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Morphology of the Caucasian Languages: A Typological Overview

Morfologija kavkaških jezikov: tipološki pregled
Jeziki avtohtonih jezikovnih družin na Kavkazu (naško-dagestanske, abhaško-adigejske in kartvelske družine) se odlikujejo po raznolikosti svojih oblikoslovnih sistemov. Prav na oblikoslovni ravnini so si ti jeziki tudi med seboj različni – medsebojno se razlikujejo tako jezikovne družine kot predstavniki posameznih družin. Prispevek predstavlja teoretični in tipološki pregled osnovnih posebnosti oblikoslovnih sistemov kavkaških jezikov, pri čemer izpostavlja netipične in s tipološkega stališča redke pojave v njihovi morfologiji. Osredotoča se na posebnosti izražanja skladenjskih razmerij med jedrom in odvisnim delom ter na različne tipe razmerij med morfološkimi pomeni in sredstvi njihovega izražanja; prav tako obravnava primere netipičnih razmerij med obliko in pomenom ter tipe polisintetizma, ki so značilni za kavkaške jezike.
Ključne besede: kavkaški jeziki, tipologija, oblikoslovje, označevanje morfoloških pomenov, razmerja med obliko in pomenom, polisintetizem

The indigenous languages of the Caucasus (Nakh-Daghestanian, Abkhazo-Agyghean and Kartvelian) present a remarkable degree of diversity in their morphological systems, both between and within larger genealogical units and even closely-related varieties. This article is an attempt to present a theoretically and typologically informed overview of the major parameters of morphological variation of the Caucasian languages and to highlight a number of non-trivial and rare phenomena found in their morphology. The phenomena discussed include locus of marking, types of affixal and non-affixal exponence, non-trivial form-meaning relations, and manifestations of polysynthesis.
Keywords: Caucasian languages, typology, morphology, exponence, form-meaning relations, polysynthesis
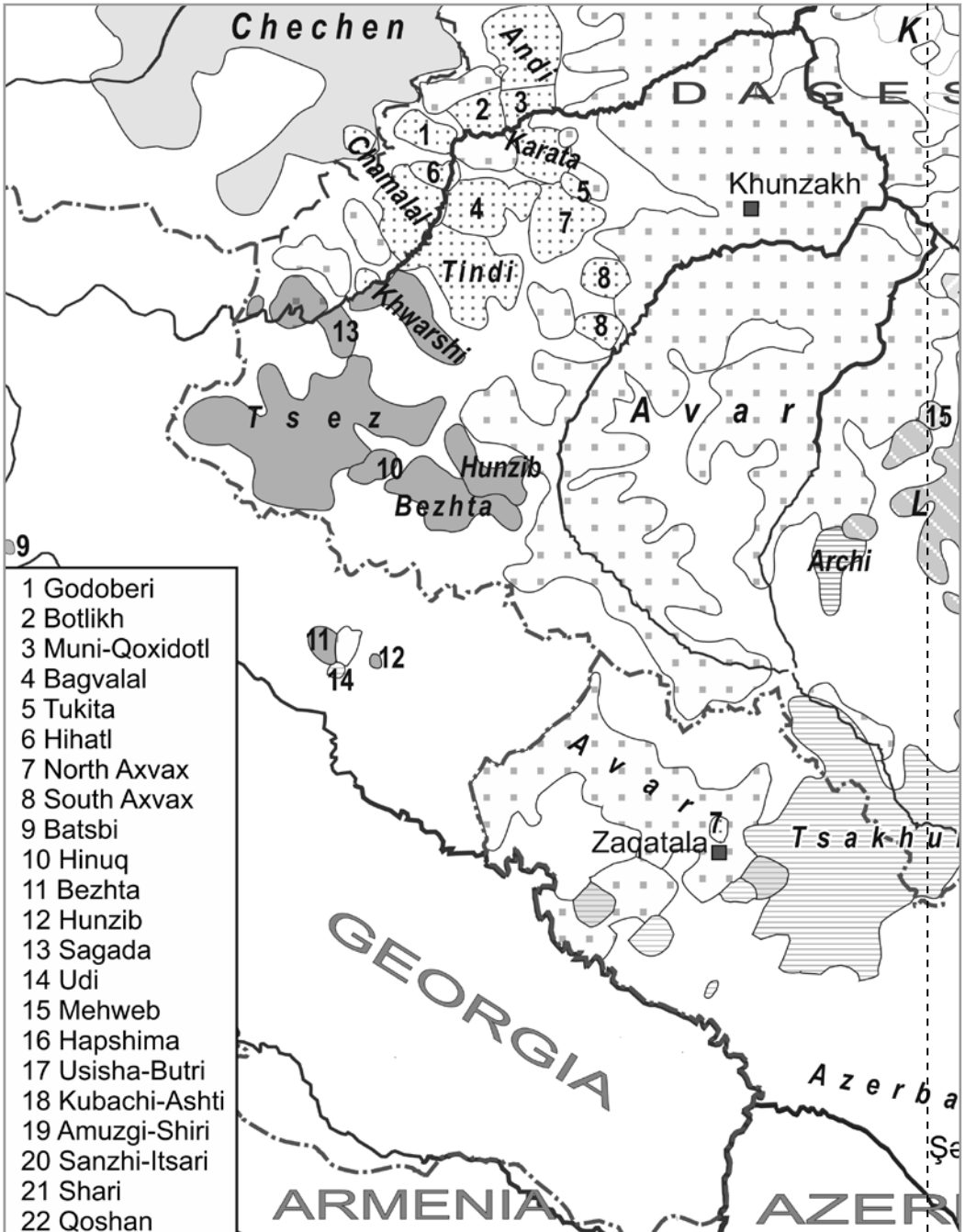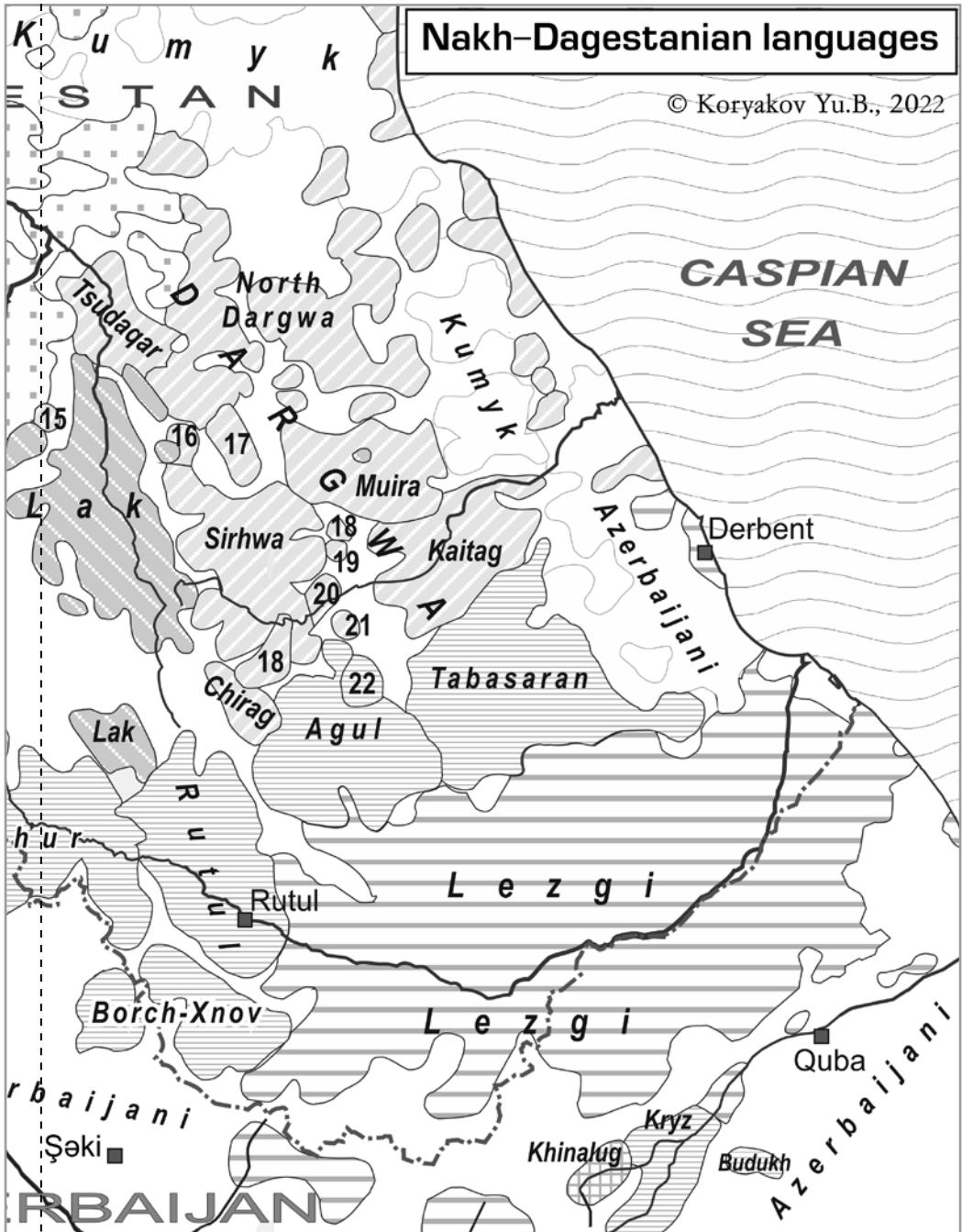
1 Introduction

The Caucasus[1] is commonly recognized as the most linguistically diverse region of Western Eurasia, with about fifty languages belonging to several language families

ABKHAZ-ADYGHE
Adyghe, Kabardian
Abkhaz, Abaza

NAKH-DAGESTANIAN
Chechen, Ingush
Bats
Avar
ANDIC
TSEZIC
Lak
DARGIC
LEZGIC
Khinalug

KARTVELIAN
Mingrelian, Laz
Georgian
Svan

INDO-EUROPEAN
Russian
Armenian
Iranian: Ossetic, Kurdish, Tat, Talysh

TURKIC: Nogay, Karachay-Balkar,
Nogay, Kumyk, Azeri, Turkish
MONGOLIAN: Kalmyk
SEMITIC: Neo-Aramaic

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Chechen

Andi

DAGES

K

2
3
1

Karata

5

6

Chamalal

4

7

Khunzakh

Tindi

8

13

Khwarshi

8

Tsez

Avar

15

10

Hunzib

L

Bezhta

Archi

9

1 Godoberi
2 Botlikh
3 Muni-Qoxidotl
4 Bagvalal
5 Tukita
6 Hihatl
7 North Axvax
8 South Axvax
9 Batsbi
10 Hinuq
11 Bezhta
12 Hunzib
13 Sagada
14 Udi
15 Mehweb
16 Hapshima
17 Usisha-Butri
18 Kubachi-Ashti
19 Amuzgi-Shiri
20 Sanzhi-Itsari
21 Shari
22 Qoshan

11
14

12

Avar

Tsakhu

Zaqatala

7

GEORGIA

Azerba

Şe

ARMENIA

AZER

Nakh–Dagestanian languages

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populating a relatively compact territory (for a recent comprehensive overview of the languages of the Caucasus and their structural features, see Polinsky 2020). Three of the language families spoken in the Caucasus are autochthonous to the area; these are the Northeast Caucasian or Nakh-Daghestanian (NEC), consisting of the Nakh, Avar-Andic, Tsezic, Lezgic and Dargic branches and isolates Lak and Khinalug; the Northwest Caucasian or Abkhaz-Adyghean (NWC), consisting of the Abkhaz-Abaza and Circassian branches and the extinct isolate Ubykh; and the South Caucasian or Kartvelian (SC), comprising Georgian, Svan, Mingrelian and Laz. Other language families of the area are Indo-European (Armenian, Ossetic, and Tat) and Turkic (Azeri, Karachay-Balkar, Nogay and Kumyk). The genealogical relationships between the three indigenous families have been a matter of debate. The so-called Ibero-Caucasian theory advanced primarily by the Georgian linguists of the Soviet era and assuming relatedness between South and North Caucasian languages has not been substantiated by historical-comparative evidence and did not gain support outside of Georgia (see Tuite 2008). By contrast, historical-comparative reconstruction linking NWC and NEC has been proposed (see Trubetzkoy 1926; Nikolaev – Starostin 1994; Chirikba 1999; 2016) and is upheld by many specialists. On the rather controversial hypotheses concerning potential distant relationships of the indigenous families of the Caucasus, see Comrie 2008: 134–135.

In areal terms, the Caucasus is a paradigm example of a "residual" or "accretion" zone (Nichols 1992: 13–16; 1997; Comrie 2008), where diversity increases over time due to both internal diversification of the existing linguistic varieties and the arrival of new languages from outside. Another feature of accretion zones relevant for the Caucasus is a lack of a single dominant language or language family and of a single lingua franca (this was true at least up to the arrival of Russian in the 19th and 20th centuries), and instead the existence of a complex network of local patterns of multilingualism and language contact (Chirikba 2008: 30–32; Dobrushina et al. 2020: 47–65). As a result, the question whether the Caucasus can be regarded as a Sprachbund in the classic sense of the word remains unsettled, since there are not many typologically non-trivial linguistic features common to all languages of the area and demonstrably originating through language contact (see e.g. Tuite 1999 vs. Chirikba 2008).

The languages of the Caucasus exhibit a remarkable degree of structural diversity and feature a number of rare phenomena, as seen both against the background of the European languages as well as the languages of Western Eurasia and the Near East, and also from a world-wide typological perspective (cf. Comrie 2008). The domain where internal diversity and typological uniqueness of the languages of the Caucasus manifest themselves most clearly is the morphology. This article attempts to present a concise overview of some of the interesting morphological phenomena found in the languages of the Caucasus from a typological standpoint. By necessity, I limit myself to the three indigenous families, only cursorily mentioning the Indo-European and Turkic languages of the region. The selection of phenomena to be discussed is inevitably rather subjective. The structure of the remainder of the paper

is as follows. In section 2 I briefly present the extent of variation of the Caucasian morphologies across a number of parameters current in typological literature. In section 3 I discuss non-trivial morphological exponents found in the Caucasian languages, while section 4 is devoted to non-trivial form-meaning relations. In section 5 I focus on the Northwest Caucasian family with its polysynthetic morphology, for which I have firsthand fieldwork experience. Section 6 concludes.

2 MAJOR PARAMETERS OF MORPHOLOGICAL VARIATION

All languages of the Caucasus possess rich and complex morphological systems, which show considerable variation both between and within language families. Below I give an overview of some of the more general typological parameters of this variation (i.e. dominance of suffixation vs. prefixation, head vs. dependent marking, agglutination vs. fusion), before turning to more intricate phenomena in the next sections.

In terms of suffixation vs. prefixation (cf. Dryer 2013), one finds predominantly suffixing languages (e.g. Avar, Lezgian, Ossetic, Turkic) as well as languages with moderate (Agul, Tsez) and highly developed (Kartvelian, Northwest Caucasian) prefixation. Consider a Lezgian verbal form with a chain of suffixes in **1**, a Kabardian verbal form with a chain of prefixes in **2**,**2** and a Laz verbal form with both prefixes and suffixes in **3**.**3**

Lezgian (NEC > Lezgic, Russia, Azerbaijan; Haspelmath 1993: 397)
[1] *aku-**nwa-č-ir-t'a**=ni*
see-PRF-NEG-PST-COND=even
'although he hadn't seen (him) yet'

Besleney Kabardian (NWC > Circassian, Russia; own fieldwork, textual example**4**)
[2] *š̌ə-z-e-r-e-ʁa-ś'e*
PVB-RFL.IO-DAT-3SG.ERG-DYN-CAUS-know
'he learns (lit. causes himself to know) it there'

Laz (SC > Zan, Turkey; Lacroix 2009: 192; transcription and glosses adapted)
[3] *ko-mo-b-o-č'apx-i-dort'un*
AFRM-PVB-1SG.SBJ-VAL-apply-AOR-PLSQ
'I had applied it there'

In terms of dependent vs. head marking typology (Nichols 1986; Nichols – Bickel 2013; Lander – Nichols 2020), the languages of the Caucasus also differ widely. There are both almost exclusively dependent-marking languages (most of NEC,

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2 Of course, this example does not imply that Kabardian lacks suffixes altogether – only that their presence is not obligatory.

3 Unless stated explicitly, all examples are given in the transcription/transliteration of the source. I have unified the marking of ejective consonants, which is always indicated by an apostrophe.

4 Texts in Besleney Kabardian include oral narratives and dialogues collected in the village Ulyap (Republic of Adygheya) in 2011–2012.

Ossetic, Armenian and Turkic) and almost exclusively head-marking languages (Abkhaz and Abaza), as well as double-marking languages (Kartvelian, Circassian and some of the East Caucasian, e.g. Tabassaran). Consider these marking strategies in noun phrases and clauses for Ingush (dependent-marking) in **4**, Abaza (head-marking) in **5** and West Circassian (double-marking) in **6**.

Ingush (NEC > Nakh, Russia)

[4] **a.** *desh-**a***   *mawan*
          word-GEN   meaning
          'the word's meaning' (Nichols 2011: 417)

      b. *Muusaa-**z***   *zhwalie-**na**   ghadzh   tiex-ar.*
          Musa-ERG   dog-DAT   stick(ABS) strike-WITN.PST
          'Musa hit the dog with a stick.' (Nichols 2011: 467)

Abaza (NWC > Abkhaz-Abaza, Russia; own fieldwork, elicited[5])

[5] **a.** ***s**-án*   ***l**-ašʲá*
          1SG.PR-mother   3SG.F.PR-brother
          'my mother's brother'

      b. *a-phʷə́spa*   ĉ'a   ***j-lə́-s**-t-t'*
          DEF-girl   apple   3SG.N.ABS-3SG.F.IO-1SG.ERG-give(AOR)-DCL
          'I gave an apple to the girl.'

West Circassian (NWC > Circassian, Russia; own fieldwork, elicited[6])

[6] **a.** *pŝaŝe-**m***   *ə-ʔe*
          girl-OBL   3SG.PR-hand
          'the girl's hand'

      b. *č'ʲale-xe-**m** pŝaŝe-xe-**m**   qeʁaʁe-xe-**r**   **a-r-a-tə-ʁe-x***
          boy-PL-OBL girl-PL-OBL   flower-PL-ABS   3PL.IO-DAT-3PL.ERG-give-PST-PL.ABS
          'The boys gave flowers to the girls.'

Variation in terms of dependent vs. head vs. double marking in the languages of the Caucasus extends beyond the noun phrase and clausal core into the domain of spatial meanings, whose grammatical expression is one of the prominent features of the region. Thus, while most NEC languages have rich multidimensional systems of nominal locative marking (see e.g. Kibrik 2003; Ganenkov 2010), see example **7** from Hinuq, NWC languages, by contrast, feature comparably elaborate systems of verbal spatial marking, see example **8** from Kabardian; finally, some NEC languages as well as SC and Ossetic possess both verbal and nominal spatial expressions, cf. example **9** from Agul.

Hinuq (NEC > Tsezic, Russia; Forker 2013: 90)

[7] *b-iƛ'i-yo*   *hibayɬu=tow*   *maydan-i-**ƛ'o-r***
      HPL-go-PRS   that.OBL=EMPH   square-OBL-SUPER-LAT
      'They are going to that square.'

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5   Data from Abaza has been collected in the villages Inzhich-Chukun, Krasnyj Vostok and Psyzh (Karachay-Cherkess Republic) in 2017–2021.

6   Data on West Circassian has been collected in the villages Hakurinohabl and Pshicho in 2004–2005, 2008 and 2010.

Besleney Kabardian (Lomize 2011: 11)

[8] *baʒe-r*   *karobke-m*   ***q'ə-de**-pšə-**č'***-a*
     fly-ABS   box-OBL   CSL-LOC:inside-crawl-ELAT-PST
     'The fly went out of the box (towards the observer).'

Agul (NEC > Lezgic, Russia; Maisak 2014: 10; glossing adapted)

[9] *ruš.a*   *gardan.i-**q***   *šarf*   ***q**-ix.i-ne*
     girl.ERG   neck-POST   scarf(ABS)   POST-put.PFV-AOR
     'The girl put a scarf on her neck.'

Finally, in terms of the classic albeit problematic distinction between "agglutinative" and "fusional" morphotactic techniques (see e.g. Plungian 2001 and Haspelmath 2008 for critical assessments), Caucasian languages also show both cross-linguistic and, notably, language-internal variation. While it is probably safe to characterise NWC as predominantly agglutinating with almost no non-phonologically conditioned allomorphy or fusion and very little cumulation of several meanings within one morpheme, other indigenous languages of the Caucasus cannot be assigned to a single morphotactic type. Thus, while nominal inflection in Kartvelian is mostly agglutinating, verbs fall into lexically determined inflection classes; fusion and complex morphophonology is rare in Georgian, but abundant in Svan (Tuite 1997: 9–11). For NEC it is common to possess both more fusional and more agglutinative subsystems in both nominals and verbs, apparently reflecting different historical layers. Thus, verbs in the Dargic and Lezgic languages distinguish between the perfective and imperfective stems whose formal relations are often opaque and unpredictable, while most other forms are built from those stems in an agglutinative fashion often betraying a transparent analytic origin (Arkadiev – Maisak 2018: 134–137). Table 1 shows some verbal forms of Mehweb Dargwa (aspectual stems are bolded; hyphen indicates the gender prefix). Note that while the suffixes of the Preterite and the Imperative show some allomorphy, the exponents of the Future, Optative and Conditional are completely uniform.

Table 1: **Some verbal forms of Mehweb Dargwa** (Daniel 2019: 88)

	'come'		'put on'		'fly'		'read'	
	PFV	IPFV	PFV	IPFV	PFV	IPFV	PFV	IPFV
Preterite	*-**ak'**ib*	*-**ik'**ib*	***ik'**ub*	***irk'ʷ**ib*	***arc**ur*	***urc**ib*	*-**elč'**un*	***luč'**ib*
Imperative	*-**ak'**e(na)*	*-**ik'**e(na)*	***ik'ʷ**a(na)*	***irk'ʷ**e(na)*	***arc**e(na)*	***urc**e(na)*	*-**elč'**a(na)*	***luč'**e(na)*
Future	*-**ak'**iša*	*-**ik'**iša*	***ik'ʷ**iša*	***irk'ʷ**iša*	***arc**iša*	***urc**iša*	*-**elč'**iša*	***luč'**iša*
Optative	*-**ak'**ab*	*-**ik'**ab*	***ik'ʷ**ab*	***irk'ʷ**ab*	***arc**ab*	***urc**ab*	*-**elč'**ab*	***luč'**ab*
Conditional	*-**ak'**ak'a*	*-**ik'**ak'a*	***ik'ʷ**ak'a*	***irk'ʷ**ak'a*	***arc**ak'a*	***urc**ak'a*	*-**elč'**ak'a*	***luč'**ak'a*

For the nominal morphology of NEC see section 4.

3 Non-trivial morphological exponents

The morphological exponent most widely attested in the world's languages is a canonical affix, i.e. a phonologically bound continuous string of phonemes either following (suffix) or preceding (prefix) another string of phonemes (stem). Less trivial kinds of exponents include non-affixal operations such as vowel and consonant alternations or shifts of stress or tone, and non-canonical affixes. The latter fall into several subtypes. First, an affix may not have a fixed linear position, in some cases following the stem and preceding it in others; such affixes are called **ambifixes** (see Arkadiev – Lander 2020 for a preliminary typology and references). Second, an affix may consist of two parts, one prefixal and one suffixal, which do not occur alone (**circumfixes**). Third, an affix may occur inside the stem rather than linearly attach to it; such **infixes** are quite widespread cross-linguistically (cf. Yu 2007). Finally, there exist **transfixes**, known primarily from Semitic languages, which are discontinuous strings of phonemes interlaced with similarly discontinuous stems.

While the majority of morphological exponents in the Caucasian languages are canonical affixes, one finds in these languages specimens of all non-canonical types as well. Thus, negation is expressed by means of ambifixes in Abkhaz, Abaza and Ubykh verbs, see **10** (the affix is bolded and the stem underlined).

Abkhaz (NWC > Abkhaz-Abaza; Chirikba 2003: 44; glosses added)
[10] a. *də-r-<u>ga</u>-wá-**m***
3SG.H.ABS-3PL.ERG-carry-IPF-NEG
'They do not carry him/her.'
b. *d-rə-**m**-<u>gá</u>-jt'*
3SG.H.ABS-3PL.ERG-NEG-carry-DCL
'They did not carry him/her.'

Circumfixes constitute a characteristic morphological trait of the Kartvelian languages (Harris 2002a; Testelets 2020: 526), where they are found in both inflection and derivation, see Georgian examples in **11**.

Georgian (SC)
[11] a. caritive 'without' *u-√-o*: *pul-i* 'money' ~ ***u**-pul-**o*** 'pennyless' (Vogt 1971: 234)
b. intensive *u-√-es*: *met'-i* 'more' ~ ***u**-met'-**es**-i* 'still more' (Vogt 1971: 236)
c. nomen abstractum *si-√-e*: *maɣal-i* 'high' ~ ***si**-maɣal-**e*** 'height' (Vogt 1971: 239)
d. nomen loci *sa-√-e*: *pul-i* 'money' ~ ***sa**-pul-**e*** 'wallet' (Vogt 1971: 240)
e. nomen agentis *me-√-e*: *baɣ-i* 'garden' ~ ***me**-baɣ-**e*** 'gardener' (Vogt 1971: 242)
f. 'teen' *t-√-met'-*: *ekvs-i* 'six' ~ ***t**-ekvs-**met'**-i* 'sixteen' (Vogt 1971: 56)
g. ordinal *me-√-e*: *or-i* 'two' ~ ***me**-or-**e*** 'second' (Vogt 1971: 58)
h. participle *m-√-ar*: *mo-k'vd-a* 's/he died' ~ *mo-**m**-k'vd-**ar**-i* 'dead' (Vogt 1971: 249)

Harris (2002a: 308–312) shows that the circumfix *t-√-met'* forming teen numerals originates from the Old Georgian compounds of the type *at-otx-met'-* "ten-eight-more". Note that in modern Georgian such numerals can attach the ordinal circumfix *me-√-e* thus forming words with two layers of circumfixation: ***me**-[**t**-[ert]--**met'**]-**e*** 'eleventh' (Harris 2002a: 311).

NWC languages also feature circumfixes, which originate from idiomatic combinations of locative or applicative preverbs with verbal roots, into which other lexical roots may be incorporated (Кумахов 1964: 143–146; Arkadiev – Maisak 2018: 125–126). The second root of such compounds grammaticalises into a directional suffix always co-occurring with a particular preverb, cf. **12**.

West Circassian (НКъ 2007: 57)
[12] *š'ebzaš'e-r-jə*   *waŝʷe-m*   **de-*bəbə*-je**
arrow-ABS-ADD   sky-OBL   UP-fly-UP
'The arrow flies up into the sky.' (cf. **de-je-*n*** 'to go up')

Infixes are attested in various branches of NEC in a number of functions, usually alongside other morphological processes, both affixal and non-affixal. For example, infixation as well as vocalic ablaut work in the formation of aspectual stems in Dargic languages, cf. Table 2. Note that in some verbs the infix occurs in the imperfective stem, and in others in the perfective stem.

Table 2: Aspectual stems of Sanzhi Dargwa verbs (Forker 2020: 207–211)

Gloss	Perfective	Imperfective
'throw'	*ixʷ-*	*i⟨r⟩xʷ-*
'stick, attach'	*kat'-*	*ka⟨l⟩t'-*
'milk'	*-i⟨r⟩c:-*	*ic:-*
'turn, grind'	*-e⟨l⟩q'-*	*-uq'-*
'understand'	*arʁ-*	*irʁ-*
'saw'	*erč-*	*urč-*

Similarly, verbal markers of gender agreement can be both prefixal and infixal in some languages, cf. the data from Archi in Table 3, showing that the inanimate gender marker *b-* occurs prefixally if the infixal position is occupied by the imperfective marker *-r-* (in fact, the situation is more complex, and the prefixal vs. infixal position of the gender marker is not always determined by the presence or absence of an imperfective infix, see Chumakina – Corbett 2015 for details).

Table 3: Gender markers in Archi verbs (Lezgic, Russia; Кибрик 1977: 80)

Gloss	Durative	Terminative	Finalis
'drive'	***b**-a⟨r⟩k'ur*	*a⟨**b**⟩k'u*	*a⟨**b**⟩k'as*
'let'	***b**-a⟨r⟩tir*	*a⟨**b**⟩t:i*	*a⟨**b**⟩tis*
'measure'	***b**-a⟨r⟩sin*	*a⟨**b**⟩sni*	*a⟨**b**⟩smus*

A cross-linguistically rare phenomenon akin to infixation is **endoclitics**, i.e. clitics able to occur inside their hosts. The most famous example of endoclisis comes from the Lezgic language Udi (Harris 2002b), where markers of pronominal agreement and negation are clitics which attach to the focused constituent (**13a**), including verbal forms, and under some conditions occur between the

components of complex verb stems[7] (**13b**) and even inside simplex verbal roots (**13c**).

Udi (NEC > Lezgic, Azerbaijan, Georgia; glossing modified)

[13] a. *äyel-en   p'ạ   ẹš=**ne**   aq'-e*
            child-ERG   two   apple=3SG   take-AOR
            'The child took two apples.' (Harris 2002b: 119)

  b. *nana-n   buɣa=**ne**=b-e   p'ạ   ačik'alšey*
      mother-ERG find=3SG=do-AOR   two   toy
      'Mother found two toys.' (Harris 2002b: 122)

  c. *pasčaɣ-un   ɣar-en   gölö   <u>bẹ</u>=**ne**=ɣ-sa   met'a-laxo*
      king-GEN   boy-ERG   much   look⟨=3SG⟩-PRS   this.GEN-on
      'The prince looks at this for a long time.' (Harris 2002b: 125)

Vocalic, and more rarely, consonantal alternations are attested as morphological exponents primarily in the NEC languages. We have already seen ablaut as one of the means of formation of aspectual stems in Dargic languages in Tables 1 and 2 above. Another example is constituted by vowel quality and quantity alternations and consonant gemination serving as the means of formation of oblique nominal stems in Bezhta (Tsezic), see Table 4.

Table 4: **Nominal stems in Bezhta** (Комри et al. 2015: 241–244; transcription adapted)

Gloss	Nominative	Oblique (= Ergative)
'roof'	*ƛ'am**o***	*ƛ'am**a***
'bull calf'	*biš**e***	*biš**i***
'neck'	*b**oƚ**o*	*b**iƚ**a*
'moon'	*b**o**co*	*b**i**co*
'year'	*ƛ**i***	*ƛ**i:***
'woman'	*a**q**o*	*a**q:**a*

In Circassian languages, alternation of the final vowel of verbal stems marks direction (lative vs. elative) and valency (bivalent vs. antipassive), see Кумахов 1974 and Arkadiev – Letuchiy 2021; consider examples in **14** and **15**.

West Circassian (Кумахов 1974: 82; transcription adapted, glossing added)

[14] a. *jə-š́**e**-n*   b. *jə-š́**ə**-n*
            LOC-lead.LAT-MSD   LOC-lead.ELAT-MSD
            'to lead inside'   'to lead outside'

[15] a. *s-e-tx**ə***   b. *s-e-tx**e***
            1SG.ERG-DYN-write.TR   1SG.ABS-DYN-write.ANTIP
            'I am writing it.'   'I am writing.'

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7   For detailed argumentation regarding the status of complex verbs in Udi as single phonological and morphosyntactic words, see Harris 2002b: 76–87. For a recent discussion of endoclitics in Andi, another NEC language, see Maisak 2021.

Stress shift can also serve as morphological exponent, cf. the cross-linguistically very peculiar marking of causativisation in Tsugni Dargwa in Table 5 or the use of stress and intonation for finiteness distinctions in Budugh (Lezgic, Azerbaijan; Authier 2010).

Table 5: Causativisation by stress shift in Tsugni Dargwa (Сулайбанов – Сумбатова 2022: 121; infinitive forms, non-human singular absolutive)

Gloss	Base verb	Causative
'break'	*b-áˤč-i*	*b-aˤč-í*
'dry'	*b-érʁʷ-i*	*b-erʁʷ-í*
'get lost / lose'	*b-it-áq-i*	*b-it-aq-í*

Vocalic alternations, when they become highly regular, may be reanalysed as transfixes. This has apparently happened in Budugh, consider partial verbal paradigms in Table 6, where vocalic transfixes inserted into consonantal stems express gender and valency.

Table 6: Transfixes in Budugh verbs (Authier 2009)

Gloss	Valency	Gender	Perfective	Imperfective
'sleep'	base	masculine	*e**χ**ir*	*a**rχ**ar*
		animal	*ö**χ**ür*	*o**rχ**or*
	causative	masculine	*e**χ**ir*	*e**rχ**i*
		animal	*ö**χ**ür*	*ö**rχ**ü*
'sit'	base	masculine	*aq'**u**l*	*a**l**q'**a**l*
		animal	*oq'**u**l*	*o**l**q'**o**l*
	causative	masculine	*eq'**i**l*	*e**l**q'**i***
		animal	*öq'**ü**l*	*ö**l**q'**ü***

According to Authier (2009; Ms.), Budugh transfixation is a result of phonological change that has affected stem vowels in combination with consonantal gender infixes and the causative suffix going back to the verb *i-* 'do', cf. **16**:

> **Budugh** (Authier 2009)
> **[16]** **a.** *öχür < *e-w-χ-ir* 'it (animal) slept', cf. feminine *e-r-χ-ir*
> **b.** *orχor < *a-w-r-χ-ar* 'it (animal) sleeps'
> **c.** *elq'i < *a-lq'- + *i-* 'makes him sit'
> **d.** *ölq'ü < *a-w-lq'- + *i-* 'makes it (animal) sit'

4 NON-TRIVIAL FORM-MEANING RELATIONS

Much of the variation and complexity in morphological systems of the world's languages is grounded in form-meaning relations on syntagmatic and paradigmatic axes (see, e.g., Anderson 2015; Baerman et al. 2017). Canonically, one form expresses one meaning, and vice versa (cf. Carstairs 1987: 12–13); how-

ever, this ideal is only rarely found in real languages, and various deviations from it have been subject to theoretical and typological investigations during the last several decades (see e.g. Stump 2016 and Baerman et al. 2017 for overviews).

Consider the West Circassian case-number paradigm in Table 7 (cf. Аркадьев 2014). While the Absolutive shows a neat one-to-one mapping between meanings and exponents, all other forms exhibit complications. In the Oblique Plural, alongside the combination of the regular Plural suffix -*xe* with the regular Oblique suffix -*m*, we see **cumulative** exponence of case and number in the marker -*me*, as well as **multiple exponence** of Plural by the combination of the Plural suffix with the Oblique Plural suffix; besides that, the coexistence of several competing expressions for the same paradigmatic cell is a case of **overabundance**. Further, comparing nouns with pronouns, we encounter **lexically-conditioned allomorphy** of the Oblique case suffix (-*m* vs. -*šʲ*). Finally, taking into account the Instrumental, we see that its marker attaches to the Oblique case form rather than to the bare stem, as other case suffixes (the situation is in fact more complicated, see Serdobolskaya 2011).

Table 7: **West Circassian case-number paradigm** (Рогава – Керашева 1966: 62, 85)

	'boy'		'this'	
	Singular	Plural	Singular	Plural
Absolutive	č̣'ale-**r**	č̣'ale-**xe-r**	mə-**r**	mə-**xe-r**
Oblique	č̣'ale-**m**	č̣'ale-**xe-m**, č̣'ale-**xe-me**, č̣'ale-**me**	mə-**šʲ**	mə-**xe-m**, mə-**xe-me**
Instrumental	č̣'ale-**m**-č̣'e	č̣'ale-**xe-m**-č̣'e	mə-**šʲ**-č̣'e	mə-**xe-m**-č̣'e

This example shows that even a small and apparently simple inflectional subsystem can exhibit a large number of deviations from the canonical ideal. One type of such deviation that has proven particularly challenging for morphological theories and that is well-attested in the languages of the Caucasus is multiple exponence, i.e. co-occurrence of several (identical or distinct) exponents of the same meaning in one word. An insightful discussion of multiple exponence, its typology and historical origins has been recently provided by Harris (2017). Harris distinguishes four types of multiple exponence, three of which are amply attested in the Caucasian languages.

Periodic multiple exponence "occurs when a bound morpheme [= a carrier morpheme] must be accompanied by an exponent of feature F, while the stem must also be accompanied by an exponent of F" (Harris 2017: 55). This type of multiple exponence is attested in many NEC languages, especially in gender-number agreement, cf. the Batsbi example in **17** with three instances of gender marker *d*- agreeing with the noun 'house'.

Batsbi (a.k.a. Tsova-Tush; NEC > Nakh, Georgia; Harris 2009: 268)

[17] *tišiⁿ*   *c'a*   *daħ*   ***d-ex-d-o-d-an-iš***

old   house(NOM)   PVB   GM-destroy-GM-PRS-GM-EVID-2PL.ERG

'Y'all are evidently destroying the old house.'

Multiple exponence of the kind found in Batsbi historically arises via univerbation of constructions with auxiliaries each carrying gender agreement (Harris 2017: 115–130).

Reinforcement multiple exponence "characteristically involves exponents that are identical in feature representation but not identical in form" (Harris 2017: 61). A good example comes from Khinalug (NEC, Azerbaijan), where many nouns feature two or even three plural suffixes (whose vowels alternate according to the rules of harmony), each of which can occur on its own, see Table 8.

Table 8: Khinalug plural suffixes (Khvtisiashvili 2013: 96–99)

Gloss	Singular	Plural
'grandchild'	*xıdıl*	*xıdıl-**ır***
'goat'	*taka*	*taka-**d***
'drop'	*kixir*	*kixir-**d-ir***
'corner'	*kunǯ*	*kunǯ-**ur-d-ur***

Another example of this type is provided by Abaza, where negation in finite verbal forms is expressed twice – by the already familiar common West Caucasian ambifixal marker *-m-* and by the innovative prefix *gʲ-* stemming from an emphatic particle (Пазов 2019), see **18**.

Abaza (fieldwork data, textual example)

[18] *jə-**gʲ**-sə-**m**-də́r-t'*

3SG.N.ABS-NEG-1SG.ERG-NEG-know(AOR)-DCL

'I did not know that.'

The Abaza double negation is a cross-linguistically fairly common instance of grammaticalisation of the originally pragmatic reinforcement of negative markers (Jespersen 1917; van Gelderen 2008).

What Harris (2017: 64) calls **accidental** multiple exponence "involves exponents in a subset or overlapping relationship", i.e. if one or each of the exponents in addition to the multiply realised feature also express some other meanings (as e. g. in the case of West Circassian Oblique Plural forms in *-xe-me* PL-PL.OBL). A remarkably complex and systematic pattern of multiple exponence of this kind is found in Ubykh, especially in the speech of its last fluent speaker Tevfik Esenç (1904–1992) (see Dumézil – Esenç 1975: 161–162; Smeets 1997; and Fenwick 2011: 135–136). Here the number of the absolutive (S/P) argument of the verb is expressed by such elements as (i) the person-number prefixes, (ii) the plural suffixes *-a* and *-n(e)*, (iii) the Retrospective suffixes *-jt'* SG ~ *-jλ(e)* PL, (iv) the causative prefixes *də-* SG ~ *ʁe-* PL, and (v) root suppletion with a considerable number

of verbs. Combinations of these different markers can yield verbal forms with up to four exponents of number, cf. **19**.

Ubykh (NWC > Ubykh, extinct; transcription adapted, glosses added)

[19] **a.** *š̌ə-w-ʁe-qʷ'e.χe-q'e-**n***
          1PL.ABS-2SG.ERG-CAUS.PL-stop.PL-PST-PL
          'You (sg) made us stop.' (Dumézil – Esenç 1975: 173)

   b. *š̌-k'̩'-**a**-ne-**j**λ**e**-me*
          1PL.ABS-go-PL-DYN-RETRO.PL-NEG
          'We were not going.' (Dumézil – Esenç 1975: 165)

The indigenous languages of the Caucasus constitute one of the "hotbeds" of multiple exponence in the languages of the world, and many of the cases of multiple exponence in these languages are highly systematic and cannot be "explained away" as accidental quirks or historical residues.

   Some of the complex form-meaning relations become apparent only when paradigmatic structures are taken into account. One of the famous cases of this sort is constituted by NEC noun inflection analysed in Kibrik 1991. Consider a partial paradigm of an Archi noun in Table 9.

Table 9: Partial paradigm of Archi noun 'cup' (Kibrik 2003: 60)

	Singular	Plural
Nominative	*gel*	*gel-um*
Ergative	*gel-**li***	*gel-um-**čaj***
Genitive	*gel-**li**-n*	*gel-um-**če**-n*
Dative	*gel-**li**-s*	*gel-um-**če**-s*

In Table 9 alongside the unequivocal suffixes of Plural number (*-um*) and Genitive (*-n*) and Dative (*-s*) cases we also see two markers whose status is not immediately obvious, *-li* and *-čaj/-če*. On the one hand, they seem to be cumulative exponents of the Ergative case and Singular or Plural number; on the other, they serve as the stems to which other oblique case suffixes attach, resembling the West Circassian Instrumental in Table 7. In fact, as Kibrik (1991: 257) argues, the appropriate analysis is to treat both Nominative and Ergative as expressed by zero markers attached to distinct stems: the nominative stem and the oblique stem. Prima facie evidence for this comes from other languages where the Ergative case has overt exponents attached to the Oblique stem, cf. the Tsakhur (Lezgic, Russia) partial paradigm in Table 10.

Table 10: Partial paradigm of the Tsakhur noun 'road' (Лютикова 2017: 669)

	Singular	Plural
Nominative	*jaˤq*	*jaˤq-b**ɨ***
Ergative	*jaˤq-**ɨ**-n*	*jaˤq-b-**iš**-e*
Dative	*jaˤq-**ɨ**-s*	*jaˤq-b-**iši**-s*

The most general structure of the NEC noun paradigm is schematised in **20** from Kibrik 2003: 61.

[20] NOM.SG   =   ROOT   →   PL   =   NOM.PL
                                   ↓   ↓
    oblique   ←   OBL.SG   OBL.PL →   oblique
    cases SG   cases PL

This schema accounts for both Archi and Tsakhur examples, however, there are many deviations from it giving rise to considerable inter- and intralinguistic variation in paradigmatic structure (see Kibrik 1991; 2003: 61–67). Thus, for instance, in Rutul (Lezgic, Russia) many inanimate nouns form their oblique plural stem on the basis of the oblique singular stem, cf. Table 11.

Table 11: **Partial paradigm of the Rutul noun 'moon'** (Махмудова 2001: 34; transcription and segmentation adapted)

	Singular	**Plural**
Nominative	*waz*	*waz-bɨr*
Ergative	*waz-**ɨr**-ɨra*	*waz-**ɨr**-mɨ-ra*
Dative	*waz-**ɨr**-is*	*waz-**ɨr**-mɨ-s*

Oblique stems in NEC languages are formed in a variety of ways, including suffixes, infixes, vowel alternations (cf. Bezhta in Table 4), stress shift (e.g. in Khwarshi), and combinations thereof, as well as suppletion. Importantly, each language possesses a whole set of oblique stem formations, whose distribution is partly predictable from the noun's phonological shape or semantics and partly lexically determined (Kibrik 2003: 69–72), cf. the example of Lezgian in Table 12.

Table 12: **Oblique stem formations in Lezgian** (Haspelmath 1993: 74–77)

Exponent	Condition	Example
-di	default	*buba* 'father': *buba-di*
-a	consonant-final personal names + some common nouns	*Farid*: *Farid-a* *apaj* 'father in law': *apaj-a*
-i	abstract nouns with the suffix *-wal* verbal nouns with the suffix *-(u)n* all plural suffixes but *-bur*	*jaru-wal* 'redness': *jaru-wil-i* *k'el-un* 'learning': *k'el-un-i* *buba-jar* 'fathers': *buba-jr-i*
-u	plurals in *-bur*	*jaru-bur* 'red ones': *jaru-bur-u*
-Adi	monosyllabic nouns that denote a non-discrete mass	*čig* 'dew': *čig-edi*
-rA	monosyllabic nouns that denote animals	*lam* 'donkey': *lam-ra*
-Uni	various monosyllabic nouns	*kam* 'trap': *kam-uni*
-U	lexical (monosyllables only)	*q'ünt* 'elbow': *q'ünt-ü*
-Ci	lexical (monosyllables only)	*čar* 'paper': *čar-či* *žin* 'ghost': *žin-ži*

One may wonder whether the nominative vs. oblique distinction in the nominal inflection of the NEC languages is a purely formal complication or has any extramorphological function. Remarkably, the latter turns out to be true, since the nominative vs. oblique distinction has obvious morphosyntactic repercussions in at least some of the languages of the family (cf. Тестелец 2019). The first piece of evidence for the syntactic relevance of the "obliqueness" feature comes from noun-phrase-internal concord. Thus, in the Nakh languages attributive adjectives distinguish between nominative and oblique forms, cf. the Chechen example in Table 13.

Table 13: Attributive adjective inflection in Chechen (Nichols 1994: 29)

	'high fence'
NomSg	*leqaⁿ kyert*
NomPl	*leqaⁿ kyertaš*
GenSg	*leqač**u** kyertaⁿ*
DatSg	*leqač**u** kyertana*
GenPl	*leqač**u** kyerti:ⁿ*

Some languages have two genitive forms for nouns, the one used with the head noun in the nominative case and another occurring when the head is in one of the oblique cases (Kibrik 1995), cf. examples from Bezhta in **21**.

Bezhta (Kibrik 1995: 220)

[21] a. *abo-**s***   *is*
          father-ɢᴇɴ.ᴅɪʀ   brother.ɴᴏᴍ.sɢ
          'father's brother'

      b. *abo-**la***   *is-t'i-l*
          father-ɢᴇɴ.ᴏʙʟ   brother-ᴏʙʟ-ᴅᴀᴛ
          'to father's brother'

In some languages, the nominative vs. oblique distinction becomes relevant for noun phrase syntax. Thus, in Bagwalal (Andic, Russia; Кибрик 2001: 691–693) only modifiers of nominative nouns can be focused, either by means of a focus particle (**22a**) or by moving the attribute before the verb (**23a**), while noun phrases in oblique cases are opaque both for focus particles (**22b**) and focus movement (**23b**).

Bagwalal (Кибрик 2001: 691, 693; transcription and glossing adapted)

[22] a. [ʕisa-w-ʁ-**ō**   *waša*]ɴᴏᴍ   *w-ā.*
          Isa-ɢᴇɴ-ꜰᴏᴄ-ᴍ   son.ɴᴏᴍ   ᴍ-come
          'ɪsᴀ's son came.'

      b. *[ʕisa-w-ʁ-**ō**   *waša-š:u-r*]ᴏʙʟ   *awal*   *ǯē-rā-χ.*
          Isa-ɢᴇɴ-ꜰᴏᴄ-ᴍ   son-ᴏʙʟ-ᴇʀɢ   house.ɴᴏᴍ   build-ɪᴘꜰ-ᴄᴠʙ
          expected: 'ɪsᴀ's son is building a house.'

[23] **a.** *q'alam-dari*   *di-ha*   ***š:iš:u-r***   *r-ah-a!*
       pencil-PL.NOM   1SG.OBL-DAT   red-NPL   NPL-buy-IMP
       'Buy RED pencils for me!'
    b. **q'alam-li-r*   ***š:iš:u=b***   *qʷa-ra!*
       pencil-OBL-ERG   red-N   write-IMP
       expected: 'Write with a RED pencil!'

All this implies that oblique stems in at least some NEC languages express a sui generis morphosyntactic feature ("obliqueness") distinct from case proper, and that the phenomenon cannot be simply an instance of multiple exponence. This kind of "layered" nominal inflection, which is also attested in some Indo-Iranian languages, such as Romani (Elšík 2000) and Ossetic (Беляев 2014),[8] presents clear challenges for the theories of morphology and the morphology-syntax interface and opens potential windows into the history of nominal inflection.

A particularly complex example of a lack of one-to-one mapping between forms and meanings is presented by Kartvelian verbal morphology, which is largely organised according to the principle of **distributed exponence**, defined by Caballero and Harris (2008: 170) as situations where "no single morphological marker can truly be said to realize a feature or category; the feature is, rather, realized by a combination of morphemes". As a relatively simple example, consider selected tense-aspect-mood forms of the Georgian regular verb 'hide' in Table 14.

Table 14: **Partial paradigm of the Georgian verb 'hide' (3rd person singular subject and object; personal knowledge)**

	Active	Passive
Present	*mal-av-s*	*i-mal-eb-a*
Imperfective past	*mal-av-d-a*	*i-mal-eb-od-a*
Future	*da-mal-av-s*	*da-i-mal-eb-a*
Conditional	*da-mal-av-d-a*	*da-i-mal-eb-od-a*
Aorist (perfective past)	*da-mal-a*	*da-i-mal-a*
Optative (subjunctive)	*da-mal-o-s*	*da-i-mal-o-s*

While some of the affixes in Table 14 seem to have a clear meaning (e.g. the prefix *i-* expressing Passive; this association, however, is only valid for a particular verb class to which 'hide' belongs, see e.g. Boeder 1967; Gurevich 2006), the distribution of most of them is not linked to any particular feature value. Thus, the prefix *da-* (one of the spatial-aspectual preverbs) occurs both in the unequivocally perfective Aorist and in the forms whose aspectual interpretation is not so clear-cut (Future, Conditional and Optative); likewise, the so-called "thematic elements" *-av* and *-eb* occur in the forms which do not seem to have any common morphosemantic feature. The same can be said about the *-d* and *-od* suffixes (Imperfect and Conditional) as well as about the suffixes *-s* and *-a*, which express 3rd person singular subject but are

_____
8   See, however, Erschler 2018 for an alternative interpretation.

distributed across the different tense-aspect-mood-voice subparadigms in a non-uniform way. Thus, while each tense-aspect-mood value is uniquely expressed by a particular combination of affixes, none of the latter represents a dedicated exponence of any of the former. Affixes cannot be assigned any meanings on their own and only acquire a meaning as parts of words (cf. Gurevich 2003).

The propensity of Kartvelian languages to show distributed exponence is also manifested in the already mentioned frequent use of circumfixes and prefix-suffix combinations in general (see Harris 2002: 315–320). Distributed exponence is challenging both for morpheme-based morphological theories, since it does not involve "morphemes" as Saussurean signs where form and meaning are coupled together, and for grammaticalisation theory, since the origin of such systems lies in processes of functional redistribution and adjustment ("featurisation"; Dahl 2004: Ch. 9), rather than transition from lexemes to affixes.

5 Polysynthesis in Abkhaz-Adyghean languages

NWC languages stand out among the languages of the Caucasus and Western Eurasia as the only truly polysynthetic languages of the region (Lander – Testelets 2017; Arkadiev – Lander 2020). Polysynthesis is commonly understood as extreme syntagmatic complexity of morphology (e.g. Mithun 1988: 442). In NWC this complexity is manifested both in verbs and nominals, as the following Kabardian examples illustrate.

> **Besleney Kabardian** (fieldwork data)
> [24] **a.** *z-a-q'ə-šʲə-r-a-ʁe-pλə-hə-ne*
> RFL.ABS-3PL.IO-CSL-PVB-DAT-3PL.ERG-CAUS-look-CIRCUM-FUT
> 'they will let them look around there' (textual example)
> **b.** *d-jə-ʁʷəneʁʷ–bzəλxʷəʁe–daxe–dede-m*
> 1PL.PR-POSS-neighbour–woman–beautiful–very-OBL
> 'our very beautiful lady-neighbour' (elicited, Yury Lander, p.c.)

According to a recent definition by Fortescue (2017: 122), polysynthetic languages display holophrasis (i.e. are able to represent a whole clause, including information about all core arguments in a single verb) and integrate more than one "semantically heavy morpheme", either affixal or lexical, in the verb. Languages corresponding to this broad characterisation vary along several parameters (cf. Mattissen 2004; 2017), such as the presence of productive compounding (incorporation), available types of so-called "lexical affixation" (Mithun 1997; Mattissen 2006: 297–333) and morphotactic organisation (rigid and often opaque templatic ordering vs. semantically-driven scopal ordering of affixes).

Manifestations of polysynthesis found in NWC include (i) polypersonalism facilitated by a rich system of semantically specialized applicatives introducing peripheral participants; (ii) a rich system of affixes often with quite concrete meanings, especially locative ones; (iii) an intricate mixture of templatic and scopal

ordering; (iv) productive "nominal complexes" sharing the properties of words and phrases (Lander 2017).

Polypersonalism can be illustrated by example **25** from Abaza, featuring a verbal form with four person-number-gender prefixes each corresponding to a distinct participant:

> **Abaza** (fieldwork data, textual example)
>
> [25] *j-ŝə-z-j-á-s-hʷ-p'*
>
> 3SG.N.ABS-2PL.IO-BEN-3SG.M.IO-DAT-1SG.ERG-say-NPST.DCL
>
> 'I will tell this to him about you all.'

Such quadripersonal forms are rare, but attested in natural texts, while forms expressing three participants like that in **5a** above are fairly common. As already said, such an exuberant polypersonalism is made possible by the existence of a rich system of applicative prefixes such as the Benefactive *z-* and the Dative *a-* in **25**, adding indirect objects and the corresponding personal prefixes to both intransitive and transitive verbs. Applicatives in NWC are very numerous (up to several dozens in Abaza and Abkhaz) and in terms of semantics range from very general, like the underspecified Dative in **25**, to highly specific, as e.g. the locative applicatives, see **26** and Arkadiev et al. (to appear).

> **Abaza** (fieldwork data, textual example)
>
> [26] *d-na-**sə́-ǰta**-lə-n*
>
> 3SG.H.ABS-TRL-1SG.IO-PVB:behind-go-PST
>
> 'He followed me.'

Most of the locative applicatives originate diachronically from and often correspond synchronically to body-part nouns (Ломтатидзе 1983; Arkadiev – Maisak 2018: 121–125), cf. **27**, which can be considered a type of noun-incorporation.

> **Abkhaz** (Spruit 1986: 29; transcription and glossing adapted)
>
> [27] *a-maĉʷaz*   ***lə-tʙa**-s-χə-jt'*
>
> DEF-ring   3SG.F.IO-PVB:finger-1SG.ERG-take(AOR)-DCL
>
> 'I took the ring from her finger.'

Applicatives allow stacking and even limited recursion, as in **28** with two non-synonymous instances of the benefactive.

> **West Circassian** (Lander – Letuchiy 2010: 269)
>
> [28] *s-**a-fə-ø-f**-e-txe*
>
> 1SG.ABS-3PL.IO-BEN-3SG.IO-BEN-DYN-write
>
> 'I write to him for their benefit.'

NWC languages also feature a number of non-applicative affixes with meanings comparable to those of independent lexical items; some of these are spatial and often correspond to nouns, cf. **29**, where a nominal root occupies the same position as other locative preverbs, while others rather express adverbial or predicative

meanings. The latter are usually suffixes and allow variable ordering based on mutual scope (Korotkova – Lander 2010), cf. a minimal pair in **30**.

Abaza (Клычев 1995: 67; transcription adapted, glossing added)
[29] *a-sabəj*   *d-**gara**-l-gʷa-n*
       DEF-CHILD   3SG.H.ABS-PVB:cradle-3SG.ERG-lay-PST
       'She laid the child into the cradle.'

West Circassian (Lander 2016: 3523)
[30] **a.** *gʷəŝʷe-ŝʷe-ǯ́ǰə-ʁ*
            be.glad-SML-RE-PST
            's/he pretended again that s/he was happy'   (refactive > similative)
       b. *gʷəŝʷe-ǯ́ǰə-ŝʷa-ʁ*
            be.glad-RE-SML-PST
            's/he pretended that s/he was happy again'   (similative > refactive)

While the ordering of at least some suffixes in NWC is determined by their semantic scope, the order of prefixes is mostly rigid and does not respect meaning relations. Thus, different parts of the NWC verb adhere to distinct principles of ordering and form-to-meaning mapping, sometimes fairly complex and involving elements belonging to distinct "zones" of the word (see e.g. Arkadiev – Letuchiy 2011 for just one type of such phenomena). This complexity obviously reflects successive historical layers of grammaticalisation and morphologisation.

One of the most remarkable aspects of NWC morphology which has important consequences for the whole morphosyntactic organisation of these languages is relativisation (Hewitt 1979a; 1979b; Ландер 2012; Lander – Daniel 2019). Instead of the relative complementizers or relative pronouns found in the European languages and SC, or the participles used in relative clauses of NEC languages, NWC languages possess relative verbal prefixes that occupy the same slots in the verbal form as the corresponding person-number markers. Compare the Abaza finite clause in **31a** with the relativisation of the absolutive argument expressed by the prefix *j-* (**31b**) and of the ergative argument by the prefix *zə-* in **31c**.

Abaza (fieldwork data, elicited)
[31] **a.** *a-phʷəspa a-č́ʼkʷən də-l-b-əj-tʼ*
            DEF-girl   DEF-boy   3SG.H.ABS-3SG.F.ERG-see-PRS-DCL
            'The girl sees the boy.'
       b. [*a-phʷəspa **jə**-l-ba-wa*]   *a-č́ʼkʷən*
            DEF-girl   REL.ABS-3SG.F.ERG-see-iPF   DEF-boy
            'the boy that the girl sees'
       c. [*a-č́ʼkʷən də-z-ba-wa*]   *a-phʷəspa*
            DEF-boy   3SG.H.ABS-REL.ERG-see-iPF   DEF-girl
            'the girl who sees the boy'

Relativisation of non-arguments such as place, time and manner is achieved either by means of special prefixes, as in Abkhaz and Abaza (**32**), or by use of applicatives unattested in finite forms, as in Circassian (**33**).

Abkhaz (Spruit 1986: 122; transcription adapted, glossing added)

[32] *d-aχ̍-jə-z*   *adgʲəl*
3SG.H.ABS-REL.LOC-be.born-PST.NFIN   ART+place
'the place where he was born'

West Circassian (Ландер 2012: 288)

[33] [*wəlape   sə-z-ɕ'e-mə-kʲ'a-ʁe*]   *we-r*
Ulyap   1SG.ABS-REL.IO-PVB:under-NEG-go-PST   weather-ABS
'the (bad) weather because of which I did not go to Ulyap'

Relativisation in NWC is employed, beyond adnominal and headless relative clauses, also in the formation of different types of subordinate clauses (Caponigro – Polinsky 2011), focus constructions and constituent questions (Сумбатова 2009). Thus, Abaza and Abkhaz do not employ interrogative pronouns of the kind found in most languages of the world, but instead use special interrogative affixes attaching to relative verbal forms (Arkadiev 2020; Arkadiev – Caponigro 2021), cf. the examples in **34**.

Abaza (fieldwork data, textual examples)

[34] **a.**   *j-wə́-c-kʷa-z-da*
REL.ABS-2SG.M.IO-be.with-PL-PST.NFIN-Q.H
'Who was with you?'

b.   *s-pnə   wəs-ta   j-wə-ma-ja?*
1SG.PR-at   job-ADV   REL.ABS-2SG.M.IO-have-Q.N
'What are you doing at my place?'

c.   *arə́j   áχɕ̌a   [a]n-bá-ʃa-z-ʁəč̌?*
this   DEF+money   REL.TMP-Q.ADV-CSL-1SG.ERG-steal
'When did I steal this money?'

This purely inflectional marking of constituent questions is typologically unique, but clearly well-motivated by the system of relative verbal forms as well as the overall propensity of West Caucasian languages towards expression of syntactic information inside polysynthetic verbs.

6 SUMMARY

As even such a short and incomplete survey as the above shows, the languages of the Caucasus present a wealth of non-trivial and typologically rare morphological phenomena as well as a remarkable degree of diversity, attested both across language families and even between closely related varieties. All this makes the Caucasian languages ideal as a testing-ground for morphological theories and as a field of inquiry into macro- and microvariation in morphology. Among the theoretical and typological issues raised by the data surveyed here one can list the following ones.

The predominantly head-marking profile of NWC as opposed to the largely dependent-marking morphology of NEC poses interesting challenges to historical-comparative reconstruction under the assumption that the two families are

related, see e.g. Chirikba 2016 for a hypothesis about the loss and subsequent renewal of morphology in the prehistory of NWC.

The coexistence of a variety of morphological techniques, both affixal and non-affixal, particularly characteristic of the various branches of NEC but also attested in the other two families, suggests a complex historical development of successive layers of morphology, as well as clearly contradicts the overly simplistic conception of "flexive" vs. "agglutinating" types and affix-based models of morphology.

The complex relations between meaning and form, especially the various types of multiple and distributed exponence, whose different manifestations are attested in all three indigenous language families of the Caucasus, reveal the inadequacy of morpheme-based morphological frameworks that by their very architecture rule out such phenomena. These data call for more sophisticated models allowing for form and content of morphological expressions to be organised by distinct principles and to relate to each other by more complex mappings. Likewise, the diachronic study of these phenomena enriches our understanding of the pathways of change of morphological systems, which by no means always lead to more "economic" or "transparent" structures.

Finally, the exuberant polysynthetic morphology of NWC, unique in this part of the world and possessing a number of highly exceptional structures, broadens the horizons of linguistic typology and morphological theory by showing how the often taken for granted boundaries between inflection, derivation and compounding can be largely blurred and how morphology can effectively take over from syntax such mechanisms as argument structure, relativisation and clause combining.

Since much of the diversity of the Caucasian languages is still insufficiently documented and given that most of the languages of the Caucasus are spoken by bilingual minorities and hence are endangered to different degrees, one of the goals of this article is to urge linguists to engage in their precise, sophisticated (i.e. typologically and theoretically informed) and simultaneously unbiased (in particular, free of Eurocentric preconceptions) description and documentation.

ABBREVIATIONS

1 – 1st person; **2** – 2nd person; **3** – 3rd person; **ABS** – absolutive; **ADD** – additive; **ADV** – adverbial; **AFRM** – affirmative; **ANTIP** – antipassive; **AOR** – aorist; **ART** – article; **BEN** – benefactive; **CAUS** – causative; **CIRCUM** – motion around; **COND** – conditional; **CSL** – cislocative 'hither'; **CVB** – converb; **DAT** – dative; **DCL** – declarative; **DEF** – definite; **DIR** – direct; **DYN** – dynamic; **ELAT** – elative; **EMPH** – emphatic; **ERG** – ergative; **EVID** – evidential; **F** – feminine; **FOC** – focus; **FUT** – future; **GEN** – genitive; **GM** – gender marker; **H** – human; **HPL** – human plural; **IMP** – imperative; **IO** – indirect object; **IPF** – imperfect; **IPFV** – imperfective; **LAT** – lative; **LOC** – locative; **M** – masculine; **MSD** – masdar; **N** – non-human; **NEG** – negation; **NFIN** – non-finite; **NOM** – nominative; **NPL** – non-human plural; **NPST** – non-past; **OBL** – oblique; **PFV** – perfective; **PL** – plural; **PLSQ** – pluperfect; **POSS** – possessive; **POST** – localisation behind; **PR** – possessor; **PRF** – perfect; **PRS** – present; **PST** – past; **PVB** – preverb;

Q – interrogative; **RE** – refactive; **REL** – relativizer; **RETRO** – retrospective; **RFL** – reflexive; **SBJ** – subject; **SG** – singular; **SML** – similative; **SUPER** – localisation above; **TMP** – temporal; **TR** – transitive; **TRL** – translocative 'thither'; **UP** – motion upward; **VAL** – valency marker; **WITN** – witnessed

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POVZETEK

Morfologija kavkaških jezikov: tipološki pregled

Kavkaz je področje, ki ga odlikuje največja jezikovna raznolikost v zahodnem delu Evrazije: na dokaj majhnem območju živijo govorci približno petdesetih jezikov, ki jih uvrščamo v pet jezikovnih družin. Na Kavkazu so avtohtone tri jezikovne družine: vzhodnokavkaška (naško-dagestanski jeziki), zahodnokavkaška (abhaško-adigejski jeziki) in južnokavkaška (kartvelski jeziki). Za kavkaške jezike velja ne samo to, da imajo vrsto redkih in enkratnih značilnosti, temveč tudi to, da so si med seboj občutno različni; med seboj se razlikujejo tako jezikovne družine kot tudi predstavniki posameznih družin. To posebej velja za oblikoslovje, ki je v tem kratkem tipološkem pregledu še zlasti izpostavljeno.

Bistvene razlike med kavkaškimi jeziki se kažejo že pri osnovnih tipoloških lastnostih. Poleg jezikov, za katere je značilna sufiksacija (avarski in lezginski jezik), so med kavkaškimi jeziki tudi tisti, ki pogosteje uporabljajo prefiksacijo (agulski, cezninski in posebej kartvelski ter zahodnokavkaški).

Če se v večjem delu vzhodnokavkaških jezikov skladenjska razmerja izražajo prek skladenjsko odvisnih enot znotraj klavze in samostalniške zveze (dependant-marking language), se v abhaščini in abazinščini ta razmerja izražajo v skladenjskem jedru (head-marking language). V kartvelskih jezikih in adigejščini pa se skladenjska razmerja izražajo dvosmerno, tj. prek odvisnega ali jedrnega dela (double-marking language).

Podobne razlikovalne težnje lahko zaznamo pri izražanju prostorskih razmerij: v enem delu vzhodnokavkaških jezikov se prostorska razmerja izražajo predvsem s sistemom imenskih besed, v zahodnokavkaških jezikih pa s pomočjo glagola. V kartvelskih in nekaterih vzhodnokavkaških jezikih se prostor označuje tako z imenskimi kot z glagolskimi besedami.

Navsezadnje pa je kavkaške jezike težko opredeliti s terminologijo tradicionalnega razlikovanja med fleksivnimi in aglutinacijskimi jeziki. Za zahodnokavkaške jezike je značilna pretežno aglutinacijska morfologija, v kartvelskih in naško-dagestanskih jezikih pa obstajata oba morfološka principa, kar nakazuje različne stopnje razvoja morfoloških sistemov.

V kavkaških jezikih so predstavljeni praktično vsi tipi neobičajnih morfoloških kazalcev: t. i. ambifiksi oz. pone, ki imajo lahko pod vplivom različnih pogojev položaj predpone ali pripone, npr. negacijski označevalnik v abhaščini, abazinščini in ubiščini, cirkumfiksi, ki so bistvena poteza kartvelskih jezikov, infiksi v vzhodnokavkaških jezikih, segmentne in nadsegmentne premene in celo transfiksi, ki so v budukškem jeziku nastali kot posledica fonološkega vzajemnega vpliva med koreni in medponami oz. priponami.

Nič manj raznoliki niso tipi odnosov med morfološkimi pomeni in sredstvi njihovega izražanja v kavkaških jezikih. Najzanimivejši tip tovrstnih odnosov je zmožnost t. i. večkratnega označevanja (multiple exponence) istega pomena znotraj ene besedne oblike.

V kavkaških jezikih se sistemsko pojavlja nekaj tipov že omenjenega večkratnega označevanja, ki se razlikujejo po izvoru in strukturi. Tako je npr. v različnih naško-dagestanskih jezikih večkratno označevanje posebne vrste ujemanja nastalo kot posledica gramatikalizacije zgradb s pomožnimi glagoli, pri katerih je vsak pomožni glagol prispeval svojo ujemalno pono. Drugi primer je možnost večkratnega označevanja zanikanja v abazinskih osebnih glagolskih oblikah, ki je nastalo zaradi delovanja t. i. Jespersenovega cikla.

Posebnost ubiškega jezika, ki zaznamuje celotni glagolski sistem, je večkratno označevanje števila absolutnega udeleženca, ki se dopolnjujoče uresničuje s kategorijami časa in povzročanja (kavzativa). Ločeno od pojava večkratnega označevanja je treba obravnavati deljeno izražanje različnih glagolskih kategorij v kartvelskih jezikih, pri katerem kazalniki niso specializirani afiksi, temveč kombinacije afiksov, kjer noben afiks nima svojega konkretnega pomena.

Neobičajna značilnost vzhodnokavkaških jezikov je t. i. dvodelno sklanjanje imen, ki se tvori v opoziciji imenovalniške osnove z osnovami stranskih sklonov. Razlike pri uresničitvi omenjene opozicije se v kavkaških jezikih kažejo v izraznih sredstvih (v nekaterih jezikih gre lahko za več deset tovrstnih označevalnikov) in v različnih paradigmah. In ne samo to: v kar nekaj kavkaških jezikih opozicija med imenovalnikom in stranskimi skloni presega morfologijo in se kaže tudi pri ujemanju prilastkov in celo pri skladenjskih značilnostih celotnih samostalniških zvez. Zaradi tega lahko sklepamo, da v teh jezikih kot posebna slovnična kategorija deluje neimenovalniškost oz. pomen stranskih sklonov.

Najizrazitejša in najneobičajnejša poteza morfologije zahodnokavkaških jezikov, ki jih ločuje od vseh drugih kavkaških jezikov in jezikov Zahodne Evrazije, je polisintetizem. Ta se kaže v naslednjih značilnostih: v t. i. polipersonalizmu (ko se v strukturo glagolske oblike vključijo do štirje afiksi, ustrezno povedkovim udeležencem); v velikem številu afiksov, ki imajo pogosto konkretne, večinoma prostorske pomene. Polisintetizem se lahko kaže tudi v razširjenem združevanju samostalnikov s prilastki v morfološke imenske komplekse in tudi v izražanju praktično celotne skladenjske informacije klavze znotraj ene glagolske oblike.

Neobičajna značilnost polisintetizma v zahodnokavkaških jezikih je tudi prisotnost velikega števila aplikativnih predpon, ki uvajajo nepreme predmete in se pogosto uporabljajo v leksikalnih in slovničnih procesih. V zahodnokavkaških jezikih zasledimo tudi združevanje zapovrstnega in izravnalnega načela pri razvrščanju morfemov; prav tako nenavadno je morfološko izražanje oziralnosti in posebnih zgradb z odprtimi vprašanji (v abhazijskem in abazinskem jeziku).