

The syntax of nominal concord: What *ezafe* in Zazaki shows us*

Maziar Toosarvandani & Coppe van Urk

Massachusetts Institute of Technology

1. Introduction

We investigate nominal concord in Zazaki, a Northwestern Iranian language spoken in Turkey. The form of the *ezafe* morpheme in Zazaki—a linker that introduces dependents of the noun—varies in ϕ -features (gender and number) and case. We identify an unexpected restriction on nominal concord when the *ezafe* introduces a possessor. While the case feature of possessors must be shared through nominal concord, their ϕ -features cannot be.

We argue that this restriction arises because nominal concord is sensitive to derivational timing and is interrupted by phase boundaries. Since these are properties of verb agreement also, we propose that nominal concord is established by Agree, the same syntactic mechanism that derives verb agreement (cf. Mallen 1997, Carstens 2000, Baker 2008). In particular, we take Agree to operate upward and downward, with a preference for the latter.

After showing how this bidirectional Agree account derives nominal concord in Zazaki, we suggest how it might also explain some striking differences between nominal concord and verb agreement identified by Norris (2011).

2. The *ezafe* morpheme in Zazaki

Like many other Iranian languages, Zazaki has the *ezafe*, a linker morpheme that introduces dependents of the noun. This includes both attributive adjectives (1a) and possessors (1b).¹

- (1) a. Ju bız=**a** gırs=**e** vaş wen-a.
 one goat(F)=EZ **big** grass eat.PRS-3SG.F

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¹All the data in this paper comes from working with one native speaker of Zazaki residing in the United States. We use the orthography of Todd (2002), which is similar to the Latin alphabet used for Turkish.

‘A big goat is eating grass.’

- b. **Bız=a** **Alık=i** vaş wen-a.
 goat(F)=EZ **Alık(M)=OBL.M.SG** grass eat.PRS-3SG.F
 ‘Alık’s goat is eating grass.’

In Zazaki, the *ezafe* introduces a nominal dependent to its right but cliticizes onto the word immediately to its left. When there are two attributive adjectives, for example, the first *ezafe* leans on the head noun, while the second *ezafe* leans on the first adjective:

- (2) O ga=**wo** **sur=o** **gırs** mı vinen-o.
 that.M.NOM ox(M)=EZ **red=EZ big** 1SG.OBL see.PRS-3SG.M
 ‘That big red ox sees me.’

In Zazaki, the form of the *ezafe* varies in ϕ -features (number and gender) and case. Regardless of the dependent, the form of the *ezafe* always varies with the ϕ -features of the head noun. In (3a–b), it introduces an adjective, and in (4a–b), it introduces a possessor.

- (3) a. **Kutık=o** **gırs** mı vinen-o.
 dog(M)=EZ.M.SG.NOM **big** 1SG.OBL see.PRS-3SG.M
 ‘The big dog sees me.’
- b. Ju **bız=a** **gırs=e** vaş wen-a.
 one goat(F)=EZ.F.SG **big**=F.SG grass eat.PRS-3SG.F
 ‘A big goat is eating grass.’
- (4) a. **Ga=yê** **Fatık=e** vaş wen-o.
 ox(M)=EZ.M.SG.OBL **Fatık(F)=F.SG** grass eat.PRS-3SG.M
 ‘Fatık’s ox is eating grass.’
- b. Ez **bız=a** **Alık=i** vinen.
 1SG.NOM goat(F)=EZ.F.SG **Alık(M)=OBL.M.SG** see.PRS.1SG
 ‘I see Alık’s goat.’

Crucially, the *ezafe* ignores the ϕ -features of the possessor. In (3a–b), for instance, it shares the masculine singular features of the noun *gâ* ‘ox’, even though the possessor is feminine, *Fatık* ‘Fatık’. (Note that gender is only distinguished in the singular. When nouns are plural, there is no contrast between masculine and feminine in nominal concord, or for that matter anywhere else in the language.)

Zazaki also has a two-way case distinction (nominative vs. oblique), though it is realized morphologically only on masculine (singular) nouns.² The *ezafe* morpheme is sensitive to this distinction, but it is realized differently depending on whether it introduces an

²Zazaki is split ergative language by tense. The nominative case marks all subjects in the nonpast tense and absolutive arguments (the subject of intransitives and objects) in the past tenses. The oblique case marks objects in the nonpast tense and the ergative argument in the past tenses (the transitive subject). In addition, in all tenses, the oblique case appears on objects of postpositions, and as we will see below on possessors as well. See §3.4 for additional discussion and examples.

(Samiiian 1983, Larson and Yamakido 2009) a trigger of predicate inversion (den Dikken and Singhapreecha 2004), and a head marker (Ghomeshi 1997, Samvelian 2007a,b).

We will not take a stand on this issue here, though we will assume a specific constituency structure for the *ezafe*, in which it forms a constituent with the dependent it introduces. While we cannot discuss them in detail here, this is compatible with most, but not all, current theories of the *ezafe*.³ It is hard to show this with some traditional constituency tests. Movement, for instance, is rare, if not impossible inside, or out of, noun phrases. But we can use coordination and ellipsis.

Starting with coordination, Philip (2012:37f.) argues that if the *ezafe* did not form a constituent with its dependent—if instead it formed a constituent with the preceding element—then two coordinated nouns should each be able to bear their own *ezafe*. This is not possible, whether the *ezafe* introduces a possessor (7a) or an adjective (7b).

- (7) a. Ez [kila(*=yê) o palto=yê sia]=i vinen-a.
 1SG.NOM hat=EZ and coat=EZ black=OBL.SG.M see.PRS-1SG
 ‘I see the black hat and coat.’
- b. Ez [kila(*=yê) o palto=yê Alik=i] vinen-a.
 1SG.NOM hat=EZ and coat=EZ Alik=OBL.SG.M see.PRS-1SG
 ‘I see Alik’s hat and coat.’

In fact, there can be but a single *ezafe* when the head noun is coordinated. Since the *ezafe* does not form a constituent with the head noun, then, we can conclude that it must form a constituent with the dependent.⁴

There is another reason to think that the *ezafe* forms a constituent with the dependent. It is not deleted when ellipsis applies inside DPs. In (8), the NP has been deleted under identity with a preceding NP, leaving an attributive adjective behind.

- (8) Ez kutik-an=ê Alik=i-ra [ju=o gırs] vinen-a.
 1SG.NOM dog-PL=EZ Alik=OBL.M.SG-of one=EZ big see.PRS-1SG
 ‘Of Alik’s dogs, I see a big one.’

If the *ezafe* introducing the adjective formed a constituent with the head noun, it should be

³In particular, it is not compatible with the theory that the *ezafe* is a head marker (Ghomeshi 1997, Samvelian 2007a,b). If the *ezafe* marks the head noun, how it can it form a constituent with the dependent? Our arguments below for precisely this constituency structure thus comprise an argument against Ghomeshi and Samvelian’s theory of the *ezafe*.

⁴A small caveat. When dependents themselves are coordinated, it is not possible for an *ezafe* to occur inside each dependent:

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

But this follows from an independent property of clitics. They cannot be hosted by coordinators in general, e.g. pronominal clitics (Selkirk 1972:133). Coordination that would be large enough to contain an *ezafe* in the second coordinate is ruled out, because then it would have to lean on the coordinator to its left, as in (i).

deleted along with it. Instead, it survives ellipsis and leans onto the indefinite determiner *ju* ‘a’ (lit. ‘one’), which in the nonelliptical counterpart of (??) precedes the head noun:

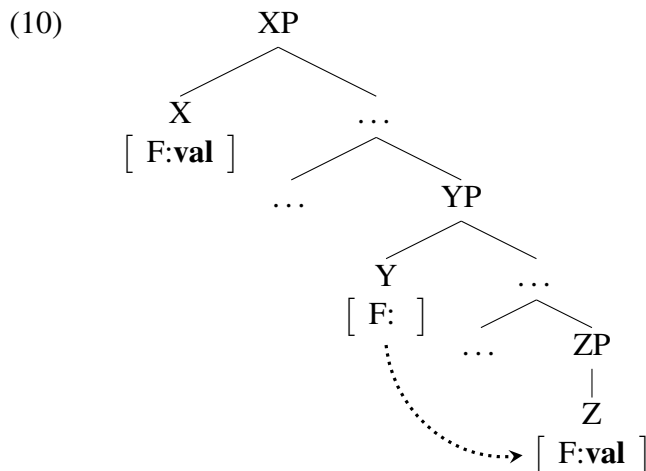
- (9) [DP Ju kutik=o girs] m1 vinen-o.
 one dog=EZ.M.SG.NOM big 1SG.OBL see.PRS-3SG.M
 ‘A big dog sees me.’

We conclude that each *ezafe* forms a constituent with a nominal dependent. To remain neutral about other functions it might have, we call this constituent EzP (for *ezafe* phrase).

3.2 Bidirectional Agree

We propose that nominal concord arises through the syntactic operation Agree. Specifically, we take Agree to be bidirectional (Adger 2003, Baker 2008). A probe bearing unvalued case or ϕ -features can either c-command or be c-commanded by a goal that bears the matching valued features.

In addition, we posit that Agree must apply *as soon as it can*, so that downward Agree is preferred over upward Agree. This is simply because the relevant context for downward Agree is established first. Consider, for instance, a configuration where a probe (Y) has two accessible goals, one that it c-commands (Z) and one that it is c-commanded by (X):



A (downward) Agree relation between Y and Z is established first, since at the stage in the derivation when Y is merged, X has not been merged yet. Of course, if for some reason Y were not able to Agree with Z, once X was merged, Y would Agree (upward) with it.

Our Agree-based account of nominal concord derives the pattern we have described in Zazaki. The preference for downward Agree means that the *ezafe* will first probe the nominal dependent it introduces, and hence c-commands. If it cannot find a suitable goal inside its dependent, the *ezafe* can then probe upward. We show how this works first for adjectives and then for possessors.

3.3 Nominal concord with adjectives

Recall that when the *ezafe* introduces an adjective, it inflects for both the φ - and case features of the head noun:

- (11) Ez [kutik [_{EzP} =**ê** **girs**]=i vinen-a.
 1SG.NOM dog(M) =EZ.M.SG.OBL big=OBL.M.SG see.PRS-1SG
 ‘I see the big dog.’

For us, this arises because the *ezafe* cannot find a suitable goal inside its c-command domain. So it probes upward to get its φ - and case features valued by the head noun.

This works in the following way. When the *ezafe* merges with the adjective, it first probes the AP for φ - and case features. But because adjectives do not inherently carry these features, no Agree relation can be established:

- (12)
-

After the EzP is merged into the DP and after N and D are merged, the inherent φ - and case features they introduce are available to Agree. The *ezafe* probes upward to find these and is valued by them:

- (13)
-

Consequently, the *ezafe* ends up Agreeing with the head noun in case and φ -features.

We assume that N raises because there is clear evidence from adjective ordering (omitted for reasons of space) that the DP in Zazaki is left branching, as in English. To derive the correct linear order of the head noun relative to possessors and adjectives, this means that N must move leftward to a position where it would c-command the *ezafe*. Sometimes the inherent φ -features of noun are assumed to be introduced in dedicated functional projections, such as Num(ber) or Gen(der) (Ritter 1991). If so, then the question of whether N

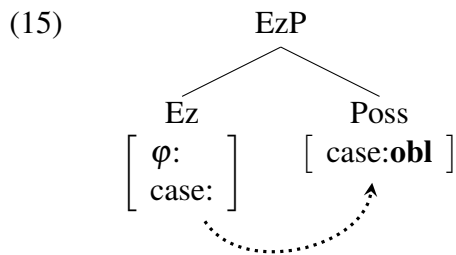
raises or not is irrelevant, since these functional heads could be located above the possessor and adjectives, so that *ezafe* still Agrees upwards with them.⁵

3.4 Nominal concord with possessors

We will now turn to the more complicated concord pattern exhibited by possessors. The *ezafe* that introduces possessors is invariably realized in the oblique form, even though it agrees in φ -features with the head noun:

- (14) [Ga [EzP =yê Alik=i]] vaş wen-o.
 ox(M) =EZ.M.SG.OBL Alik(M)=OBL.M.SG grass eat.PRS-3SG.M
 ‘Alik’s ox is eating grass.’

The preference for downward Agree now comes into play. Because the possessor DP itself bears oblique case, the *ezafe* can find something to Agree with inside its c-command domain. When it probes the possessor, whose category we are being vague about on purpose, its case feature is valued as oblique:



Crucially, however, we propose that arguments marked with the oblique case are *inaccessible* for φ -agreement in Zazaki. As a result, the φ -features of the possessor are not copied onto the *ezafe*.

In general, oblique case marked arguments are impenetrable to Agreement in φ -features in Zazaki. The language is split ergative by tense. In the past tenses, transitive subjects receive the oblique case, while objects and intransitive subjects get the (unmarked) nominative case (16a–b). In the nonpast tense, transitive and intransitive subjects bear nominative case, while objects receive the oblique case (17a–b).

- (16) a. Ez vazd-a.
 1SG.NOM run.PAST-1SG
 ‘I ran.’
 b. Kutik=i ez guret-a.
 dog=OBL.M.SG 1SG.NOM bite.PAST-1SG
 ‘The dog bit me.’

⁵We also assume that the external case assigned to a DP is marked on the D head. This assumption is not crucial for our proposal. Since N raises to a position above the possessor and any adjectives, the valued case feature could also reside on N itself.

- (17) a. Ez vazden-a.
 1SG.NOM run.PRS-1SG
 ‘I run.’
- b. Ez layik=i vinen-a.
 1SG.NOM boy=OBL.M.SG see.PRS-1SG
 ‘I see the boy.’

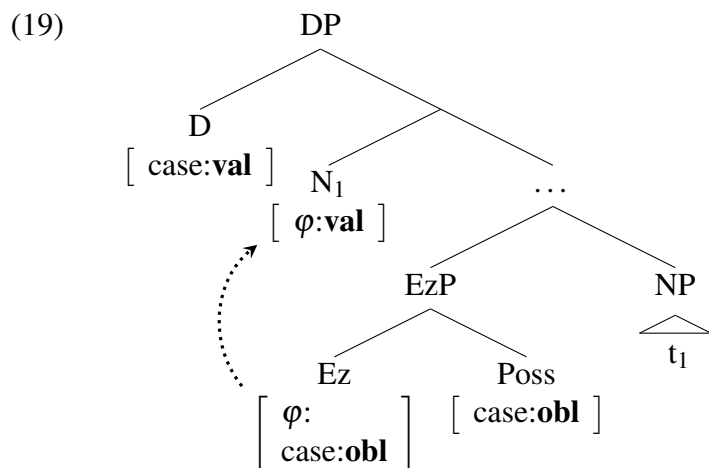
In other words, regardless of tense, the verb always agrees with the highest argument *that does not bear oblique case*. In the nonpast tense, this means that verb agreement is always with the subject. In the past tenses, however, since the transitive subject bears the oblique case, it is the object that agrees with the verb (16b).

This restriction on \varnothing -agreement is familiar from other languages. Bobaljik (2008), for example, argues that agreement is constrained crosslinguistically by the accessibility hierarchy in (18) (see also Rezac 2008 and Preminger 2011).⁶

- (18) **Agreement accessibility hierarchy (Bobaljik 2008)**
 nominative/absolutive \gg ergative/accusative \gg lexical cases

Just as we saw in Zazaki, it is generally possible for arguments bearing nominative case to agree in \varnothing -features. But languages differ as to whether arguments bearing oblique case, which are lower on this accessibility hierarchy, may also enter into agreement relations.

Since the *ezafe* is prevented from entering into \varnothing -agreement with the possessor, it must instead probe upward to get those features from the head noun:



This produces a split pattern of nominal concord: the *ezafe* inflects for the case features of the possessor but the \varnothing -features of the head noun.

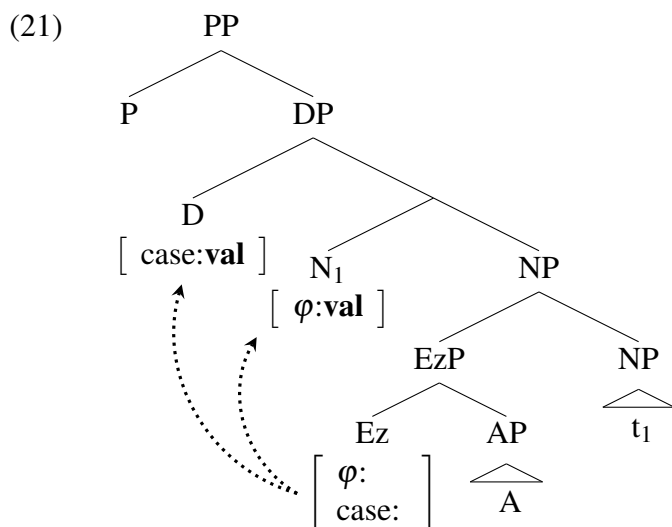
⁶Bobaljik (2008) adopts Marantz’s (2000) postsyntactic view of case, according to which nominative and absolutive are unmarked cases and ergative and accusative are dependent cases. This is why these cases pattern together. Whether we adopt this here is not important, and so we adapt Bobaljik’s terminology slightly.

To capture this restriction on ϕ -agreement with oblique case marked arguments more precisely, we posit that possessors in Zazaki are introduced by a null P, which assigns them oblique case. In addition, we propose that this P introduces a phase boundary, which renders the possessor DP and its ϕ -features inaccessible to Agree. Since P as the case assigner carries a valued case feature, it can enter into an Agree relation with the *ezafe*.

An advantage of our proposal is that it explains why the *ezafe* that introduce adjectives can still agree in ϕ -features with the head noun of an oblique case marked DP, as in (20).

- (20) Ez [kutik [EzP =ê girs]]=i vinen-a.
 1SG.NOM dog(M) =EZ.M.SG.OBL big=OBL.M.SG see.PRS-1SG
 ‘I see the big dog.’

Here the *ezafe* is *inside* the oblique argument. As a result, we do not expect the phase boundary introduced by the null P to affect whether the head noun’s ϕ -features are accessible to it. The *ezafe* can probe upward and Agree with N without crossing a phase boundary:



We find support for our proposal from a similar pattern of nominal concord in Swahili. As in other Bantu languages, it has a linker morpheme, the so-called associative morpheme, which like the *ezafe* introduces possessors and other DP arguments of the noun (Van de Velde, to appear). The form of the associative morpheme varies in noun class (or gender). Importantly, the associative morpheme can only participate in nominal concord with the head noun (22a)—never with the possessor (22b) (Carstens 2000:334).

- (22) a. kiti **cha** mtoto
 7chair 7LNK 1child
 ‘the child’s chair’
 b. *kiti **wa** mtoto
 7chair 1LNK 1child
 Intended: ‘the child’s chair’ (Carstens 2000:334)

This follows if the possessor in Swahili is introduced inside a PP that blocks agreement in φ -features. Just as in Zazaki, the associative morpheme will Agree upward with the head noun instead.

4. Conclusion and further issues

We have proposed that nominal concord in Zazaki arises from the same syntactic mechanism that derives verb agreement. In particular, we suggested that this mechanism is a bidirectional version of Agree (Adger 2003, Baker 2008), which is subject to the effects of derivational timing and phase boundaries.

In this model, verb agreement and nominal concord make use of the same mechanisms. Norris (2011:206) argues, however, that nominal concord actually behaves differently from verb agreement in a variety of ways. For instance, in verb agreement, inherent features are located on an argument, e.g. the subject or object DP, and they are shared with a head, the verb. In contrast, in nominal concord, the inherent features are found on a head—the noun itself—and they are shared with a phrasal dependent.

Why in nominal concord would only the head noun be able to share its inherent features? We argued that, in fact, it is not. In Zazaki, when the *ezafe* introduces a possessor, it shares the case features of the possessor—a dependent—rather than the head noun itself. We proposed that this arises because the *ezafe* can Agree downward with the possessor, getting its oblique case feature. Thus, the property that Norris identifies is not actually a general property of nominal concord.

But it does hold for nominal concord involving φ -features. When the *ezafe* introduces a possessor, it still shares the φ -features of the head noun, even though it agrees with the dependent in case. This arises, we proposed, because arguments bearing oblique case are impenetrable to Agree in φ -features. Specifically, we suggested that they are embedded under a (null) P, which puts a phase boundary between the *ezafe* and the possessor.

So in the end nominal concord does not end up being that much different from verb agreement. The superficial difference between them disappears once we look more closely at the specific features involved in nominal concord and the syntactic configurations in which they occur. Because the *ezafe* in Zazaki agrees in case features and c-commands the nominal dependent it introduces, it shows us that nominal concord can transfer inherent features from a dependent, just as verb agreement can.

This general strategy can be applied, we believe, to some other superficial differences that Norris identifies between nominal concord and verb agreement:

1. In verb agreement, there is usually a limited number of realizations for any given feature. The person and φ -features of the subject are usually realized just on the verb. In contrast, in nominal concord, there are often several realizations of a feature. Case and φ -features can be manifested on the determiner, the possessor, other nominal arguments, as well as an infinite number of adjectives.
2. The features usually involved in verb agreement are person and φ -features. In contrast, in nominal concord, person features are never involved. Instead, it is usually *case* and φ -features that are shared.

Our Agree-based approach to nominal concord accounts straightforwardly for at least the first difference between nominal concord and verb agreement.

Agree is usually taken to be a subject to c-command and intervention. A probe must Agree with the closest goal it c-commands; there can be no intervening element bearing the relevant feature (Chomsky 2000:122). This leads to a crucial difference between downward and upward Agree. In particular, there will not generally be a situation in which multiple probes enter into a downward Agree relation for the same feature with one goal, because one of these probes will necessarily act as an intervener for the other. In contrast, multiple upward Agree relations with the same goal are possible without intervention, since both probes may be embedded such that there are no c-command relations between them.

If we then take Agree in the verbal domain to generally be downward and Agree in the nominal domain to generally be upward, we can gain some insight into this surface difference between verbal agreement and nominal concord: this simply follows from conditions on Agree.

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Department of Linguistics and Philosophy
Massachusetts Institute of Technology
32-D808
Cambridge, MA 02139

toosarva@mit.edu
cvanurk@mit.edu