

Nominal ellipsis reveals concord in Moksha Mordvin*

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1 Introduction

Inflection under ellipsis

- In some languages modifiers generally do not show concord with the noun, but are inflected if the noun is elided:

- (1) a. [adjective noun-**INFL**] / * [adjective-**INFL** noun-**INFL**]
 b. [adjective-**INFL** ~~noun-**INFL**~~] / * [adjective ~~noun-**INFL**~~]

Why a modifier is inflected only under ellipsis?

Previous research:

- The pattern is not new, see, e.g., Hungarian (Kester, 1996a; Saab & Lipták, 2016), Persian (Ghaniabadi, 2010), Turkish (Bošković & Şener, 2014), Ossetic (Hettich, 2002).
- There is a number of existing approaches (see Kester (1996a,b), Bošković & Şener (2014), Dékány (2011), Saab & Lipták (2016), Ruda (2016), Murphy (2018), and Saab (2019)).

Here I will:

- Present the original data on nominal ellipsis in Moksha Mordvin;
- Show that the existing approaches do not cover a full range of data;
- Develop a new account.

Sketch of the analysis

1. Inflection in elliptical contexts is **nominal concord**
 - Evidence: Inflection has the same distribution as regular concord.
2. Concord is a **regular property** of Moksha nominal syntax.
 - Features are present on a nominal modifier in non-elliptical contexts as well.
3. Valued concord probes **remain without morphological realization**.
 - (a) Spell-Out applies locally.
 - (b) Shortly after valuation probe features are still identifiable as such and are not yet subject to Vocabulary Insertion.

*I am very grateful to native speakers of Moksha I worked with for their excellent linguistic intuitions and all the time they have spent with me. I also would like to thank Mark Baker, Rajesh Bhatt, Seth Cable, Pavel Caha, Kyle Johnson, Maria Kouneli, Maria Kholodilova, Ekaterina Lyutikova, Franc Marušič, Beata Moskal, Gereon Müller, Andrew Murphy, David Pesetsky, Martin Salzmann, Sergei Tatevosov, and Svetlana Toldova for comments and suggestions.

2 Data

- Moksha belongs to the Mordvin group of Finno-Ugric languages. It is spoken in the Republic of Mordovia, Russia. The data come from my own fieldwork.
- Basics: SOV / SVO; genitive is the case of the direct object.

2.1 Nominal ellipsis

- Nouns in Moksha are inflected for **case, definiteness and number**
 - Inflection is fusional, there are restrictions on which features can be expressed together (e.g., definiteness can be only marked in structural cases).

- All inflection appears on the noun:
 adj noun-**INFL** / *adj-**INFL** noun-**INFL** / *adj-**INFL** noun

- (2) ravžə pin^{jə}-n^{jə}-n^{jə}d^{ji} / *ravžə-n^{jə}-n^{jə}d^{ji} pin^{jə}-n^{jə}-n^{jə}d^{ji} /
 black dog-DEF.PL-DAT black-DEF.PL-DAT dog-DEF.PL-DAT
 *ravžə-n^{jə}-n^{jə}d^{ji} pin^{jə}
 black-DEF.PL-DAT dog
 ‘to the black dogs’

- If the noun is elided, its **modifier is inflected for features of elided noun**:

- (3) Paka zvon^{jə}-c^{jə}ə-s^{jə} an^{jə}c^{jə}ək [kaft-n^{jə}-n^{jə}d^{ji}].
 yet call-FREQ-PST.3[SG] only two-DEF.PL-DAT
 ‘{Context: My mom is calling to her friends.} By now she called only to the two [friends].’

- If there is more than one remaining modifier, **only the linearly last modifier is inflected**:

- (4) Mon and-in^{jə} [mazi akšə-t^{jə}] / *[mazi-t^{jə} akšə] /
 I feed-PST.3.O.1SG.S nice white-DEF.SG.GEN nice-DEF.SG.GEN white
 *[mazi-t^{jə} akšə-t^{jə}].
 nice-DEF.SG.GEN white-DEF.SG.GEN
 ‘{Which cat did you feed?} I fed the beautiful white one.’

- Inflection appears **on the head of a branching modifier** even if its head is not the linearly closest element to the ellipsis site.

– An argument of the participle can precede or follow it:

- (5) Mon rama-jn^{jə}
 I buy-PST.3.O.1SG.S

- a. [keluv-ən^j lopa-stə ti-f nastojka-t^j]
birch-GEN leaf-EL make-PTCP.RES liquor-DEF.SG.GEN
- b. [ti-f keluv-ən^j lopa-stə nastojka-t^j].
make-PTCP.RES birch-GEN leaf-EL liquor-DEF.SG.GEN
'I bought the liquor made from birch leaves.'

- If the noun is elided, morphological exponents appear on the participle rather than on its argument in both cases:

(6) Mon rama-jn^{jə}

I buy-PST.3.O.1SG.S

- a. [keluv-ən^j lopa-stə ti-f-t^j]
birch-GEN leaf-EL make-PTCP.RES-DEF.SG.GEN
- b. [ti-f-t^j keluv-ən^j lopa-stə]
make-PTCP.RES-DEF.SG.GEN birch-GEN leaf-EL
- c. *[ti-f keluv-ən^j lopa-stə-t^j].
make-PTCP.RES birch-GEN leaf-EL-DEF.SG.GEN
'{Context: Which liquor did you buy?} I bought the [liquor] made from birch leaves.'

- If the relative form modifies the elided noun directly, inflection is possible:

(7) Mon rama-jn^{jə} [keluv-ən^j lopa-stə-t^j].

I buy-PST.3.O.1SG.S birch-GEN leaf-EL-DEF.SG.GEN

'{Context: Which liquor did you buy?} I bought the one from birch leaves.'

Summary: Inflection is on the head of the modifier that is closest to the ellipsis site.

2.2 Structure in the ellipsis site?

- It is often argued for the **unpronounced syntactic structure in the ellipsis site** (see Merchant (2001), and also the recent overviews by van Craenenbroeck & Merchant (2013) and Merchant (2019)).
- Also a common assumption in the literature on nominal ellipsis (see Corver & van Koppen (2009), Alexiadou & Gengel (2012), Merchant (2014), Saab & Lipták (2016), Saab (2019), see also Cinque (2012)).
- Elided noun shows **connectivity effects** to the rest of the noun phrase:

1. Elided noun **can assign a Θ -role** to its argument:

- (8) Mon muj-in^{jə} [t^jε pisat^{jə}l^j-t^j skučnə-stə].
I find-PST.3.O.1SG.S this writer-DEF.SG.GEN boring-EL
'{Context: In which novel did you find a mistake?} I found in this author's boring [novel].'

2. A modifier of the elided noun **can be extracted** as in non-elliptical contexts:

- (9) Mon af soda-sa, kin^j kolga Katia rama-z^{jə}
I NEG know-NPST.3SG.O.1SG.S who.GEN about Katia buy-PST.3SG.O.3SG.S
[s^jə oc^ju-t^j]
this big-DEF.SG.GEN
'{Context: Katia bought books.} I don't know, about whom Katia bought this big one.'

3. **Idiosyncratic markings** of arguments are preserved under ellipsis:

A direct object of an atelic verb can be marked by the postposition *esə*, marking is preserved with nominalization and under ellipsis.

- (10) a. Son šuv-s t^jε lotk-t^j esə i lotka-s^j.
she dig-PST.3[SG] this hole-DEF.SG.GEN in.IN and spot-PST.3[SG]
'She was digging this hole and then stopped'. (Kozlov, 2018, 423)
- b. [T^jε zadača-t' esə kuvaka az-ən-kšn^jə-ma-s^j]
this task-DEF.SG.GEN in.IN long say-FREQ-FREQ-NZR-DEF.SG
iz^j pomaga.
NEG.PST[3SG] help.CN
'This long explanation of the task didn't help.' (Zakirova, 2018)
- c. [T^jε zadača-t^j esə kuvaka-s^j] iz^j pomaga.
this task-DEF.SG.GEN in.IN long-DEF.SG NEG.PST[3SG] help.CN
'{Context: Did you read explanations?} The long [explanation] of this task did not help.'

Conclusion: Diagnostics show that the elided noun is syntactically present.

2.3 Restrictions on inflection

- There are two types of nominal modifiers in Moksha. Modifiers of the first type show inflection under ellipsis. Modifiers of the second type are not inflected.
- The first type can be exemplified by adjectives, numerals, participles, or modifiers marked for the indefinite genitive¹ (see the full list in the appendix):

– Adjective

- (11) Mon maks-ən^j [kodamə bəd^jə akšə-n^jd^ji]
I give-PST.1SG which INDEF white-DAT
'{Context: To which cat did you give food?} I gave to a white one.'

– Indefinite genitive

- (12) Min^j rama-s^jk [pona-n^jn^jə-t^j].
we buy-PST.3.O.3PL.S wool-GEN-DEF.SG.GEN
'{Context: Which hat did you buy?} We bought the woolen hat.'

- Definite genitive and lative are among modifiers that do not show inflection (again see appendix for the full list).

- These modifiers can still license inflection: inflection \neq licensing of ellipsis

– Definite genitive:

- (13) T^jε ava-t^j (/ *ava-t^j-ət /
this woman-DEF.SG.GEN woman-DEF.SG.GEN-PL
*ava-t^j-ənzə) ašč-j^j-t^j morkš-t^j lank-sə
woman-DEF.SG.GEN-3SG.POSS.PL be-NPST.3-PL tableDEF.SG.GEN on-IN
'{Context: Whose books are on the shelf? I don't know} This woman's [books] are on the table'.

¹ The genitive marker in the presence of the noun is $-(ə)n^j$, but it is $-(ə)n^jn^jə-$ before inflection of the elided noun. The geminated allomorph is used when a genitive exponent is not word-final

– Lative:

- (14) Son art-əz^{jə} [sportzal-u] (/ *sportzal-u-t^j) ravzə
 she paint-PST.3SG.O.3SG.S **gym-LAT** gym-LAT-DEF.SG.GEN black
 kraska-sə.
 paint-IN
 ‘{Context: Which door did she paint black?} She painted [the door] to the gym
 black.’

What derives the split between inflecting and non-inflecting modifiers?

- In languages with regularly overt concord, modifiers that have **their own ϕ -features** cannot agree with the noun (see Baker (2008)).
 - The inherent ϕ -features intervene and block agreement with another noun.
- (15) **Generalization:**
 A modifier is inflected under ellipsis unless it has its own ϕ -features.
- Adjectives or numerals do not have their own ϕ -features and they get inflected.
 - Definite genitive and lative are nouns with their own features and they cannot show inflection.
 - Potential complication: indefinite genitive.
 - I suggest that this form lacks ϕ -features and functions as an **attributivizer**.²
 - Indefinite genitive can be attached to adverbs, such as ‘yesterday’ and turn them into nominal modifiers.
- (16) a. Son sa-s^j is^jak.
 she come-PST.3[SG] yesterday
 ‘She came yesterday.’
 b. Son rama-z^{jə} [is^jak-ən^j kši-t^j].
 she buy-PST.3SG.O.3SG.S yesterday-GEN bread-DEF.SG.GEN
 ‘She bought yesterday’s bread.’

- Additionally: Inflection under ellipsis correlates with predicative agreement.
 - Agreement in the predicative position is another property that follows from the presence / absence of ϕ -features (see Baker (2008) and a large-scale survey by Stassen (1992, 2005)).
- Adjectives and indefinite genitive show number agreement in the predicative position:

- (17) S^jin^j jomla-t. (18) Kud-t^jn^jə šuftə-n^jn^jə-t.
 they small-PL house-DEF.PL wood-GEN-PL
 ‘They are small.’ ‘The houses are wooden.’

- Definite genitive and lative do not agree in number:

- (19) Kol^əənd^jəma-t^jn^jə t^jε st^jər^j-n^jε-t^j / *s^jt^jər^j-n^jε-t^j-(ə)t^j
 toy-DEF.PL this girl-DIM-DEF.SG.GEN girl-DIM-DEF.SG.GEN-PL
 ‘The toys are this girl’s.’

² The peculiarity of this form is reflected in Moksha grammars: Indefinite genitive is not included in the list of cases in some descriptions of Moksha grammar; see Kolyadyonkov & Zavodova (1962, 189-192) and Cygankin (1980, 112).

- (20) T^jε ki-t^jn^jə vir^j-i / *vir^j-i-t.
 this road-DEF.PL forest-LAT forest-LAT-PL
 ‘These roads are to the forest.’

Summary: Inflection under ellipsis is restricted as nominal concord:

- Inflection appears on the head of the modifier.
- Modifiers with their own ϕ -features are not infected.

3 Existing approaches

Licensing of *pro* (see Kester (1996a,b), see also Lobeck (1995))

- Ellipsis site is occupied by *pro* and that *pro* has to be identified and licensed. The modifier agrees with *pro* to license it.

Substantivization (see Bošković & Şener (2014))

- Modifiers are substantivized and therefore marked for nominal features.

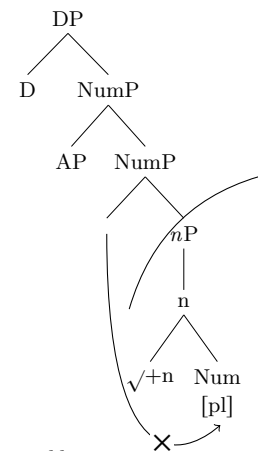
Main problem:

- The data in section 2.2 have shown that the ellipsis site contains a full-fledged nominal structure; i.e., there is no *pro* or nominalization of the remnant.

Cliticization (see Dékány (2011, 51-53, 2015), Lipták & Saab (2014), Ruda (2016), Saab & Lipták (2016), Murphy (2018), and Saab (2019)).

- The Lowering of the number features is blocked by ellipsis.³
- ‘Stranded’ affix is repaired by Local Dislocation (see Embick & Noyer (2001); Embick (2007)).

(21) Ellipsis



(22) Linearization → Local Dislocation
 adjective * PL adjective-PL

Some problems:

- Approach does not capture inflection with complex modifiers.
 - Inflection is predicted to appear on the argument of the participle, rather than on the participle.

³ See Georgieva et al. (2019) for an evidence against the assumption that ellipsis block Lowering.

- Inflection is over-generated on all nominal modifiers.

(23) Summary: Existing approaches to inflection under ellipsis

	<i>pro</i>	NMN	cliticization
Inflection only under ellipsis	✓	✓	✓
On the head of the branching modifier	✓	✓	✗
Connectivity effects	✗	✗	✓
Ellipsis without inflection	✗	✓(?)	✗
Correlation to the predicative agreement	✓	✗	✗

4 Ellipsis reveals concord

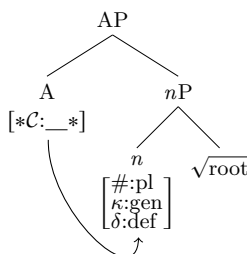
- Existing approaches share a idea that a nominal modifier receives nominal features because the noun is absent. Inflection is necessary to satisfy some constraint.

1. Moksha has nominal concord.
2. Concord features are not spelled out if the noun is present.

4.1 Concord

- Nominal concord is **derived by Agree**.
 - See Carstens (2001, 2018), Baker (2008), Kramer (2009), Danon (2011), Toosarvandani & van Urk (2014), Landau (2016), Ingason & Sigurðsson (2017), Puškar (2017, 2018), *pace* Pesetsky (2013), Norris (2014, 2018), Baier (2015), Bayırlı (2017), Hanink (2018) and Ackema & Neeleman (2019)
- AP-over-NP structure (see, e.g., Abney (1987), Bošković (2005), Murphy (2018), and Salzmann (2018)).
- Number, case and definiteness features (in Moksha) originate in the *n* head.
- Nominal modifiers have unvalued probes for the corresponding features.⁴
- Probes on a nominal modifier always target the features on the same node (i.e., on the noun), I assume that they all probe together.
- Probe features are indicated as [**F**] (following the notation in Heck & Müller (2007)).

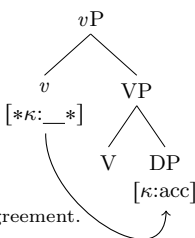
(24) Nominal concord



Low origin of definiteness and case is **not problematic** (just looks unusual).

- **Definiteness:** It originates on *n*, but it is then interpreted on D (cf. Hankamer & Mikkelsen (2005) and Heck et al. (2009)).
- **Case:** Heads that are traditionally conceived of as case assigners have in fact an unvalued (or, alternatively unchecked) case feature.

(25) Case assignment



⁴ See Wintner (2000), Kramer (2010) for other examples of definiteness agreement.

4.2 Morphological realization

- In Moksha, concord is not realized on a modifier if the noun is present.

Spell-Out

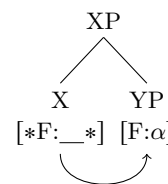
- Syntactic structure is spelled out in steps (see Chomsky (2000, 2001), and also Uriagereka (1999)).
- *What constitutes the spell-out domain:* C and *v**; also complements of the category-defining heads (see Marantz (2007) and Embick (2010) among others); each phrase (see Müller (2011)); each Merge induces Spell-Out (see Wojdak (2008) and Starke (2009)); each syntactic operation (see Epstein & Seely (2002))
- I pursue a **local approach to Spell-Out**:

(26) Spell-Out:

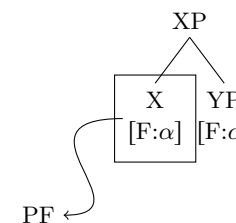
Spell-Out applies to a node that has no *unsatisfied* features, where a feature counts as unsatisfied if it can induce operations.

- Features that trigger Agree ([**F:_**]) and Merge ([*•F•*]) count as unsatisfied. These features are satisfied after the operations that they bring about apply.

(27) No Spell-Out of X



(28) Spell-Out applies to X



- Spell-Out domains do not correspond to syntactically inaccessible domains (see, e.g., Dobler et al. (2011), Piggott & Travis (2017), Martinović (2019), and also Chomsky (2008, 143)).
- There are different ways of deriving opacity in syntax without appealing to Spell-Out; see Rackowski & Richards (2005), Müller (2011), and Keine (2019) for some options.

Probe Conversion

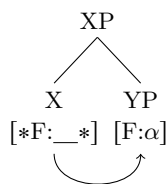
- A life cycle of a probe includes two operations:⁵ **Valuation and Conversion**.⁶
- Probes are valued by Agree.
- After this they are subject to Probe Conversion:

⁵ Another splitting up of Agree was proposed by Arregi & Nevins (2012). They suggest that Agree is a two-step process that consists of Agree-Link and Agree-Copy.

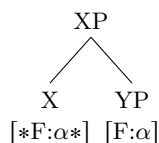
⁶ Analyzing the mechanism for the deletion of uninterpretable features suggested by Chomsky (2001), Epstein & Seely (2002) come to the conclusion that it requires probes to be different from originally valued features shortly after valuation. Chomsky suggests that unvalued features correspond to uninterpretable features and have to be deleted before transfer to LF. Deletion should apply after valuation, but originally unvalued features should still be detectable, so that it can be ensured that the right kinds of features undergo deletion.

(29) Probe Conversion:
 Probe Conversion applies to valued probes and makes them identical to originally valued features.

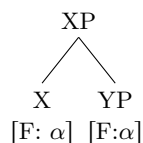
(30) Agree



(31) Valuation



(32) Probe Conversion

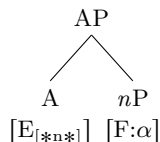


- Features that trigger internal and external Merge are not morphologically realized.
- I suggest that this property is generalized over all operation inducing features:
 - **Only converted probes can be morphologically realized.**

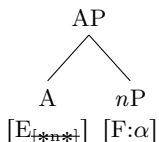
Ellipsis

- [E]-features responsible for different types of ellipsis have a different feature specifications (see Merchant (2001, 2005)).
- Nominal ellipsis triggering [E] has an **unchecked nominal feature** $[E_{[*n*]}]$ that ensures the local presence of a noun.

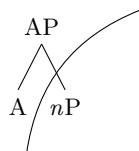
(33) Under ellipsis



(34) [E]-licensing



(35) Ellipsis of nP

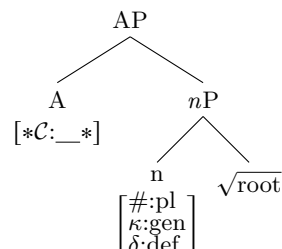


4.3 Analysis

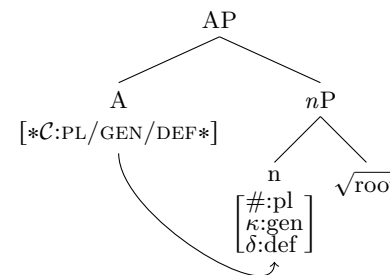
No ellipsis

- A nominal modifier has an unvalued $[*C:_*]$
- After its agreement with the noun, there are not unsatisfied features on the modifier \rightarrow Spell-Out can apply
- Concord probe is not converted at this point, which means that it is not subject for Vocabulary Insertion.
- This generates an **absence of concord exponents in non-elliptical contexts** in Moksha.

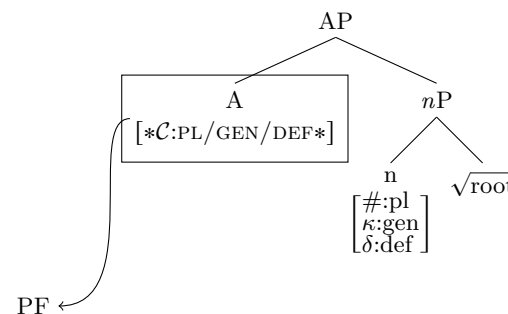
(36) Step I: Unvalued C



(37) Step II: Agree

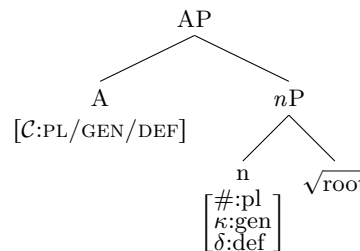


(38) Step III: Spell-Out

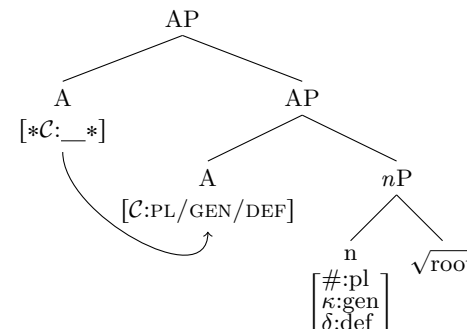


- C undergoes Probe Conversion, but this comes too late to feed realization.
- After Conversion, a probe can serve as a goal for further agreement.

(39) Step IV: Probe Conversion



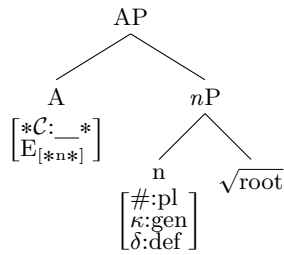
(40) Step V: Further Agree



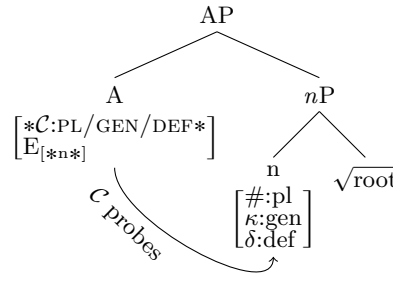
Under ellipsis

- Concord exponents are present under ellipsis because a **concord probe is not the last unsatisfied feature on a nominal modifier**.
- If the noun is elided, its modifier, bears an [E]-feature with unchecked nominal sub-feature.
- I assume that features on a nominal modifier are ordered: C probes first.

(41) Step I: Unvalued C
Unchecked $[E_{[*n*]}]$



(42) Step II: Agree

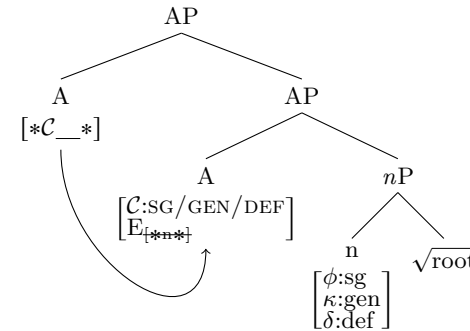


(46) Mon and-in^jə [mazi akšə-t^j] / *[mazi-t^j akšə] /
I feed-PST.3.O.1SG.S nice white-DEF.SG.GEN nice-DEF.SG.GEN white
*[mazi-t^j akšə-t^j].
nice-DEF.SG.GEN white-DEF.SG.GEN

‘{Which cat did you feed?} I fed the beautiful white one.’

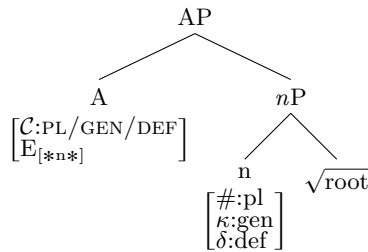
- This restriction follows from requirements on ellipsis licensing:
 - One [E]-feature is enough to trigger ellipsis of the noun.
 - It immediately precedes the ellipsis site (see Merchant (2001, 2005) and Aelbrecht (2011)).

(47) Higher adjective

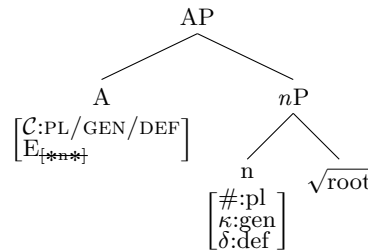


2. Inflection appears **on the head** of the branching modifiers (recall the example with a participle phase).

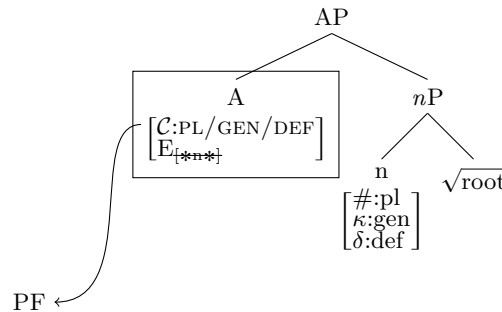
(43) Step III: Probe Conversion



(44) Step IV: [E]-licensing



(45) Step V: Spell-Out



(48) Mon rama-jn^jə

I buy-PST.3.O.1SG.S

a. [keluv-ən^j lopa-stə ti-f-t^j]
birch-GEN leaf-EL make-PTCP.RES-DEF.SG.GEN

b. [ti-f-t^j keluv-ən^j lopa-stə]
make-PTCP.RES-DEF.SG.GEN birch-GEN leaf-EL

c. *[ti-f keluv-ən^j lopa-stə-t^j].
make-PTCP.RES birch-GEN leaf-EL-DEF.SG.GEN

‘{Context: Which liquor did you buy?} I bought the [liquor] made from birch leafs.’

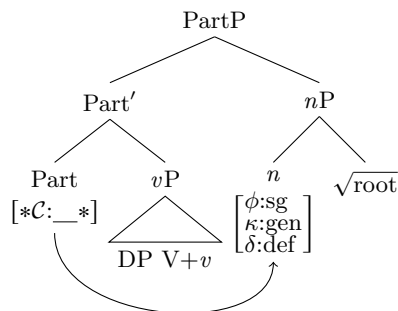
- Complex modifiers were argued to be challenging for AP(/PartP/NominalP etc.)-over-NP (see Kayne (1994), Alexiadou & Wilder (1998), Cinque (2010), and Roehrs (2018)).

- This produces **overt nominal concord in elliptical contexts**.

Other properties

1. Concord is overtly realized only on the **linearly last remnant**:

- The modifier first combines with its argument and then with the noun. (49) [participle argument]



- Probes from Part head project to Part' that c-commands nP (see, e.g. Béjar & Rezac (2009), Carstens (2016), and Keine & Dash (2019) on probe projection)
- The directionality of branching in PartP is not fixed. This allows the participle to be located before or after its argument.

3. Modifiers that have their **own ϕ -features** cannot show concord inflection under ellipsis.

- Baker (2008) shows that the restriction on inflection is due to **intervention**: Concord probes will always encounter the features on the modifier first.
- The same logic is applicable here. Independently of the exact position of the probes within the modifying DP, they will first encounter the features from within this DP.

5 Conclusions

5.1 Cross-linguistics variation

- There are two types of languages with nominal concord:
 - Concord exponents are always present
Estonian, German, Russian etc.
 - Concord is morphologically realized only if the noun is elided
Moksha and potentially other languages with inflecting ellipsis, i.e. *Hungarian, Turkish, Ossetic etc.*

Why concord is always present in languages of the first type?

- I assume that the order of some operations is not universally determined, and can be fixed language-specifically (see Georgi (2014, 2017), Assmann et al. (2015), and Murphy & Puškar (2018))
 - In Moksha, Spell-Out can apply between two steps of Agree, i.e., after Valuation and before Probe Conversion.
 - In Russian, Valuation and Probe Conversion cannot be separated by Spell-Out.

(50) Morphological realization of concord exponents

	noun present	noun elided
I. Spell-Out follows Agree <i>Russian-type</i>	+	+
II. Spell-Out splits Agree <i>Moksha-type</i>	–	+

5.2 Valuation does not imply realization

- It is often assumed that features can be present in syntax but not morphologically realized.
- The analysis here is an attempt to develop to a more principled approach to non-realization of features present in syntax.
- It is based on two assumptions:

1. **Spell-Out is local.** It applies to a node that has no unsatisfied features, where a feature counts as unsatisfied if it can induce syntactic operations (Agree or Merge).
2. Agree is split into **Valuation and Probe Conversion.**
 - After Valuation, a probe has a value.
 - After Conversion, it is morphologically realized and can be targeted by further Agree.

References

Abney, S. 1987. The English Noun Phrase in its Sentential Aspect. Doctoral thesis, Massachusetts Institute of Technology, Boston.

Ackema, P. & A. Neeleman. 2019. Unifying Nominal and Verbal Syntax: Agreement and Feature Realisation. Ms. University of Edinburgh, UCL. Available at <https://ling.auf.net/lingbuzz/004921>.

Aelbrecht, L. 2011. *The Syntactic Licensing of Ellipsis*. Amsterdam: John Benjamins.

Alexiadou, A. & K. Gengel. 2012. *NP ellipsis without focus movement/projections: the role of Classifiers*, 177–205. Cambridge University Press.

Alexiadou, A. & C. Wilder. 1998. Adjectival modification and multiple determiners. In *Possessors, Predicates and Movement in the Determiner Phrase*, eds. A. Alexiadou & C. Wilder, 303–332. Amsterdam: John Benjamins.

Arregi, K. & A. Nevins. 2012. *Morphotactics: Basque Auxiliaries and the Structure of Spellout*. Dordrecht: Springer Netherlands.

Assmann, A., D. Georgi, F. Heck, G. Müller & P. Weisser. 2015. Ergatives move too early: On an instance of opacity in syntax. *Syntax* 18:343–387.

Babby, L. H. 1975. *A Transformational Grammar of Russian Adjectives*. Mouton, The Hague. Berlin, Boston: De Gruyter Mouton.

Babby, L. H. 2009. *The Syntax of Argument Structure*. Cambridge: Cambridge University Press.

Baier, N. 2015. Adjective Agreement in Noon: Evidence for a Split Theory of Noun-Modifier Concord. In *Proceedings of the 45th Meeting of the North East Linguistic Society*, volume I, eds. T. Bui & D. Özyıldız, 67–80. Amherst: GLSA Publications.

Bailyn, J. F. 2012. *The Syntax of Russian*. Cambridge: Cambridge University Press.

Baker, M. 2008. *The Syntax of Agreement and Concord*. New York: Cambridge University Press.

Bayırılı, İ. K. 2017. The universality of concord. Doctoral thesis, Massachusetts Institute of Technology, Boston.

Béjar, S. & M. Rezac. 2009. Cyclic agree. *Linguistic Inquiry* 40:35–73.

Bond, O. & M. Chumakina. 2016. Agreement domains and targets. In *In Archi: Complexities of agreement in cross-theoretical perspective*, eds. O. Bond, G. G. Corbett, M. Chumakina & D. Brown, 43–76. Oxford: Oxford University Press.

Borik, O. 2014. The argument structure of long and short form adjectives and participles in Russian. *Lingua* 149:139 – 165. SI: Aspect and Argument Structure of Adjectives and Participles.

Bošković, Ž. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59:1–45.

Bošković, Ž. 2014. Now I'm a Phase, Now I'm Not a Phase: On the Variability of Phases with Extraction and Ellipsis. *Linguistic Inquiry* 45:27–89.

Bošković, Ž. & S. Şener. 2014. The Turkish NP. In *Crosslinguistic studies on nominal reference: With and Without Articles*, eds. P. C. Hofherr & A. Zribi-Hertz, 102–140. Leiden: Brill.

Carstens, V. 2001. Multiple agreement and case deletion: Against ϕ -incompleteness. *Syntax* 4:147–163.

Carstens, V. 2016. Delayed Valuation: A Reanalysis of Goal Features, “Upward” Complementizer Agreement, and the Mechanics of Case. *Syntax* 19:1–42.

Carstens, V. 2018. Concord and labeling. To appear in *Agree to Agree: Agreement in the Minimalist Programme*, eds. P. W. Smith, K. Hartmann, and J. Mursell.

- Chomsky, N. 1973. Conditions on transformations. In *A Festschrift for Morris Halle*, eds. S. Anderson & P. Kiparsky, 232–286. New York: Academic Press.
- Chomsky, N. 1995. *The Minimalist Program*. Cambridge: The MIT Press.
- Chomsky, N. 2000. Minimalist Inquiries: The Framework. In *Step by Step*, eds. R. Martin, D. Michaels & J. Uriagereka, 89–155. Cambridge: MIT Press.
- Chomsky, N. 2001. Derivation by phase. In *Ken Hale. A Life in Language*, ed. M. Kenstowicz, 1–52. Cambridge: MIT Press.
- Chomsky, N. 2008. On Phases. In *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*, eds. R. Freidin, C. P. Otero & M. L. Zubizarreta, 133–166. Cambridge: MIT Press.
- Chomsky, N. 2019. Lectures. Paper presented at University of California, Los Angeles, April 29 – May 2.
- Cinque, G. 2010. *The Syntax of Adjectives: A Comparative Study*. Cambridge: MIT Press.
- Cinque, G. 2012. A generalization concerning DP-internal ellipsis. *Iberica: An International Journal of Theoretical Linguistics* 4:174–193.
- Citko, B. 2011. Multidominance. In *The Oxford Handbook of Linguistic Minimalism*, ed. C. Boeckx, 119–142. Oxford: Oxford University Press.
- Corver, N. & M. van Koppen. 2009. Let's focus on noun phrase ellipsis. *Groninger Arbeiten zur Germanistischen Linguistik* 48:2–26.
- van Craenenbroeck, J. & J. Merchant. 2013. *Ellipsis phenomena*, 701–745. Cambridge Handbooks in Language and Linguistics. Cambridge University Press.
- Cygankin, D. V. 1980. *Grammatika mordovskih yazykov. Fonetika. Grafika. Orfografiya. Morfoloziya. [Grammar of the Mordvin languages. Phonetics. Graphics. Orthography. Morphology.]*. Saransk: Mordovskij gosudarstvennyj universitet.
- Danon, G. 2011. Agreement and DP-Internal Feature Distribution. *Syntax* 14:297–317.
- Dékány, É. 2011. A profile of the Hungarian DP: the interaction of lexicalization, agreement, and linearization with the functional sequence. Doctoral thesis, CASTL, University of Tromsø, Tromsø.
- Dékány, É. 2015. The syntax of anaphoric possessives in Hungarian. *Natural Language & Linguistic Theory* 33:1121–1168.
- Dobler, E., H. Newell, G. L. Piggott, T. Skinner, M. Sugimura & L. d. Travis. 2011. Narrow syntactic movement after spell-out. Ms. McGill University, Montreal.
- Egorova, A. D. 2018. Sentencial'nye aktanty [sentential actants]. In *Elementy mokshanskogo yazyka v tipologicheskom osveshchenii [Elements of Moksha language in the typological perspective]*, eds. S. I. Toldova & M. A. Kholodilova, 666–706. Moskva: Buki Vedi.
- Embick, D. 2007. Linearization and local dislocation: Derivational mechanics and interactions. *Linguistic analysis* 33:303–336.
- Embick, D. 2010. *Localism versus globalism in morphology and phonology*. Cambridge: MIT Press.
- Embick, D. & R. Noyer. 2001. Movement Operations after Syntax. *Linguistic Inquiry* 32:555–595.
- Epstein, S. D. & T. D. Seely. 2002. *Rule Applications as Cycles in a Level-Free Syntax*, chapter 3, 65–89. John Wiley & Sons, Ltd.
- Frampton, J. & S. Gutmann. 2000. Agreement is feature sharing. Ms. Northeastern University, Boston.
- Frampton, J. & S. Gutmann. 2006. How sentences grow in the mind: Agreement and selection in an efficient minimalist syntax. In *Agreement Systems*, ed. C. Boeckx, 121–157. Linguistik Aktuell/Linguistics Today 92, Amsterdam: John Benjamins.
- Geist, L. 2010. The argument structure of predicate adjectives in Russian. *Russian Linguistics* 34:239–260.
- Georgi, D. 2014. Opaque interactions of Merge and Agree: On the nature and order of elementary operations. Doctoral thesis, University of Leipzig, Leipzig.
- Georgi, D. 2017. Patterns of movement reflexes as the result of the order of merge and agree. *Linguistic Inquiry* 48:585–626.
- Georgieva, E., M. Salzmann & P. Weisser. 2019. Ellipsis does not bleed Lowering - Evidence from do-support and fragment answers in Finno-Ugric. Paper presented at North East Linguistics Society (NELS 50), Massachusetts Institute of Technology, Boston, October 25–27.
- Ghaniabadi, S. 2010. The Empty Noun Construction in Persian. Doctoral thesis, University of Manitoba, Winnipeg.
- Hanink, E. A. 2018. Structural Sources of Anaphora and Sameness. Doctoral thesis, University of Chicago, Chicago.
- Hankamer, J. & L. Mikkelsen. 2005. When Movement Must Be Blocked: A reply to Embick and Noyer. *Linguistic Inquiry* 36:85–125.
- Heck, F. & G. Müller. 2007. Extremely local optimization. In *WECOL 34: Proceedings of the 34th Western Conference on Linguistics*, eds. E. Brainbridge & B. Agbayani, 170–183. California State University: Fresno.
- Heck, F., G. Müller & J. Trommer. 2009. A phase-based approach to Scandinavian definiteness marking. *STUF – Language Typology and Universals Sprachtypologie und Universalienforschung* 64:258–268.
- Hettich, B. G. 2002. Ossetian: Revisiting Inflectional Morphology. Master's thesis, University of North Dakota.
- Ingason, A. K. & E. F. Sigurðsson. 2017. The interaction of adjectival structure, concord and affixation. In *Proceedings of the 47th Meeting of the North East Linguistic Society*, eds. A. Lamont & K. Tetzloff, 89–98. Amherst: GLSA Publications.
- Johnson, K. 2017. Rethinking linearization. Ms. University of Massachusetts at Amherst.
- Kashkin, E. V. 2018. Opredeľennost' [definiteness]. In *Elementy mokshanskogo yazyka v tipologicheskom osveshchenii [Elements of Moksha language in the typological perspective]*, eds. S. I. Toldova & M. A. Kholodilova, 122–153. Moskva: Buki Vedi.
- Kayne, R. 1994. *The antisymmetry of syntax*. Cambridge: MIT Press.
- Keine, S. 2019. Selective Opacity. *Linguistic Inquiry* 50:13–62.
- Keine, S. & B. Dash. 2019. The ups and downs of agreement. Ms. University of Southern California, Los Angeles.
- Kester, E.-P. 1996a. Adjectival Inflection and the Licensing of Empty Categories in DP. *Journal of Linguistics*, 32:57–78.
- Kester, E.-P. 1996b. The nature of adjectival inflection. Doctoral thesis, Utrecht University, Utrecht.
- Kholodilova, M. 2016. Moksha Non-Verbal Predication. In *Mordvin languages in the field*, eds. K. Shagal & H. Arjava, 229–259. Uralica Helsingiensia 10, Helsinki: University of Helsinki (Department of Finnish, Finno-Ugrian and Scandinavian Studies) & Finno-Ugrian Society.
- Kholodilova, M. A. 2018. Imennaja predikatsija [nominal predication]. In *Elementy mokshanskogo yazyka v tipologicheskom osveshchenii [Elements of Moksha language in the typological perspective]*, eds. S. I. Toldova & M. A. Kholodilova, 616–632. Moskva: Buki Vedi.
- Kolyadyonkov, M. N. & R. A. Zavodova. 1962. *Grammatika mordovskih (mokshanskogo i erzyanskogo) yazykov*, volume I. Saransk: Mordovskoe knizhnoe izdatel'stvo.
- Kozlov, A. A. 2018. Akcional'naya semantika osnov i derivacionnyj vid [aktionsart of verbal stems and derivational aspect]. In *Elementy mokshanskogo yazyka v tipologicheskom osveshchenii [Elements of Moksha language in the typological perspective]*, eds. S. I. Toldova & M. A. Kholodilova, 417–437. Moskva: Buki Vedi.
- Kramer, R. 2009. Definite Markers, Phi Features and Agreement: A Morphosyntactic Investigation of the Amharic DP. Doctoral thesis, University of California, Santa Cruz, Santa Cruz.
- Kramer, R. 2010. The Amharic Definite Marker and the Syntax–Morphology Interface. *Syntax* 13:196–240.
- Landau, I. 2016. DP-internal semantic agreement: A configurational analysis. *Natural Language & Linguistic Theory* 34:975–1020.
- Lipták, A. & A. Saab. 2014. No N-raising out of NPs in Spanish: ellipsis as a diagnostic of head movement. *Natural Language & Linguistic Theory* 32:1247–1271.
- Lobeck, A. 1995. *Ellipsis: Functional Heads, Licensing, and Identification*. New York: Oxford university Press.
- Marantz, A. 2007. Phases and words. In *Phases in the theory of grammar*, ed. S.-H. Choe, 199–222. Seoul: Dong In.
- Martinović, M. 2019. Interleaving syntax and postsyntax: Spellout before syntactic movement. *Syntax* 22:378–418.
- Matushansky, O. 2004. Going through a phase. In *Perspectives on phases*, eds. M. McGinnis & N. Richards, 157–181. MIT Working Papers in Linguistics 49, Cambridge: MIT, MIT Working Papers in Linguistics.
- Merchant, J. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
- Merchant, J. 2005. Fragments and ellipsis. *Linguistics and Philosophy* 27:661–738.
- Merchant, J. 2014. Gender mismatches under nominal ellipsis. *Lingua* 151:9–32. Structural Approaches to Ellipsis.
- Merchant, J. 2019. Ellipsis: A survey of analytical approaches. In *The Oxford Handbook of Ellipsis*, eds. J. van Craenenbroeck & T. Temmerman, 19–45. Oxford: Oxford University Press.
- Müller, G. 2011. *Constraints on Displacement. A Phase-Based Approach*. Amsterdam: Benjamins.
- Murphy, A. 2018. Pronominal inflection and NP ellipsis in German. *The Journal of Comparative Germanic Linguistics* 21:327–379.
- Murphy, A. & Z. Puškar. 2018. Closest conjunct agreement is an illusion. *Natural Language & Linguistic Theory* 36:1207–1261.
- Norris, M. 2014. A Theory of Nominal Concord. Doctoral thesis, University of California, Santa Cruz, Santa Cruz.
- Norris, M. 2018. Unmarked case in Estonian nominals. *Natural Language & Linguistic Theory* 36:523–562.
- Pesetsky, D. 2013. *Russian Case Morphology and the Syntactic Categories*. Cambridge: MIT Press.
- Pesetsky, D. & E. Torrego. 2007. The syntax of valuation and the interpretability of features. In *Phrasal and Clausal Architecture: Syntactic derivation and interpretation. In honor of Joseph E. Emonds*, eds. S. Karimi, V. Samian & W. K. Wilkins, 262–294. Linguistik Aktuell/Linguistics Today 101, Amsterdam: John Benjamins.

- Piggott, G. & L. Travis. 2017. Wordhood and word-internal domains. In *The Structure of Words at the Interfaces*, eds. H. Newell, M. Noonan, G. Piggott & L. d. Travis, 41–74. New York: Oxford University Press.
- Puškar, Z. 2017. Hybrid agreement: modelling variation, hierarchy effects and phi-feature mismatches. Doctoral thesis, Universität Leipzig, Leipzig.
- Puškar, Z. 2018. Interactions of Gender and Number Agreement: Evidence from Bosnian/Croatian/Serbian. *Syntax* 21:275–318.
- Rackowski, A. & N. Richards. 2005. Phase edge and extraction: A tagalog case study. *Linguistic Inquiry* 36:565–599.
- Roehrs, D. 2018. Adjectives are in phrasal positions. Ms. University of North Texas, Denton.
- Ruda, M. 2016. NP ellipsis (effects) in Polish and Hungarian: FFs on Fs, Agree, and Chain Reduction. *The Linguistic Review* 33:649–677.
- Saab, A. 2019. Nominal ellipsis. In *The Oxford Handbook of Ellipsis*, eds. J. van Craenenbroeck & T. Temmerman, 526–561. Oxford: Oxford University Press.
- Saab, A. & A. Lipták. 2016. Movement and deletion after syntax: Licensing by inflection reconsidered. *Studia Linguistica* 70:66–108.
- Salzmann, M. 2018. Revisiting the NP vs. DP debate. Ms. Leipzig University, Leipzig.
- Starke, M. 2009. Nanosyntax: A short primer to a new approach to language. *Nordlyd* 36:1–6.
- Stassen, L. 1992. A hierarchy of predicate encoding. In *Meaning and Grammar: Cross-linguistic perspectives*, eds. M. Kefer & J. van der Auwera, 179–201. Berlin: Mouton de Gruyter.
- Stassen, L. 2005. Predicative Adjectives. In *The World Atlas of Language Structures*, eds. M. Haspelmath, M. S. Dryer, D. Gil & B. Comrie, 478–481. New York – Oxford: Oxford University Press.
- Svenonius, P. 2004. On the edge. In *Peripheries: Syntactic edges and their effects*, eds. D. Adger, C. de Cat & G. Tsoulas, 261–287. Dordrecht: Kluwer.
- Toosarvandani, M. & C. van Urk. 2014. Agreement in Zazaki and the nature of nominal concord. Ms. University of California, Santa Cruz and Massachusetts Institute of Technology, Boston.
- Uriagereka, J. 1999. Multiple spell-out. In *Working minimalism*, eds. S. D. Epstein & N. Hornstein, 251–282. Cambridge: MIT Press.
- Wintner, S. 2000. Definiteness in the Hebrew noun phrase. *Journal of Linguistics* 36:319–363.
- Wojdak, R. 2008. *The Linearization of Affixes: Evidence from Nuu-chah-nulth*. Dordrecht: Springer Netherlands.
- Zakirova, A. N. 2018. Nominalizacii [nominalizations]. In *Elementy mokshanskogo yazyka v tipologicheskom osveshchenii [Elements of Moksha language in the typological perspective]*, eds. S. I. Toldova & M. A. Kholodilova, 753–778. Moskva: Buki Vedi.

6 Appendix A: More on Moksha

- Direct objects are genitive or unmarked. Verbs agree with marked direct objects (cf. (51a)) and do not agree with unmarked direct objects (cf. (51b)).

- (51) a. Mon n^jεj-sa kn^jiga-t^j / *kn^jiga.
I see-NPST.3SG.O.1SG.S book-DEF.SG.GEN book
- b. Mon n^jεj-an kn^jiga / *kn^jiga-t^j.
I see-NPST.1SG book book-DEF.SG.GEN
'I see a / the book.'

Noun phrase

- (52) Part of the Moksha nominal paradigm illustrated by the noun vel^jə 'village'

	Indefinite declension		Definite declension	
	SG	PL	SG	PL
nominative	vel ^j ə	vel ^j ə-t	vel ^j ə-s ^j	vel ^j ə-t ^j n ^j ə
genitive	vel ^j ə-n ^j		vel ^j ə-t ^j	vel ^j ə-t ^j n ^j ə-n ^j
dative	vel ^j ə-n ^j d ^j i		vel ^j ə-t ^j i	vel ^j ə-t ^j n ^j ə-n ^j d ^j i
ablative	vel ^j ə-də			
inessive	vel ^j ə-sə			
elative	vel ^j ə-stə			

- Nominal modifiers like adjectives, numerals and demonstratives are obligatorily prepositional:

- (53) Mon n^jεj-in^jə [ravžə pin^jə-t^j] / *[pin^jə-t^j ravžə].
I see-PST.3.O.1SG.S black dog-DEF.SG.GEN dog-DEF.SG.GEN black
'I saw the black dog.'

- Possessors and arguments are usually prepositional, but postposition is possible as well:

- (54) Kol^jε kepəd^j-əz^jə [t^jε ava-t^j sumka-nc] / [
Kolia grab-PST.3SG.O.3SG.S this woman-DEF.SG.GEN bag-3SG.POSS.SG.GEN
sumka-nc t^jε ava-t^j].
bag-3SG.POSS.SG.GEN this woman-DEF.SG.GEN
'Kolia grabbed this woman's bag.'

Ellipsis

- Exponents that appear on the nominal modifier under ellipsis can differ from exponents on the noun in the corresponding non-elliptical context.

- (55) a. Mon soda-sa [t^jε ava-t^j].
I know-NPST.3SG.O.1SG.S this woman-DEF.SG.GEN
'I know this woman.'
- b. Mon soda-sa [t^jε-n^j] / *[t^jε-t^j].
I know-NPST.3SG.O.1SG.S this-GEN this-DEF.SG.GEN
'{Which of these women do you know?} I know this one.'

Non-verbal predication

- In the third person present tense, adjectives cannot take verbal tense inflection, but agree with a third person subject in number. (see Kholodilova (2016, 2018) on a detailed description of non-verbal predication in Moksha).

- (56) Son jomla / *jomla-j. (57) S^jin^j jomla-t / *jomla-^j-t^j.
he small small-NPST.3[SG] they small-PL small-NPST.3-PL
'He is small.' 'They are small.'

- If the subject is a first or second person pronoun or if the predication has reference to the past, the predicate is obligatorily marked for tense.
- Agreement for number and person then does not depend on ϕ -features on the non-verbal predicate. This due to the tense marking.
- The T head that is higher than the subject is responsible for the predicative agreement, so that the subject is the closest goal for agreement, and features on the non-verbal predicate cannot intervene (see also Baker (2008, 56-63)).

- (58) Min^j t^jε ucit^jə^j-n^jə-tamə. (59) Min^j ton^j ucit^jə^j-n^jə-l^j-əmə.
we this teacher-DEF.PL-NPST.1PL we you.GEN teacher-DEF.PL-IMPFF-PST.1PL
'We are these teachers.' 'We were your teachers.'

Appendix B: Restrictions on modifiers

Inflection under ellipsis – YES

- Adjectives, numerals, demonstratives, participles, indefinite genitive, and elative marked modifiers (see examples above).
- Nouns without a case marker:

(60) Pan^jčf-t rama-s^j [sen^jəm s^jel^jmə-s^j].
 flower-PL buy-PST.3[SG] blue eye-DEF.SG
 ‘{Context: Which girl bought flowers?} The [girl] with blue eyes bought flowers.’

- Caritive:

(61) Son maks^j [zon^jt^jik-ftəmə-t^j].
 he give.PST.3[SG] umbrella-CAR-DEF.SG.DAT
 ‘{Context: To whom did he give his coat?} He gave to the [person] without an umbrella’.

Inflection – NO

- Examples with definite genitive and lative are given above.
- Definite dative:

(62) Mon n^jej-sa [vir^j-t^ji ki-t^j] /
 I see-NPST.3SG.O.1SG.S forest-DEF.SG.DAT road-DEF.SG.GEN
 *[vir^j-t^ji-t^j].
 forest-DEF.SG.DAT-DEF.SG.GEN
 ‘{Context: Which road do you see?} I see [the road] to the forest.’

- Non-definite dative:

(63) Mon juma-ft-in^jə [kodamə bəd^jə s^jt^jər^j-n^jε-n^jd^ji
 I disappear-CAUS-PST.3.O.1.SG.S which INDEF girl-DIM-DAT
 kaz^jn^jə-t^j] / *[s^jt^jər^j-n^jε-n^jd^ji-t^j].
 present-DEF.SG.GEN girl-DIM-DAT-DEF.SG.GEN
 ‘{Which present did you lose?} I lost [a present] for some girl.’

Non-verbal predication

- Inflection under ellipsis correlates with agreement in the predicative position:
 - Inflection under ellipsis \longleftrightarrow Agreement in the predicative position
 - No inflection under ellipsis \longleftrightarrow No agreement

Agreement – YES

- Genitive of the indefinite declension:

(64) Kud-t^jn^jə šuftə-n^jn^jə-t.
 house-DEF.PL wood-GEN-PL
 ‘The houses are wooden.’

- Caritive:

(65) T^jε kaza-t^jn^jə s^jura-ftəmə-t.
 this goat-DEF.PL antler-CAR-PL
 ‘The goats are without antlers.’

- Elative:

(66) T^jε nastojka-t^jn^jə keluv-ən^j lopa-stə-t.
 this liquor-DEF.PL birch-GEN leaf-EL-PL
 ‘These liquors are from birch leaves.’

Agreement – NO

- Genitive of the definite declension:

(67) Kol^jənd^jəma-t^jn^jə t^jε st^jər^j-n^jε-t^j / *s^jt^jər^j-n^jε-t^j-(ə)t^j
 toy-DEF.PL this girl-DIM-DEF.SG.GEN girl-DIM-DEF.SG.GEN-PL
 ‘The toys are this girl’s.’

- Dative of the definite declension:

(68) Kolənd^jəma-t^jn^jə t^jε s^jt^jər^j-n^jε-t^ji / *s^jt^jər^j-n^jε-t^ji-t.
 toy-DEF.PL this girl-DIM-DEF.SG.DAT girl-DIM-DEF.SG.DAT-PL
 ‘The toys are for this girl.’

- Dative of the indefinite declension:

(69) Kol^jənd^jəma-t^jn^jə kodamə bəd^jə s^jt^jər^j-n^jε-n^jd^ji / *s^jt^jər^j-n^jε-n^jd^ji-t.
 toy-DEF.PL which INDEF girl-DIM-DAT girl-DIM-DAT-PL
 ‘The toys are for some girl.’

- Lative:

(70) T^jε ki-t^jn^jə vir^j-i / *vir^j-i-t.
 this road-DEF.PL forest-LAT forest-LAT-PL
 ‘These roads are to the forest.’

Summary

- Modifiers that show inflection under ellipsis, also show number agreement in the predicative position.
- Agreement is ungrammatical for forms that are not inflected under ellipsis.

(71) Inflection on an element under ellipsis and in the predicative position

	Under ellipsis	In predicative position
Adjective	YES	YES
Indefinite genitive	YES	YES
Caritive	YES	YES
Elative	YES	YES
Unmarked noun	YES	YES
Definite genitive	NO	NO
Definite dative	NO	NO
Indefinite dative	NO	NO
Lative	NO	NO

Against the silent noun analysis

- Babby (1975; 2009, 93-110) and Bailyn (2012, 68-70) suggest that adjectives in the predicative position modify a silent noun.⁷

(72) [modifier \emptyset_{noun}]

- If so, restrictions on agreement in the predicative position can be reduced to restrictions on inflection under ellipsis.

Empirical evidence against the presence of null noun:

1. No usage that is restricted to adnominal modification

- A form marked for relative can be used in the adnominal position to mark clothes.
- Such use of the relative form is ungrammatical otherwise.

- (73) a. $S^j in^j \text{ sen}^j \text{əm panar-stə } s^j t^j \text{ər}^j \text{-n}^j \text{ε-t}^j n^j \text{ə}$.
 they blue dress-EL girl-DIM-DEF.PL
 ‘They are the girls in blue dresses.’
 b. $*S^j t^j \text{ər}^j \text{-n}^j \text{ε-s}^j \text{ sa-s}^j \text{ sen}^j \text{əm panar-stə}$.
 girl-DIM-DEF.SG come-PST.3[SG] blue dress-EL
 ‘The girl came in the blue dress.’
 c. $*S^j in^j \text{ sen}^j \text{əm panar-stə} / *panar-stə-t$.
 they blue dress-EL dress-EL-PL
 ‘They are in blue dresses.’

This restriction is unexpected if the relative form modifies a silent noun.

2. Differences in inflection

- Inflection may differ from the one that is expected in an elliptical context.

- (74) $S^j in^j \text{ c}^j \text{eber}^j \text{ doktər}^j \text{-n}^j \text{ə}$. (75) $S^j in^j \text{ c}^j \text{ebε}^j \text{-t}^j / *c^j \text{ebε}^j \text{-n}^j \text{ə}$.
 they good doctor-DEF.PL they good-PL good-DEF.PL
 ‘They are the good doctors.’ ‘They are good.’

Conclusion: Number inflection cannot result from ellipsis. It is subject agreement.

Appendix C: Ways to rescue cliticization

- The cliticization analysis as it stands over-generates inflection on all modifiers.
- One might think that their analysis may be easily fixed by adding of some restrictions on the positioning of affixes.
- What how such restriction could look like? Given that the necessity for the new host arises only quite late at PF

1. Something like ‘One case rule’ (see Pesetsky (2013)) would still not derive the data though, because there are not necessary 2 case affixes:

- (76) $[S\text{portzal-u}] / *[s\text{portzal-uf-t } \text{art-f-t}] \text{ senger}^j \text{ε kraska-sə}$.
 gym-LAT gym-LAT-PL paint-PTCP.RES green paint-IN
 ‘{Context: Those doors are red} and [the doors] to the gym are painted green.’

2. A filter that prohibits two sets of ϕ -features from different noun phrases to be realized within one phonological word will also block subject and object agreement:

- (77) $S\text{on } n^j \text{εj-əz}^j \text{-n}^j \text{ə} \text{ t}^j \text{ε } \text{lomat}^j \text{-t}^j \text{n}^j \text{ə-n}^j$.
 she see-PST.3SG.S.3PL.O this people-DEF.PL-GEN
 ‘She saw these people.’

Appendix D: Concord

Agree derives concord

- Above I pursue the Agree based approach to concord.
 - No additional redundancy: Can the new operations (i.e., post-syntactic features copying or downwards feature percolation) derive other phenomena captured by Agree?
 - There are no good reasons to assume that concord is different from other instances of agreement.

Norris’s 4 arguments that concord is different:

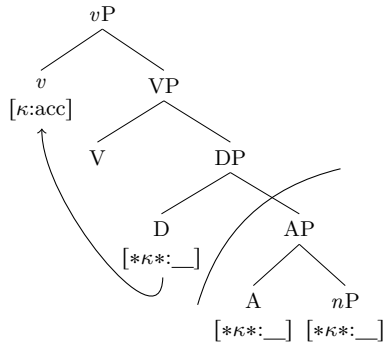
1. In some languages, concord is realized on multiple elements within DP, while clausal agreement appears only on the predicate.
 - Clausal agreement can also appear on multiple hosts: on the main verb and on the auxiliary, or on other elements such as adverbs and postpositions (see Bond & Chumakina (2016) on these phenomena in Archi).
2. Only heads participate in predicative agreement, while elements showing nominal concord can occupy a specifier and an adjunct position as well.
 - This depends on assumptions about the architecture of DP, cf. the analysis developed below.
3. Predicative agreement takes place between two distinct extended projections, but a probe and a goal are within one extended projection under nominal concord.
 - An interesting observation, but how this could be problematic for any existing implementation of Agree?
4. Predicative agreement may be restricted by the case of a potential goal, but such restrictions are not attested for nominal concord.
 - Case sensitivity of predicative agreement is sometimes attributed to the fact that oblique nouns are embedded in PP/KP and this prevents probes from reaching the features of DP. Given that all nominal modifiers are introduced below a PP/KP, no connection to case is expected.

⁷ The analysis is designed to account for differences between long and short form adjectives in Russian; see Geist (2010) and Borik (2014) for some empirical shortcomings of this analysis.

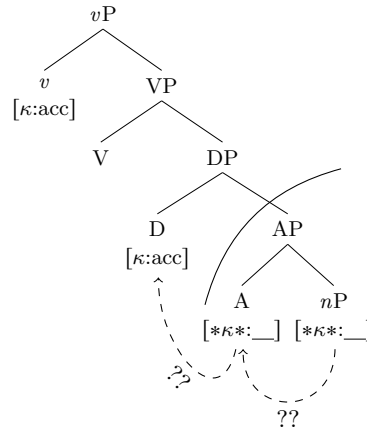
Low origin of case

- High origin of case is violates SCC and PIC.

(78) Case assignment



(79) Illegitimate concord



- DP constitutes a proper sub-part of the structure when the case is assigned, so that case concord will violate SCC.
- If DP (or any highest nominal projection) is a phase (see, e.g., Svenonius (2004), Matushansky (2004), and Bošković (2014)), case concord within the direct object DP also violates even the weakest version of the PIC.

(80) Strict Cycle Condition (SCC): (Chomsky, 1973, 1995, 2019)

Within the current domain Δ_1 , no operation may exclusively affect positions within another domain Δ_2 that is dominated by Δ_1 .

(81) Phase Impenetrability Condition (PIC): (Chomsky, 2001)

Given the structure $[_{ZP} Z \dots [_{HP} \alpha [H YP]]]$, where H and Z are phase heads, the domain of H is not accessible to operations at ZP, only H and its edge are accessible to such operations.

- There is one existing solution to this problem: **Feature Sharing** (see Frampton & Gutmann (2000, 2006), Pesetsky & Torrego (2007), and Kramer (2009) and Danon (2011) for such analysis of concord).
 - Problem for PIC stands: Some nodes dominating the shared probe should not be accessible to operations at vP .
 - A challenge for the realization: A dominated by multiple nodes constituent is typically spelled out only in one of its positions (see Citko (2011), Johnson (2017)), but a shared feature is morphologically realized in all of them.

Appendix E: Inflection in the verbal domain

- Moksha has **overt predicative agreement** with respect to ϕ -features.

(82) Mon luv-an.
I read-NPST.1SG
'I read.'

(83) T^jinⁱ luv-i.
you.PL read-NPST.2PL
'You (pl) read.'

- The analysis as it stands predicts absence of overt agreement morphology in the verbal domain as well.
- **Solution:** Case and ϕ -features do not probe together in the clausal domain.⁸
- Empirical evidence:
 - Case assignment does not require presence of ϕ -agreement; cf. (84).
 - ϕ -agreement can also proceed without case assignment; cf. (85).

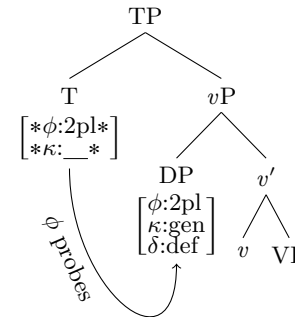
(84) Sⁱt^jər^j-n^jε-s^j mašt-i pɛn^jakud-ən^j uš-n^jə-mə.
girl-DIM-DEF.SG can-NPST.3[SG] chimney-GEN fire_up-FREQ-INF
'A girl can fire up a chimney.'
(Egorova, 2018)

(85) Modamaɣ-n^jə-n^j možnə-t vatka-m-s.
potato-DEF.PL-GEN can-PL peel-INF-ILL
'One can peel potatoes.'

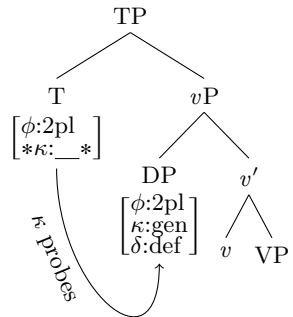
(86) ϕ -agreement

(87) ϕ Conversion

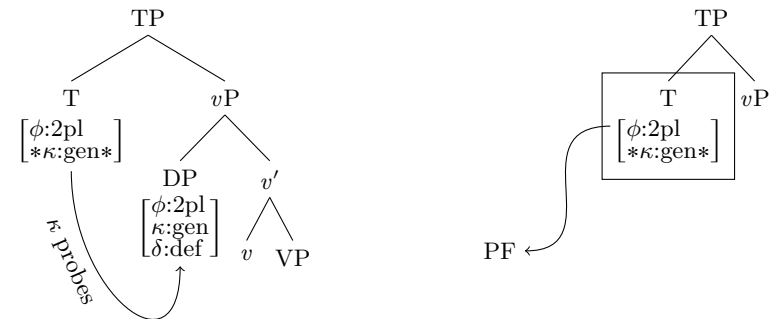
(A. Kozlov p.c.)



(88) κ -agreement



(89) Spell-Out



⁸ Another option: Order of operation is determined for the domain (e.g., a phase) rather than for the language. In verbal domain, Probe Conversion must apply before Spell-Out.