

1 Introduction

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.¹

THE PUZZLE:

Verbs and nouns have similar complex morphological structure.

(1) MORPHOLOGICAL TEMPLATE (LANDER 2017:79)

Argument structure zone	Pre-stem zone	Causative marker(s)	Stem* + TAM	Endings
(A)	(B)	(C)	(D)	(E)

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

BUT only nominals exhibit productive compounding / noun incorporation.

Noun incorporation is ungrammatical into finite verb (2) and grammatical into nominalization (3).

- (2) * sə/s- **leɣe-** thač'ə -ɸ
1SG.ABS/ERG- **dish-** wash -PST
Expected: 'I washed dishes' (Tg)
- (3) jə- **leɣe-** thač'ə -č'e
3SG.AL- **dish-** 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

EVIDENCE: morpheme order in verbal nominalizations

- (4) [Incorporated noun(s) - [**PREFIXES**]_{A-C} - Root]_D

¹The author is grateful to the speakers of West Circassian for sharing their language, and especially Svetlana K. Alishaeva and Susana K. Khatkova. The author also thanks Karlos Arregi, Jason Merchant, Yuri Lander and the participants of the Syntax & Morphology Workshop at UChicago for discussion and comments. This work was partially funded by the Graduate Research Aid Initiative in Linguistics from the University of Chicago and the Dissertation Research Grant from the Association for Slavic, East European, and Eurasian Studies.

Glosses: ABS – absolutive; ADV – adverbial; CAUS – causative; ERG – ergative; INC – incorporatee; JUS – jussive; NEG – negation; NML – nominalizer; OBL – oblique; PL – plural; ALP – possessor; DYN – present tense; PST – past tense; SG – singular.

2 West Circassian morphosyntax

2.1 The morphological template

(5)	(A)	(B)	(C)	(D)	(E)
a.	wə- 2SG.ABS-	z- 1SG.ERG-	ɸe- CAUS-	feba warm	-ɸ -PST
	'I made you warm' (Tg)				
b.	s- 1SG.ABS-	jə- 3SG.ERG-	mə- NEG-	ɸe- CAUS-	š'x laugh
	'while she isn't making me laugh' (Tg)				
c.	ja- 3PL.AL- 3PL.AL- 3PL.AL-	mə- NEG-		lepq clan	
	'not their clan' (Lander 2017:81)				
d.	tjə- 1PL.AL- 1PL.AL-	were- JUS-		vrač' - doctor-	šha? main
	'Let him be our main doctor!' (ibid:85)				

2.2 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:

- Complements** (exs from Lander 2015:3512)

- (6) ž^weɸ^we- bən
star- family
'constellation (= family of stars)'
- (7) jate- š
father- brother
'paternal uncle (= father's brother)'

- **Modifiers** (exs from Lander 2017:82-83)

- (8) jə- zə- šolk- žene- daxe -r
3SG.ALP- one- silk- dress- beautiful -ABS
'one beautiful silk dress of hers'
- (9) [qek^we- ɾe]- wəpçe -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:

- (10) **TEMPLATE FOR PLACEMENT OF INCORPORATED MATERIAL:**

PREFIXES – [**Incorporee(s) – Root**]_D – SUFFIXES

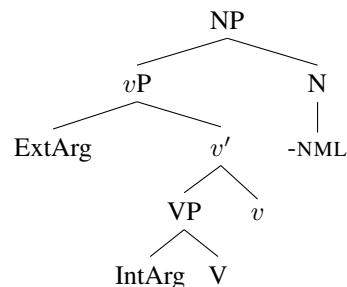
- (11) [mə-]_B [adəye- šxən]_D [-xe -m]_E
NEG- Adyghe- food -PL -ABS
'not Adyghe food' (www.adygvoice.ru)
- (12) [jə]_A [č'ərbəš'- wəne- šx^we]_D
3SG.ALP- brick- house- big
'his/her big brick house' (Lander 2017:82)

3 Nominalizations

3.1 Basic Argument Structure

- Nominalizer -č'e (manner) / -n(ə) (action) selects for *vP* containing full argument structure.

- (13) **NML selects for *vP***



- Verbal arguments incorporated or expressed as possessor.

- (14) **Finite transitive verb (agent=ERG, theme=ABS)**

mə [pšaše-m] jež'jež'rew [laɐe-xe-r] Ø-j-ethač'ə
this girl-ERG by.herself dish-PL-ABS 3ABS-3SG.ERG-wash.DYN
'The girl washes the dishes by herself.' (Tg)

- (15) **Nominalized transitive verb: agent=ALP, theme=INC**

[jež'jež'rew [pšaše-m] jə- [leɐe]- thač'ə-n] səg^w rjehə
by.herself girl-OBL(=ALP) 3SG.ALP- dish(=INC)- wash -NML I like
'I like the girl's washing dishes by herself.' (Tg)

Evidence for presence of external argument:

- control of intensifier
- control of depictives
- binding of reflexives/reciprocals

3.2 Nominalizations are built via two word formation strategies

3.2.1 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 position²

Constraint on order of arguments in nominalization:

- (16) For a bivalent predicate, the internal argument appears closer to verb than the external argument.

a. ✓ **ExtArg – IntArg – Verb**

b. * **IntArg – ExtArg – Verb**

- (17) a. ✓ [pšaše-m] jə- [leɐe]- thač'ə-n
girl-OBL 3SG.ALP-dish-wash-NML
'the girl's dish-washing' (Tg)

- b. * [laɐe-me] ja- [pšeše]- thač'ə-n
dish-PL.OBL 3PL.ALP-girl-wash-NML
Intended: 'girls' washing of the dishes'

²ExtArg raises to Spec,DP for case; Spec is excluded from DP phase.

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

(18) **MATCH PHASE-TO-WORD (DP → ω)**

The DP phase must be matched by a prosodic word in phonological representation.

⇒ [nominalization + argument NPs]_{DP} → ω

3.2.2 The verbal part is derived via head movement

Incorporated noun in nominalization violates the template in (10):

(19) **POSITION OF INCORPORATED MATERIAL IN VERBAL NOMINALIZATION:**

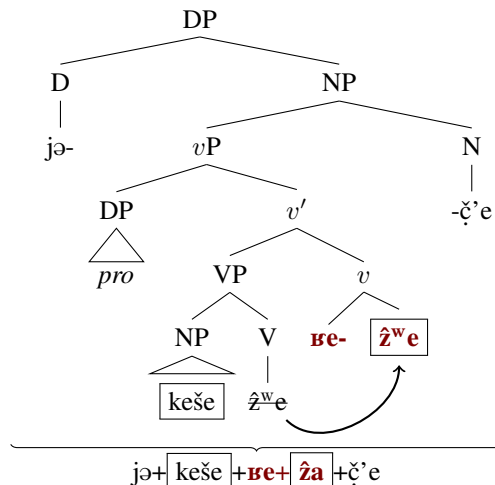
PREFIXES_{nominal} – [**Incorporee(s)**] – [PREFIXES_{verbal}]_{A-C} – **Root**]_D – SUFFIXES

(20) jə- keše ɤe- ʒʷa -č'e
3SG.AL- porridge- CAUS- boil -NML
'his/her porridge-cooking' (Tg)

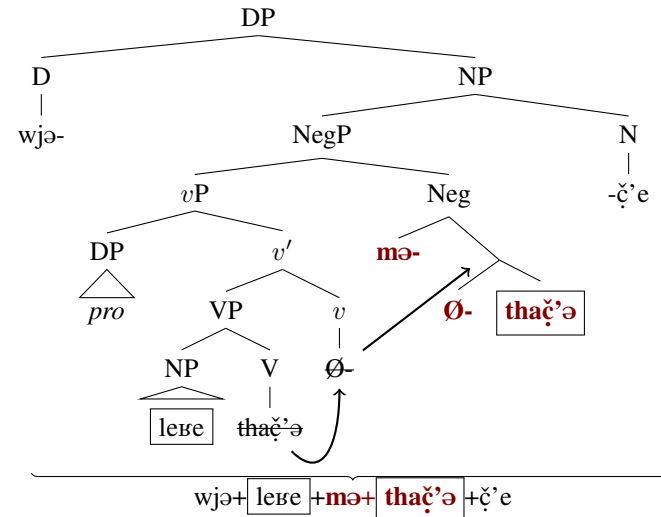
(21) wjə- leɤe mə- thač'ə -č'e
2SG.AL- dish- NEG- wash -NML
'your not washing dishes' (Bz)

Position of verbal affixes is derived via head movement:

(22) Structure for (20):



(23) Structure for (21):



4 Noun incorporation is not head movement

1. Incorporated nominal may be morphologically complex

contra Baker's (2003) Proper Head Movement Generalization (*root→affix→root).

(24) jə- [swəret- ʃə -č'e]- je- ɤe- ʃa -č'e
3SG.AL- [picture- do -NML]- DAT- CAUS- know -NML
'her/his manner of teaching drawing (lit. making pictures)' (Bz)

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

(25) The external argument may be incorporated:

pšeše- leɤe- thač'ə -č'e -r
girl- dish- wash -NML -ABS
ExtArg- IntArg- Verb
'girls' way of dish-washing' (Tg)

(26) An indirect object may be incorporated:

ja- č'ele- fe- gʷəʃʷa -č'e
3PL.AL- **boy-** BEN- rejoice -NML
ExtArg- **IO-** Appl- Verb
'their way of congratulating (lit. rejoicing for) boys' (Bz)

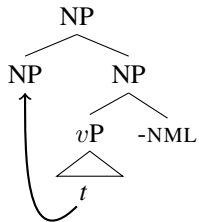
5 Noun incorporation is not phrasal movement

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*.

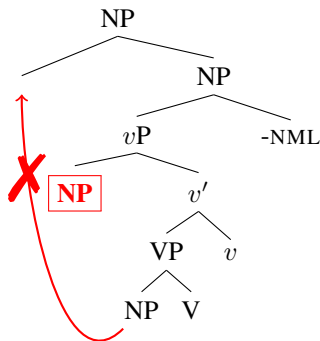
(27) Incorporated noun moves out of *vP*:



PROBLEMS:

1. Cannot derive order of arguments in nominalization (16).
2. Intervention effects are expected with multiple NPs.

(28) Intervention effect in (25):



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

- Verbs are constructed via head movement.

- Noun incorporation is prosodic.
- \Rightarrow verbs do not exhibit noun incorporation.

6 Implications

BROAD QUESTION: What makes a language polysynthetic?

Syntax?

Syntax-phonology interface?

ANSWER: Both.

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

\Rightarrow polysynthesis arises from a combination of several morphology-building mechanisms.

References

- Arkadiyev, P.M., Yu.A. Lander, A.B. Letuchiy, N.R. Sumbatova & Ya.G. Testeleets. 2009. Vvedeniye. Osnovnyye svedeniya ob adygejskom jazyke [Introduction: Basic information on Adyghe]. In Ya. G. Testeleets (ed.), *Aspekty polisintetizma: Očerki po grammatike adygejskogo jazyka* [Aspects of polysynthesis: Sketches on the grammar of Adyghe], 17–120. Moscow: RGGU.
- Baker, Mark. 2009. Is head movement still needed for noun incorporation? *Lingua* 199. 148–165.
- Baker, Mark C. 1988. *Incorporation. A Theory of Grammatical Function Changing*. Chicago/London: University of Chicago Press.
- Baker, Mark C. 2003. *Lexical categories*. Cambridge University Press.
- Barrie, Michael & Eric Mathieu. 2016. Noun incorporation and phrasal movement. *Natural Language and Linguistic Theory* 34. 1–51.
- Compton, Richard & Christine Pittman. 2010. Word-formation by phase in Inuit. *Lingua* 120. 2167–2192.
- Koopman, Hilda & Anna Szabolsci. 2000. *Verbal complexes*. MIT Press.
- Lander, Yuri. 2015. Arguments and adjuncts in the morphology and syntax of Adyghe [in Russian]. *Moskovskij lingvističeskij žurnal* 17.
- Lander, Yuri. 2017. Nominal complex in West Circassian: Between morphology and syntax. *Studies in Language* 41(1). 76–89.
- Massam, Diane. 2001. Pseudo noun incorporation in niuean. *NLLT* 19(1). 153–197.
- Pensalfini, Rob. 2004. Towards a typology of configurationality. *NLLT* 22/2. 359–408.
- Pollock, Jean-Yves. 2006. Subject clitics and complex inversion. In Martin Everaert & Henk van Riemsdijk (eds.), *The Blackwell companion to syntax*, vol. 4, 601–659. Blackwell.
- Selkirk, Elisabeth. 2011. The syntax-phonology interface. In John Goldsmith, Jason Riggie & Alan Yu (eds.), *The handbook of phonological theory*, Wiley Blackwell 2nd edn.