozorg ast] \[room-REL -that big is\]
      ‘room that is big’
   b. in java\’n -e \[az suiš bar gas’te\]
      ‘this young- ez from SW back turn’
   c. aks - e [c’a’ p’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 \(\lambda y \lambda x [\text{meet}(x,y)]\)
   b. every \(\lambda Q \lambda P [\forall x [Q(x) \rightarrow P(x)]]\)
   c. some \(\lambda Q \lambda P [\exists x [Q(x) \rightarrow P(x)]]\)
   d. the \(\lambda Q \lambda P [\exists y \forall x [Q(y) \leftrightarrow y = x] \land P(x)]\)
(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 IY \cap XI > IY - XI
f. BOTH(X,Y) iff Y \subseteq X & |Y| = 2

(19) Intransitive Ds (Pronouns)
HE\textsubscript{\textit{a}}(X) iff g(n) \in X

(20) Ditransitive Ds
a. MORE THAN(X,Y,Z) iff IY \cap XI > IZ \cap XI
b. AS-MANY-AS(X,Y,Z) iff IY \cap XI \geq IZ \cap XI
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: P\forall x ([Q(x) \& R(x)] \rightarrow P(x)) (Bach & Cooper (1978))
b. some \lambda Q: P\exists x ([Q(x) \& R(x)] \rightarrow P(x))
c. the \lambda Q: P\exists y x ([Q(y) \& R(x)] \rightarrow y = x \land 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

(23) a. DP
   \[\begin{array}{c}
   \text{VP} \\
   \text{John} \\
   \text{met} \\
   \text{Bill} \\
   \text{on Thursday} \\
   \text{t}
   \end{array}\]
   b. DP
   \[\begin{array}{c}
   \text{d} \\
   \text{Pro} \\
   \text{d} \\
   \text{the} \\
   \text{meeting} \\
   \text{t} \\
   \text{on Thursday} \\
   \text{t}
   \end{array}\]

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 & Yamakodo 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.
3.4 Ezafe Languages: In Situ D-Complements

Larson and Yamakido (05/06) (following Samiian 1994): Ezafe is a case-marking element, which can license [+N] postnominal D complements in situ:

(28) Persian
   a. in ketāb - ē sabz - ē jāleb
      DEF book-EZ green-EZ interesting ‘the interesting green book.’
   b. [DP Pro [D' in [DP ketāb [D' t ] [DP [EZP ē sabz] [D' t [EZP ē jāleb] ]]]
      [CASE] [CASE] [CASE]

(29) Kurmanji
   a. kitēb-ek- e bas- e nū book-INDEF(sg)-EZ(f) good-EZ(f) new ‘a good new book’
   b. xani-yek- ī bas- ī nū house-INDEF(pl)-EZ(m) good-2EZ(m) new ‘a good, new house’

(30) [DP Pro [D' ēk [DP kitēb [D' t ] [DP [EZP e bas] [D' t [EZP e nū ] ]]]
      [FEM] [FEM] [FEM]

(D bears interpretable, unvalued φ-features and Agrees with Ez at each step. At the top, D probes N, which bears uninterpreted, valued φ-features, and agrees with it. All instances share value. Pesetsky & Torrego 2004)

Proposals/Assumptions:
- D & A bear uninterpreted, unvalued T feature; D agrees with A
- In Pashto “little d” head contains uninterpreted and unvalued T & EPP property

(31) Derivation for agha tage peghla “that thirsty girl”
   a. [DP [NP peghla] [D' agha [AP tage]]]
      Merge Initial arguments of D; D agrees with AP on T
   b. [DP d [DP [NP peghla] [D' agha [AP tage]]]
      Merge little d
   c. [DP agha-d [DP [NP peghla] [D' agha [AP tage]]]]
      Raise D
   d. [DP [AP tage] [D' agha-d [DP [NP peghla] [D' agha [AP tage]]]]]
      d attracts AP
   e. [DP d [DP [AP tage] [D' agha-d [DP [NP peghla] [D' agha [AP tage]]]]]
      Merge d
   f. [DP agha-d-d [DP [AP tage] [D' agha-d [DP [NP peghla] [D' agha [AP tage]]]]]
      Raise head
   g. [DP Pro [D' agha-d-d [DP [AP tage] [D' agha-d [DP [NP peghla] [D' agha [AP tage]]]]]]
      Project DP Subject

Crucial parametric property of Pashto: EPP/Edge feature on little D.

Question: How do multiple APs derive?
Several possibilities:
- recursive attachment of little D with successive raising
- attracting an unvalued feature means exactly that: attracting all instances of that feature; hence all APs raise simultaneously in one step.

4.0 Further Consequences

4.1 Pashto Possessives: Minimalist account of movement (EPP/Edge) from its morphosyntactic consequences (agreement).

(32) a. [de asad] naway moṭar
      of Asad new car
      ‘Asad’s new car’
a. **[de asad] agha moṭar**  
   of Asad that car  
   ‘that car of Asad’s’

b. **[de asad] agha** pindza nor der lay kitabuna  
   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. \[dP agha-d [DP [NP moṭar] [D’ agha [XP de asad]]]]\]  
   Merge little d

d. \[dP Pro [d’ agha-d [DP [NP moṭar] [D’ agha [XP de asad]]]]]\]  
   Raise D

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 pe chaqú]**  
   of Asad with knife  
   ‘with Asad’s knife’

b. **[de asad] [pp le na 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 Njuu, 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 hoo ku ankí qgári]**  
   3sg Decl Fut find 3sg father Lk Upington  
   ‘He will find his father in Upington’

b. **[ku -a si qhóq háeka]**  
   3sg Decl Fut dance Lk tomorrow  
   ‘He will dance tomorrow’

c. **[gá úao-a a hoa qk mari (!?ama)]**  
   2sg want-Asp 2sg talk Lk 3sg money about  
   ‘Do you want to talk about his money?’

d. **[n - a kx’u q’oa-a ku qhée]**  
   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 hâu-a !qhaa]**  
   1sg Decl pour-Asp water  
   ‘I poured water’

b. **[n -a si [lau -i-te ]aBa]**  
   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 háeka qhóq]**  
   3sg Decl Fut tomorrow dance  
   ‘He will dance tomorrow’

b. **[^ku -a si [gári qhóq]]**  
   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 it’s direct object.
- Ezafe appears before all other [+N] complements and modifiers. Linkers appear 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/uu 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 a interesting parametric differences 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.

References

Samvelian, Pollet “When morphology does better than Syntax: The Ezafe construction in Persian,”