



**West Circassian (Adyghe):** Northwest Caucasian, polysynthetic, ergative alignment  
Data from the village Neshukay (Bzhedug dialect = **Bz**) & Khatazhukaj rural settlement (Temirgoy dialect = **Tg**), Republic of Adyghea, Russia, unless otherwise indicated.

### The puzzle

Verbs and nouns have similar complex morphological structure.

MORPHOLOGICAL TEMPLATE (LANDER 2017:79)				
Argument structure zone (A)	Pre-stem zone (B)	Causative marker(s) (C)	Stem* + TAM (D)	Endings (E)

\*Stem = [root + incorporated nouns/adjectives]

**BUT** only nominals exhibit productive compounding / noun incorporation.

*Noun incorporation into finite verb	✓Noun incorporation into nominalization
(1) * sə/s- <b>leɾe-</b> thač'ə -ɐ 1SG.ABS/1SG.ERG- <b>dish-</b> wash -PST Expected: 'I washed dishes' (Tg)	(2) jə- <b>leɾe-</b> thač'ə -č'e 3SG.POSS- <b>dish-</b> wash -NML 'his/her way of washing dishes (Tg)'

### Main claim

- Nouns and verbs are constructed via **2 distinct word formation processes**:

**Verbs** via head movement

**Nouns** via rules of syntax-to-prosody mapping: DP phase → ω

- Noun incorporation is prosodic, not syntactic ⇒ only available in nominal phrases

<b>EVIDENCE: morpheme order in verbal nominalizations</b>
(3) [ Incorporated noun(s) - <b>[PREFIXES]<sub>A-C</sub></b> - Root ] <sub>D</sub>

### The morphological template

	(A)	(B)	(C)	(D)	(E)	
(4) a.	wə- 2SG.ABS-	z- 1SG.ERG-		ɛe- CAUS-	feba warm	-ɐ -PST
b.	s- 1SG.ABS-	jə- 3SG.ERG-	mə- NEG-	ɛe- CAUS-	š'x laugh	-ew -ADV
c.	ja- 3PL.POSS-		mə- NEG-		lepq clan	
d.	tjə- 1PL.POSS-		were- JUS-		vrač'- doctor-	šha? main

### Noun/adjective incorporation in the nominal complex

Incorporation of modifiers and dependents in the nominal complex (Arkadiev et al. 2009; Lander 2017):

- Is productive and often obligatory
- Targets complements, adjectival modifiers, numerals, (optionally) relative clauses
- Can be diagnosed phonologically

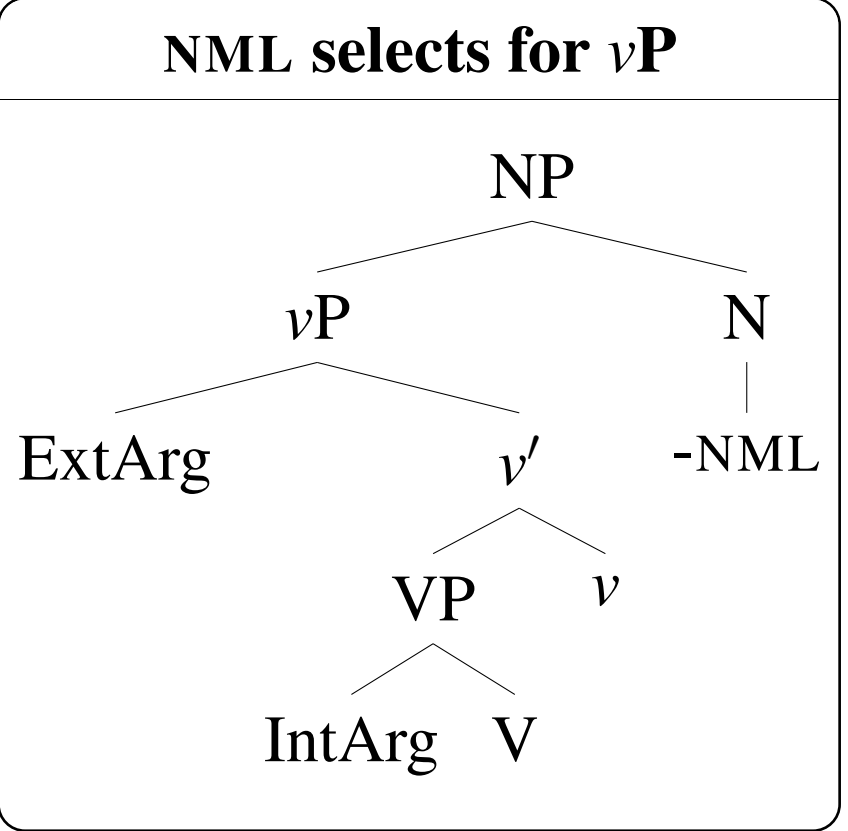
Examples of incorporation in nominal complex	
<b>Complements</b> (exs from Lander 2015:3512)	<b>Modifiers</b> (exs from Lander 2017:82-83)
(5) <b>ž'wɛɾ'wɛ-</b> bən star- family 'constellation (= family of stars)'	(7) jə- <b>zə-</b> šolk- žene- <b>daxe</b> -r 3SG.POSS- one- silk- dress- beautiful -ABS 'one beautiful silk dress of hers'
(6) <b>jate-</b> š father- brother 'paternal uncle (= father's brother)'	(8) [ <b>qek'wɛ-</b> <b>ɛe-</b> ] wəpčə -xe -r [come- PST]- question -PL -ABS 'the questions that arose (lit. came)'

The incorporated material appears within the stem (D), adjacent to the head root.	
(9) <b>TEMPLATE FOR PLACEMENT OF INCORPORATED MATERIAL:</b> PREFIXES – [ <b>Incorporee(s)</b> – <b>Root</b> ] <sub>D</sub> – SUFFIXES	
(10) [mə-] <sub>B</sub> [ <b>adəye-</b> šxən] <sub>D</sub> [-xe -m] <sub>E</sub> NEG- Adyghe- food -PL -ABS 'not Adyghe food' (www.adygvoice.ru)	(11) [jə] <sub>A</sub> [ <b>č'ərbaš'</b> - wəne- šx'wɛ] <sub>D</sub> 3SG.POSS- brick- house- big 'his/her big brick house' (Lander 2017:82)

### Nominalizations: Basic Argument Structure

- Nominalizer -č'e (manner) / -n(ə) (action) selects for vP containing full argument structure.
- Verbal arguments incorporated or expressed as possessor.

Finite transitive verb: agent=ERG, theme=ABS
(13) mə <b>pšaše-m</b> jež'jež'rew <b>laɾe-xe-r</b> Ø-j-ethač'ə this girl-ERG by.herself dish-PL-ABS 3ABS-3SG.ERG-wash.PRS 'The girl washes the dishes by herself.' (Tg)



Nominalized transitive verb: agent=POSS, theme=INC
(12) [ jež'jež'rew <b>pšaše-m</b> jə- <b>leɾe-</b> thač'ə -n ]                      səg'w rjehə by.herself girl-OBL(=POSS) 3SG.POSS- <b>dish</b> (INC)- wash -NML I like 'I like the girl's washing dishes by herself.' (Tg)

control of intensifier ⇒ **evidence for presence of external argument**  
+ control of depictives                      + binding of reflexives/reciprocals

### Nominalizations are built via two word formation strategies

#### 1 Noun incorporation is prosodic

à la Massam (2001); Compton & Pittman (2010); Barrie & Mathieu (2016)

Incorporated nominal is caseless NP in **situ within vP**.

**Support:** arguments surface in the order of merging ⇒ surface position = base-generated position\*

\*ExtArg raises to Spec,DP for case; Spec is excluded from DP phase.

Constraint on order of arguments in nominalization	
(14) For a bivalent predicate, the internal argument appears closer to verb than the external argument.	
a. ✓ <b>ExtArg – IntArg – Verb</b>	b. * <b>IntArg – ExtArg – Verb</b>
(15) a. ✓ <b>pšaše-m</b> jə- <b>leɾe-</b> thač'ə-n girl-OBL 3SG.POSS-dish-wash-NML 'the girl's dish-washing' (Tg)	b. * <b>laɾe-me</b> ja-pšeše-thač'ə-n dish-PL.OBL 3PL.POSS-girl-wash-NML Intended: 'girls' washing of the dishes'

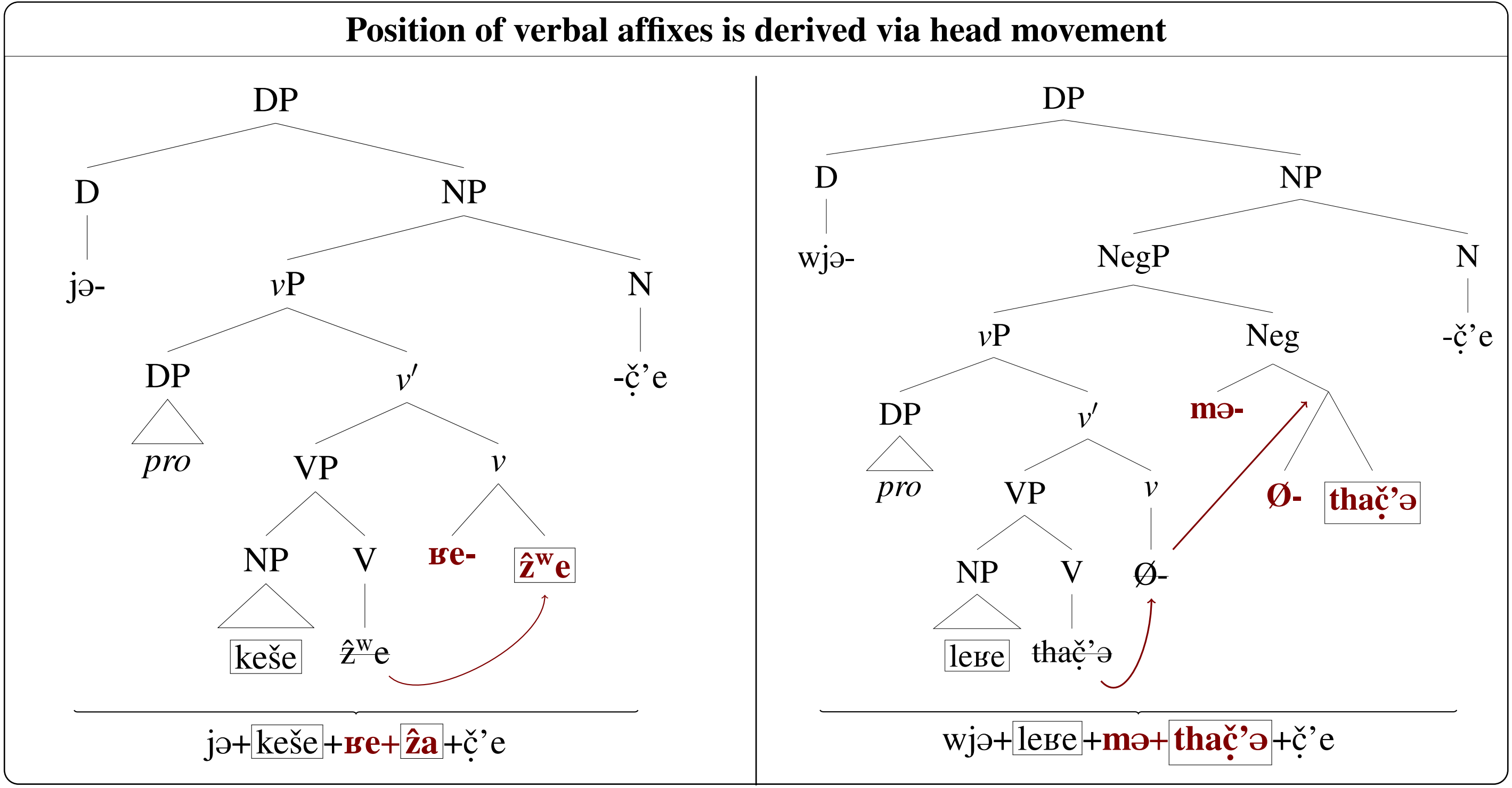
Rule of syntax-to-prosody mapping framed within Match Theory (Selkirk 2011):

MATCH PHASE-TO-WORD (DP → ω)
(16) The DP phase must be matched by a prosodic word in phonological representation.

⇒ [nominalization + argument NPs]<sub>DP</sub> → ω

#### 2 The verbal part is derived via head movement

Incorporated noun in nominalization violates the template in (9).	
(17) <b>POSITION OF INCORPORATED MATERIAL IN VERBAL NOMINALIZATION:</b> PREFIXES <sub>nominal</sub> – [ <b>Incorporee(s)</b> – [ PREFIXES <sub>verbal</sub> ] <sub>A-C</sub> – <b>[Root]</b> ] <sub>D</sub> – SUFFIXES	
(18) jə- <b>keše-</b> <b>ɛe-</b> <b>ž'wɛ-</b> -č'e 3SG.POSS- porridge- CAUS- boil -NML 'his/her porridge-cooking' (Tg)	(19) wjə- <b>leɾe-</b> <b>mə-</b> <b>thač'ə</b> -č'e 2SG.POSS- dish- NEG- wash -NML 'your not washing dishes' (Bz)



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#### GLOSSES

ABSolutive; ADverbial; CAUSative; ERGative; INCorporee; JUSSive; NEGation; NML–nominalizer; OBLique; PLural; POSSessor; PRS–present tense; PST–past tense; SG–singular.

### Noun incorporation is not head movement

- Incorporated nominal may be morphologically complex  
contra Baker's (2003) Proper Head Movement Generalization (\*root→affix→root).

Noun incorporation can target a morphologically complex form.	
(20) jə- <b>[swəret- šə -č'e]</b> -                      je-                      ɛe-                      ša                      -č'e 3SG.POSS- [picture- do -NML]-                      DAT- CAUS- know -NML 'her/his manner of teaching drawing (lit. making pictures)' (Bz)	

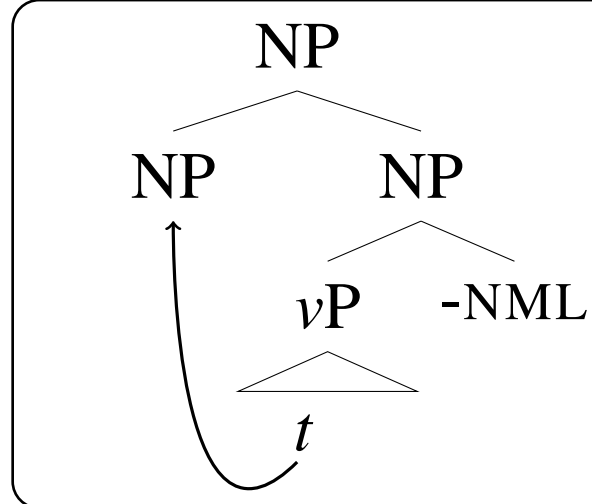
- Incorporated nominal need not be the theme, contra Baker (1988, 2009).

The external argument may be incorporated.	An indirect object may be incorporated.
(21) <b>pšeše-</b> leɾe-                      thač'ə -č'e -r girl- dish- wash -NML -ABS <b>ExtArg-</b> IntArg- Verb 'girls' way of dish-washing' (Tg)	(22) ja- <b>č'ele-</b> fe-                      g'wəš'wə -č'e 3PL.POSS- <b>boy-</b> BEN- rejoice -NML <b>ExtArg-</b> <b>IO-</b> Appl- Verb 'their way of congratulating (lit. rejoicing for) boys' (Bz)

### Noun incorporation is not phrasal movement

cf. Pensalfini (2004); Koopman & Szabolsci (2000); Pollock (2006), a.o.

Deriving affix order in nominalizations via phrasal movement
• NPs and DPs move out of vP.
• vP is then pronounced as a single unit.
• Affix order in nominalization derived via movement of NP out of vP.

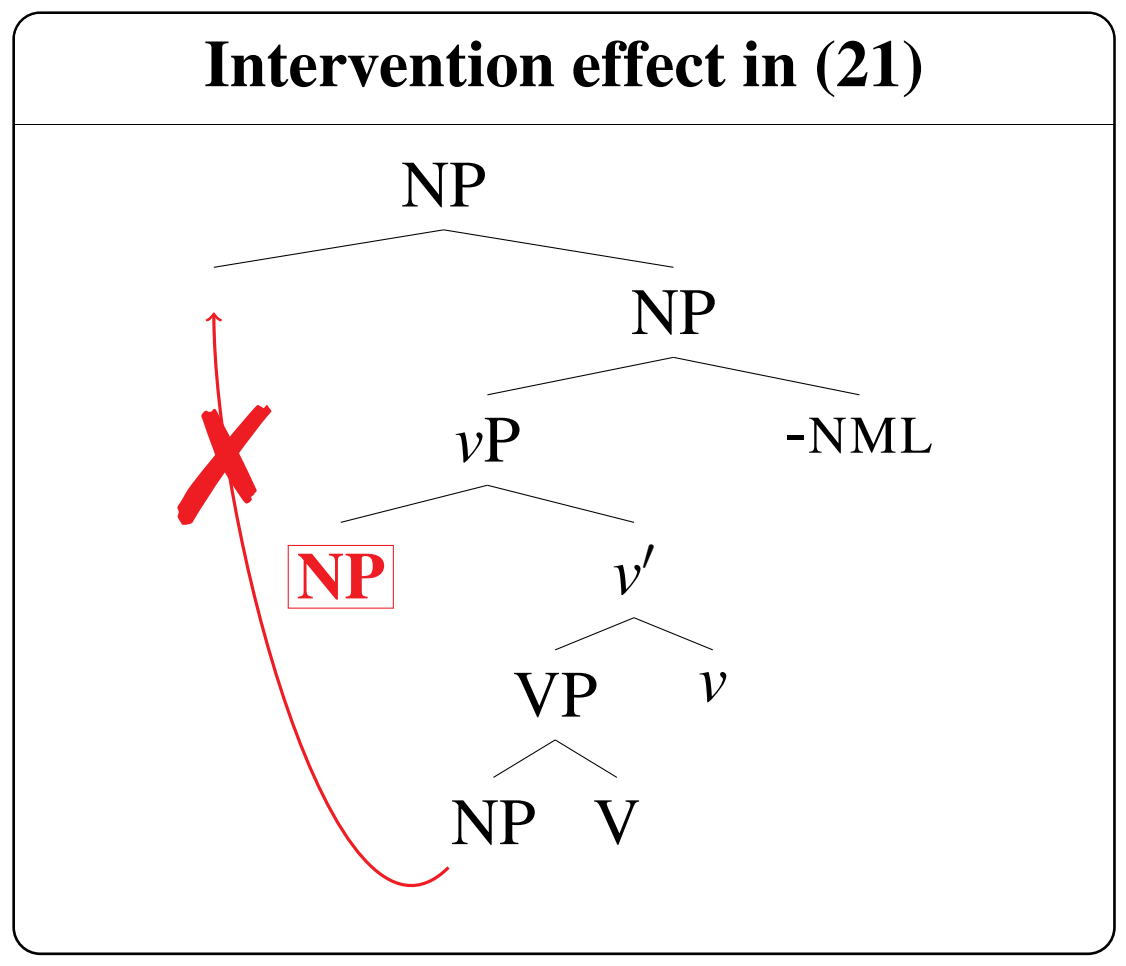


#### PROBLEMS:

- Cannot derive order of arguments in nominalization (14).
- Intervention effects are expected with multiple NPs.

**!! Only the proposed analysis** explains lack of verbal noun incorporation:

- Verbs are constructed via head movement.
- Noun incorporation is prosodic.
- ⇒ verbs do not exhibit noun incorporation.



### Implications

**BROAD QUESTION:** What makes a language polysynthetic?  
Syntax?  
Syntax-phonology interface?

**ANSWER:** Both.

West Circassian morphology employs **two distinct mechanisms of word-formation**.

⇒ **polysynthesis arises from a combination of several morphology-building mechanisms.**

**SELECT REFERENCES** • Arkadiev, Lander, Letuchiy, Sumbatova, & Testelests 2009. In *Aspekty polisintetizma*. • Barrie & Mathieu 2016. *NLLT*. • Compton & Pittman 2010. *Lingua*. • Lander 2015. In *Word-Formation: An International Handbook of the Languages of Europe*. • Lander 2017. *Studies in Language*. • Pensalfini 2004. *NLLT*.