1 Introduction

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

- 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).

(1)

a. le mie case belle the.F.PL my.F.PL house.F.PL nice.F.PL
   ‘my nice houses’ (Carstens 2000:329)

b. DP
   [φ: ]
   | le
   [φ: ]
   [φ: ]
   N case
   AP
   (N)

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):

- In a similar vein, Bejar 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 ramin
dog=ez big=ez Ramin
    ‘Ramin’s big dog’

(3) Zazaki (Northwest Iranian)
    kutik=e Alik=i=OBL
    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 kal(ê) o palo[=yê] sia-i
cos.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 kalat=e şe o palto=[=yê] Alik-i vinen-a. 1SG.NOM hat=ÉZ.M.OBL.M and coat=ÉZ.M.OBL. Alik-OBL.M see.PRS-3SG.M ‘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) Nifs[i=ê] Turkiya[=i] o([=yê]) Iran[-i] xeili=ô. population=ÉZ Turkey and=ÉZ.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 preceede the noun, ezafe shows up on the dependent:

(7) Gilaki (Northwest Iranian, Caspian)

xuji=ê sab=e kitâb
goal=ÉZ green=ÉZ 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:


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

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>F</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>nominative (absolutive)</td>
<td>-ê</td>
<td>-ê</td>
<td>-ê</td>
</tr>
<tr>
<td>oblique (ergative)</td>
<td>-ê</td>
<td>-ê</td>
<td>-a</td>
</tr>
</tbody>
</table>

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

(9) a. [mg.] Ga[yê] Alik-i@

vaş wen-a. vaç=ÉZ.M.OBL.Alik-OBL.M grass eat.PRS-3SG.M ‘Alik’s ox is eating grass.’ (ZB011)


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

(10) DP

D

N PossP

EzP

NP

Ez

PP

EzP

NP

Ez

AP

[N]

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

(11) Ez [mg. ê kutik=ê Fatik=ô gars-i=] vinen-a. 1SG.NOM that.OBL.M dog=ÉZ.M.OBL Fatik=ÉZ.M.NOM big-OBL.M see.PRS-1SG ‘I see that big dog of Fatik’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 < Provenience (Sproat and Shih 1988)

(13) a. [mg. A bûz[a] runde=a qasqêk=ê] vaş wn-a. that.F goat=ÉZ.F beautiful=ÉZ.F little=ÉZ.F grass eat.PRS-3SG.F ‘That beautiful little goat is eating grass.’ (ZB009)

b. Ez [mg. a masâ=yâ gars=a [¿rorn=ê] vinen-a. 1SG.NOM that.F table=ÉZ.F big=ÉZ.F round=ÉZ.F see.PRS-1SG ‘I see that big round table.’ (ZB009)

c. Ez [mg. a masâ=yâ gars=a [¿rorn=ê] vinen-a. 1SG.NOM that.F table=ÉZ.F round=ÉZ.F white=ÉZ.F see.PRS-1SG ‘I see that round white table.’ (ZB009)

d. Ez [mg. a bûz[a] spî=a franzsê=ê] vinen-a. 1SG.NOM that.F table=ÉZ.F white=ÉZ.F French=ÉZ.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:

<table>
<thead>
<tr>
<th></th>
<th>WITH ADJECTIVES</th>
<th>WITH POSSESSORS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>nominative</td>
<td>=ê</td>
<td>=ê</td>
</tr>
<tr>
<td>oblique</td>
<td>=ê</td>
<td>=ê</td>
</tr>
</tbody>
</table>

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

(15) a. [grep vzeg wasur [=mo girs]] mu vinen-o.
'That big red ox (m.) sees me.'
b. [grep A mang [=a spil] [=a girs] e mu vinen-a.
'that.f cow =EZF white =EZF big =F 1SG.OBL see =PRS-3SG.F
'That big white cow (f.) sees me.' (ZB012) with an adjective

(16) a. [grep Gazey =Alik-i] vaq wên-o.
'Alik’s ox (m.) is eating grass.' (ZB012)
b. [grep Hz =ay =Alik-i] vaq wên-a.
'Alik’s goat (f.) is eating grass.' (ZB009) with a possessor

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

(17) a. [grep Kutik [=mo girs]] mu vinen-o.
'dog =EZM.OBL big 1SG.OBL see =PRS-3SG.M
'The big dog (m. nom.) sees me.'
'Alik’s dog (m. nom.) is eating meat.'

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. [grep Kutik =ê =Alik-i] goş wên-o.
'dog =EZM.OBL big 1SG.OBL see =PRS-3SG.M
'Alik’s dog (m. nom.) is eating meat.'
I dog =EZM.OBL big 1SG.OBL see =PRS-3SG.M
'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.

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.

(20) XP
    Y
  Y

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:

   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.

(22) EzP
   Ez PP
   AP
   [φ: case:]

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).

(23) DP
   D [case: val]
   N [φ: val]
   NP
   EzP
   Ez AP (N)
   [φ: case:]

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) [ŋɛ Kutik-[ê Alik]-i] goşet vinen-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).

(25) EzP
    Ez PP
    P
    DP

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.

(26) EzP
    Ez PP
    P
    [case: obl]

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)

    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 laji-k-i vinen-a.
    boy-OBL.M 1SG.NOM 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:

\[(30)\]

\[
\begin{align*}
&\text{a. } \text{Ez} \text{[ezafe]} \text{kutik}[\text{mê}] \text{Alik}=\text{OBL.M}=\text{EZ.MNOM} \text{big}=\text{OBL.M} \text{see.PR.SG-1SG} \\
&\quad \text{I see Alik’s big dog (m. obl.).} \quad \text{(ZH009)} \\
&\text{b. } \text{Ez} \text{[ezafe]} \text{kutik}[\text{mê}] \text{gris}=[\text{no}] \text{mand}=\text{ezi} \text{vinen-a.} \\
&\quad \text{I see that big, good dog (m. obl.).} \\
\end{align*}
\]

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).

\[(31)\]

\[
\begin{align*}
&\text{a. } \text{Icelandic} \\
&\quad \text{fjó-} \text{ir} \text{lil-} \text{ir} \text{snigl-} \text{ar} \\
&\quad \text{four-NOM.M.PL little-NOM.M.PL snail-NOM.M.PL} \\
&\quad \text{‘four little snails’} \quad \text{(Norris 2011:205)} \\
&\text{b. } \text{Swahili} \\
&\quad \text{wa-toto} \text{wa-zuri} \\
&\quad \text{2-children 2-good} \\
&\quad \text{‘beautiful children’} \quad \text{(Baker 2008:18)} \\
&\text{c. } \text{Italian} \\
&\quad \text{Ne sono ormai probabili le dismissioni.} \\
&\quad \text{of.them are already likely.M.PL the resignations.M.PL} \\
&\quad \text{‘Their resignations are already likely.’} \quad \text{(Baker 2008:69)} \\
&\text{d. } \text{Hungarian} \\
&\quad \text{Paadjmesterségre a} \text{másfél év végén til a} \text{vérde valdát} \text{hirdeti kominiázt.} \\
&\quad \text{there are been likely-M.PL to be elected some communists.M.PL to board.the} \\
&\quad \text{‘There are likely to be some communists elected to the board.’} \quad \text{(Baker 2008:70)} \\
&\text{e. } \text{Swedish} \\
&\quad \text{Ne onom var förmögen för att} \text{vilja} \\
&\quad \text{M.PL to elect M.PL to the board.} \\
&\quad \text{‘They are able to elect M.PL to the board.’} \quad \text{(ZH009)} \\
\end{align*}
\]

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):

\[(32)\]

\[
\begin{align*}
&\text{a. } \text{Turkish} \\
&\quad \text{bun-im kitab-im} \\
&\quad \text{1-GEN book-1SG} \\
&\quad \text{‘my book’} \quad \text{(Kornfilt 1997:185, 230)} \\
&\text{b. } \text{Hungarian} \\
&\quad \text{az én kalap-m} \\
&\quad \text{the 1SG.NOM hat-POSS.1SG} \\
&\quad \text{‘my hat’} \quad \text{(Szabolcsi 1994:186)} \\
&\text{c. } \text{Swahili} \\
&\quad \text{iso-ssa talo-ssa-ni} \\
&\quad \text{big-INE house-INE-POSS.1SG} \\
&\quad \text{‘in my big house’} \quad \text{(Norris 2011:212)} \\
\end{align*}
\]
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
     ‘Chair of a child’
  b. kiti cha mtoto
     ‘The child’s chair’ (Carstens 2000:232)

It is also found in Dinka:

(34) wért ké Nhíalíc
   ‘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.

(35)

\[ \text{DP} \]

[F:val]

\[ \text{[F: ]} \]

\[ \ldots \text{[F:val]} \ldots \]

References

We are extremely grateful to Gulcem Aktas for teaching us about her language.

Zeijlstra, Hedde. 2012. There is only one way to agree. Ms., University of Amsterdam.