

Directionality and intervention in nominal concord: Evidence from Zazaki *ezafe*

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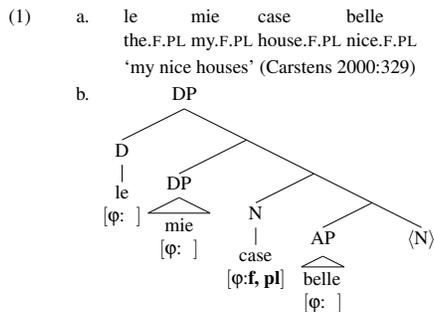
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1 Introduction

Does nominal concord arise through the same mechanism as verbal agreement?

- the same syntactic operation (Agree): Mallen (1997), Carstens (2000), Baker (2008), Danon (2011)
- a different (morphological) operation: Kramer (2009), Norris (2011)

Besides the fact that nominal concord often produces multiple reflexes of the same feature, it also appears to require the assumption that Agree can operate upward, while verbal agreement is typically taken to be downward (Carstens 2000:330).



In recent work, however, it has been argued that the directionality of verbal agreement might be more flexible than previously thought (Baker 2008, Zeijlstra 2012, Béjar and Rezac 2009):

- Baker (2008), for example, proposes that Agree may be upward as well as downward and that this may be a property subject to parametric variation.

- In a similar vein, Béjar and Rezac (2009) develop a model in which Agree can go downward and upward (though to a limited degree), but downward Agree is preferred.
- In work by Zeijlstra (2012) and Wurmbrand (2012), the idea is even explored that Agree may always be upward.

We show that nominal concord on Zazaki *ezafe* has the signature of bidirectional Agree: it operates first downwards and then upwards.

As a consequence, our data present an argument *both* for the idea that Agree is bidirectional and for the notion that nominal concord makes use of the same syntactic mechanic as verbal agreement (Mallen 1997, Carstens 2000, Baker 2008).

2 The *ezafe* construction in Zazaki

2.1 What is *ezafe*?

Many Iranian languages have a morpheme — called *ezafe* in the traditional literature — that links elements in the noun phrase:

- (2) *Persian (Southwest Iranian)*
 sag=e bozorg=e rāmin
 dog=EZ big=EZ Ramin
 'Ramin's big dog'
- (3) *Zazaki (Northwest Iranian)*
 kutik=ê Alik-i=ö girs
 dog=EZ.M.OBL Alik-OBL.M=EZ.M.NOM big
 'Alik's big dog' (ZB009)

We assume that the *ezafe* morpheme:

- is a head that cliticizes to its left
- forms a constituent with, and c-commands, a nominal dependent (AP or PP)

- (4) N[=EZ XP][=EZ XP]

Ezafe must form a syntactic constituent with the following *dependent* of the noun — a form of dependent marking, *pace* Nichols (1986) — for a couple of reasons:

1. Most traditional constituency tests are little help, but Philip (2012:37ff.) uses coordination to show that this is the right constituency. When the head noun is coordinated, there can only be one *ezafe* on the coordinated head:

- (5) a. Ez kîla(*=ê) o palto[=yê sia-i] vinen-a.
 1SG.NOM hat=EZ.M.OBL and coat=EZ.M.OBL black-OBL.M see.PRS-1SG
 'I see the black hat and coat.' (ZB011)

- b. Ez kıla(*=ê) o paltó[=yê Alik-i] vinen-a.
 1SG.NOM hat=EZ.M.OBL and coat=EZ.M.OBL Alik-OBL.M see.PRS-1SG
 ‘I see the Alik’s hat and coat.’ (ZB011)

Of course, when dependents are coordinated, you do not get a separate *ezafe* on each dependent:

- (6) Nıfıs[=ê Turkiya] o[*=yê Iran]-i xeili=o.
 population=EZ Turkey and=EZ.M.OBL Iran-OBL.M great=be.3SG.M
 ‘The population of Turkey and Iran is great.’ (ZB011)

But this might be attributed to the inability of coordinators to support clitics in general. (Pronominal clitics, for instance, cannot lean on a coordinator.) Since the second *ezafe* would not have a grammatical host, coordination of dependents can only be under the *ezafe* head.

2. In some Iranian languages where dependents *precede* the noun, *ezafe* shows up on the dependent:

- (7) *Gilaki (Northwest Iranian, Caspian)*
 xujir=e sabz=e kitāb
 good=EZ green=EZ book
 ‘good green book’ (Larson 2009:4)

For a unified account of *ezafe* across the Iranian languages, it must always form a syntactic constituent with the dependent — even when they follow the noun (e.g. Persian and Zazaki) and are possibly pronounced on the head.

We will abstract away from the details of the proper analysis of *ezafe*, though our assumptions are compatible with most *syntactic* treatments:

- case assigner: Samiiian (1983, 1994), Larson and Yamakido (2009)
- trigger of predicate inversion: den Dikken and Singhapreecha (2004), Kahnemuyipour (2006)

Our assumptions are not, however, compatible with a view of *ezafe* as a formative that is inserted onto heads at PF (Ghomeshi 1997).

2.2 Nominal structure in Zazaki

Case is realized overtly on pronouns and demonstrative determiners, as well as a (phrasal) suffix on noun phrases — but only for masculine singular and plural:

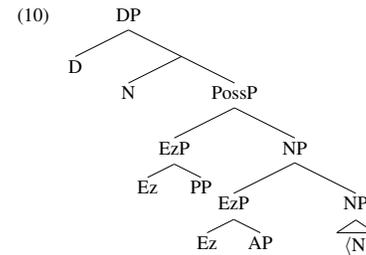
- (8) Case suffixes

	M	F	PL
nominative (absolute)	–	-e	-i
oblique (ergative)	-i	-e	-a

Possessors receive their own oblique case, distinct from the case of the entire possessive description:

- (9) a. [DP Ga[=yê Alik-i]] vaş wen-o.
 ox=EZ.M.OBL Alik-OBL.M grass eat.PRS-3SG.M
 ‘Alik’s ox is eating grass.’ (ZB012)
- b. Ez [DP kutik[=ê Alik-i]]|=o gırs]-i vinen-a.
 1SG.NOM dog=EZ.M.OBL Alik-OBL.M=EZ.M.NOM big-OBL.M see.PRS-1SG
 ‘I see Alik’s big dog.’ (ZB009)

We assume that possessors are embedded inside an oblique PP located in the specifier of a dedicated functional projection (Sportiche 1998), e.g. PossP.



The noun raises to head adjoint to a position above the possessor but below the determiner:

- (11) Ez [DP ê kutik=ê Fatık=o gırs-i] vinen-a.
 1SG.NOM that.OBL.M dog=EZ.M.OBL Fatık=EZ.M.NOM big-OBL.M see.PRS-1SG
 ‘I see that big dog of Fatık’s.’ (ZB009)

The noun must raise — as opposed to the noun phrase being left headed in Zazaki — because attributive adjectives have the same linear order they do in right-headed languages:

- (12) Quality < Size < Shape < Color < Provenance (Sproat and Shih 1988)

- (13) a. [DP A bız=a rndek=a qışqek-e] vaş wen-a.
 that.F goat=EZ.F beautiful=EZ.F little-F grass eat.PRS-3SG.F
 ‘That beautiful little goat is eating grass.’ (ZB009)
- b. Ez [DP a masa=wa gırs=a glorn-e] vinen-a.
 1SG.NOM that.F table=EZ.F big=EZ.F round-F see.PRS-1SG
 ‘I see that big round table.’ (ZB009)
- c. Ez [DP a masa=wa glorn=a spi-e] vinen-a.
 1SG.NOM that.F table=EZ.F round=EZ.F white-F see.PRS-1SG
 ‘I see that round white table.’ (ZB009)
- d. Ez [DP a bız=a spi=a fransız-e] vinen-a.
 1SG.NOM that.F table=EZ.F white=EZ.F French-F see.PRS-1SG
 ‘I see that white French goat.’ (ZB009)

2.3 Concord on *ezafe*

The shape of *ezafe* can vary both with number and gender (ϕ -features) and case. Todd (1985) locates occurrences of *ezafe* in one of two paradigms depending on whether it introduces an adjective or a possessor:

(14)

	WITH ADJECTIVES			WITH POSSESSORS		
	M	F	PL	M	F	PL
nominative	=o	=a	=ê	=ê	=a	=ê
oblique	=ê	=a	=ê	=ê	=a	=ê

Regardless of whether *ezafe* introduces an adjective or a possessor, its shape varies in ϕ -features:

- (15) a. [DP O ga[=wo sur[=o gırs]] m1 vinen-o.
that.M.NOM ox=EZ.M.NOM red=EZ.M.NOM big 1SG.OBL see.PRS-3SG.M
'That big red ox (m.) sees me.'
- b. [DP A mang[=a spi][=a gırs]]-e m1 vinen-a.
that.F cow=EZ.F white=EZ.F big-F 1SG.OBL see.PRS-3SG.F
'That big white cow (f.) sees me.' (ZB012) with an adjective
- (16) a. [DP Ga[=yê Alik-i]] vaş wen-o.
ox=EZ.M.OBL Alik-OBL.M grass eat.PRS-3SG.M
'Alik's ox (m.) is eating grass.' (ZB012)
- b. [DP Biz[=a Alik-i]] vaş wen-a.
goat=EZ.F Alik-OBL.M grass eat.PRS-3SG.F
'Alik's goat (f.) is eating grass.' (ZB009) with a possessor

And, when *ezafe* introduces an adjective, it also inflects for case:

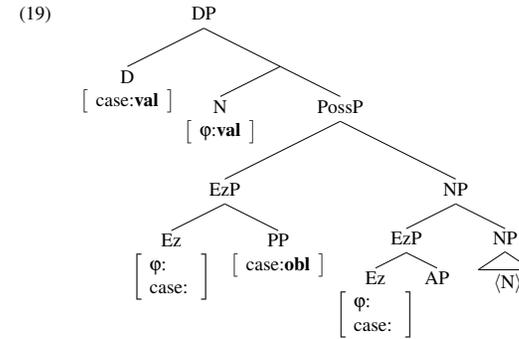
- (17) a. [DP Kutik[=o gırs]] m1 vinen-o.
dog=EZ.M.NOM big 1SG.OBL see.PRS-3SG.M
'The big dog (m. nom.) sees me.'
- b. Ez [DP kutik[=ê gırs]-i] vinen-a.
1SG.NOM dog=EZ.M.OBL big-OBL.M see.PRS-1SG
'I see the big dog (m. obl).'

But when *ezafe* introduces a possessor, it can *only* inflect for oblique case, regardless of whether the maximal DP itself receives nominative or oblique case:

- (18) a. [DP Kutik[=ê Alik-i]] goşt wen-o.
dog=EZ.M.OBL Alik-OBL.M meat eat.PRS-3SG.M
'Alik's dog (m. nom.) is eating meat.'
- b. Ez [DP kutik[=ê Alik-i]] vinen-a.
I dog=EZ.M.OBL Alik-OBL.M see.PRS-1SG
'I see Alik's dog (m. obl).'

We assume that *ezafe* bears unvalued ϕ - and case features that must be valued. Its case realization is invariant when it introduces a possessor because it agrees in oblique with the possessor.

The Main Idea: *Ezafe* first agrees with the dependent and then with the higher heads in the DP.

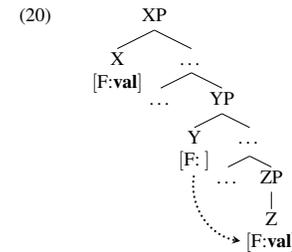


3 The proposal

To implement this idea, we propose the following:

- Nominal concord is *syntactic* (Mallen 1997, Carstens 2000, Baker 2008), and established by Agree.
- Agree is *bidirectional* and can operate both upward and downward (Baker 2008).

Note that, under a derivational view, downward Agree ends up being favored over upward Agree if Agree is bidirectional, simply because the relevant configuration for downward Agree is established first. So, in a situation such as (20), downward Agree is preferred.



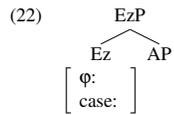
This is just because downward Agree is possible before upward Agree is, when the probe is merged to form YP. For *ezafe*, this translates into a preference for Agree with the complement of *ezafe* over Agree with the head noun, just because the *ezafe* head merges with the complement before it merges with the head noun.

3.1 Concord on *ezafe* with adjectives

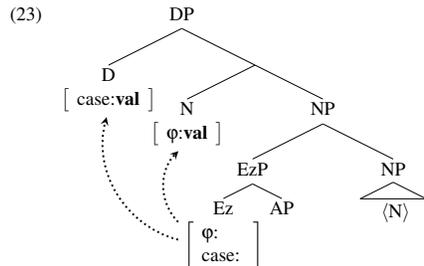
To see this, let's first look at concord with *ezafe* introduces adjectives. The *ezafe* that introduces adjectives inflects for the case and ϕ -features of the noun:

- (21) Ez [DP kutik[=ê girs]-i] vinen-a.
 1SG.NOM dog=EZ.M.OBL big-OBL.M see.PRS-1SG
 'I see the big dog (m. obl).'

When the *ezafe* merges with the adjective, it first probes the AP for ϕ -features and case. Because adjectives do not carry these features, no Agree relation is established.



When the noun and D are merged, however, these features become available for Agree. The *ezafe* then probes upward when this happens and establishes concord (23).



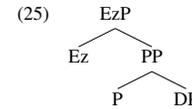
In this way, *ezafe* ends up agreeing with the head noun for case and ϕ -features.

3.2 Concord on *ezafe* that introduce possessors

Ezafe that introduce possessors are in the oblique form, but agree in ϕ -features with the noun:

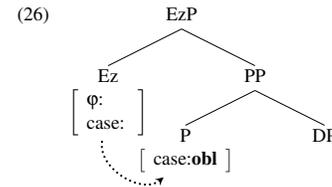
- (24) [DP Kutik[=ê Alik-i]] gošt wen-o.
 dog=EZ.M.OBL Alik-OBL.M meat eat.PRS-3SG.M
 'Alik's dog (m. nom.) is eating meat.'

We argue that this is where the preference for downward Agree emerges. In our syntax, possessors are introduced by a null P and merged with the *ezafe* head (25).



Because possessors carry case and ϕ -features, the fact that *ezafe* probes its complement first now makes a difference for concord.

When this happens, the *ezafe* head copies the case feature off P, entering into case concord with the possessor. Crucially, however, we propose that obliques are inaccessible for ϕ -agreement in Zazaki, which we implement here by saying that P is a phase head that makes the DP inaccessible.



This restriction on ϕ -agreement is attested in many other languages, for example in defective intervention with datives in Icelandic (see Rezac 2008, Bobaljik 2008, Preminger 2011).

In addition, we have independent evidence that obliques do not trigger ϕ -agreement in Zazaki, which is split ergative by tense. In the past tense, transitive subjects receive oblique case, while intransitive subjects and transitive objects are unmarked (get nominative case) (27a–b).

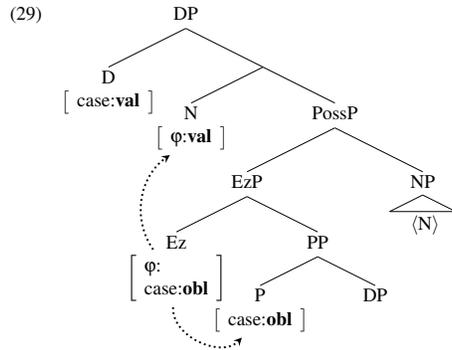
- (27) a. Ez vazd-a.
 1SG.NOM run.PAST-1SG
 'I ran.' (ZA004)
 b. **Kutik-i** ez guret-a.
dog-OBL.M 1SG.NOM bite.PAST-1SG
 'The dog bit me.' (ZB008)

In the nonpast tense, transitive and intransitive subjects are unmarked, while objects get oblique case (28a–b).

- (28) a. Ez vazden-a.
 1SG.NOM run.PRS-1SG
 'I run.' (ZA004)
 b. Ez **lajik-i** vinen-a.
 1SG.NOM **boy-OBL.M** see.PRS-1SG
 'I see the boy.' (ZB006)

But agreement on the verb is *always with the highest unmarked argument*. In the past tense, the oblique argument never participates in agreement, even though it is closer to T than the unmarked argument (27b).

Zazaki independently does not allow ϕ -agreement with oblique nominals. This prevents *ezafe* from entering into ϕ -agreement with the possessor. It can get those features from the head noun, however, by probing upward to N.



In this way, the *ezafe* enters into a split pattern of concord: it inflects for the case features of the possessor, but the ϕ -features of the noun.

4 Other possible evidence that nominal concord is syntactic

There is some other evidence that suggests that nominal concord is syntactic in Zazaki.

When there are multiple nominal dependents, only the highest *ezafe* inflects for oblique case. Regardless of whether the highest *ezafe* introduces a possessor (30a) or an adjective (30b), all following *ezafe* appear in the nominative:

- (30)
- a. Ez_[DP] kutik[= \hat{e} Alik=i][=o girs]]=i vinen-a.
 I dog=EZ.M.OBL Alik=OBL.M=EZ.M.NOM big=OBL.M see.PRS-1SG
 ‘I see Alik’s big dog (m. obl.).’ (ZB009)
- b. Ez_[DP] \hat{e} kutik[= \hat{e} girs]][=o rind]]=i vinen-a.
 I that.M.OBL dog=EZ.M.OBL big=EZ.M.NOM good=OBL.M see.PRS-1SG
 ‘I see that big, good dog (m. obl.).’

One possible interpretation of these facts is that the highest dependent intervenes between D and all lower dependents. In other words, only D and the most local *ezafe* are able to Agree.

Either because the case feature of the highest dependent’s *ezafe* is valued probing downward for the oblique case feature of the PP (30a) or because it is valued by probing upward for the oblique case feature of D (30b), it is valued. Consequently, the *ezafe* of lower dependents are not able to Agree past it, and they receive default (nominative) case.

It is difficult to jibe this idea with traditional notions of the locality of Agree. Whether Agree operates downward or upward, the probe must be valued by the closest goal. That is, there can be no intervening *goals*. But in (30a–b), the putative intervention effect is created by multiple *probes* looking (upward) for the same goal.

5 Nominal concord in other languages

This logic for nominal concord extends across languages. As Baker (2008) points out, a bidirectional approach can accommodate the fact that adjectives can agree with a noun in many different configurations: when embedded in the noun (31a–b), in predicative position (31c), and with a noun in the complement of a raising adjective (31d–e).

- (31)
- a. *Icelandic*
 fjór-ir litl-ir snigl-ar
 four-NOM.M.PL little-NOM.M.PL snail-NOM.M.PL
 ‘four little snails’ (Norris 2011:205)
- b. *Swahili*
 wa-toto wa-zuri
 2-children 2-good
 ‘beautiful children’ (Baker 2008:18)
- c. *Mi-zigo hii mi-zito.*
 4-loads these 4-heavy
 ‘These loads are heavy.’ (Baker 2008:2)
- d. *Icelandic*
 Það eru víst líkleg-ir til að verða valdir einhverjir komúnistar í stjórnina.
 there are been likely-M.PL to be elected some communists.M.PL to board.the
 ‘There are likely to be some communists elected to the board.’ (Baker 2008:70)
- e. *Italian*
 Ne sono ormai probabili le dimissioni.
 of.them are already likely.M.PL the resignations.M.PL
 ‘Their resignations are already likely.’ (Baker 2008:69)

Since adjectives do not contribute any case or ϕ -features themselves, we expect directionality to depend purely on environment.

Where our approach makes interesting predictions is with arguments of the noun, since this involves multiple sources of case and ϕ -features.

In particular, we expect to find both upward and downward patterns of agreement, depending on properties of the argument, the head noun, and the position of the probe. If the probe is in the nominal spine, we observe downward agreement with the possessor (32a–c):

- (32)
- a. *Turkish*
 ben-im kitab-im
 I-GEN book-1SG
 ‘my book’ (Kornfilt 1997:185, 230)
- b. *Hungarian*
 az én kalap-om
 the 1SG.NOM hat-POSS.1SG
 ‘my hat’ (Szabolcsi 1994:186)
- c. *Finnish*
 iso-ssa talo-ssa-ni
 big-INE house-INE-POSS.1SG
 ‘in my big house’ (Norris 2011:212)

But upward agreement with the noun should also be possible, just as in Zazaki. There are indeed many languages in which possessors inflect for features of the head noun (e.g. Spanish, Italian, Swahili). In addition, there are a bunch of cases in which an internal argument in a PP shell is accompanied by an agreement morpheme that probes up to the head noun. This type of effect is famously observed in Swahili and is clearly a case of upward agreement:

- (33) *Swahili*
- a. *kiti wa mtoto
7chair 1of 1child
Intended: ‘the child’s chair’
- b. kiti cha mtoto
7chair 7of 1child
‘the child’s chair’ (Carstens 2000:232)

It is also found in Dinka:

- (34) w̥ɛt ké Nhíalic
children PL.PREP God
‘children of God’

For these, we propose that the same restriction we advanced for Zazaki is operative. The oblique possessor or internal argument is shielded from the concord host by a phase boundary, so that this latter head probes upward and agrees with the head noun.

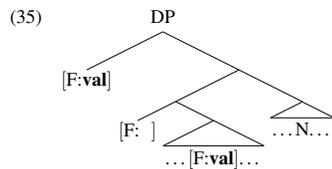
As a result, we see both upward and downward agreement processes involving arguments of the noun across languages. This makes sense if Agree is in principle bidirectional.

6 Concluding remarks

In this talk, we have shown that *ezafe* concord offers evidence that:

- Nominal concord is syntactic in nature (Mallen 1997, Carstens 2000, Baker 2008)
- Agree is bidirectional (Baker 2008, Béjar and Rezac 2009)

Zazaki *ezafe* offers the unique structural configuration in which these properties can emerge, because it combines with complements that have very different featural make-ups. In addition, because it sits just within striking distance of two agreement targets, the effect of competition becomes visible.



Acknowledgements

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References

- Baker, Mark C. 2008. *The syntax of agreement and concord*. Cambridge: Cambridge University Press.
- Béjar, Susana and Milan Rezac. 2009. Cyclic agree. *Linguistic Inquiry* 40:35–73.
- Bobaljik, Jonathan. 2008. Where’s phi? Agreement as a post-syntactic operation. In *Phi theory: Phi-features across interfaces and modules*, eds. Daniel Harbour, David Adger, and Susan Béjar, 294–328. Oxford: Oxford University Press.
- Carstens, Vicki. 2000. Concord in Minimalist theory. *Linguistic Inquiry* 31:319–355.
- Danon, Gabi. 2011. Agreement and DP-internal feature distribution. *Syntax* 14:297–317.
- den Dikken, Marcel and Pornsiri Singhapreecha. 2004. Complex noun phrases and linkers. *Syntax* 7:1–54.
- Ghomeshi, Jila. 1997. Non-projecting nouns and the *ezafe* construction in Persian. *Natural Language and Linguistic Theory* 15:729–788.
- Kahnemuyipour, Arsalan. 2006. Persian *ezafe* construction: Case, agreement, or something else. In *Proceedings of the 2nd Workshop on the Persian Language and Computer*. Tehran: University of Tehran.
- Kornfilt, Jaklin. 1997. *Turkish*. London: Routledge.
- Kramer, Ruth. 2009. Definite markers, phi-features, and agreement: A morphosyntactic investigation of the Amharic DP. Ph.D. Dissertation, University of California, Santa Cruz.
- Larson, Richard. 2009. Chinese as a reverse *ezafe* language. *Yuyanxue Luncong* 39:30–85.
- Larson, Richard and Hiroko Yamakido. 2009. *Ezafe* and the deep position of nominal modifiers. In *Adjective and adverbs: Syntax, semantics, and discourse*, eds. Louise McNally and Christopher Kennedy, 43–70. Oxford: Oxford University Press.
- Mallen, Enrique. 1997. A Minimalist approach to concord in noun phrases. *Theoretical Linguistics* 23:49–77.
- Nichols, Johanna. 1986. Head-marking and dependent-marking grammar. *Language* 62:56–119.
- Norris, Mark. 2011. Towards an analysis of concord (in Icelandic). *West Coast Conference on Formal Linguistics (WCCFL)* 29:205–213.
- Philip, Joy. 2012. Subordinating and coordinating linkers. Ph.D. Dissertation, University College London.
- Preminger, Omer. 2011. Agreement as a fallible operation. Ph.D. Dissertation, Massachusetts Institute of Technology.
- Rezac, Milan. 2008. Phi-agree and theta-related case. In *Phi theory: Phi-features across interfaces and modules*, eds. Daniel Harbour, David Adger, and Susan Béjar, 83–129. Oxford: Oxford University Press.
- Samiian, Vida. 1983. Origins of phrasal categories in Persian: An X-bar analysis. Ph.D. Dissertation, University of California, Los Angeles.
- Samiian, Vida. 1994. The *ezafe* construction: Some implications for the theory of X-bar syntax. In *Persian studies in North America: Studies in honor of Mohammad Ali Jazayery*, ed. Mehdi Marashi, 17–42. Bethesda, MD: Iranbooks.
- Sportiche, Dominique. 1998. Movement, agreement, and case. In *Partitions and atoms of clause structure: Subjects, agreement, case, and clitics*, 88–243. New York: Routledge.
- Sproat, Richard and Chinlin Shih. 1988. Prenominal adjective ordering in English and Mandarin. *Proceedings of the Northeast Linguistic Society* 18:465–489.
- Szabolcsi, Anna. 1994. The noun phrase. In *The syntactic structure of Hungarian*, ed. Ferenc Kiefer, volume 27 of *Syntax and Semantics*. New York: Academic Press.
- Todd, Terry. 1985. A grammar of Dimili (also known as Zaza). Ph.D. Dissertation, University of Michigan.
- Wurmbrand, Susi. 2012. Agree(ment): Looking up or looking down? Ms., Talk presented in Agreement Seminar.
- Zeijlstra, Hedde. 2012. There is only one way to agree. Ms., University of Amsterdam.