Agreement in Zazaki and the nature of nominal concord

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Abstract

Does a single grammatical mechanism underlie both verbal agreement and nominal concord? We identify an unusual pattern of nominal concord in Zazaki (Northwestern Iranian: Turkey) that reveals a deep similarity between agreement in the nominal and verbal domains. It arises in part, we argue, because nominal concord in Zazaki is subject to the same restriction on verbal agreement that blocks φ-agreement with DPs bearing an inherent case (Rezac 2008, Preminger 2011). To derive this pattern, we extend the logic of Béjar and Rezac's (2009) cyclic Agree to the nominal domain, in which a probe first looks downward before then looking upward.

1 Introduction

Verbal agreement and nominal concord often look quite different, at least on the surface. In Zazaki, for example, a Northwestern Iranian language of Turkey, clauses contain agreement in number, gender, and person, which is realized just once, on the verb (1a).[1]

(1) a. Fatık=e mı vinen**-a**.
Fatık=F 1SG.OBL see.PRS**-3SG.F**
'Fatık sees me.'
b. ê kutik**=ê** gırs**=ê** rınd=i
that.M.SG.OBL dog(M)**=M.SG.OBL** big**=M.SG.OBL** good=OBL.M.SG
'that big good dog (obl.)'

By contrast, in a noun phrase, agreement with the noun can be realized more than once, and rather than person, it is case that is shared, along with number and gender (1b). Given these superficial differences, is nominal concord derived by the same grammatical mechanism as verbal agreement?

We identify an unusual pattern of nominal concord in Zazaki that we argue reveals a deep similarity between agreement in the nominal and verbal domains. Inside DPs, agreement is realized on the *ezafe* morpheme, a linker that introduces dependents of the noun. When it introduces a possessor, it exhibits *split agreement*.

(2) [Ga**=yê** çênek=a] vaş wen-o.
ox(M)**=EZ.M.SG.OBL** girl(F)=OBL.PL grass eat.PRS-3SG.M
'The girls' ox is eating grass.'

[1] All the data in this paper comes from working with one native speaker of Zazaki residing in the United States. In our transcriptions, we follow the orthography of Todd (2002), which is similar to the Latin alphabet used for Turkish. We use the following abbreviations in the interlinear glosses for examples from Zazaki: DIR = direct case, EZ = the *ezafe* morpheme, F = feminine, IMPFV = imperfective aspect, LOC = locative marker, M = masculine, NEG = negation, OBL = oblique case, PAST = past tense, PL = plural, PRS = present tense, SG = singular.

While the *ezafe* in (2) shares the (oblique) case of a nominal dependent, the possessor, it agrees in number and gender (φ-features) with the head noun. This contrasts with the more familiar pattern in (1b), where each *ezafe* agrees with the head noun both in case and in φ-features.

We propose that this split pattern of nominal concord arises in part from a constraint familiar from the verbal domain. In Zazaki, as in many other languages, a verb cannot agree in φ-features with a DP bearing an inherent case (Rezac 2008, Preminger 2011). This constraint, Case Opacity, is also active in the nominal domain. The possessor in (2) bears an oblique case that makes its φ-features invisible to agreement. The *ezafe* instead must agree in φ-features with the head noun.

In the split pattern, the *ezafe* does, however, agree with the possessor in case, ignoring the case of the head noun. To account for this preference, we extend Béjar and Rezac's (2009) cyclic theory of verbal agreement to nominal concord. Specifically, we take agreement in both the verbal and nominal domains to arise from a bidirectional version of Agree (cf. Mallen 1997, Carstens 2000, Baker 2008). Agree prefers to operate downward because it applies as soon as it can in a cyclic domain. As a result, the *ezafe* Agrees with the possessor in case, before Agreeing upward with the head noun in φ-features.

Our argument proceeds as follows. First, in §2, we describe the system of verbal agreement in Zazaki. In particular, we describe the Case Opacity constraint that blocks agreement in φ-features with DPs bearing the oblique case. Then, in §3, we go on to lay out the paradigm of nominal concord. We show that the same constraint is active in the nominal domain as well. This leads us, in §4, to derive the split concord pattern in (2) using a bidirectional version of Agree operating in a cyclic derivation. We conclude in §5 by discussing how the superficial differences between verbal agreement and nominal concord may be less significant than they first appear to be.

2 Agreement in the verbal domain

2.1 Background on case

First, we describe case in Zazaki, which is split ergative. There are two cases — called the "direct" case and the "oblique" case in the literature on Iranian languages — which have different distributions depending on tense.[2] We keep these traditional names for convenience.

The past tense exhibits an ergative-absolutive pattern. Transitive subjects receive the

[2]It is sometimes suggested that all tense splits are, in fact, conditioned by aspect (e.g. Laka 2006, Salanova 2007:47, Coon 2013). In Zazaki, however, split ergativity is clearly conditioned by tense. Clauses in the past tense are always ergative, regardless of whether they convey perfective aspect, as in (3), or imperfective aspect, as in (i). (The imperfective form conveys that an event is ongoing and has no ready translation in English.)

(i) a. **Ez** vazd-êne.
1SG.DIR run.PAST-IMPFV
'I ran (impfv.).'

b. **Kutik=i** **ez** guret-êne.
dog=OBL.M.SG **1SG.DIR** bite.PAST-IMPFV
'The dog bit (impfv.) me.'

oblique case,[3] while direct objects and intransitive subjects receive the direct case.

(3) a. **Ez** vazd-a.
1SG.DIR run.PAST-1SG
'I ran.'
b. **Kutik=i** **ez** guret-a.
dog(M)=OBL.M.SG **1SG.DIR** bite.PAST-1SG
'The dog bit me.'

In contrast, the present tense exhibits a nominative-accusative pattern. Transitive and intransitive subjects both bear the direct case, while direct objects receive the oblique case.

(4) a. **Ez** vazden-a.
1SG.DIR run.PRS-1SG
'I run.'
b. **Ez** **layik=i** vinen-a.
1SG.DIR **boy(M)=OBL.M.SG** see.PRS-1SG
'I see the boy.'

While the direct case only appears on nominative and absolutive arguments, the oblique case marks the objects of adpositions (5a) and possessors (5b), in addition to ergative and accusative arguments.

(5) a. Fatık=e **Alik=i**=rê şami=e pucen-a.
Fatık(F)=F **Alık=OBL.M.SG**=for dinner(F)=F cook.PRS-3SG.F
'Fatık makes dinner for Alık.'
b. Ga=yê **Alik=i** vaş wen-o.
ox(M)=EZ.M.SG.OBL **Alık(M)=OBL.M.SG** grass(M) eat.PRS-3SG.M
'Alık's ox is eating grass.'

2.2 The pattern of verbal agreement

The verb agrees in person, as well as in number and gender (φ-features). Regardless of tense, it always agrees with *the highest argument that bears direct case*.

In the present tense, this means that the verb agrees with the subject, regardless of whether it is intransitive or transitive (5a–b). In the past tense, the verb agrees with the subject only when it is intransitive (4a). When the verb is transitive, it agrees with the direct object, since the transitive subject bears oblique case (4b). This is true even if there are multiple DPs bearing the oblique case.

(6) Hesen=i Alik=i=rê **mekdub=e** nivısn**-e**.
Hesen(M)=OBL.M.SG Alık(M)=OBL.M.SG=for **letter=F.SG** write.PAST**-3SG.F**
'Hesen wrote a letter for Alık.'

The imperfective aspect is marked by a suffix *-êne* on the verb that replaces agreement morphology. Just as in the perfective aspect, the transitive subject bears oblique case, and the direct object the direct case.

[3]Feminine singular nouns do not show a contrast between direct and oblique case. Regardless of syntactic role, they bear the same "case" marker, *=e*.

In other words, verbal agreement tracks nominative-accusative case assignment in the present tense, and ergative-absolutive case assignment in the past tense.

This pattern of verbal agreement follows from a more general constraint. In many languages, it is not possible to agree in φ-features with DPs that bear an inherent case, or case that is assigned with a theta-role (Chomsky 1986:193). Rezac (2008:83) states this constraint as Case Opacity (see also Preminger 2011:103–140).

(7) **Case Opacity**
A DP with theta-related case may not agree in φ-features.

As in other ergative-absolutive languages, we take the oblique case to be assigned to the ergative argument in Zazaki in conjunction with an agent (or other external argument) θ-role (Woolford 1997, 2006, Legate 2008). Consequently, in the past tense, verbal agreement will skip over the ergative argument, if one is present, to agree with the absolutive argument.[4]

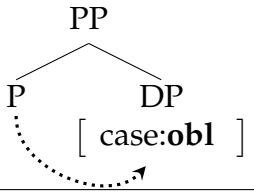
Of course, some languages do allow φ-agreement with DPs bearing an inherent case. For instance, in some nonstandard dialects of Basque, agreement in φ-features is possible with DP bearing dative case (Rezac 2008:101–106). But there are constraints on this variation. Moravcsik (1978) argues that verbal agreement is restricted by an implicational hierarchy that places indirect objects — and we can add, other DPs with inherent case — near the bottom (see also Bobaljik 2008).

(8) subject > direct object > indirect object > adverb

If a language has verbal agreement at all, it has agreement with (intransitive) subjects. But if a language has verbal agreement with subjects and direct objects, it does not necessarily have to exhibit agreement with indirect objects and other DPs bearing an inherent case, lower down on the accessibility hierarchy. Under our proposal, Zazaki and other languages that obey Case Opacity fall into this category.

2.3 A P head blocks verbal agreement with oblique arguments

Rezac (2008:106–111) takes Case Opacity to result from a PP structure that blocks φ-agreement. In in (6), a postposition assigns oblique case to its argument, in conjunction with a theta-role. For concreteness, we assume ergative arguments are also introduced by a P head — albeit one that is not pronounced — which assigns it oblique case.

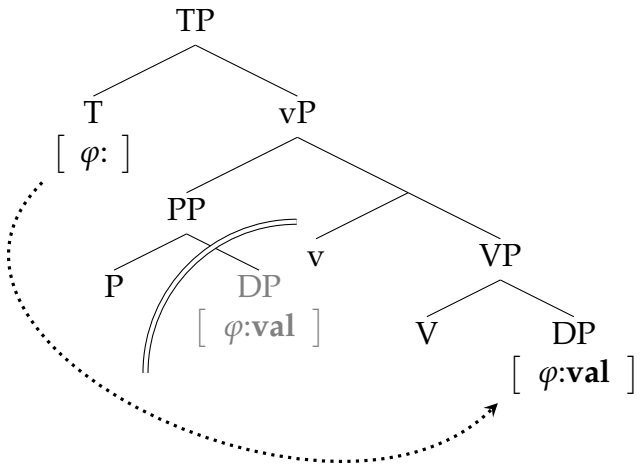
(9)


[4]We might wonder whether the transitive subject should act as an intervener for agreement between T and the direct object in the past tense. This problem arises more generally for all ergative-absolutive languages in which T is responsible for assigning absolutive case. One possible solution is that the ergative argument moves to Spec-TP before the φ-probe on T is activated (Anand and Nevins 2006:17, Legate 2008:58 fn. 4).

If P introduces a phase boundary, then the DP bearing oblique case will be syntactically invisible to agreement outside the PP.

Specifically, if verbal agreement is the realization of φ-features on T, these will be unable to access the φ-features on an ergative argument. Consequently, T will ignore the subject and instead target the direct object bearing direct case.[5]

(10)



As an alternative, it should be possible to treat the oblique case assigned to ergative arguments as a dependent case, licensed through case competition with the object (Bittner and Hale 1996, Marantz 2000). These DPs could have extra syntactic structure projected on top of them, such as a K(ase)P shell, that would have the same phase properties as the null P in (10). (See Bobaljik 2008 for a discussion of how dependent cases fit into Moravcsik's implicational hierarchy.)

We will leave open the question of how to treat accusative arguments, which also bear oblique case in Zazaki. Our account is compatible with treating them as structural, dependent, or inherent case. In the present tense, the direct object is never the closest target for φ-agreement. Since the subject is always closer to T, the proper analysis of the case on direct objects is not relevant to the agreement patterns we have discussed here.[6]

In sum, the split alignment in verbal agreement in Zazaki arises because ergative ar-

[5]We must assume that v does not introduce a phase boundary, at least in the past tense in Zazaki, since T is able to target the direct object. This conclusion seems unavoidable for any ergative language in which T agrees with the direct object in its in situ position.

[6]One thing that is relevant for the treatment of accusative case is that Zazaki has differential object marking. The direct object in the present tense only bears oblique case if it is definite (or possibly specific):

(i) Ez çapık **goşt** wen-a.
1SG.DIR quickly **meat** eat.PRS-1SG
'I quickly eat meat.'

(ii) Ez **ê** **goşt=i** çapık wen-a.
1SG.DIR **that.OBL.M.SG** **meat=OBL.M** quickly eat.PRS-1SG
'I quickly eat that meat.'

The position of the direct object before or after a manner adverb also varies with definiteness. This differential object marking suggests that oblique case on direct objects could be a dependent case, as in Baker and Vinokurova's (2010) treatment of differential object marking in Sakha.

guments, which bear an inherent oblique case, are inaccessible to φ-agreement. The probe on T targets the highest DP that is accessible, which in the past tense is the direct object. We next show that Case Opacity constrains agreement in the nominal domain as well.

3 Agreement in the nominal domain

3.1 Nominal concord in φ-features

In Zazaki, nominal concord appears on the *ezafe* morpheme, a linker found in many Iranian languages that introduces dependents of the noun. It appears, for instance, when a DP contains an attributive adjective (11a) or a possessor (11b).

(11) a. [Ju bız**=a** gırs]=e vaş wen-a.
one goat(F)**=EZ.F.SG** big=F.SG grass(M) eat.PRS-3SG.F
'A big goat is eating grass.'
b. [Bız**=a** Alik=i] vaş wen-a.
goat(F)**=EZ.F.SG** Alık(M)=OBL.M.SG grass(M) eat.PRS-3SG.F
'Alık's goat is eating grass.'

The *ezafe* introduces a dependent to its right, but it cliticizes onto whatever immediately precedes it to the left. When there are two attributive adjectives, the first *ezafe* leans on the head noun, while the second *ezafe* leans on the first adjective:

(12) [O ga**=wo** sur**=o** gırs] mı
that.M.SG.DIR ox(M)**=EZ.M.SG.DIR** red=**EZ.M.SG.DIR** big 1SG.OBL
vinen-o.
see.PRS-3SG.M
'That big red ox sees me.'

The form of the *ezafe* varies in some φ-features — number and gender but not person — and in case. We will start filling out the paradigm of nominal concord first by looking at agreement in φ-features.

Regardless of what type of dependent the *ezafe* introduces, it always covaries in number and gender *with the head noun*. With adjectives, for instance, the *ezafe* can share the φ-features of a masculine singular noun (13a), a feminine singular noun (13b), or a plural noun (13c). (Recall that gender is distinguished only in the singular; with plural nouns, there is no contrast between masculine and feminine anywhere in the language.)

(13) a. [Kutık**=o** gırs] mı vinen-o.
dog(M)**=EZ.M.SG.DIR** 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.'
c. [Ê bız**=ê** gırs]=i vaş wen-i.
those.PL goat(F)**=EZ.PL** big=PL.DIR grass eat.PRS-3PL
'Those big goats eat grass.'

This agreement is strictly local. When an adjective modifies a possessor, its *ezafe* shares the *φ*-features of the possessor, not the possessee.

(14) a. [A zeri=ya [beran**=ê** gırs]=i]
that.F.SG liver(F)=EZ.F.SG sheep(M)**=EZ.M.SG.OBL** big=OBL.M.SG
ben-a xrab.
become.PRS-3SG.F rotten
'That liver of a big sheep is rotting.'

b. [O goşt=ê [bız**=a** gırs]=e]
that.M.SG.DIR meat(M)=EZ.M.SG.OBL goat(F)**=EZ.F.SG** big=F.SG
ben-o xrab.
become.PRS-3SG.M rotten
'That meat of a big goat is rotting.'

Similarly, when the *ezafe* introduces a possessor, it agrees in *φ*-features with the head noun, ignoring those of the possessor altogether. In (13a–b), the *ezafe* shares the masculine singular features of the noun *gâ* 'ox', even though the possessor is feminine, *Fatık* 'Fatık'.

(15) 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. [Bız**=a** Alik=i] vaş wen-a.
goat(F)**=EZ.F.SG** Alık(M)=OBL.M.SG grass eat.PRS-3SG.F
'Alık's goat is eating grass.'

The *φ*-features of the possessor are also ignored by other *ezafe* in the noun phrase. In (16a–b), the *ezafe* that introduces the adjective *gırs* 'big' agrees in number and gender with the head noun, even though there is a possessor present with its own *φ*-features.[7]

(16) a. [Kutik=ê Fatık**=o** gırs] goşt wen-o.
dog(M)=EZ.M.SG.OBL Fatık(F)**=EZ.M.SG.DIR** big meat eat.PRS-3SG.M
'Fatık's big dog is eating meat.'

b. [Bız=a Alik=i**=a** gırs]=e vaş wen-a.
goat(F)=EZ.F.SG Alık(M)=OBL.M.SG**=EZ.F.SG** big=F.SG grass eat.PRS-3SG.F
'Alık's big goat is eating grass.'

[7]The possessor *Fatık* 'Fatık' in (16a) appears to be missing the feminine singular case marker — compare it with (15a). This is a purely phonological effect, as the *=e* case marker is dropped whenever it is followed by the vowel *o*:

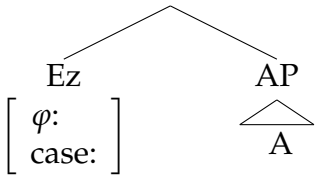
(i) O [kutik=e **Fatık**]**=o**.
that.M.SG.DIR dog(M)=EZ.M.SG.OBL **Fatık=be.PRS.3SG.M**
'That is Fatık's dog.'

The possessor *Fatık* 'Fatık' is again missing its case marker. Here, though, it is followed by the third person singular present tense copula *=o*.

3.2 Case Opacity in the nominal domain

As we just saw, the *ezafe* always shares the φ-features of the head noun, regardless of what type of dependent it introduces. For adjectives, it is easy to see why this is the case. Suppose that the *ezafe* carries an unvalued case feature and unvalued φ-features. (For now, we leave some aspects of nominal structure underspecified.)

(17)



Because adjectives do not inherently carry φ-features, there is nothing for the *ezafe* to enter into a concord relationship with. Consequently, the *ezafe* must find φ-features elsewhere to agree with, such as on the head noun.

In contrast, possessors do have their own φ-features, and the *ezafe* could in principle target them. Nonetheless, we propose that the *ezafe* cannot agree with the possessor's φ-features, because of Case Opacity, repeated in (18).

(18) **Case Opacity**
A DP with theta-related case may not agree in φ-features.

We saw in §2.1 that a possessor takes the oblique case, just like an ergative argument. Taking this morphological fact at face value, we assume that the oblique case assigned to possessors is also an inherent case. Thus, agreement with the possessor in φ-features is also blocked by Case Opacity.

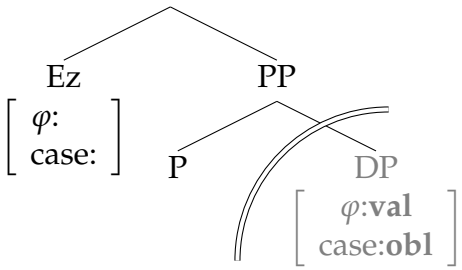
Some possessors are analyzed as a 'subject' inside DP, receiving a structural case, e.g. prenominal possessors in Hungarian and Italian (Szabolcsi 1983, 1987, 1994, Cardinaletti 1998). But in Zazaki, possessors clearly bear an inherent case because there can be more than one of them. Each argument of a deverbal noun is introduced by an *ezafe* that agrees with the deverbal noun in φ-features.

(19) [Werdiş**=ê** [vaş]**=ê** [bız]=e]
eating(M)**=EZ.M.SG.OBL** grass(F)**=EZ.M.SG.OBL** goat(F)=F.SG
gınen-o mı-ra.
bother.PRS-3SG.M 1SG.OBL-LOC
'The goat's eating grass bothers me.'

Note that because the two arguments of the deverbal noun in (19) are feminine and singular, they either lack a case marker for phonological reasons (see footnote (i)) or the case marker does not realize the direct-oblique distinction morphologically. But we can see that they do indeed bear oblique case syntactically because the *ezafe* that introduces each of them appears in the oblique case form, on which more below.

As with ergative arguments, we attribute the inaccessibility of possessors for φ-agreement to their phase properties. The possessor and any other DP arguments of the nouns are introduced by a phonologically null P that assigns them oblique case.

(20)



This P head also introduces a phase boundary that makes the *φ*-features of the DP unavailable for agreement. Consequently, as with adjectives, the *ezafe* must find *φ*-features elsewhere to agree with.

We find support for our proposal in a similar pattern of nominal concord in Swahili. Like other Bantu languages, it has a linker morpheme — the so-called associative morpheme — which introduces possessors and other DP arguments of the noun (Van de Velde, to appear). Its form varies in noun class (or gender).

(21) 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)

Crucially, the associative morpheme can only participate in nominal concord with the head noun (21a), never with the possessor (21b) (Carstens 2000:334). If the possessor in Swahili is also introduced inside a PP, then its *φ*-features will be invisible to nominal concord.

Our implementation of Case Opacity makes the right prediction for nominal concord *inside* DPs bearing an inherent case. When an adjective modifies a possessor, the *ezafe* shares the *φ*-features of the possessor noun.

(22) Ez [zeri=ya [beran**=ê** gırs]=i] wena.
1SG.DIR liver(F)=EZ.F.SG sheep(M)**=EZ.OBL.M.SG** big=OBL.M.SG eat.PRS.1SG
'I eat liver of a big sheep.'

Because the *ezafe* is located inside the same phase as the possessor noun, it can agree with it in *φ*-features, even though the entire possessor DP bears the oblique case.

3.3 Nominal concord in case features

Since Case Opacity only constrains agreement in *φ*-features with DPs bearing an inherent case, not all nominal concord with possessors should be ruled out. In Zazaki, the *ezafe* also exhibits agreement in case, which is sensitive to the type of dependent, unlike nominal concord in *φ*-features. When the *ezafe* introduces an adjective, it shares the case of the entire DP, either direct case (23a) or oblique case (23b).

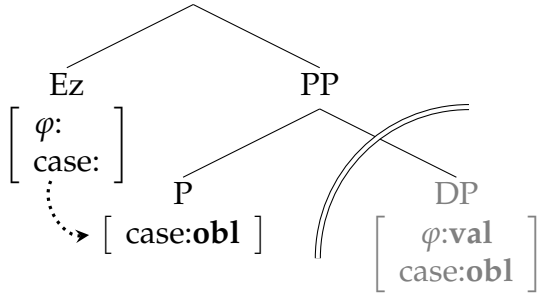
(23) a. [Kutık**=o** gırs] mı vinen-o.
dog(M)**=EZ.M.SG.DIR** big 1SG.OBL see.PRS-3SG.M
'The big dog sees me.'
b. Ez [kutik**=ê** gırs]=i vinen-a.
1SG.DIR dog(M)**=EZ.M.SG.OBL** big=OBL.M.SG see.PRS-1SG
'I see the big dog.'

In contrast, when the *ezafe* introduces a possessor, it invariably surfaces in the *oblique case* form, regardless of whether the larger DP bears direct case (23a) or oblique case (23b).

(24) a. [Ga**=yê** Alik=i] vaş wen-o.
ox(M)**=EZ.M.SG.OBL** Alık(M)=OBL.M.SG grass eat.PRS-3SG.M
'Alık's ox is eating grass.'
b. Ez [ga**=yê** Alik=i] vinen-a.
1SG.DIR ox(M)**=EZ.M.SG.OBL** Alık(M)=OBL.M.SG see.PRS-1SG
'I see Alık's ox.'

We take this invariability to arise because the *ezafe* that introduces a possessor agrees with it in case. More specifically, we take it to agree with the P head that assigns oblique case to the possessor, which itself also carries a case feature.[8]

(25)



Unlike with φ-features, the phase introduced by P does not block agreement in case features. The oblique case feature is located at the phase edge, and it is therefore accessible for nominal concord. The result is the unusual split pattern of nominal concord in Zazaki. The *ezafe* agrees in case with the possessor, a nominal dependent, but in φ-features with the head noun.

4 Cyclic Agree in the nominal domain

4.1 Béjar and Rezac (2009)

So far, we have proposed that the φ-features of possessors are invisible to agreement because they are contained within a phase introduce by a P head. The case feature of a possessor is not similarly inaccessible because it is present on the P. But why does an *ezafe* prefer to agree in case with the possessor, ignoring the case feature of the larger DP it is contained within? The answer, we think, is that the split pattern of nominal concord in

[8]For evidence that prepositions carry a valued copy of the case feature they assign, see Horvath 2011 and discussion in Pesetsky 2013:129–132.

Zazaki has the same cyclic logic that underlies some types of verbal agreement.

Béjar and Rezac (2009) argue that in some languages, the verb first looks downward to find a target for agreement, before looking upward. More specifically, they investigate patterns of person agreement in which the verb shares the person features of both the external argument and the internal argument. In *direct-inverse* agreement in Nishnaabemwim (Valentine 2001), a single prefix on the verb registers person agreement with either the subject or the object according to a person hierarchy: $2 > 1 > 3$. If either argument is second person, the prefix registers agreement with it (26a–b). In the absence of a second person argument, person agreement preferentially targets a first person DP (27a–b).

(26) a. **g-**waabm-i
2-see-1.DIR
'You see me.'
b. **g-**waabm-in
2-see-1.INV
'I see you.'
(Béjar and Rezac 2009:49)

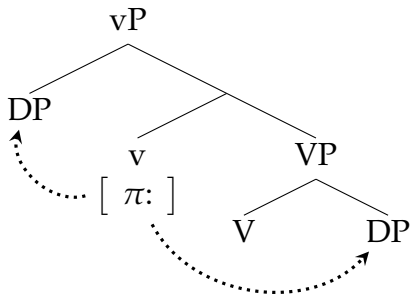
(27) a. **n-**waabm-aa
1-see-3.DIR
'I see him.'
b. **n-**waabm-ig
1-see-3.INV
'He sees me.'
(Béjar and Rezac 2009:50)

The verb also bears a suffix that encodes which argument this prefix is agreeing with. If the subject is higher on the person hierarchy than the object, as in (26a) and (27a), it takes the *direct* marker. But if the object is higher, as in (26b) and (27b), it takes the *inverse* marker instead.

Béjar and Rezac (2009) propose that languages with direct-inverse agreement systems have an articulated person probe on v, which can Agree with multiple DPs as long as each new goal outranks all previous goals in the person hierarchy. For example, if v agrees with a third person DP, it can subsequently enter into an Agree relationship with either a first or a second person DP. However, if v first targets a second person DP, it cannot Agree with anything else, because second person outranks all other persons.

Crucially, to derive the direct marking pattern, v must be able to Agree either into its specifier with the subject or into its c-command domain with the object, but it must *prefer* to Agree downward first. Once the articulated person probe on v has been valued by an element in its c-command domain, such as the object, the only value it can get from Agreeing upward with subject must be higher on the person hierarchy.

(28)



When the object does outrank the subject, v is consequently only able to Agree with the object. In such a derivation, the subject would remain unlicensed without an additional repair mechanism. Béjar and Rezac propose that the inverse marker is the morphological reflex of such a repair.

In direct-inverse systems of verbal agreement, then, a probe Agrees downward first. If subsequently it still has features that need to be valued, it can Agree upward. We will extend this logic to the nominal domain to account for the split pattern of nominal concord in Zazaki. The *ezafe* first Agrees downward, where it may find a possessor, and then it Agrees upward with the head noun. But before we do this, we need a better understanding of nominal structure in Zazaki, to which we turn next.

4.2 The syntax of DP in Zazaki

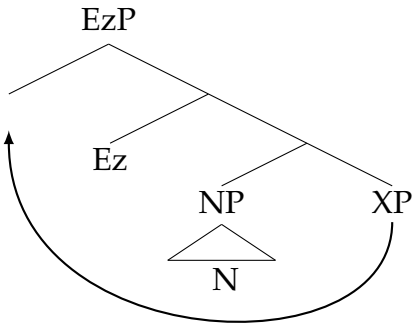
Inside DPs in Zazaki, the noun is followed in linear order first by a possessor and then by any modifying adjectives. Case is marked on both the determiner, if one is present, and on a case particle that invariably appears in final position.

(29) Ez **ê** **kutik=ê** **Alik=i=ê**
1SG.DIR **that.OBL.M.SG** **dog=EZ.M.SG.OBL** **Alık=OBL.M.SG=EZ.M.SG.OBL**
gırs=i vinen-a.
big=OBL.M.SG see.PRS-1SG
'I see that big dog of Alık's.'

We assume that the case particle realizes a K(ase) head located on top of DP, much as Bittner and Hale (1996:4) propose, except that it is always present. There is no standard analysis for the syntax of the *ezafe* in Iranian languages. But, for concreteness, we will follow den Dikken and Singhapreecha (2004) in treating it as a linker that triggers predicate inversion.

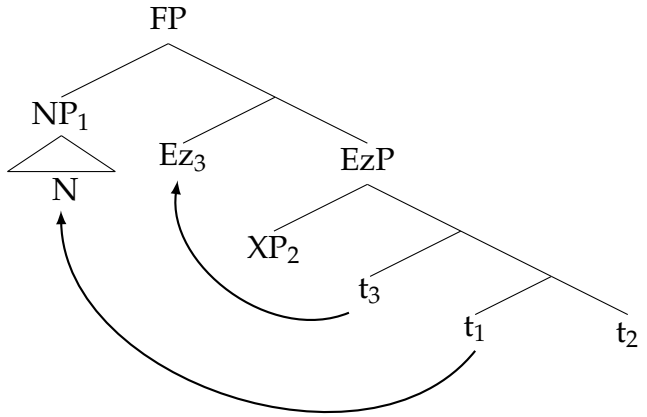
Den Dikken and Singhapreecha introduce all nominal dependents as the predicate of a small clause structure whose subject is a constituent containing the head noun. The *ezafe* realizes an Ez head that triggers raising of the predicate over the subject into its specifier (where XP represents either an AP or a PP).

(30)



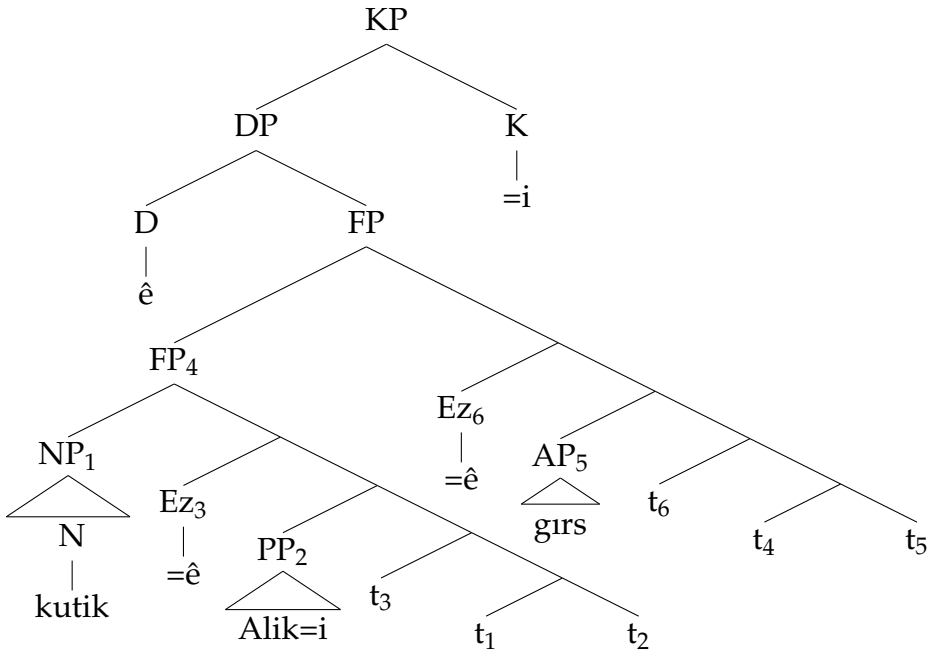
But in Zazaki, DPs are head initial, and each *ezafe* moreover intervenes between the head and its dependent. So, NP must also raise to the specifier of a functional projection (notated simply FP); the *ezafe* undergoes head movement into the same functional projection.

(31)



When there is more than one nominal dependent — for instance, both a possessor, which under our account is a PP, and an adjective —- this process iterates. The object DP in (29), for instance, would have the following structure.

(32)



In the end, each *ezafe* forms a constituent — albeit one that is internally somewhat complex — with a nominal dependent.

There are two arguments that this constituency is the right one. First, as Philip (2012:37f.) observes, if the *ezafe* instead formed a constituent with the preceding element, then two coordinated nouns should each be able to bear their own *ezafe*. But this is not possible, whether the *ezafe* introduces an adjective (33a) or a possessor (33b).

(33) a. Ez [kıla**(*=yê)** o palto=yê sia]=i vinen-a.
1SG.DIR hat**=EZ** and coat=EZ black=OBL.SG.M see.PRS-1SG
'I see the black hat and coat.'

b. Ez [kıla**(*=yê)** o palto=yê Alik=i] vinen-a.
1SG.DIR hat**=EZ** and coat=EZ Alık=OBL.SG.M see.PRS-1SG
'I see Alık's hat and coat.'

Since the *ezafe* does not form a constituent with the head noun, we conclude that it must form a constituent with the dependent.[9]

Second, when ellipsis applies inside DPs, the *ezafe* does not go missing with the head noun. In Zazaki, the NP can be deleted under identity with a preceding NP, leaving behind an attributive adjective.

(34) Q: Tı kutık vinen-a?
2SG.DIR dog(M) see.PRS-2SG
'Do you see any dogs?'

A: Ez **ponj=ê gırs=a** vinen-a.
1SG.DIR **five=EZ.PL big=OBL.PL** see.PRS-1SG
'I see five big ones.'

If the *ezafe* formed a constituent with the head noun, it would be deleted along with it. Instead, it survives ellipsis and leans onto the numeral determiner *ponj* 'five', which in a nonelliptical construction precedes the head noun.

(35) Ez **ponj kutik=ê gırs=a** vinen-a.
1SG.DIR **five dog(M)=EZ.PL big=OBL.PL** see.PRS-1SG
'I see five big dogs.'

Consequently, we conclude that the *ezafe* forms a constituent with the nominal dependent it introduces, just as den Dikken and Singhapreecha predict.

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

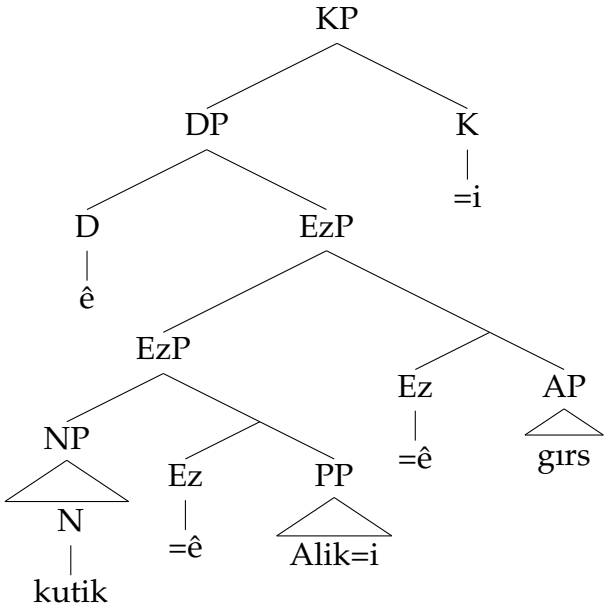
(i) [Nıfıs=ê Turkiya o**(*=yê)** Iran]=i xeili=o.
population=EZ Turkey and**=EZ** Iran=OBL.M.SG great=be.3SG.M
'The population of Turkey and Iran is great.'

This is ruled out by 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 consequently impossible.

This constituency is also compatible with the main competing account for the syntax of the *ezafe*. Samiian (1983, 1994) and Larson and Yamakido (2009) draw an analogy between the *ezafe* in Iranian languages and the preposition *of* in English, which case licenses arguments of the noun that would otherwise not be able to get case inside the DP, e.g. *the destruction *(of) Rome*. The analogy to case is not a perfect one, since the *ezafe* does not only introduce nominal arguments, such as possessors. It also introduced attributive adjectives, which do not need case. Nonetheless, it does not seem implausible to treat the *ezafe* as having a more abstract ability to license dependents of the noun. This approach is compatible with the basic syntax for the *ezafe* in Zazaki that we have argued for here, since the *ezafe* would form a constituent with the element that it is licensing.

Going forward, since we are primarily interested in agreement, we will abstract away from the somewhat complex derivations required by den Dikken and Singhapreecha. In particular, we will represent the *ezafe* as a head (Ez) in the nominal projection that takes either the NP or another EzP in its specifier. So, the structure in (32) would have the simplified representation below.

(36)



As far as we can see, nothing crucial hinges on this simplification. With this structure in place, we can now show how we can extend Béjar and Rezac's (2009) logic for verbal agreement in direct-inverse systems to nominal concord in Zazaki.

4.3 Deriving nominal concord in Zazaki

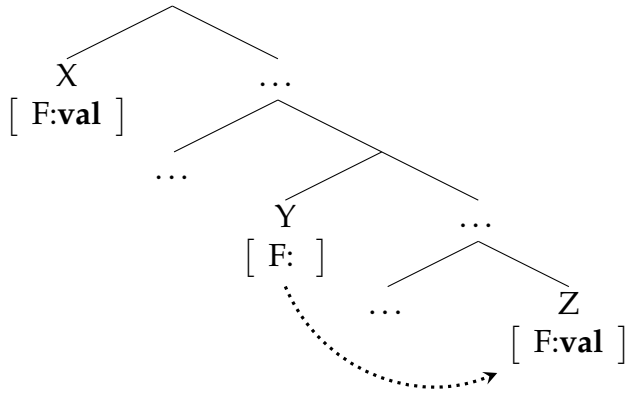
We take agreement in both the verbal and nominal domains to arise through a single mechanism (Mallen 1997, Carstens 2000, Baker 2008). This is a bidirectional version of the syntactic operation Agree (Adger 2003:168, Baker 2008:45).

(37) **Bidirectional Agree**
A head H with an unvalued feature F Agrees with a goal G with a valued feature F only if H c-commands G or G c-commands H.

Our definition diverges from the original definition for Agree, which only allows for a probe to c-command the goal — that is, for Agree to operate downward (Chomsky 2000:122). The definition in (37) permits the probe to be c-commanded by the goal, so that it can operate upward as well.

If Agree operates in this bidirectional fashion, Béjar and Rezac (2009) show that it will prefer to operate downward in a cyclic syntactic derivation. A probe looks for a goal first in its c-command domain simply because this context is established first by Merge. 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).

(38)



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. If for some reason, Y is not able to Agree with Z, then it is able to Agree upward with X, once it is Merged. With the bidirectional version of Agree that we assume, there is no limit on how far upward a probe may search.[10]

Béjar and Rezac (2009) use this cyclic logic for Agree to derive verbal agreement in direct-inverse systems. We extend it to account for the split pattern of nominal concord in Zazaki. First, consider the derivation of noun phrases containing a single nominal dependent. Recall that when the *ezafe* introduces a possessor, it is invariably realized in the oblique case form.

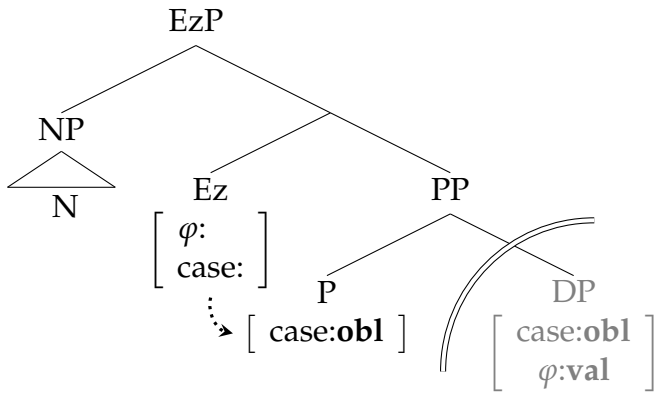
(39) a. [Ga**=yê** Alik=i] vaş wen-o.
ox(M)**=EZ.M.SG.OBL** Alık(M)=OBL.M.SG grass eat.PRS-3SG.M
'Alık's ox is eating grass.'

b. Ez [ga**=yê** Alik=i] vinen-a.
1SG.DIR ox(M)**=EZ.M.SG.OBL** Alık(M)=OBL.M.SG see.PRS-1SG
'I see Alık's ox.'

[10]For the direct-inverse systems, it would be sufficient to say that if a probe cannot find a suitable goal in its c-command domain, it can then probe into its *specifier*. As Béjar and Rezac (2009) show, this follows from bare phrase structure and a unidirectional version of Agree, in which a probe must Agree with a goal in its c-command domain (Chomsky 2000:122). If the label for the constituent comprising a head and its complement is identical to the head, then its specifier will also be contained within its c-command domain. We cannot adopt this more restricted approach, since we are interested in nonlocal agreement relations, which can stretch far beyond the relation between a head and its complement or specifier.

While the φ-features of the possessor itself are not accessible to the Ez for the reasons that we have already discussed, the oblique case feature on the P head itself is.

(40)



If Agree applies as soon as it can in the derivation, then Ez will Agree downward first. It finds the case feature on P and is valued as oblique, regardless of whatever case the entire noun phrase is ultimately assigned.[11]

In contrast, when the *ezafe* introduces an adjective, it takes the case that is assigned to the entire noun phrase.

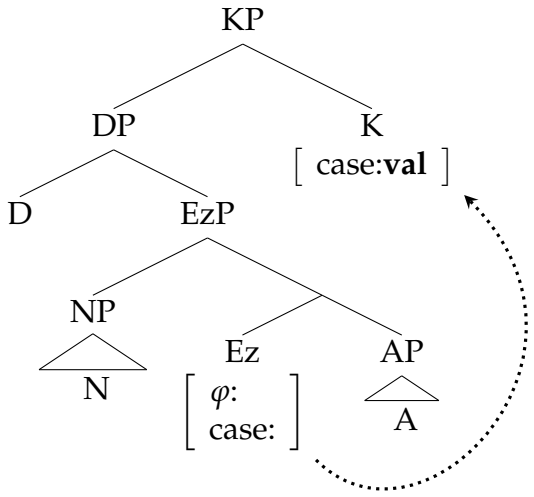
(41) a. [Kutık**=o** gırs] mı vinen-o.
dog(M)**=EZ.M.SG.DIR** big 1SG.OBL see.PRS-3SG.M
'The big dog sees me.'

b. Ez [kutik**=ê** gırs]=i vinen-a.
1SG.DIR dog(M)**=EZ.M.SG.OBL** big=OBL.M.SG see.PRS-1SG
'I see the big dog.'

The derivations of (41a) and (41b) start out in the same way. The *ezafe* is Merged with an AP, which contains neither φ-features nor case features. Consequently, there is nothing for Ez to Agree with in its c-command domain.

[11] A question that arises is how the D head comes to carry the same case feature as K. If this were also derived through nominal concord, then D must carry an unvalued case feature that would prefer to Agree downward with the possessor, if one was present. This is clearly undesirable. One possible solution is to treat Ez as a phase head, so that its dependent would be inaccessible to Agree by the time D is merged. D would then be forced to probe upward and Agree with K.

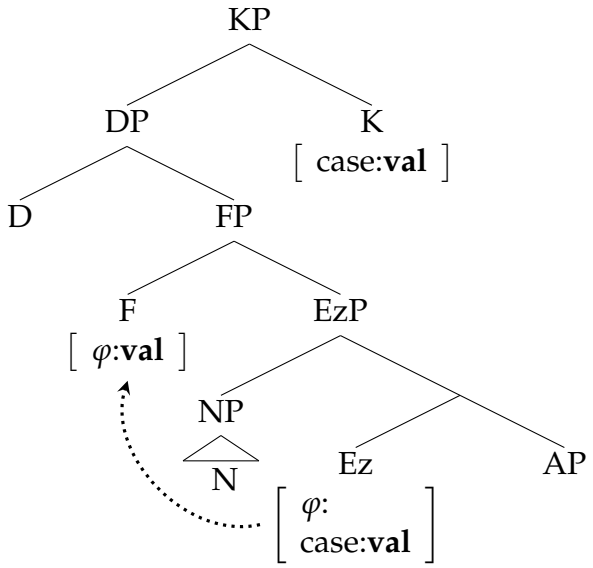
(42)



Instead, the *ezafe* must Agree upward to find a suitable goal. Once a valued case feature is Merged into the extended nominal projection, the *ezafe* can be valued with either direct or oblique case, as long as it is c-commanded by the goal.[12]

The same mechanism accounts for nominal concord in φ-features. We assume that inherent φ-features are located on a functional head, which we simply call F, somewhere in the extended nominal projection, cf. Hebrew (Ritter 1991, 1993), Kiswahili (Carstens 1991:74–81), and Romance (Picallo 1991, Valois 1991:51–54).[13] This means that when the *ezafe* introduces an adjective, it Agrees upward for φ-features, as well as for case.

(43)

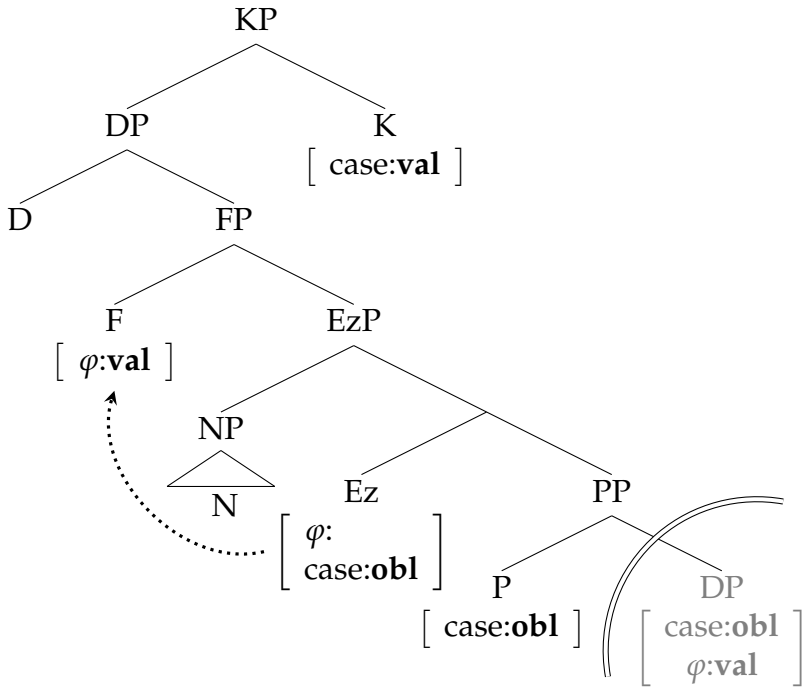


When the *ezafe* introduces a possessor, it also probes upward for φ-features, since the φ-features of the possessor are inaccessible.

[12]We could take either D or K to be the goal of Agree here. But we have ascribed this role to K, since determiners are only optionally present in noun phrases.

[13]Alternatively, inherent φ-features could be located on the head noun itself (N). It would then be necessary to adopt the predicate inversion derivations of den Dikken and Singhapreecha (2004), to allow the *ezafe* to c-command the N. Another option is to let the *ezafe* probe into its specifier.

(44)



This derives the split pattern of nominal concord with possessors in Zazaki. Just as Béjar and Rezac (2009) argue for verbal agreement in direct-inverse systems, Agree operates downward first, but it may subsequently operate upward if there are features that still need to be valued.

5 Conclusion

We have argued that an unusual pattern of nominal concord in Zazaki reveals a deep similarity between nominal concord and agreement in the verbal domain. In particular, we demonstrated that verbal agreement and nominal concord are subject to the same restriction: φ-agreement with a DP bearing an inherent case is blocked (Rezac 2008, Preminger 2011). In addition, we proposed that case concord arises from a bidirectional version Agree operating in a cyclic syntax, just as Béjar and Rezac (2009) argue verbal agreement does.

One might object that agreement in the verbal and nominal domains still appears to behave differently in a number of ways, some of which we pointed out in the introduction. Norris (2011:206) explicitly describes three of these differences.

1. In verbal agreement, the inherent features are located on an argument, a maximal projection located in a specifier or complement position. In contrast, in nominal concord, the inherent features are found on a head. This might be the noun itself — or, if we assume that the noun's features are dissociated from it, on a functional head in the extended nominal projection, e.g. Num(ber), Gen(der), K(ase).

2. In verbal 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 single feature. Case and φ-features can be manifested on the determiner, the possessor, or other nominal arguments, as well as on an unlimited number of adjectives.

3. The features usually involved in verbal agreement are person, number, and gender. In contrast, in nominal concord, person features are not usually involved. Instead, it is *case*, number, and gender that are shared.

We do not think that there is an absolute distinction between verbal and nominal agreement along these three dimensions.

First, we have already seen in Zazaki that agreement in the nominal domain can target a dependent. The *ezafe* that introduces a possessor agrees with the possessor in case (even though it agrees in φ-features with the head noun).

Second, multiple exponence is not restricted to the nominal domain. As D'Allessandro (2011) and Grosz and Patel-Grosz (to appear) observe, there are languages in which adverbs carry φ-agreement, such as Kutchi Gujarati (45a–b) and the Ripano dialect of Italian (46a–b).

(45) a. Hu chokra-ne **vel-i** jo-th-i ha-is.
I boys-DOM **early-F** see-IPFV-F AUX-FUT.1SG
'I will see the boys early.' (speaker is female)

b. Khimji **vel-o** av-y-o ha-se.
Khimji **early-M** come-PFV-M AUX-FUT.3
'Khimji will have arrived early.'
(Kutchi Gujarati; Grosz and Patel-Grosz, to appear, p. 20)

(46) a. Magnu **sembru**.
eat-3SG.M **always.M**
'He always eats.'

b. Magne **sembre**.
eat-3SG.F **always.F**
'She always eats.'
(Ripano; D'Allessandro 2011:37)

Finally, there are languages, such as Lardil (Richards 2012), where we find case agreement in the verbal domain.[14]

(47) Kara nyingki kurri kiin-i thungal-i, ngithun**-i** kirdi-thuru-∅?
Q you see that-ACC tree-ACC I.GEN**-ACC** cut-FUT**-ACC**
'Do you see that tree, which I am going to cut down?'
(Lardil; Richards 2012:52)

Conversely, as Norris points out, person agreement is sometimes found in the nominal domain, as in Finnish possessor agreement.[15]

[14]Lardil also has multiple exponence in the verbal domain.

[15]It makes sense that possessors are the only elements in the nominal domain that can trigger person agreement, since the elements that act as probes in the nominal domain can arguably only attach to third person DPs (since pronouns resist modification).

(48) minu-n kirja-**ni**.
I-GEN book-**1SG**
'my book'
(Finnish; Norris 2011:7)

We conclude that these superficial differences do not arise because different mechanisms are responsible for agreement in the verbal and nominal domains. In both cases, it is a single operation that gives rise to both verbal agreement and nominal concord.

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