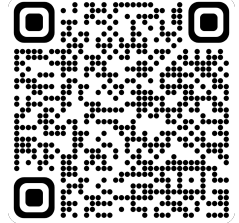# Adjectival "concord" in North Sámi is not concord (and it's two different phenomena)[*]

CLS 59; April 29, 2023
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Overview

► Sometimes adjectives are inflected for case/number, sometimes not

► They always carry *some* overt morphology in addition to the root

► **Proposals**:

   ▷ When adjectives are inflected it's not real concord with their head noun, and the different cases are not even a unified phenomenon

      ▷ In one case, inflection is the result of a stranded affix configuration.

      ▷ In the other, it's predicative agreement, mediated by Pred.

   ▷ The morphology provides evidence for a root+categorizer approach

1   Empirical description

1.1   Basic cases

► If an adjective is next to overt noun: attributive morphology. Else, full inflection (case and number).

(1)   **Attributive: its own dedicated form**
      rukses   {*biila*   /   *biilla-t*   /   *billa-in*   /   ...}
      red.ATTR   car.**NOM.SG**   car-**NOM.PL**   car-**LOC.PL**
      '(A/the) red car; (the) red cars; in (the) red cars; ...'

(2)   **Predicative: full concord**
      a.   *biila*   *lea*   ***ruoksat***   b.   *biilla-t*   *lea-t*   ***ruoksad-at***
           car.**NOM.SG**   be.3**SG**   **red.NOM.SG**   car-**NOM.PL**   be-3**PL**   **red-NOM.PL**
           'A/the car is red'   '(The) cars are red'

---

(3) **NP Ellipsis: full concord**
ruoksad-is
red-LOC.SG
['Which house do they live in?'] 'In the red one'

1.2 NORTH SÁMI DOES HAVE CONCORD, JUST NOT ON ADJECTIVES

► Demonstratives and numerals show full concord with their noun in case/number.

► In all these examples there's an adjective too but the pattern still holds without it

(4) *dá-**in***   *árbevirolaš*   *guovllu-**in***
     this-**LOC.PL**   traditional.**ATTR**   area-**LOC.PL**
     'In these traditional districts'   (LOC.PL: *árbevirolaččain*)

(5) *guvtt-**iin***   *oanehis*   *cealkka-ovdamearkka-**in***
     two-**COM.SG**   short.**ATTR**   example-sentence-**COM.SG**
     'With two short example sentences'   (COM.SG: *oanehaččain*)

(6) [*Dá-**inna***   *guvtt-**iin***   *ođđa*   *guovddáž-**iin***]_DP *mii* *nanne-t …*
     this-**COM.SG**   two-**COM.SG**   new.**ATTR**   center-**COM.SG**   we   strengthen-1PL
     'With these two new centers we strengthen...'   (COM.SG: *ođđasiin*)

1.3 ATTRIBUTIVE FORM: MORPHOLOGY

► Sometimes = nominative singular, **sometimes** ≠. Impossible to derive one from the other in a regular way.

► Non-monotonic relation between the two forms: it's not that NOM.SG = ATTR + X or viceversa, they're (often) both stem + something.

(7)

a. **ATTR = NOM.SG:**

amas	'strange'
bahča	'bitter'
dievas	'full'
buorre	'good'
nuorra	'young'
čiegus	'secret'

b. **ATTR   ≠   NOM.SG:**

guhkes	*guhkki*	'long'
čeahpes	*čeahppi*	'clever'
ođđa	*ođas*	'new'
čáppa	*čáppat*	'beautiful'
asehis	*asehaš*	'thin'
rukses	*ruoksat*	'red'

► Somewhat reassuring: although the morphophonology is nightmareish, you can analyze attributive morphology as suffixal

▷ Some of the allomorphs of this suffix contain a floating mora, that *does things* to the stem. Follow Svenonius (2009) and you'll be good.

1.4 Distribution of attributive vs inflected forms

Case 1 – within DP, overt noun: attributive form

► If you have an attributive adjective and there's an overt noun, you get the attributive form regardless, can't have any inflection

(8) a. ***rukses*** {*biila* / *biilla-t* / *billa-**in*** / …}
red.ATTR car.NOM.SG car-NOM.PL car-LOC.PL
'(A/the) red car; (the) red cars; in (the) red cars; …'

b. * *ruoksat* *biila,* *ruoksad-**at*** *biilla-**t**,* *ruoksad-**in*** *billa-**in***
red.NOM.SG car.NOM.SG red-NOM.PL car-NOM.PL red-LOC.PL car-LOC.PL

Case 2 – within DP, no overt noun: full inflection

► If we have an attributive adjective but no overt noun, you must have inflection

(9) Elaborated from Valijärvi & Kahn (2017: 61):
a. *mun válddán* ***ruoksad-a*** / **rukses*
I take.1SG **red-ACC.SG** red.ATTR
'I'll take the red one'

b. ***ruoksad-is*** / **rukses*
red-LOC.SG red.ATTR
[Context: 'Which house do they live in?'] 'In the red one'

Case 3 – predicative position: full inflection

► In a predicative context (after copula, small clause, etc.), inflected form:

(10) Elaborated from Valijärvi & Kahn (2017: 61)
a. *biila* *lea* ***ruoksat*** / **rukses*
car.NOM.SG be.3SG **red.NOM.SG** red.ATTR
'A/the car is red'

b. *biilla-**t*** *lea-t* ***ruoksad-at*** / **rukses*
car-NOM.PL be-3PL **red-NOM.PL** red.ATTR
'(The) cars are red'

► You'll tell me, but you're only showing us nominative forms, so maybe there's only concord for number and not for case? No, for case too:

(11) *áhčči* *daga-i* [SC *da-n* *fatnas-**a*** *nu oanehačč-**a***]
father.NOM.SG made-PST.3SG that-ACC.SG boat-ACC.SG so short-ACC.SG
'Father made that boat so short' (Nielsen 1926: 319) (ATTR: *oanehis*)

Case 4.1 – stacked adjectives, within DP with overt noun: attributive

► All adjectives with attributive form:

(12) [*ivdnás*   *oskkolaš*   *čoakkalmasa-id*]_DP *birra*
      colorful.ATTR religious.ATTR meeting-ACC.PL   about
      '… about colorful religious meetings'   (ACC.PL: *ivdnáid, oskolaččaid*)

(13) *muhtumii-dda* *ledje*   *dát*   *várra*   [*váivves*
      someone-ILL.PL were.3PL this.NOM.PL maybe   lame.ATTR
           dárbbašlaš   *barggu-t*]_DP
           necessary.ATTR job-NOM.PL
      'To some people these were maybe lame (but) necessary jobs'
                                                (NOM.PL: *vávvit, dárbbašlaččat*)

Case 4.2 – stacked adjectives, within DP with no overt noun: mixed

► If you have stacked adjective but the noun is elided, only the last adjective takes full
   inflection, and the preceding one are in the attributive form

(14) [Context: in an office there are various types of folders, of different colours and
      different age. I want to know where you put some documents. You say:]

      a.   *ođđa*   *ruoksad-**iidda***   c.   * *ođđas-iidda* *ruoksad-iidda*
           new.ATTR red-ILL.PL   new-ILL.PL   red-ILL.PL
           'In the new red ones'

      b.   * *ođđa*   *rukses*   d.   * *ođđas-iidda* *rukses*
           new.ATTR red.ATTR   new-ILL.PL   red.ATTR

2 ANALYSIS

2.1 Saab & Lipták's (2016) story, adapted

► Similar patterns to the Sámi one in several languages: Hungarian (Saab & Lipták
   2016), Moksha Mordvin (Privizentseva 2021a,b), Turkish (Bošković & Şener 2014),
   Kannada (Baker 2008)

      ▷ Sámi has the added challenge of special attributive morphology

► Hungarian has a similar pattern (but easier to deal with, really). Here's a version of
   Saab & Lipták's (2016) story adapted to North Sámi:

(15)   a. *rukses   biilla-id*
           red.ATTR   car-ACC.PL
           'red cars'

       b.
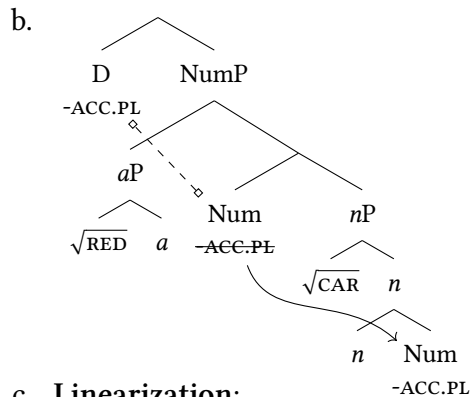
       c. **Linearization**:
           $|\sqrt{\text{RED}} \circ a|$ $|\sqrt{\text{CAR}} \circ n \circ \text{Num}_{[\text{ACC.PL}]}|$

(16)   a. *ruoksad-iid*
           red-ACC.PL
           'Red ones'

       b.
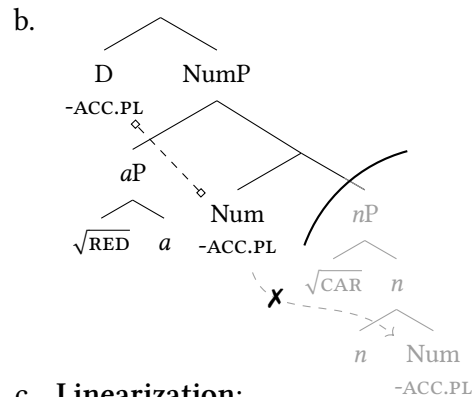
       c. **Linearization**:
           $|\sqrt{\text{RED}} \circ a \circ \text{Num}_{[\text{ACC.PL}]}|$

► **Non-elliptical cases** (15b):

  ▷ Some concord process (pick your favorite) spreads case and number features across the DP (dashed lines)

  ▷ This process doesn't involve *a*: adjectives are simply a non-concordant category in North Sámi

  ▷ The Num head, carrying features [ACC, PL], undergoes Lowering down to *n*

  ▷ Result: case and number morphology is realized on demonstratives and nouns, but not on adjectives

  ▷ Realization as *rukses*: more on this later, stay tuned

► **NPE cases** (16b):

  ▷ Same concord process

  ▷ Ellipsis of the *n*P bleeds Lowering of the Num head

  ▷ Stranded affix configuration: the Num head carries morphology that needs to be realized, but has no host

  ▷ String-vacuous Local Dislocation: that morphology simply "leans onto" the first thing to its left, in this case the adjective

  ▷ Realization as *ruoksadiid*: keep staying tuned

► **Correctly predicts the pattern with stacked adjectives**, where only the rightmost one gets the inflection

> **Interim summary:**
>
> ▶ North Sámi adjectives **don't concord**.
>
> ▶ Ellipsis of the *n*P created a **stranded affix configuration**, so the surviving suffix just gets glued to the next thing to its left = the adjective.
>
> > ▷ Argument: pattern with **stacked adjectives** under NPE.

3 PREDICATIVE ADJECTIVES

3.1 PREDICATIVE ADJECTIVES ≠ NPE

▶ It would be nice if we could unify the two cases where adjectives are inflected, NPE and predicative ones. Here's how the story would go:

> ▷ NPE contexts: morphology on adjective is the result of a stranded affix configuration (see previous section)
> ▷ Predicative contexts: they're secretly elliptical contexts too. You don't have "the car is red", you have "the car is a red ~~one~~/a red ~~car~~".

▶ **But we can't! Predicative really ≠ elliptical**:

> ▷ Let's consider English (and many other languages) for a moment. In attributive position, with an overt noun or *one*, of course you can have several stacked adjectives; in predicative position you can't.

(17)   a.   *Here's some shirts. This one is a **cool flowery** one.*
       b.   * *This shirt is **cool flowery**.*

> ▷ What's wrong in (17b)? Presumably, the functional structure that's hosting the two adjectives in (17a) is not there, so you can't have two
> ▷ That structure must be connected to there being a noun or some noun-y thing, not just a PredP
> > ▷ Whether it's adjuncts to NP or Cinque-ian projections it doesn't matter: you can't have it if you only have PredP

▶ Now back to North Sámi:

> ▷ Let's grant that in predicative contexts there really is a covert *one*, or some other kind of nominal structure.
> ▷ Nominals (both overt and covert) can have stacked adjectives, as shown
> ▷ The prediction is therefore that you could have stacked adjectives in predicative position, contrarily to English and other languages.

▷ But you can't have stacked adjectives in predicative position, in any order and any combination of attributive/inflected form

(18) a. * *Elle   biila   lea {odđa   rukses}   / {rukses odđa}*
         Ellen.GEN car.NOM.SG is   new.ATTR red.ATTR

  b. * *Elle   biila   lea {odas   ruoksat} / {ruoksat odas}*
        Ellen.GEN car.NOM.SG is   new.NOM.SG red.NOM.SG

  c. * *Elle   biila   lea {odđa   ruoksat} / {rukses   odas}*
        Ellen.GEN car.NOM.SG is   new.ATTR red.NOM.SG   red.ATTR new.NOM.SG

  d. * *Elle   biila   lea {odas   rukses}   / {ruoksat   odđa}*
        Ellen.GEN car.NOM.SG is   new.NOM.SG red.ATTR   red.NOM.SG new.ATTR
        Intended: *'Ellen's car is new red'

► Possible worry: out of these, why isn't the most promising one (18c) at least parsable as an elliptical noun with stacked adjectives ('this car is a new red one')? The string should be identical.

  ▷ If you give the speakers a context that strongly biases them towards ellipsis, they do accept it, somewhat begrudgingly ("it's not the best sentence I've ever heard, but you could say it that way in that situation"):

(19) [Context: I'm a car dealer, and I'm trying to sell you a car. I know that your current car is red, and I'm showing you a couple different options, and pointing to one of them I say:]
*Dát lea **odđa**   **ruoksat***
DEM is   **new.ATTR** **red.NOM.SG**
'This is a new red one' (implicitly referring to your current red car)

  ▷ Without such a context, the speakers have no basis to posit NPE, so they just get a bare predicative parse, which is ungrammatical with multiple adjectives
  ▷ Ergo, **predicative adjectives are not elliptical**.

3.2   ANALYSIS: CYCLIC AGREE

► I'm borrowing Abramovitz's (2021) analysis of Koryak

  ▷ Essentially implementing Baker's (2008) in less hand-wavey terms, but still respecting the SCOPA; see also Balusu (2014) on Telugu along the same lines.

(20)   **Predicative adjectives**:
    biilla-t   *lea-t*   **ruoksada-t**
    car-NOM.PL are-3PL **red-NOM.PL**
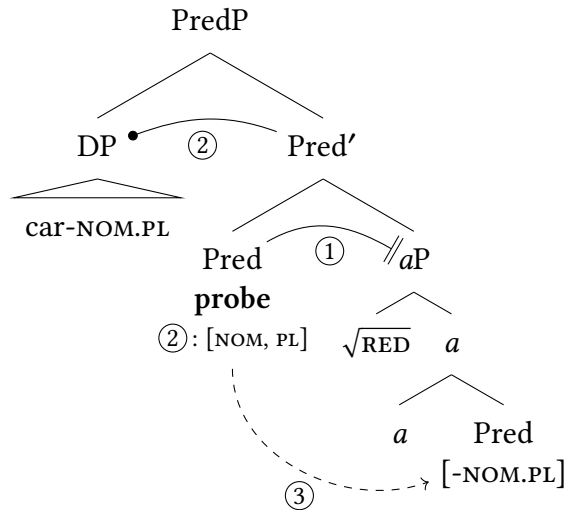
▶ (Note: I assume the copula to be the realization on some head further up, like T; Pred is its own thing.)

▶ Cyclic Agree (Béjar & Rezac 2009): a probe always looks into its c-command domain, but this domain can be expanded by reprojection (because Bare Phrase Structure).

   ▷ ①: the probe, aiming to copy case and number features, looks into its c-command domain, for now only [$_{aP}$ √RED a]; no viable targets; no copying.

   ▷ ②: upon merging the subject DP, the probe reprojects to the bar level, and its c-command domain now includes the DP. Agreement succeeds, the probe gets [NOM, PL] features.

   ▷ ③: Pred undergoes Lowering onto a

4   MORPHOLOGY: EVIDENCE FOR ROOT + CATEGORIZERS

▶ So far I've only talked about "inflected" vs "uninflected" adjectives, but... they sometimes look pretty different, in non-obvious ways:

(21)   a.   **rukses**   *biilla-id*   b.   **ruoksad-iid**
         red.ATTR car-ACC.PL   **red-ACC.PL**
         '(The) red cars'   '(The) red ones'

(22)   a.   **ođđa**   *biila*   b.   **ođas**
         new.ATTR car-NOM.SG   **new-NOM.SG**
         '(A/the) new car'   '(A/the) new one'

► 'Red' (21): the stem is $\sqrt{\text{RUOKS}}$, but what's *-es*? What's *-ad*?

  ▷ Monophthong vs diphthong is a regular thing in the language.

► 'New' (22): the stem is $\sqrt{\text{OĐA}}$, but what's *-s*? What about the consonant length?

► In general: if NPE causes case/number features to get 'glued' on top of the adjective, how come the attributive morphology "disappears"?

► **... Or does it, really?**

  ▷ For many adjectives, there's a clear overt attributive suffix, and nothing overt between the stem and case/number suffixes
  ▷ But for many others ('red', 'new', (21)-(22)), there's both an overt attributive suffix, and also an "augment" = overt material between the stem and case/number suffixes

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► **My proposal**:

  ▷ The .ATTR suffix is the word-final spell-out of a^0
  ▷ The augment is the non-word-final spell-out of a^0

---

(23) a. $a \Leftrightarrow {}^{-\mu}es \; / \; \{\sqrt{\text{RED}}, ...\}\, \_\#$ (24) a. $a \Leftrightarrow {}^{-\mu} \; / \; \{\sqrt{\text{NEW}}, ...\}\, \_\#$
      b. $a \Leftrightarrow {-ad} \; / \; \{\sqrt{\text{RED}}, ...\}\, \_$ b. $a \Leftrightarrow {-s} \; / \; \{\sqrt{\text{NEW}}, ...\}\, \_$

► For many adjectives, the augment will be ∅, so it gives the impression that "attributive morphology disappears". That's a misleading way to look at it!

► Why "word-final" and not "before case/number features"?

  ▷ You also get the augment in comparative and superlative adjectives, even when in attributive position = when they're uninflected for case/number!

(25) *ruoks-**ad**-abbo biilla-id*
      red-**AD**-COMP   car-ACC.PL
      'Redder cars' (cf. *ruoks-ad-abbu-id* 'redder ones')

5 FUTURE RESEARCH: COORDINATION

► Intriguingly different from the **stacked adjective** cases, where you only inflect the rightmost one:

(26) *ođđa   ruoksad-**iidda***
      new.ATTR   red-ILL.PL
      'In the new red ones'

▶ **Coordination**: whatever form you would get if you only had one adjective, you get on both conjuncts.

(27) *mu **rukses** **ja** **čáhppes** girjj-iin*
my **red.ATTR** **and** **black.ATTR** book-COM.SG
'With my red and black book'

(28) **Coordinated predicative adjectives**:

    a. *skuvla-lanj-at le-dje **smávv-át** **ja** **bálljás-at***
    school-room-NOM.PL be-PST.3PL **small-NOM.PL** **and** **bare-NOM.PL**
    'The classrooms were small and bare' (ATTR: *smávva, báljes*)

    b. *seaibi lea **guhkki** **ja** **suohkat***
    tail.NOM.SG is **long.NOM.SG** **and** **thick.NOM.SG**
    'The tail is long and thick' (ATTR: *guhkes, suhkkes*)

(29) **Coordinated adjectives in NPE contexts**:
*ost-en **čáhpp-ada** **ja** **ruoks-ada***
buy-PST.1SG **black-ACC.SG** **and** **red-ACC.SG**
'I bought a black and red one' (e.g. about sweaters; **osten čáhppes ja ruoksada*)

▶ The Saab & Lipták (2016) analysis does well for the stacked adjectives, but how do we get the coordination facts? Where case/number morphology goes on both

    ▷ Saab & Lipták (2016) don't talk about coordination at all, but here are the Hungarian facts for coordination, courtesy of Dóra Tákacs. This is exactly what their approach would predict.

    ▷ For Sámi this is harder! Compare (30b) to (29).

(30) a. *piros és fekete könyv-**ek**-**et***
    red and black book-**PL-ACC**
    'Red and black books' (no inflection on the adjectives)

    b. *a piros és feket-**ét** vettem meg*
    the red and black-**ACC** bought.1SG PRT
    'I bought a red and black one' (one book, with two different colors; if you put ACC on both colors, you bought two different books)

▶ What do we do with the coordination facts?

    ▷ The Hungarian case in (30b) is much more well-behaved than the Sámi case in (29): it's exactly what the Saab & Lipták (2016) system predicts

    ▷ The Sámi case is weirder in this respect. Loose thoughts:

    ▷ Some people have dealt with similar issues (determiner spreading on adjectives in Semitic, weird concord facts in German) by saying stuff like "coordinations are syntactically weird objects, basically an unordered set. When you do Local Dislocation (the "leaning" step) of a morpheme onto a coordination constituent, this can't but apply pointwise to both conjuncts"

▷ Alternatives: if you think of coordination in multidominance terms, this looks like "reverse ATB"? You have two things undergoing Lowering onto one single thing (that is the daughter of both of them)

(31)

6 CONCLUSION

► What looks like concord isn't concord, and isn't even a unified phenomenon.

► NPE cases: "concord" is really the result of repairing stranded affixation, by leaning the stranded features to their left.

► Predicative adjectives: they demonstrably can't be NPE, so they have to be dealt with differently. Cyclic Agree works.

► The morphology is quite complex. If you accept that a notion of "morphologically word-final" is theoretically coherent, then you can deal with it.

  ▷ This makes prediction about compounding and derivation, but the empirical picture is quite disorienting (see Appendix A).
  ▷ It might turn out to be the case that the correct boundary is not "word-final" but something more sophisticated, perhaps related to stress domains, etc. Maybe blaming the phonology a little bit more might rescue us from letting the morphology access information it shouldn't have?

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A   More on spelling out *a*

A.1   The augment is not related to case/number

> ► **My proposal:**
>   ▷ The .ATTR suffix is the word-final spell-out of a^0
>   ▷ The augment is the non-word-final spell-out of a^0

► Possible alternative:

   ▷ Spell *a* out as the **augment in the presence of case/number features** (or any nominal stuff like *n*, Num, ...)
   ▷ Elsewhere, spell *a* out as ATTR

► **Problem**: you get the augment even when there's no case/number to speak of.

► **Comparatives and superlatives** are *always* syncretic between ATTR and NOM.SG.

   ▷ But like in the positive degree, the attributive form won't inflect for case/number, contrary to e.g. predicative forms:

(32)   **Predicative: inflected**

a. *dán*   *jagi*   *prográmma*   *lea*   ***guhki-t***   *go*
   this.GEN.SG   year.GEN.SG   program.NOM.SG   is   **long-COMP.NOM.SG**   than
      goassege   *ovdal*
      ever   before
   'This year's program is longer than ever before'

b. *maŋŋe-juolggi-t*   *leat*   ***guhki-bu-t***   *ja*   *gievrra-bu-t*   *go*
   hind-leg-NOM.PL   are   **long-COMP-NOM.PL**   and   strong-COMP-NOM.PL   than
      ovda-juolggi-t
      front-leg-NOM.PL
   'The hind legs are longer and stronger than the front legs'

(33)   **NPE: inflected**
jurddaš=mat   *dá-id*   ***ođđas-abbu-id***
think.IMP.2SG=PRT   this-ACC.PL   **new-COMP-ACC.PL**
'Think about these newer ones'

(34)   **Attributive: not inflected**
áigečállag-a   *ulbmil*   *lea*   *almmuh-it*   [***guhki-t***   *čállosi-id*]$_{\text{DP}}$
journal-GEN.SG   goal.NOM.SG   is   publish-INF   **long-COMP.ATTR**   text-ACC.PL
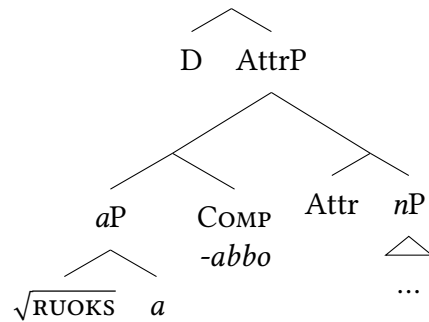'The goal of the journal is to publish longer texts.'

► Look at the paradigm for 'red':

▷ Apart from the positive attributive form *rukses*, **all** forms contain the segment *-ad-* between the stem and following material.

▷ **Including** the attributive comparative and superlative forms

▷ These don't involve any case/number features!

$\sqrt{\text{RUOKS}}$	**Pos**		**Comp**		**Sup**	
'red'	**SG**	**PL**	**SG**	**PL**	**SG**	**PL**
ATTR	*ruks-es*		*ruoksad-at/-abbo*		*ruoksad-amos*	
NOM	*ruoksat*	*ruoksad-at*	*ruoksad-at/-abbo*	*ruoksad-abbo-t*	*ruoksad-amos*	*ruoksad-amos-at*
ACC	*ruoksad-a*	*ruoksad-iid*	*ruoksad-abbo*	*ruoksad-abbu-id*	*ruoksad-amos-a*	*ruoksad-amos-iid*
GEN	*ruoksad-a*	*ruoksad-iid*	*ruoksad-abbo*	*ruoksad-abbu-id*	*ruoksad-amos-a*	*ruoksad-amos-iid*
ILL	*ruoksad-ii*	*ruoksad-iidda*	*ruoksad-abbu-i*	*ruoksad-abbu-ide*	*ruoksad-amos-ii*	*ruoksad-amos-iidda*
LOC	*ruoksad-is*	*ruoksad-iin*	*ruoksad-abbo-s*	*ruoksad-abbu-in*	*ruoksad-amos-is*	*ruoksad-amos-iin*
COM	*ruoksad-iin*	*ruoksad-iiguin*	*ruoksad-abbu-in*	*ruoksad-abbu-iguin*	*ruoksad-amos-iin*	*ruoksad-amos-iiguin*
ESS	*ruoksad-in*		*ruoksad-abbo-n*		*ruoksad-amos-in*	

A.2 ATTRIBUTIVE MORPHOLOGY MUST BE *a*

► Let's imagine a Cinque-ian approach to the syntax of adjectives, where adjectives are merged in the specifier(s) of specific functional projections, let's call them AttrP

► Then .ATTR morphology maybe could be the spell-out not of the categorizing head *a*, but of this Attr head

► **Pro**: Would explain right away why you don't get it in predicative position: there's no Attr head there

► **Con**: Affix order in comparatives and superlatives.

▷ *ruoks-ad-abbo* $\quad$ $\sqrt{\text{RED}}$-augment-COMP

▷ If you want to maintain that the augment realizes the same head as the attributive suffix, this will get you in trouble

▷ Otherwise you could probably hack some complicated VI rules with a lot of conditional allomorphy to get it to add up... but at what cost

(35)

```
              D   AttrP
                 /     \
          aP   COMP   Attr   nP
         /  \  -abbo         /\
    √RUOKS  a                ...
```

> ► **My proposal**:
> > ▷ The .ATTR suffix is the word-final spell-out of a^0
> > ▷ The augment is the non-word-final spell-out of a^0

► This captures it: the only thing all augment-inducing contexts have in common is that *a* is not the last morpheme in the word

► **Morphologically** word-final, **not phonologically**:

  > ▷ Nom.sg is -∅ in some cases, and so is ACC.SG in others
  > ▷ This still triggers the augment! Cf. *ruoks-at-∅* √RED-*a*-NOM.SG

A.3 A CONCRETE IMPLEMENTATION

► In general I follow Svenonius (2009): "weak grade" = base form; "strong grade" = caused by a floating mora, part of some suffixes (sometimes, it's the whole suffix)

► Here's a small selection of groups of adjectives, following Aikio & Ylikoski's (2010) classification in groups.

GROUP B: ATTR IN *-is/-es/-s*

B1: Easy group. Augment is ∅. ATTR = *-s*; stem = weak grade. Often second syllable undergoes *i > e, u > o* (represented by a floating [−high] feature), but this doesn't trigger diphthong simplification

(36)

	NOM.SG			ACC.SG			ATTR	
	Root	*a*	Num	Root	*a*	Num	Root	*a*#
'skillful'	$\sqrt{\text{ČEAHPI}}$ -∅ -$^\mu$ ⇔ *čeahppi*			$\sqrt{\text{ČEAHPI}}$ -∅ -∅ ⇔ *čeahpi*			$\sqrt{\text{ČEAHPI}}$ -$^{[-hi]}s$ ⇔ *čeahpes*	
'long'	$\sqrt{\text{GUHKI}}$ -∅ -$^\mu$ ⇔ *guhkki*			$\sqrt{\text{GUHKI}}$ -∅ -∅ ⇔ *guhki*			$\sqrt{\text{GUHKI}}$ -$^{[-hi]}s$ ⇔ *guhkes*	
'bad'	$\sqrt{\text{HEAJU}}$ -∅ -$^\mu$ ⇔ *headju*			$\sqrt{\text{HEAJU}}$ -∅ -∅ ⇔ *heaju*			$\sqrt{\text{HEAJU}}$ -$^{[-hi]}s$ ⇔ *heajos*	
'fat'	$\sqrt{\text{BUOJDI}}$ -∅ -$^\mu$ ⇔ *buoidi*			$\sqrt{\text{BUOJDI}}$ -∅ -∅ ⇔ *buoiddi*			$\sqrt{\text{BUOJDI}}$ -$^{[-hi]}s$ ⇔ *buoiddes*	

► About 'fat', which seems illogical:

  ▷ The relevant syllable has a glide before the final consonant: /buojd-/
  ▷ Across the language, stops are systematically lengthened following glides: /buojdi/ = [buojtti] ([Bye 2002](#))
  ▷ The moraic suffix in NOM.SG lengthens the -j-, which then is realized as a vowel: /buojjdi/ = [buoidi]

ALLOMORPHY AND LOCALITY:

► How do we make sure that we select the right exponent for Num?

  ▷ Whether NOM.SG is -$^\mu$ and ACC.SG is ∅ or viceversa, or other affixes, depends on the specific lexical root
  ▷ We need to make sure that Num can see the root across *a*? Problemati??

B2B Augment = -*ad*-; ATTR = stem + -$^\mu$*es* + diphthong simplification

(37)

	NOM.SG			ACC.SG			ATTR	
	Root	*a*	Num	Root	*a*	Num	Root	*a*#
'red'	$\sqrt{\text{RUOKS}}$ -*ad* -∅ ⇔ *ruoksat*			$\sqrt{\text{RUOKS}}$ -*ad* -*a* ⇔ *ruoksada*			$\sqrt{\text{RUOKS}}$ -$^\mu$*es* ⇔ *rukses*	
'black'	$\sqrt{\text{ČÁHPP}}$ -*ad* -∅ ⇔ *čáhppat*			$\sqrt{\text{ČÁHPP}}$ -*ad* -*a* ⇔ *čáhppada*			$\sqrt{\text{ČÁHPP}}$ -$^\mu$*es* ⇔ *čáhppes*	
'dense'	$\sqrt{\text{SUOHK}}$ -*ad* -∅ ⇔ *suohkat*			$\sqrt{\text{SUOHK}}$ -*ad* -*a* ⇔ *suohkada*			$\sqrt{\text{SUOHK}}$ -$^\mu$*es* ⇔ *suhkkes*	

► Diphthong simplification triggered by /e/ in the ATTR suffix: regular process

► Here we're modelling the fact that the inflected stem has the *-ad-* augment, which the attributive doesn't have

B3 'caritive' adjectives in NOM.SG *-heapmi* '-less' take *-his*

(38)

	NOM.SG			ACC.SG			ATTR	
	Root	*a*	Num	Root	*a*	Num	Root	*a#*
'blind'	$\sqrt{\text{ČALMME}}$ *-heame* -$^\mu$			$\sqrt{\text{ČALMME}}$ *-heame* -∅			$\sqrt{\text{ČALMME}}$ *-his*	
	⇔ *čalmmeheapme*			⇔ *čalmmeheame*			⇔ *čalmmehis*	

► Here, both the augment and the .ATTR suffix are 'big': *-heame-...* vs. *-his#*

► Also other similar adjectives like *oanehaš* 'short.NOM.SG' vs. *oanehis* (ATTR)

► For these, the *a* head seems to have a dedicated allomorph for COMP/SUP forms, instead of just going with the augment:

  ▷ *čalmme-**h**-abbu-in* blind-***a***-COMP-COM.SG 'with the blinder one'
  ▷ *čalmme-**h**-amos-iin* blind-***a***-SUP-COM.SG 'with the blindest one'
  ▷ *oane-**h**-abbu-in; oane-**h**-amos-iin* 'with the shorter/-est one'

GROUP C   Counter-intuitive group: superficially, "*-s* deletes in the attributive form". The reality is simpler. Augment = *-s*; ATTR is just strong grade (= -$^\mu$)

(39)

	NOM.SG			ACC.SG			ATTR	
	Root	*a*	Num	Root	*a*	Num	Root	*a#*
'new'	$\sqrt{\text{OĐA}}$	-s	-∅	$\sqrt{\text{OĐA}}$	-s	-$^\mu a$	$\sqrt{\text{OĐA}}$	-$^\mu$
	⇔ *ođas*			⇔ *ođđasa*			⇔ *ođđa*	
'strong'	$\sqrt{\text{GARA}}$	-s	-∅	$\sqrt{\text{GARA}}$	-s	-$^\mu a$	$\sqrt{\text{GARA}}$	-$^\mu$
	⇔ *garas*			⇔ *garrasa*			⇔ *garra*	
'cold'	$\sqrt{\text{GALMMA}}$	-s	-∅	$\sqrt{\text{GALMMA}}$	-s	-$^\mu a$	$\sqrt{\text{GALMMA}}$	-$^\mu$
	⇔ *galmmas*			⇔ *galbmasa*			⇔ *galbma*	
'warm'	$\sqrt{\text{LIEKKA}}$	-s	-∅	$\sqrt{\text{LIEKKA}}$	-s	-$^\mu a$	$\sqrt{\text{LIEKKA}}$	-$^\mu$
	⇔ *liekkas*			⇔ *lieggasa*			⇔ *liegga*	
'obvious'	$\sqrt{\text{ČIELGGA}}$	-s	-∅	$\sqrt{\text{ČIELGGA}}$	-s	-$^\mu a$	$\sqrt{\text{ČIELGGA}}$	-$^\mu$
	⇔ *čielggas*			⇔ *čielgasa*			⇔ *čielga*	
'raw'	$\sqrt{\text{NJUOSKKA}}$	-s	-∅	$\sqrt{\text{NJUOSKKA}}$	-s	-$^\mu a$	$\sqrt{\text{NJUOSKKA}}$	-$^\mu$
	⇔ *njuoskkas*			⇔ *njuoskasa*			⇔ *njuoska*	

► Independent issue: "illogical" strong-weak alternations, where the weak grade seems longer than the strong one ('warm', 'obvious', 'raw', at least). I don't have much to say, other than referring to phonological analyses by Bye (2002), Svenonius (2009), and Baal et al. (2012).

B   Derivation and compounding

▶ Pretty complex situation. In some cases, you can see the adjective in its ATTR form; in others, it's in the inflected stem (= with the augment, or without the -ATTR suffix). Here's a few cases.

Derivation

▶ Verbalizing adjectives: rather inconclusive evidence!

▶ *-meahttun* 'un-': selects NOM.SG form (with augment).

(40) a. *čorgat* 'tidy.NOM.SG'   *čorges* 'tidy.ATTR'

    b. *čorgatmeahttun* 'untidy'

▷ Can we know that it actually selects for NOM.SG, and not just stem+*a*? Unclear

▷ *čielggasmeahttun* 'unclear'; NOM.SG *čielggas*, ACC.SG *čielgasa* (-$^\mu$a) = at least we know that *-meahttun* itself doesn't include a mora, that'd be **čielgameahttun*

▶ *-lágán/lágáš* 'quite': selects for ATTR form

(41) a. *boaris* 'old.NOM.SG'   *boares* 'old.ATTR'

    b.   *boareslágán* 'quite old'

(42) a. *ruoksat* 'red.NOM.SG'   *rukses* 'red.ATTR'

    b.   *rukseslágán* 'quite red'

▷ Can we brute-force say that *a* ⇔ .ATTR / __-*lágán*?

▶ General nominalizer *-vuohta*: almost always selects NOM.SG; apart from the class adjectives whose attributive form is in *-his*

(43) a. *boaris* 'old.NOM.SG'   *boares* 'old.ATTR'

    b. *boarisvuohta* 'old age'

(44) a. *liekkas* 'warm.NOM.SG'   *liegga* 'warm.ATTR'

    b. *liekkasvuohta* 'warmth'

(45) a. *oanehaš* 'short.NOM.SG'   *oanehis* 'short.ATTR'

    b.   *oanehisvuohta* 'shortness'

(46) a. *mielaheapmi* 'insane.NOM.SG'   *mielahis* 'insane.ATTR'

    b.   *mielahis-vuohta* 'insanity'

▷ Especially this fact makes me inclined to think that the difference between ATTR and NOM.SG/inflectable form is purely a morphological one, not a "deep" syntactic one

▷ What *syntactic* difference could there possibly be between deriving 'warmth' from 'warm' vs. 'shortness' from 'short'?

▷ Here as well, we probably wanna force something like:
$a \Leftrightarrow$ *-his* / {$\sqrt{\text{MIELA}}$, $\sqrt{\text{OANE}}$, …} __*-vuohta*

► Some other less productive strategies to nominalize adjectives

(47)   a. *guhkki* 'long.NOM.SG'   *guhkes* 'long.ATTR'

  b. *guhkkodat* 'length'

▷ Here we probably wanna say that *-odat* itself contains a floating mora, since it always attaches to the strong grade.

▷ The real paradigm is then: (needs hiatus resolution in NMLZ)

NOM.SG			ATTR		NMLZ		
Root	*a*	Num	Root	*a#*	Root	*a*	*n*
$\sqrt{\text{GUHKI}}$ ⇔ *guhkki*	-∅	-$^\mu$	$\sqrt{\text{GUHKI}}$ ⇔ *guhkes*	-$^{[-hi]}s$	$\sqrt{\text{GUHKI}}$ ⇔ *guhkkodat*	-∅	-$^\mu$odat

COMPOUNDS

► Adj+noun and adj+adj compounds usually have the adjective in the attributive form

▷ Maybe the compound-internal boundary is sufficient to trigger the "word-final" allomorph of *a*?

(48)   a. *ođas* 'new.NOM.SG'   *ođđa* 'new.ATTR'
  b.   *ođđajahki* 'New Year' (*jahki* = 'year')

(49)   a. *boaris* 'old.NOM.SG'   *boares* 'old.ATTR'
  b.   *boaresbárdni* 'bachelor' (*bárdni* = 'boy')