

Nominal complex in West Circassian

Between morphology and syntax

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The paper presents a description and an analysis of the nominal complex, a peculiar construction which includes a noun and its modifiers, in West Circassian, a polysynthetic language of the Northwest Caucasian family. The nominal complex shows properties of a single word and tends to follow the template proposed for the word in West Circassian. However, its parts may themselves have a complex structure based on a similar template. This is argued to result from a principle that requires these subparts to be interpreted without appealing to a broader morphological context. In addition, the nominal complex may contain complex syntactic constituents as its proper parts. It is shown that the nominal complex in West Circassian is currently undergoing demorphologization and syntacticization.

1. Introduction¹

It is common cross-linguistically for polysynthetic morphology to display properties which are usually associated with syntax. This concerns not only incorporation, which is sometimes considered a syntactic process (Baker 1988), and

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cross-reference, which arguably can introduce arguments itself (Van Valin 1985; 1987; Jelinek and Demers 1994; Kibrik 2011), but also morphology which is usually described as word formation, either compounding or derivation. For example, Sadock (1990) proposed that the morphology of Inuit and similar languages exploits rules similar to those of syntax. Recently, de Reuse (2006; 2009) suggested that the kind of morphology manifested by polysynthetic languages like Eskimo represents neither inflection nor derivation but “productive noninflectional concatenation”, which shares many properties with syntax. In fact, Morris Swadesh wrote back in 1938 that “the combination of morphemes into a single word in a synthetic language has the same function as the juxtaposition of independent words in an analytic language” (Swadesh 1938: 78), and coined the concept of “internal syntax”, which he applied to Nootka.

But how close to syntax can polysynthetic morphology be? What principles can distinguish morphology from syntax in a polysynthetic language? It is in this perspective that I would like to discuss data from West Circassian (also known as Adyghe), a Northwest Caucasian language.

West Circassian is spoken in the Russian region of Adyghea and in the Near East (especially in Turkey), where many Circassians were exiled after their lands were occupied by the Russian Empire in the 19th century. The largest West Circassian dialects in Russia are Temirgoi, which served as the basis for Standard West Circassian, and Bzhedugh. This paper is based mostly on Standard West Circassian and the Temirgoi dialect, although some Bzhedugh data are also involved. Like other Northwest Caucasian languages (see, for instance, Hewitt 2005), West Circassian is ergative in both case marking and cross-reference and is generally left-branching. It is further typically characterized as polysynthetic (cf. Kumakhov 1964; Kumakhov & Vamling 2009; Arkadiev et al. 2009 among others).

Previously, Korotkova & Lander (2010) and Lander & Letuchiy (2010) argued that West Circassian morphology sometimes shows syntactic properties such as the compositional order of morphemes and morphological recursion which may even involve several occurrences of certain markers. However, those papers also demonstrated that the manifestation of these properties is more constrained in morphology than in syntax. The subject of the present study is the nominal complex, probably the “most syntactic” morphological construction of West Circassian, which is illustrated by the two bolded tokens in the following example:

- (1) ə-meqe=č'an abzexe=λə.χʷə.ž-me a-šha.ɤ jə-č'ə-ɤ-ep
 3SG.PR-voice=sharp Abzakh=hero-obl:PL 3PL.PO-over LOC-go.out-PST-NEG
 ‘Her vigorous voice was not heard (lit., did not go out) over Abzakh heroes.’

The nominal complex consists of several *lexical parts*, i.e. parts that can function as autonomous words.² It usually results from *ad hoc* formation (to use the terminology of Mattissen 2011): it is constructed in the course of speech and unlike typical compounds should not be listed in the lexicon. I will show that such complexes behave as single words and as combinations of words at the same time, which leads to a number of conflicts and gives rise to considerable variation, and then I will formulate principles which may restrict the construction of nominal complexes. In addition, I will provide evidence that suggests that the nominal complex is currently being reanalyzed as a syntactic construction.

The structure of this paper is as follows. In Section 2 I provide the most basic facts about the morphological structure of West Circassian words. Section 3 is a brief description of the organization of the nominal complex. In Section 4 I argue that the nominal complex has properties of a single word whose stem is constituted by its lexical parts. Section 5 demonstrates that the lexical parts of a nominal complex may retain some properties of words, which makes it possible for nominal complexes to display embedding of morphological structures. In Section 6 I provide evidence for the hypothesis that the West Circassian nominal complex is currently undergoing demorphologization. The last section presents conclusions and open ends.

2. Morphology (vs syntax) of West Circassian content words

West Circassian is usually thought of as a highly polysynthetic language.³ It displays tremendously complex morphological words, which convey information that is normally provided with multi-word clauses in Standard Average European languages; cf.:

- (2) t-ṣʷ-jə-ṣə-pχa-Ɂ
 1PL.IO-MAL-3SG.ERG-do-DEB-PST
 ‘He should do this instead of us.’

2. Since lexical parts may be complex themselves, in the examples given in this paper they are divided by the equals sign and not by the simple hyphen. This convention is not related to the convention which uses the equals sign to distinguish between clitics and affixes.

3. Some references on West Circassian include the grammars by Jakovlev & Ashkhamaf (1940) and Rogava & Kerasheva (1966) in Russian, as well as the more typologically oriented sketches Paris (1989) in French and Arkadiev et al. (2009) in Russian. The morphology of West Circassian was also investigated in detail by Smeets (1984).

However, the frequency of such words varies across speakers and genres, since much of the semantics conveyed by polysynthetic words can be alternatively conveyed by means of syntax. Consider, for instance, the semantics of ability in the following two examples: it is expressed with the potential suffix $\text{-}\xi^w\text{-}$ in (3a), but with a separate word $\text{le}\check{\text{c}}^w\text{-}$ in (3b):

- (3) a. $\text{m}\check{\text{a}}\check{\text{z}}^w\text{-r}$ $\text{qe-s-}\check{\text{t}}\text{et}\check{\text{a}}\text{-}\xi^w\text{-}\check{\text{v}}\text{-ep}$
stone-ABS DIR-1SG.ERG-raise-POT-PST-NEG
- b. $\text{m}\check{\text{a}}\check{\text{z}}^w\text{-r}$ $\text{qe-s-}\check{\text{t}}\text{et}\check{\text{a}}\text{-n}$ $\text{s-le}\check{\text{c}}^w\text{-}\check{\text{v}}\text{-ep}$
stone-ABS DIR-1SG.ERG-raise-MOD 1SG.ERG-can-PST-NEG
‘I could not raise the stone.’

Curiously, exactly this flexibility serves as evidence for contrasting morphology and syntax. West Circassian speakers sometimes have at their disposal two distinct strategies of conveying information – a morphological strategy and a syntactic one. Importantly, the two strategies may function independently of each other, as they occasionally appear together in the same utterance:

- (3) c. $\text{m}\check{\text{a}}\check{\text{z}}^w\text{-r}$ $\text{qe-s-}\check{\text{t}}\text{et}\check{\text{a}}\text{-}\xi^w\text{-n}$ $\text{s-le}\check{\text{c}}^w\text{-}\check{\text{v}}\text{-ep}$
stone-ABS DIR-1SG.ERG-raise-POT-MOD 1SG.ERG-can-PST-NEG
‘I could not raise the stone.’

In (3c), we find both the potential suffix and the verb ‘can’. This redundancy, which is by no means obligatory and has no specific semantic motivation, can be explained if we assume that morphology and syntax do not necessarily interact with each other, but this would imply that the two levels should be distinguished.

The most important criterion for defining the word in West Circassian is based on its structure: a canonical word in the language consists of a limited number of morphological zones which occur in a fixed order and constitute a strict template; cf. Figure 1.

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

Figure 1. Make-up of the West Circassian word

The **argument structure** zone contains cross-reference prefixes, the directive prefix qe- , which has the basic meaning ‘(moving) here’ and may also have less transparent functions like marking inversion in some contexts, and applicative prefixes. The **pre-stem** and **endings** zones are closest to inflection: they contain

the markers of dynamic verbs, negation markers,⁴ as well as various morphemes which determine the syntactic status of the form. In particular, endings include the markers of syntactic subordination such as conditional and converb suffixes, etc. The **causative** zone may be manifested by one or two causative prefixes. Finally, the **stem** includes a root or sometimes several roots and various suffixes which, when combined with verbs, contribute mainly aspectual, temporal and modal meanings. In (4), for example, the argument structure zone contains a reflexive prefix and an ergative prefix, the pre-stem zone is manifested with a negation marker, the causative prefix realizes the causative zone, the stem consists of a root and the modal suffix which is used for marking action nominals as well as the modal future tense, and the endings zone includes the adverbial suffix, which marks some subordinated clauses. Note, however, that none of the zones, with the exception of the stem, require overt expression.

- (4) [z-a-]_A[mə-]_B[ʁe-]_C[ʂʷə-n]_D[-ew]_E
 [RFL.ABS-3PL.ERG-]_A[NEG-]_B[CAUS-]_C[get.wet-MOD]_D[-ADV]_E
 ‘in order not to let themselves get wet’

The morphological zones also differ in morphophonological properties. Here, I will focus on just one phenomenon sensitive to the distinction between the zones, namely the alternation between /e/ and /a/. Its general rule is given in (5) (see Smeets 1984: 206–211 and Arkadiev & Testelets 2009: 122–131 for discussion and different treatments):

- (5) If the two final syllables immediately preceding the right border of the stem both contain the vowel /e/ in its underlying form, the penultimate vowel is changed into /a/ unless it is a part of the pre-stem zone.⁵

This alternation indicates the right border of the stem and at the same time can demonstrate whether given morphemes belong to the same word. For example, in (6a) the change of the vowel in the causative morpheme shows that the stem

4. There are two negation markers in West Circassian: the prefix *mə-* and the suffix *-ep*. Their distribution is at least partially motivated semantically. Most typically, the suffix marks negation that takes scope over the whole proposition, while the prefix marks narrow scope. See Smeets (1984: Ch. 6) and Lander & Sumbatova (2007) for discussion.

5. The rule (5) is slightly simplified at the expense of the list of exceptions. It is also worth noting that this rule is sometimes obscured by other rules such as that eliminating the last vowel of the word:

(i) fe-tʃə-ʁa-x (< /fe-s-ʂə-ʁe-xe/)
 BEN-1SG.ERG+do-PST-already
 ‘I have already done this for him.’

border is situated immediately after the root and before the “auxiliary” morpheme *š'tə-*, and in (6b), the absence of the alternation in *dərjəketxeke* ‘he made him write this into it’ suggests that the root *šəpq* constitutes a single complex stem with the final part of the verb:

- (6) a. də-r-jə-ka-txe-š'tə-*ɐ* (< /də-r-jə-ke-txe-š'tə-ke/)

LOC-DAT-3SG.ERG-CAUS-write-AUX-PST

‘He was making him write (this) into it.’

b. də-r-jə-ke-txe-ke=šəpq

LOC-DAT-3SG.ERG-CAUS-write-PST=real

‘He made him write this into it indeed.’

The template shown in Figure 1 applies to nouns as well.⁶ Minimally a noun consists just of a stem, but the first bolded item in (7) contains also two endings, namely the plural marker and the absolutive case suffix, and the second bolded item in the same example includes an argument structure zone represented with the possessive cross-reference morphology, the negation and the stem. Nominal stems may also take causative markers, although the results of this derivation are better treated as verbs (8).

- (7) mə [lə]_D[-xe-r]_E [ja-]_A[mə-]_B[ləpq]_D xe-ha-ke-x

this man-PL-ABS [3PL.IO+POSS-]_A[NEG-]_B[clan]_D LOC-go.in-PST-PL

‘These men turned out to be in a clan that was not theirs (e.g., sat down with people from some other clan).’

(8) wə-z-ke-pxeše-š't-ep

2SG.ABS-1SG.ERG-CAUS-carpenter-FUT-NEG

‘I will not let you be a carpenter.’

The morphological structure presented in Figure 1 will play a crucial role in many of our conclusions given in the following sections.⁷

6. The structure given in Figure 1 applies not only to nouns and verbs but also to other parts-of-speech. I will not consider this issue here, though.

7. There are minor deviations from this structure. For instance, the combinations of a verb with some grammaticalized auxiliaries may show some properties of a single word (quite often, such combinations show a single grammatical marker where one could expect several, etc.). An important fact is, however, that such verb-auxiliary combinations contain more than one domain for the /e/~a/ alternation.

3. Nominal complex: Basic information

In West Circassian noun phrases, some modifiers constitute a very tight unit with the modified element.⁸ This can be seen in (9), where the possessive prefix is added to a combination of a non-referential nominal modifier and a modified noun, and in (10), where the case suffix appears after a sequence of a noun and an adjective:

- (9) jə-č'ərbəš'=wəne-šx^we
 POSS-brick=house-AUG
 'his/her big brick house'

- (10) bež'e=çepλə-r
 FOX=red-ABS
 'red fox'

We will see later that such units, called *nominal complexes*, have properties of single words. In this section, however, I only give basic information on their structure.

Besides non-referential nominal modifiers and adjectives, there are also other kinds of modifiers that can enter the nominal complex. The following examples demonstrate nominal complexes formed with resultative verbs (11),⁹ so-called "relational adjectives" (12), ordinal numerals (13) and "incorporated" predicates of relative clauses (14).¹⁰

- (11) beže=wəč'ə-ke-r
 fly=kill-PST-ABS
 'the killed fly'

- (12) w-jə-njepe-re=š^wə.šəke
 2SG.IO-POSS-today-RELADJ=good.act
 'your good behaviour today'

8. For the sake of simplicity, while characterizing some elements as modifiers and others as modified, I mainly rely on semantic relations and the English translation. This should not imply any structural relations, since the issue of headedness in the nominal complex is tricky and beyond the scope of this paper.

9. The term *resultative verb* refers to a verb which describes a state resulted from an event designated by the verbal stem (Nedjalkov and Jaxontov 1988, Nedjalkov 2001).

10. Some of these modifiers do not obligatory "incorporate" in the nominal complex. In particular, non-borrowed relational adjectives, ordinal numerals and predicates of relative clauses can appear as autonomous parts of the noun phrase as well, without any clear difference in meaning.

- (13) jə-ja.tʷe.ne-re=qale
POSS-second-RELADJ=town
'its second town'
- (14) qe-ḵʷe-ḵe=wəpʕe-xe-r
DIR-go-PST=question-PL-ABS
'the questions that arose (lit., came)'

A nominal complex may also contain cardinal numerals. The numeral 'one' is placed before the noun (15). Other numerals are added to the right of the noun (and adjectives, if any) via a linker morpheme, as in (16). Note that given some peculiarities of the numeral modification,¹¹ it is left beyond the scope of this paper.

- (15) jə-zə=ʔah
POSS-one=part
'one part of it'
- (16) abʒexe=ʂəw-jə-ʂ'
Abzakh=horseman-LNK-three
'three Abzakh horsemen'

Modifiers consisting of several lexemes are allowed. For example, adjectival modifiers may be represented with a kind of exocentric bahuvrihi compounds, as in (17), and non-referential nominal modifiers occasionally have their own attributes (18):

- (17) ʂewe=[na=ʂχʷe]-r
son=[eye=grey]-ABS
'the grey-eyed son'
- (18) [ʕʔərbəʂʔ=fəʒ]=wəne-r
[brick=white]=house-ABS
'the house of white bricks'

Non-adjectival modifiers	Noun	Adjectival modifiers
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Figure 2. The typical order of modifiers with respect to the modified noun

I assume that postnominal modifiers belong to a formal class of adjectives and that bahuvrihi compounds and resultative verbs, which also follow the noun,

11. There is variation among speakers in whether they treat postnominal numerals as parts of the stem. In addition, it is usually impossible to check whether the numeral 'one' is a part of the nominal complex, when it occurs on its left periphery, because it can also be placed outside of the nominal complex.

have adjectival properties.¹² This decision is, of course, purely descriptive, yet it is convenient given the fact that the prenominal attributes are not fond of inviting adjectives proper into their club.¹³

4. Wordhood and stemhood

In this section, I provide evidence for the following claim:

(19) *Template Consistency Principle*

The nominal complex is likely to be organized in accordance with the general make-up of the West Circassian word, with lexical parts forming its stem.

4.1 Lexical parts form the stem

The nominal complex has the same structure as in Figure 1. An example of a nominal complex that shows three zones is given in (20): it demonstrates that lexical parts which enter the nominal complex follow the argument structure zone and precede the endings. In the absence of pre-stem and causative prefixes, it is likely that the lexical parts constitute the stem.

- (20) $[\emptyset\text{-jə}]_A\text{-zə=šolk=ž'ene=daxe-}[r]_E$
 $[3\text{SG.IO-POSS}]_A\text{-one=silk=dress=beautiful-}[ABS]_E$
 'one beautiful silk dress of hers'

12. Kerasheva (1970; 1977) and Paris (1989:230) treated resultative verbs as participles, which could explain their apparent similarities to adjectives in the nominal complex. Note, however, that according to traditional descriptions like Rogava & Kerasheva (1966), the contrast between prenominal and postnominal modifiers is based on the distinction between the relational modifiers (like *wooden* or *Chomskyan*) and qualitative modifiers (like *tall* or *red*). In general, it is often assumed that the main difference between qualitative and relational adjectives is that only the former are gradable. In West Circassian, however, postnominal adjectives are not necessarily gradable, since they also include clearly ungradable resultative verbs. Prenominal modifiers are all ungradable but they do not include all ungradable modifiers. It seems therefore that the contrast between the prenominal and postnominal positions cannot be described in terms of the distinction between qualitative and relational modifiers.

13. At first glance, this is contradicted by the prenominal position of relational adjectives like (12). However, since I am not aware of any formal properties that could be used for unifying quality and relational adjectives into a single class, I propose that relational adjectives constitute a separate word class.

This conclusion is confirmed by verbal derivation. In general, the Circassian languages show a weak distinction between nouns and verbs: in particular, nouns and nominal complexes can occur as predicates. Then, nominal complexes may take absolutive cross-reference prefixes, as in (21), or be marked with typical verbal categories such as tense (21) or optative (22). The position of these markers follows the schema proposed in Figure 1. The absolutive cross-reference marker appears in the beginning, tense markers occur after the lexical parts (21) and the optative appears in the pre-stem zone, following possessive markers which belong to the argument structure zone, but preceding the lexical parts (22).

- (21) wə-č'ele=deḡə-ḡ
2SG.ABS-boy=good-PST
'You were a good boy.'
- (22) t-jə-were-vrač'=šha?
1PL.IO-POSS-OPT-doctor=main
'Let him be our main doctor!'

It is also possible to causativize nominal complexes. As (23) demonstrates, the causative prefix appears immediately before the lexical parts.

- (23) wə-z-ḡe-[č'ele=čəḡə=ʔəšə]-š't
2SG.ABS-1SG.ERG-CAUS-[boy=small=clever]-FUT
'I will make you a clever boy.'

For us, it is important that all these examples demonstrate that the sequence of lexical parts behaves as a single stem.

4.2 The position of suffixes

No violation of zone ordering is expected when a lexical part that does not close the stem contains a suffix that should also belong to a stem. In fact, examples with productive suffixes center-embedded within the nominal complex are found acceptable: in (24) a non-final modifier contains the so-called "nimifactive" suffix 'overly, excessively'.

- (24) š'e=ʔaš'ə-š'e=fabe-r
milk=sweet-NIM=warm-ABS
'the warm milk that is too sweet'

With some suffixes, however, the picture is less clear. Consider the following examples:

- (25) a. $^{???'s}e=\gamma a\hat{s}^w\partial-\gamma^we=fabe-r$
 milk=sweet-INT=warm-ABS
- b. $\check{s}e=febe=\gamma a\hat{s}^w\partial-\gamma^we-r$
 milk=warm=sweet-INT-ABS
 ‘warm very sweet milk’

The examples (25) demonstrate that an adjective with an intensive suffix is likely to be placed at the end, presumably due to the fact that productive suffixes like $-\gamma^we$ tend to occur at the end of the stem. This may be taken as evidence that the combination of a noun with adjectives constitutes a single stem, where suffixes tend to appear to the right rather than be embedded between roots.

4.3 Morphophonological properties

Normally, a nominal complex forms just one domain for the $/e/\sim/a/$ alternation.¹⁴ This is shown in (26), where the nominal complex consists of two lexical parts, each of which could in principle serve as a separate domain for the $/e/\sim/a/$ alternation. However, in this example, the place for the alternation is only counted from the last lexical part, which supports the view on lexical parts as a single stem:

- (26) $j\partial-[cece=pap\check{c}e]_{STEM}-xe-r$ $< j\partial-[cece=pep\check{c}e]_{STEM}-xe-r$
 POSS-[fork=sharp]_{STEM}-PL-ABS
 ‘his/her sharp forks’

It is also worth noting that no part of a nominal complex (possibly except for the final part) can be focused or emphasized. Thus, (27b) is modeled as a correction of (27a), where the first part of the nominal complex could in theory constitute contrastive focus. Despite this, speakers disallow any prosodic accentuation of it.

- (27) a. we $\text{ʁ}^w\text{en}\check{c}\acute{e}\check{z}^{\prime}=\hat{s}^w\acute{a}\check{c}e-xe-r$ $qe-p-\check{s}ef\partial-\text{ʁ}$
 you(SG) trousers=black-PL-ABS DIR-2SG.ERG-buy-PST
 ‘You bought black trousers.’
- b. haw! se $c^weqe=\hat{s}^w\acute{a}\check{c}e-xe-r$ $qe-\check{c}^{\prime}ef\partial-\text{ʁ}$
 no I shoes=black-PL-ABS DIR-1SG.ERG+buy-PST
 ‘No! I bought black shoes!’

This also suggests that lexical parts lack wordhood and cannot participate in the information structure of the clause as independent units.

14. Most examples of nominal complexes provided in this paper have been chosen in such a way that the non-final part of a complex could show this alternation if it were used autonomously, so that the presence of two syllables with $/e/$ may be used as evidence for the unity of a nominal complex.

5. Morphological embedding

Despite the fact that the nominal complex as a whole has the structure of a single word, its lexical parts may consist of several morphological zones. This gives rise to morphological embedding. In this section, I discuss various effects related to this. I will argue that many of them can be accounted for if we assume still another principle governing the organization of the nominal complex, namely:

(28) *Stem-internal Interpretation Principle*

Lexical parts of the nominal complex should be semantically interpreted without appeal to any context outside of its stem.

5.1 Zone nesting with postnominal modifiers

If a complex contains a postnominal modifier, there may be prefixes that only modify this modifier rather than the whole complex. Here three situations are observed. First, there are prefixes whose position may vary. Second, some prefixes necessarily adjoin to the element they modify. Third, the appearance of some prefixes inside of the stem of the nominal complex is prohibited.

The morphemes that display positional variation include the negation prefix *mə-*, which belongs to the pre-stem zone, and the comparative prefix *nah-*, which occurs in the argument structure zone. Both of them can appear in the corresponding zones of the whole nominal complex, as in (29a) and (30a). This fits Template Consistency Principle. Alternatively, these prefixes may adjoin to the parts of the complex that they modify, as in (29b) and (30b). The choice of the position is up to the speaker and does not reflect any semantic distinction.

(29) a. *mə-pšeše=daxe-r*
NEG-girl=beautiful-ABS

b. *pšeše=mə-daxe-r*
girl=NEG-beautiful-ABS
'unbeautiful girl'

(30) a. *jə-nah-c^weqe=g^wəpsefə-xe-r*
POSS-COMP-shoes=comfortable-PL-ABS

b. *jə-c^weqe=nah-g^wəpsefə-xe-r*
POSS-shoes=COMP-comfortable-PL-ABS
'her more comfortable shoes'

Assuming that in (29b), the prefix *mə-* occurs in the pre-stem zone of the post-nominal modifier, I consider this an instance of zone nesting, whereby a sequence

of something from the prefixal zone (here, the pre-stem zone) and a stem is embedded into the stem of the nominal complex. A similar analysis can be proposed for the occurrence of the comparative marker in (30b).

Note that neither the negation prefix nor the comparative marker are necessary for the interpretation of the postnominal modifier. In fact, it may well be that when these morphemes are placed in the pre-stem zone, the whole stem of the nominal complex constitutes a kind of complex semantic predicate that can be further negated or used as a comparative base. Nonetheless, the appearance of these morphemes with modifiers obviously facilitates the interpretation; it makes the interpretation more precise due to specification of the semantic scope.

The situation where the prefixal morphology should be adjoined to the postnominal modifier is illustrated in (31). In (31a) the resultative verb ‘prosperous’ (lit. ‘made for’) contains a benefactive applicative prefix which belongs to the argument structure zone, which again, may be interpreted as an instance of morphological embedding. In fact, even nesting like this is always accepted only if the combination of the prefix with the root is lexicalized and non-compositional. This fits Stem-internal Interpretation Principle: if the benefactive prefix were to occur outside of the stem, the postnominal modifier would not get the right interpretation without appeal to another zone. Indeed, the benefactive prefix cannot occur in the argument structure zone of the whole complex (31b).

- (31) a. wənɐʁ^we=fe-ʃə-ʁe
family=BEN-make-PST
‘a prosperous family’
b. *fe-wənɐʁ^we=ʃə-ʁe
BEN-family=make-PST

Finally, some morphological elements cannot adjoin to postnominal modifiers. In particular, the presence of an overt cross-reference prefix normally blocks the possibility of the appearance of a verb form in this position (32a), although some speakers allow verbs with 3rd person plural prefixes used impersonally (32b):

- (32) a. *q^weje=jə-s-xə-ʁe-r
cheese=LOC-1SG.ERG-carry-PST-ABS
‘(the cheese that I prepared)’
b. q^weje=r-a-xə-ʁe-r
cheese=LOC-3PL.ERG-carry-PST-ABS
‘the cheese prepared (lit., was carried)’

The combination of the comparative marker with the 3rd person plural cross-reference prefix, again clearly used without specific reference, marks the superlative degree. Not surprisingly, speakers who allow the appearance of the comparative

prefix *nah-* within the argument structure zone of the postnominal modifier, also consider its use with the impersonal cross-reference marker felicitous:

- (33) *c^weqe=a-nah-g^wəpsefə-xe-r*
 shoes=3PL.IO-COMP-comfortable-PL-ABS
 ‘the most comfortable shoes’

I suggest that the cross-reference morphology normally should be interpreted with respect to a broader context, which would violate Stem-internal Interpretation Principle. However, the impersonal use does not require reference to any context outside of the stem and hence can be accepted.

5.2 Zone nesting with prenominal modifiers

Most prenominal modifiers are not normally associated with any non-stem morphology, so their stems cannot be contrasted with the stem of the nominal complex and morphological embedding is not testable.¹⁵ The main exception to this are predicates of relative clauses, which can contain all kinds of morphology.

The basic relative construction in West Circassian follows the overall left-branching tendencies: the relative clause precedes the head.¹⁶ Inside the relative clause, the prefix cross-referencing the relativized argument is replaced with a dedicated relative prefix *zə-* unless it is the absolutive argument that is relativized (relativization of the absolutive argument is unmarked). (34) demonstrates the relativization of the indirect object:

- (34) *a-r* *z-e-s-ɾ^wa-ʁe* *pšešer^wə-r*
 that-ABS REL.IO-DAT-1SG.ERG-say-PST female.friend-ABS
 ‘the friend to whom I told this’

In (34) the predicate of the relative clause does not constitute a part of the nominal complex, as indicated by the fact that it shows its own domain of the /e/~/a/ alternation. Otherwise it would have the form *z-e-s-ɾ^we-ʁe*. The form which lacks the alternation is actually found as well, as in (35), where the relative predicate can be said to have been incorporated into the nominal complex:

15. A kind of argument structure morphology could be suspected for ordinal numerals, which historically contained 3rd person plural possessive morphology; e.g., *ja-ɬ^we.ne-re* ‘second’ could be glossed as 3PL.IO+POSS-second-RELADJ. Yet our consultants consistently added the pre-stem prefixes before *ja-* (as in *were-jaɬ^wene-re* OPT-second-RELADJ ‘Let it be the second’, which suggests that synchronically *ja-* does not belong to the argument structure zone anymore.

16. There are also internally-headed relatives as well as certain minor types; see Lander 2010 *inter alia*.

- (35) a-r z-e-s-ɹʷe-ke=p̣ʂeʂeɹʷə-r
 that-ABS REL.IO-DAT-1SG.ERG-say-PST=female.friend-ABS
 ‘the friend to whom I told this’

I am not aware of any semantic or pragmatic differences between the constructions represented in (34) and (35), and in fact, it seems that the latter is the default variant (although this certainly needs more corpus-based evidence).

If an incorporated predicate has any endings, they are retained. In (36), for instance, the relative predicate contains the dynamic ending, yet its incorporation blocks the /e/~a/ alternation (the unincorporated form would look as *z-a-s-ɹʷe-re*):

- (36) a gʷəʂʷəɹe-xe-r z-e-s-ɹʷe-re=p̣ʂeʂeɹʷə-r
 that word-PL-ABS REL.IO-DAT-1SG.ERG-say-DYN=female.friend-ABS
 ‘the friend to whom I told those words’

This example manifests zone nesting: the predicate of the relative clause that is “incorporated” into the stem of the nominal complex itself contains at least an ending and its own stem. The position of the prefixes of the predicate with respect to the zones of the nominal complex is not clear. In particular, there is no evidence for or against the conclusion that they are also embedded within the stem of the nominal complex. The reason for this is that the inclusion of the predicate of a relative clause into the nominal complex blocks the appearance of any prefixal morphology that does not belong to that predicate. (37) demonstrates that such complexes cannot take possessive cross-reference marking: if the possessor should be cross-referenced, the possessive morphology appears on the head noun (37a) and cannot adjoin the left periphery of the complex (37b), but the predicate of the relative clause cannot enter into the complex, as demonstrated by the fact that it should show the /e/~a/ alternation (if needed) (cp. 37c and 37a).

- (37) a. ʧʷe-zə-ɹe-ʒʷə-ka-ke s-jə-ʂə-r
 LOC-REL.ERG-rush-RE-PST-PST 1SG.IO-POSS-horse-ABS
 b. *s-jə-ʧʷe-zə-ɹe-ʒʷə-ke-ke=sə-r
 1SG.IO-POSS-LOC-REL.ERG-rush-RE-PST-PST=horse-ABS
 c. ???ʧʷe-zə-ɹe-ʒʷə-ke-ke=s-jə-ʂə-r
 LOC-REL.ERG-rush-RE-PST-PST=1SG.IO-POSS-horse-ABS
 ‘that horse of mine that rushed’

I propose that the reason for the ban on prefixes that do not constitute a part of the predicate of the relative clause is that in examples like these the left periphery is considered the periphery of the relative clause rather than the nominal complex. In other words, the nominal complex may be built not over just a verb but over the whole relative clause. If the relative clause consists of several words, as in (36) above, we will get a structure like that in (38):

- (38) [a gʷəʃʔəʔe-xe-r z-e-s-ʔʷe-re]_s=pʃeʃeʔə-r
 that word-PL-ABS REL.IO-DAT-1 SG.ERG-say-DYN=female.friend-ABS
 'the friend to whom I told those words'

While the phenomenon where syntactic structures “feed” morphological structures may look somewhat awkward, it is observed elsewhere, for instance, in phrasal compounds (see discussion in Sadock 1991; Lieber & Scalise 2007; Booij 2009; Lander 2014). For West Circassian, we find some specific evidence for this. In particular, if a modifier that normally occurs postnominally subcategorizes for any syntactically autonomous dependents, it is “moved” to the left periphery of the nominal complex. An example of this inversion is shown in (39)–(40). As (39) demonstrates, the adjective ‘ill’ by default follows the noun, the reversed order being considered not normal. However, if the disease is specified (with an instrumental nominal), the order is changed (40b). In this case, the postnominal position is even considered infelicitous by some speakers (40a).

- (39) a. klasə-m sabjəj=səmaʒʔe-xe-r jə-sə-x
 class-OBL child=ill-PL-ABS LOC-sit-PL
 b. ???klasə-m səmeʒʔe=sabjəj-xe-r jə-sə-x
 class-OBL ill=child-PL-ABS LOC-SIT-PL
 ‘There are ill children in the class.’
- (40) a. *klasə-m grjəp-čʔe sabjəj=səmaʒʔe-xe-r jə-sə-x
 class-OBL flu-INS child=ill-PL-ABS LOC-sit-PL
 b. klasə-m grjəp-čʔe səmeʒʔe=sabjəj-xe-r jə-sə-x
 class-OBL flu-INS ill=child-PL-ABS LOC-sit-PL
 ‘There are children ill with flu in the class.’

It seems that this inversion is motivated by an intention to put the modifier together with the subcategorized nominal.¹⁷ In terms of structure, I propose that in (40) the noun phrase ‘with flu’ forms a constituent with the adjective ‘ill’. It is natural to propose a similar structure for nominal complexes constructed upon relative clauses, and this explains the ban on the prefixes characterizing the whole nominal complex, as we saw above.

17. Clearly, this is akin to what is observed in English, where adjectives change their position if they have their own nominal dependents. However, while for English this could be attributed to the heaviness of the adjective phrase, which makes it appear to the right of its head (as is common cross-linguistically), such an explanation does not work for West Circassian, since here the adjective phrase appears to the left of its head and this change of the position cannot be attributed to the heaviness.

This does not run counter to Stem-internal Interpretation Principle. If the predicate of a relative clause or any other modifier entered the nominal complex without its dependents, their interpretation would require access to other syntactic elements. However, if the whole relative clause can be interpreted before the nominal complex is constructed, no violation of Stem-internal Interpretation Principle is observed.

6. Syntacticization and demorphologization

To sum up, I have proposed two principles that govern the organization of the West Circassian nominal complex, which are repeated in (41):

- (41) a. *Template Consistency Principle*: The nominal complex is likely to be organized in accordance with the general make-up of the West Circassian word, with lexical parts forming its stem.
- b. *Stem-internal Interpretation Principle*: Lexical parts of the nominal complex should be semantically interpreted without appeal to any context outside of its stem.

Both Template Consistency Principle and Stem-internal Interpretation Principle are of morphological nature. The first principle attempts to enforce the template restrictions, while the second restricts the domain where the interpretation proceeds. The two principles, however, compete with each other in regulating the position of affixes. The template make-up of the West Circassian word does not presume the possibility of nesting the zones and hence requires an affix to be placed in the zone of the nominal complex it is ascribed to. At the same time, Stem-internal Interpretation Principle may require that an affix adjoin to the lexical part it modifies semantically in order for it to get a complete interpretation. In this respect, we may consider three scenarios.

First, Template Consistency Principle may be preferred at the expense of Stem-internal Interpretation Principle and may not let an affix be directly adjoined to its semantic scope. This is, however, only observed with the negation and comparative prefixes, when there is some other way to achieve the intended meaning of the whole nominal complex.

Second, the conflict may lead to the impossibility of constructing an appropriate nominal complex and to the use of a syntactically complex periphrastic construction.

Third, Stem-internal Interpretation Principle can win, so that affixes are placed in accordance with their semantic scope, even though this results in morphological embedding which has not been provided for by the template structure. Moreover, following Stem-internal Interpretation Principle makes it possible to

build complex structures within the boundaries of the nominal complex unless they apply to any external material. For example, Standard West Circassian allows coordination within the nominal complex, as (42) and (43) illustrate:

- (42) $\text{arx'it'ektur}=\text{əč'jə}=\text{tarjəχ}=\text{š'wəχ}$ jə-ʔ
 architecture=and=history=value POSS-be
 'It has architectural and historical value.'
- (43) $\text{c'eqe}=\text{əč'jə}=\text{š'əβən}=\text{t'wəχ'an-xe-r}$ t-jə-wəra-M tje-t-ep
 footwear=and=clothes=shop-PL-ABS 1PL.IO-POSS-street-OBL LOC-stand-NEG
 'There are no shops of shoes and clothes in our street.'

The last example shows that coordinated words do not constitute a syntactic phrase similar to relative clauses discussed above but remain parts of the nominal complex, since the first conjunct does not show the /e/~a/ alternation, which it would undergo if it were a syntactically autonomous word. Such structures demonstrate that within the nominal complex there is also some freedom in applying syntactic rules. We could link this freedom to the need to convey complex semantics by means of the nominal complex and to the fact that the internal morphological structure of the nominal complex may be constructed in the course of speech.¹⁸

Curiously, it seems that older and more conservative speakers prefer following the template structure at the expense of compositionality or making use of periphrastic construction, while younger speakers are more oriented to Stem-internal Interpretation Principle and can use it freely at the expense of Template Consistency Principle. In particular, older speakers more typically put the negation and comparative prefixes into the prefixal zones of the whole complex and consider at best "artificial" various complex constructions such as coordination within the nominal complex and inversion. Given this, I propose that the nominal complex in West Circassian is undergoing a kind of syntacticization, i.e. developing compositional freedom, which is accompanied by weakening of morphological constraints.

This is further supported by morphophonological facts. Despite the fact that normally the domain of the /e/~a/ alternation is determined with respect to the border between the stem and the endings, some younger speakers occasionally allow several manifestations of the alternation within what is expected to be a single nominal complex. This phenomenon is observed in nominal complexes containing several postnominal attributes. In this case, the underlying form (44a) may give two variants (44b) and (44c):

18. An anonymous reviewer suggested to think of this as "a pattern that becomes productive, besides losing some of its morphological constraints". Note, however, that it is not likely that nominal complexes were not productive earlier, because no other means of modification, for instance, by adjectives and nouns, have been documented.

- (44) a. /lə=ke-ž^we-ke=febe-r/>
 meat=CAUS-boil-PST=warm-ABS
 b. lə=ke-ž^we-ke=fabe-r
 c. lə=ke-ž^wa-ke=fabe-r
 ‘warm boiled meat’

The effect observed in (44) is likely due to the past suffix, which often appears at the boundary of the stem. It may be that in (44c), the past suffix is automatically interpreted as a stem boundary, which makes the right stem boundary of the whole complex irrelevant. This suggests a kind of demorphologization of the nominal complex.¹⁹

The variation observed in the degree of compositional freedom allowed for parts of the nominal complex concerns not only generations but also dialects. For example, my Bzhedugh informants more easily accept order perturbations and coordination within the nominal complex. Furthermore, all of them allow the use of the non-referential nominal modifier as a syntactically autonomous relational adjective (45). This example should be compared with its parallel (46) in Standard West Circassian, which definitely cannot use the non-referential modifier as a syntactically autonomous unit and requires either a periphrastic construction or a nominal complex combining the modifier with the modified noun. I take this difference as evidence that Bzhedugh treats the nominal complex as a syntactically complex pattern to the extent that non-referential modifiers are understood as syntactically autonomous words.

- (45) mə wəne-r b^wərž-ep. ade? məž^we.
 this house-ABS brick-NEG which stone
 ‘This house is not made of bricks (lit., is not brick (one)). What (is it made of)?
 (It is made) of stone.’
- (46) mə wəne-r č’ərbəš’ə-m xe-šə-č’ə-k-ep. ade? məž^we=wən.
 this house-ABS brick-OBL LOC-make-go.out-PST-NEG which stone=house
 ‘This house is not made of bricks. What (is it made of)? It is a stone house.’

Thus, we find that there is considerable variation among West Circassian speakers regarding the possible degree of syntacticization of the nominal complex.²⁰

19. The term *demorphologization* may refer to two processes, namely a process whereby some morphological rule is phonologized and a process whereby some morphological element, construction or rule becomes a matter of syntax rather than morphology (cf. Joseph & Janda 1988). Here I only regard the second kind of demorphologization.

20. It should be noted that in the closely related Kabardian language, which is accepted to be less conservative than West Circassian (Chirikba 1996: 8), the nominal complex as a morphological unit seemingly has almost disappeared, although its traces can be found in some marking rules and in optional cases of vowel alternation. The details of the Kabardian system are still worthy of investigation, though.

7. Conclusion

In this paper, I have shown that the organization of the nominal complex in West Circassian is governed by two principles, of which one provides it with the properties of a complex morphological unit, but the other facilitates its use as a complex syntactic unit, which may even include complex syntactic constituents. In fact, patterns similar to the West Circassian nominal complex occur elsewhere in many polysynthetic and non-polysynthetic languages (see Mattissen 2003: Chapter 9, 2011 for important typological surveys), but it is still an open question whether similar principles can be proposed for them and counted as universal constraints. It is worth noting, however, that constraints like Stem-internal Interpretation Principle may restrict compound-like structures in general.

I have also argued that the West Circassian nominal complex is currently undergoing demorphologization and syntacticization. Interestingly, demorphologization in the direction of syntax is usually associated with degrammaticalization of affixes (Andresen 2010, Brinton & Traugott 2005: 57–60) or at best with syntacticization of morphemes like *phobia*, which served originally as parts of a specific kind of compound (Ogawa 2014). In our case, however, we observe demorphologization and syntacticization of the whole pattern, which makes the situation particularly interesting typologically.

It is not clear what motivates these processes in the Circassian case. It can be hypothesized that the treatment of the elements of the nominal complex by speakers is affected by the orthographical rules. In Standard West Circassian orthography the lexical parts of the nominal complex are written as separate words unless they are monosyllabic. That the orthography may affect perception is a standard claim (Ziegler & Ferrand 1998), but it is unlikely that this is the only reason. Another factor could be the influence of non-polysynthetic languages like Russian which do not employ such complex morphological structures. Indeed, it has been noticed that the influence of a non-polysynthetic dominant language may promote analytical structures (see, for example, Flores Farfán 2012 for Nahuatl). Finally, the regular use of nominal complexes as means of composing complex semantics may also favour syntacticization.

Of course, in order to clarify the demorphologization issue, more sociolinguistic data are needed which could supply the statistical significance to the observations presented above. Still, however rare and exceptional such processes may be cross-linguistically, they turn out to be possible and probably even natural for polysynthetic languages like West Circassian.

Abbreviations

ABS	absolutive	MAL	malefactive
ADV	adverbial	MOD	modal
BEN	benefactive	NEG	negation
AUG	augmentative	NIM	nimifactive ('too')
AUX	auxiliary	OBL	oblique
CAUS	causative	OPT	optative
COMP	comparative	PL	plural
DAT	dative	PO	postpositional object
DEB	debitive	POSS	possessive
DFCL	dificilitive	POT	potential
DIR	directive	PR	possessor
DYN	dynamic	PST	past
ERG	ergative	RE	refactive/reversive
FUT	future	REC	reciprocal
INS	instrumental	REL	relativizer
INT	intensive	RELADJ	derivation of "relational adjectives"
IO	indirect object	RFL	reflexive
LNK	linker	SG	singular.
LOC	locative preverb		

References

- Andersen, Hennig. 2010. From morphologization to demorphologization. In Silvia Luraghi & Vit Bubenik (eds.), *Continuum Companion to Historical Linguistics*, 117–146. London, NY: Continuum.
- Arkadijev, Peter M. & Yakov G. Testelelets. 2009. O trex čeredovanijax v adygejskom jazyke. In Yakov G. Testelelets (ed.), *Aspekty polisintetizma: Očerki po grammatike adygejskogo jazyka*, 121–145. Moscow: RGGU.
- Arkadijev, Peter M., Yury A. Lander, Alexander B. Letuchiy, Nina R. Sumbatova & Yakov G. Testelelets. 2009. Vvedenie. Osnovnye svedenija ob adygejskom jazyke. In Yakov G. Testelelets (ed.), *Aspekty polisintetizma: Očerki po grammatike adygejskogo jazyka*, 17–120. Moscow: RGGU.
- Baker Mark C. 1988. *Incorporation: A theory of grammatical function changing*. Chicago: University of Chicago Press.
- Booij, Geert. 2009. Lexical integrity as a formal universal: A constructionist view. In Sergio Scalise *et al.* (eds), *Universals of language today*, 83–100. Dordrecht: Springer.
doi:10.1007/978-1-4020-8825-4_5
- Brinton, Laurel J. & Elizabeth Closs Traugott. 2005. *Lexicalization and language change*. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511615962
- Chirikba, Viacheslav. 1996. *Common West Caucasian. The reconstruction of its phonological system and parts of its Lexicon and morphology*. Leiden: CNWS.

- Flores Farfán, José Antonio. 2012. Another look at Nahuatl-Spanish contact morphology. In Hitomi Otsuka, Cornelia Stroh, & Anna Urdze (eds.), *Many morphologies: Contributions to the festival of languages, Bremen, 17 Sept to 7 Oct 2009*, 33–52. Bochum: Universitätsverlag Dr. N. Brockmeyer.
- Hewitt, George. 2005. North West Caucasian. *Lingua* 115: 91–145. doi:10.1016/j.lingua.2003.06.003
- Jakovlev, Nikolay & Daud Ashkhamaf. 1941. *Grammatika adygejskogo literaturnogo jazyka*. Moscow, Leningrad: Izd. AN SSSR.
- Jelinek, Eloise & David A. Demers. 1994. Predicates and pronominal arguments in Straits Salish. *Language* 70 (4): 697–736.
- Joseph, Brian D. & Richard D. Janda. 1988. The how and why of diachronic morphologization and demorphologization. In Michael Hammond & Michael Noonan (eds.), *Theoretical morphology*, 193–210. San Diego: Academic Press.
- Kerasheva, Zainab I. 1970. Osnovnye sintaksičeskie funkcii pričastij. In *Adygejskaja filologija* IV, 3–24. Rostov-on-Don.
- Kerasheva, Zainab I. 1977. Klassifikacija pričastij v adygschix jazykax. In *Voprosy sintaksičeskogo stroja iberijsko-kavkazskix jazykov*, 34–42. Nalchik.
- Kibrik, Andrej A. 2011. *Reference in discourse*. Oxford: Oxford University Press. doi:10.1093/acprof:oso/9780199215805.001.0001
- Korotkova, Natalia & Yury Lander. 2010. Deriving affix order in polysynthesis: Evidence from Adyghe. *Morphology* 20: 299–319. doi:10.1007/s11525-010-9185-y
- Kumakhov, Mukhadin. 1964. *Morfologija adygschix jazykov. Sinxronno-diaxronnaja xarakteristika*. I. Nalchik: Kabardino-Balkarskoe knižnoe izdatel'stvo.
- Kumakhov, Mukhadin & Karina Vamling. 2009. *Circassian clause structure*. Malmö: Malmö University.
- Lander, Yury. 2010. Relativization in Shapsug Adyghe. *Rice Working Papers in Linguistics* 2: 75–91.
- Lander, Yury. 2014. Modifier incorporation in Dargwa nominals. *Working papers by NRU HSE*. Series WP BRP “Linguistics” 12/LNG/2014.
- Lander, Yury & Alexander Letuchiy. 2010. Kinds of recursion in West Circassian morphology. In Harry van der Hulst (ed.), *Recursion and human language*, 263–284. Berlin, NY: Mouton de Gruyter. doi:10.1515/9783110219258.263
- Lander, Yury & Nina Sumbatova. 2007. Adygejskie otricanija. *Kavkazskij lingvističeskij sbornik* 18: 77–103.
- Lieber, Rochelle & Sergio Scalise. 2007. The Lexical Integrity Hypothesis in a new theoretical universe. In G. Booij, L. Ducceschi, B. Fradin, E. Guevara, A. Ralli, & S. Scalise (eds.), *Online Proceedings of the Fifth Mediterranean Morphology Meeting (MMM5)*, University of Bologna, 1–24. [http://mmm.lingue.unibo.it/]
- Mattissen, Johanna. 2003. *Dependent-Head Synthesis in Nivkh: A contribution to a typology of Polysynthesis*. Amsterdam: John Benjamins. doi:10.1075/tsl.57
- Mattissen, Johanna. 2011. Complexity in nouns. *Rivista di Linguistica* 23(1): 79–103.
- Nedjalkov, Vladimir P. 2001. Resultative constructions. In Martin Haspelmath, Ekkehard König, Wulf Oesterreicher, & Wolfgang Raible (eds.), *Language typology and language universals: An international handbook*, 928–940. Berlin: Walter de Gruyter.
- Nedjalkov, Vladimir P. & Sergej Je. Jaxontov. 1988. The typology of resultative constructions. In Vladimir P. Nedjalkov (ed.), *Typology of Resultative Constructions*, 3–62. Amsterdam: John Benjamins. doi:10.1075/tsl.12.06ned

- Ogawa, Yoshiki. 2014. Diachronic demorphologization and constructionalization of compounds from the perspective of Distributed Morphology and Cartography. *Interdisciplinary Information Sciences (Tohoku University)* 20(2): 121–161. doi:10.4036/iis.2014.121
- Paris, Catherine. 1989. Esquisse grammaticale du dialecte abzakh (tcherkesse occidental). In B. G. Hewitt (ed.), *The Indigenous Languages of the Caucasus. Vol. 2: The North West Caucasian Languages*, 154–260. New York: Caravan.
- de Reuse, Willem J.. 2006. Polysynthetic language: Central Siberian Yupik. In Keith Brown (ed.), *The encyclopedia of language and linguistics* (2nd ed.). Vol. 9, 745–748. Oxford: Elsevier. doi:10.1016/B0-08-044854-2/04669-1
- de Reuse, Willem J.. 2009. Polysynthesis as a typological feature. An attempt at a characterization from Eskimo and Athabaskan perspectives. In Marc-Antoine Mahieu & Nicole Tersis (eds.), *Variations on Polysynthesis: The Eskaleut Languages*, 19–34. Amsterdam: John Benjamins. doi:10.1075/tsl.86.02pol
- Rogava, Georgi V. & Zaynab I. Kerasheva. 1966. *Grammatika adygejskogo jazyka*. Krasnodar, Maykop: Krasnodarskoe knižnoe izdatel'stvo.
- Sadock, Jerold M. 1991. *Autolexical syntax: A theory of parallel grammatical representations*. Chicago: University of Chicago Press.
- Smeets, Riëks. 1984. *Studies in West Circassian phonology and morphology*. Leiden: The Hakuchi Press.
- Swadesh, Morris. 1938. Nootka internal syntax. *International Journal of American Linguistics* 9(2-4): 77–102. doi:10.1086/463820
- Van Valin, Robert D., Jr. 1985. Case marking and the structure of the Lakhota clause. In Johanna Nichols & Anthony C. Woodbury (eds.), *Grammar inside and outside the clause*, 363–413. Cambridge: Cambridge University Press.
- Van Valin, Robert D., Jr. 1987. The role of government in the grammar of head-marking languages. *International Journal of American Linguistics* 53(4): 371–397. doi:10.1086/466065
- Ziegler, Johannes C. & Ludovic Ferrand. 1998. Orthography shapes the perception of speech: The consistency effect in auditory word recognition. *Psychonomic Bulletin & Review* 5(4): 683–689. doi:10.3758/BF03208845

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