Typologically outstanding aspects of the morphology of the languages of the Caucasus

Peter M. Arkadiev

Institute of Slavic Studies of the Russian Academy of Sciences / Russian State University for the Humanities

alpgurev@gmail.com
Introduction

• The Caucasus is the most linguistically diverse region of Western Eurasia:
Introduction

• The Caucasus is the most linguistically diverse region of Western Eurasia:
  – more than 50 living languages
  – three indigenous language families + a number of Indo-European and Turkic languages
  – a remarkable degree of structural diversity
  – a classic “accretion zone” à la Nichols 1992, 1997
  – a number of cross-linguistically rare phenomena
Introduction

• Three indigenous language families:
  – East Caucasian (Nakh-Dagestanian)
  – West Caucasian (Abkhaz-Adyghean)
  – South Caucasian (Kartvelian)
Introduction

• Three indigenous language families:
  – several millenia of time-depth each
  – no evidence of large-scale migrations
  – no discernible genealogical relations between North Caucasian and South Caucasian (pace Arnold Chikobava’s school of “Ibero-Caucasian linguistics” in Georgia)
  – East and West Caucasian probably distantly related (Nikolayev & Starostin 1994)
  – external genealogical relations rather obscure
Introduction

Languages of the Caucasus present a plethora of intricate and typologically rare morphological phenomena and, moreover, exhibit a striking degree of diversity in their morphological makeup.
Introduction

• Predominantly dependent-marking (Ingush) vs. predominantly head-marking (Abkhaz) vs. double-marking (Circassian, South Caucasian)
Introduction

• Predominantly dependent-marking (Ingush) vs. predominantly head-marking (Abkhaz) vs. double-marking (Circassian, South Caucasian)
• Mostly suffixing (Avar, Ossetic, Turkic) vs. heavily prefixing (West and South Caucasian)
Introduction

- Predominantly dependent-marking (Ingush) vs. predominantly head-marking (Abkhaz) vs. double-marking (Circassian, South Caucasian)
- Mostly suffixing (Avar, Ossetic, Turkic) vs. heavily prefixing (West and South Caucasian)
- Highly developed nominal morphology (East Caucasian) vs. verbal polysynthesis (West Caucasian)
Introduction

In this talk, rather than presenting a comprehensive overview of the morphological diversity of the languages of the Caucasus, I shall discuss selected outstanding issues in some detail.
Overview

1. Layered nominal inflection in East Caucasian and elsewhere
2. Multiple exponence
3. Non-trivial affixes
4. Polysynthesis in West Caucasian
Overview

1. Layered nominal inflection in East Caucasian and elsewhere
2. Multiple exponence
3. Non-trivial affixes
4. Polysynthesis in West Caucasian
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>ev</td>
<td>evler</td>
</tr>
<tr>
<td>ACC</td>
<td>evi</td>
<td>evleri</td>
</tr>
<tr>
<td>GEN</td>
<td>evin</td>
<td>evlerin</td>
</tr>
<tr>
<td>DAT</td>
<td>eve</td>
<td>evlere</td>
</tr>
<tr>
<td>LOC</td>
<td>evde</td>
<td>evlerde</td>
</tr>
<tr>
<td>ABL</td>
<td>evden</td>
<td>evlerden</td>
</tr>
</tbody>
</table>

“Agglutinative” paradigm:

Turkish, 
EV ‘house’
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>ev-Ø</td>
<td>ev-ler-Ø</td>
</tr>
<tr>
<td>ACC</td>
<td>ev-i</td>
<td>ev-ler-i</td>
</tr>
<tr>
<td>GEN</td>
<td>ev-in</td>
<td>ev-ler-in</td>
</tr>
<tr>
<td>DAT</td>
<td>ev-e</td>
<td>ev-ler-e</td>
</tr>
<tr>
<td>LOC</td>
<td>ev-de</td>
<td>ev-ler-de</td>
</tr>
<tr>
<td>ABL</td>
<td>ev-den</td>
<td>ev-ler-den</td>
</tr>
</tbody>
</table>

“Agglutinative” paradigm:

Turkish, EV ‘house’
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>miestas</td>
<td>miestai</td>
</tr>
<tr>
<td>ACC</td>
<td>miestą</td>
<td>miestus</td>
</tr>
<tr>
<td>GEN</td>
<td>miesto</td>
<td>miestų</td>
</tr>
<tr>
<td>DAT</td>
<td>miestui</td>
<td>miestams</td>
</tr>
<tr>
<td>LOC</td>
<td>mieste</td>
<td>miestuose</td>
</tr>
<tr>
<td>INS</td>
<td>miestu</td>
<td>miestais</td>
</tr>
</tbody>
</table>

Cumulative paradigm

Lithuanian, MIESTAS ‘city’
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>miest-as</td>
<td>miest-ai</td>
</tr>
<tr>
<td>ACC</td>
<td>miest-ą</td>
<td>miest-us</td>
</tr>
<tr>
<td>GEN</td>
<td>miest-o</td>
<td>miest-ų</td>
</tr>
<tr>
<td>DAT</td>
<td>miest-ui</td>
<td>miest-ams</td>
</tr>
<tr>
<td>LOC</td>
<td>miest-e</td>
<td>miest-uose</td>
</tr>
<tr>
<td>INS</td>
<td>miest-u</td>
<td>miest-ais</td>
</tr>
</tbody>
</table>

Cumulative paradigm

Lithuanian, MIESTAS ‘city’
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>rājā</td>
<td>rājānas</td>
</tr>
<tr>
<td>ACC</td>
<td>rājānam</td>
<td>rājñas</td>
</tr>
<tr>
<td>INS</td>
<td>rājñā</td>
<td>rājabhis</td>
</tr>
<tr>
<td>DAT</td>
<td>rājñe</td>
<td>rājabhyas</td>
</tr>
<tr>
<td>ABL</td>
<td>rājñas</td>
<td>rājabhyas</td>
</tr>
<tr>
<td>GEN</td>
<td>rājñas</td>
<td>rājñām</td>
</tr>
<tr>
<td>LOC</td>
<td>rājñī</td>
<td>rājasu</td>
</tr>
</tbody>
</table>

Paradigm with multiple stems

Sanskrit, *RĀJĀ* ‘king’
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>rājā</td>
<td>rājān-as</td>
</tr>
<tr>
<td>ACC</td>
<td>rājān-am</td>
<td>rājñ-as</td>
</tr>
<tr>
<td>INS</td>
<td>rājñ-ā</td>
<td>rāja-bhis</td>
</tr>
<tr>
<td>DAT</td>
<td>rājñ-e</td>
<td>rāja-bhyas</td>
</tr>
<tr>
<td>ABL</td>
<td>rājñ-as</td>
<td>rāja-bhyas</td>
</tr>
<tr>
<td>GEN</td>
<td>rājñ-as</td>
<td>rājñ-ām</td>
</tr>
<tr>
<td>LOC</td>
<td>rājñ-i</td>
<td>rāja-su</td>
</tr>
</tbody>
</table>

Paradigm with multiple stems

Sanskrit, RĀJĀ ‘king’
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>rājā</td>
<td>rājān-as</td>
</tr>
<tr>
<td>ACC</td>
<td>rājān-am</td>
<td>rājān-as</td>
</tr>
<tr>
<td>INS</td>
<td>rājñ-ā</td>
<td>rāja-bhis</td>
</tr>
<tr>
<td>DAT</td>
<td>rājñ-e</td>
<td>rāja-bhyas</td>
</tr>
<tr>
<td>ABL</td>
<td>rājñ-as</td>
<td>rāja-bhyas</td>
</tr>
<tr>
<td>GEN</td>
<td>rājñ-as</td>
<td>rājñ-ām</td>
</tr>
<tr>
<td>LOC</td>
<td>rājñ-i</td>
<td>rāja-su</td>
</tr>
</tbody>
</table>

Paradigm with multiple stems

Sanskrit, RĀJĀ ‘king’
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>rājā</td>
<td>rājān-as</td>
</tr>
<tr>
<td>ACC</td>
<td>rājān-am</td>
<td>rājñ-as</td>
</tr>
<tr>
<td>INS</td>
<td>rājñ-ā</td>
<td>rāja-bhis</td>
</tr>
<tr>
<td>DAT</td>
<td>rājñ-e</td>
<td>rāja-bhyas</td>
</tr>
<tr>
<td>ABL</td>
<td>rājñ-as</td>
<td>rāja-bhyas</td>
</tr>
<tr>
<td>GEN</td>
<td>rājñ-as</td>
<td>rājñ-ām</td>
</tr>
<tr>
<td>LOC</td>
<td>rājñ-i</td>
<td>rāja-su</td>
</tr>
</tbody>
</table>

Paradigm with multiple stems

Sanskrit, RĀJĀ ‘king’
Layered nominal inflection

Archi (Lezgic < East Caucasian, Dagestan)

• a one-village language

• less than 1000 speakers

• one of the best-described languages of the world
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>gel</td>
<td>gel-um</td>
</tr>
<tr>
<td>ERG</td>
<td>gel-li</td>
<td>gel-um-čaj</td>
</tr>
<tr>
<td>GEN</td>
<td>gel-li-n</td>
<td>gel-um-če-n</td>
</tr>
<tr>
<td>DAT</td>
<td>gel-li-s</td>
<td>gel-um-če-s</td>
</tr>
</tbody>
</table>

Archi
GEL ‘cup’
(Kibrik 2003: 185)
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>gel</td>
<td>gel-<em>um</em></td>
</tr>
<tr>
<td>ERG</td>
<td>gel-<em>li</em></td>
<td>gel-<em>um</em>-čeaj</td>
</tr>
<tr>
<td>GEN</td>
<td>gel-<em>li</em>-n</td>
<td>gel-<em>um</em>-če-n</td>
</tr>
<tr>
<td>DAT</td>
<td>gel-<em>li</em>-s</td>
<td>gel-<em>um</em>-če-s</td>
</tr>
</tbody>
</table>

Archi

*GEL* ‘cup’: agglutinative?
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>gel</td>
<td>gel-um</td>
</tr>
<tr>
<td>ERG</td>
<td>gel-li</td>
<td>gel-um-čaj</td>
</tr>
<tr>
<td>GEN</td>
<td>gel-li-n</td>
<td>gel-um-če-n</td>
</tr>
<tr>
<td>DAT</td>
<td>gel-li-s</td>
<td>gel-um-če-s</td>
</tr>
</tbody>
</table>

Archi

GEL ‘cup’: agglutinative? But not simply so.
Layered nominal inflection

• A possible analysis (Kibrik 1991: 257):
  – Nominative and Ergative both zero,
  – but based on distinct stems, i.e. direct (Nominative) and oblique (Ergative and other cases).
Layered nominal inflection

• An alternative analysis:
  – Ergative is a case on its own (with morphological exponence and syntactic functions)
  – as well as a base for oblique cases, i.e. the oblique stem formative (admittedly a purely morphological element).
Layered nominal inflection

• Analysis 1

<table>
<thead>
<tr>
<th></th>
<th>NOM</th>
<th>ERG</th>
<th>GEN</th>
<th>DAT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>√-Ø</td>
<td>√-OBL-Ø</td>
<td>√-OBL-GEN</td>
<td>√-OBL-DAT</td>
</tr>
</tbody>
</table>

• Analysis 2

<table>
<thead>
<tr>
<th></th>
<th>NOM</th>
<th>ERG</th>
<th>GEN</th>
<th>DAT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>√-Ø</td>
<td>√-ERG</td>
<td>√-ERG-GEN</td>
<td>√-ERG-DAT</td>
</tr>
</tbody>
</table>
Layered nominal inflection

Analysis 2 with the “double-duty” Ergative is problematic not only semantically, but also morphologically, since in some languages the Ergative has non-zero exponence distinct from the oblique stem. (Kibrik 1991: 257)
Layered nominal inflection

**Tsakhur** (Lezgic < East Caucasian, Dagestan, Azerbaijan)

- ca. 22,000 speakers
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>Sg</th>
<th>Pl</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>$ja'q$</td>
<td>$ja'q-bî$</td>
</tr>
<tr>
<td>ERG</td>
<td>$ja'q-i-n$</td>
<td>$ja'q-b-iš-e$</td>
</tr>
<tr>
<td>DAT</td>
<td>$ja'q-i-s$</td>
<td>$ja'q-b-iši-s$</td>
</tr>
</tbody>
</table>

Tsakhur ‘road’  
(Lyutikova 2017: 669)
Layered nominal inflection

<table>
<thead>
<tr>
<th></th>
<th>Sg</th>
<th>Pl</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>$ja^q$</td>
<td>$ja^q-bi$</td>
</tr>
<tr>
<td>ERG</td>
<td>$ja^q-i-n$</td>
<td>$ja^q-b-iš-e$</td>
</tr>
<tr>
<td>DAT</td>
<td>$ja^q-i-s$</td>
<td>$ja^q-b-iši-s$</td>
</tr>
</tbody>
</table>

Tsakhur ‘road’  
(Lyutikova 2017: 669)
Layered nominal inflection

root = NomSg

OblSg
  ↓
  oblique cases

PI = NomPl
  ↓
  OblPl
  ↓
  oblique cases

(Kibrik 1991: 257)
Layered nominal inflection

East Caucasian nominal morphology exhibits a variety of paradigmatic schemas (Kibrik 1991, 2003) involving different formal relations between the nominative vs. oblique forms in singular and plural. Both intra- and interlinguistic variation.
Layered nominal inflection

• The nominative vs. oblique division has repercussions across the whole nominal system:
  – patterns of pronominal suppletion;
  – attributive and genitive modifier inflection (Kibrik 1995);
  – syntactic constraints on oblique nominals (Testelets 2019).
Layered nominal inflection

**Avar** (Avar-Andic < East Caucasian)
- the major language of Dagestan
- ca. 766,000 speakers
- written records date back to 15th century
Layered nominal inflection

- Pronominal suppletion in Avar (Alekseev & Ataev 1997: 50, 54-55)

<table>
<thead>
<tr>
<th></th>
<th>‘son’</th>
<th>‘2SG’</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td><em>was</em></td>
<td><em>mun</em></td>
</tr>
<tr>
<td>ERG</td>
<td><em>was-aš</em></td>
<td><em>du-ča</em></td>
</tr>
<tr>
<td>GEN</td>
<td><em>was-aš-ul</em></td>
<td><em>du-r</em></td>
</tr>
<tr>
<td>DAT</td>
<td><em>was-aš-e</em></td>
<td><em>du-e</em></td>
</tr>
</tbody>
</table>
Layered nominal inflection

- Pronominal suppletion in Avar (Alekseev & Ataev 1997: 50, 54-55)

<table>
<thead>
<tr>
<th></th>
<th>‘son’</th>
<th>‘2SG’</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>was</td>
<td>mun</td>
</tr>
<tr>
<td>ERG</td>
<td>was-aš</td>
<td>du-ča</td>
</tr>
<tr>
<td>GEN</td>
<td>was-aš-ul</td>
<td>du-r</td>
</tr>
<tr>
<td>DAT</td>
<td>was-aš-e</td>
<td>du-e</td>
</tr>
</tbody>
</table>
Layered nominal inflection

**Ingush** (Nakh < East-Caucasian, Ingushetia)

- ca. 300,000 speakers
Layered nominal inflection

- Attributive modifier inflection in Ingush (Nichols 2011: 221): ‘cold wind’

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>shiila mux</td>
</tr>
<tr>
<td>ERG</td>
<td>shiilacha mixuo</td>
</tr>
<tr>
<td>DAT</td>
<td>shiilacha mixaa</td>
</tr>
<tr>
<td>ALL</td>
<td>shiilacha mixaga</td>
</tr>
</tbody>
</table>
Layered nominal inflection

- Attributive modifier inflection in Ingush (Nichols 2011: 221): ‘cold wind’

<table>
<thead>
<tr>
<th></th>
<th>shiila mux</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>shiila cha mixua</td>
</tr>
<tr>
<td>ERG</td>
<td>shiila cha mixaa</td>
</tr>
<tr>
<td>DAT</td>
<td>shiila cha mixaga</td>
</tr>
</tbody>
</table>
Layered nominal inflection

**Bezhta** (Tsezic < East Caucasian, Dagestan)

- ca. 10 000 speakers
Layered nominal inflection

- Genitive modifier inflection in Bezhta (Kibrik 1995: 220):

  (1a)  \textit{abo-s} \textit{is}
       father-GEN.DIR brother.NOM
       ‘father’s brother’

  (1b)  \textit{abo-la} \textit{is-t’i-l}
       father-GEN.OBL brother-OBL-DAT
       ‘to father’s brother’
Layered nominal inflection

• Genitive modifier inflection in Bezhta (Kibrik 1995: 220):

(1a) abo-\textit{s} \quad \textit{is}
\begin{tabular}{ll}
father-GEN.DIR & brother.NOM \\
\end{tabular}

‘father’s brother’

(1b) abo-\textit{la} \quad \textit{is-t’i-l}
\begin{tabular}{ll}
father-GEN.OBL & brother-OBL-DAT \\
\end{tabular}

‘to father’s brother’
Layered nominal inflection

Bagwalal (Avar-Andic < East Caucasian, Dagestan)
• less than 1500 speakers
Layered nominal inflection

• Constraints on focus in Bagwalal (Kibrik ed. 2001: 691-693):

(2a)  [ʕisa-w-R-ō waša]_{NOM} w-ā.
Isa-GEN-FOC-M son.NOM M-come
‘ISA’s son came.’

(2b)  *[ʕisa-w-R-ô waša-š:u-r]_{OBL} awal ţērāX.
Isa-GEN-FOC-M son-OBL-ERG house builds
expected: ‘ISA’s son is building a house.’
Layered nominal inflection

• Constraints on focus in Bagwalal (Kibrik ed. 2001: 691-693):

(2a) \[ \text{ʕiso-w-R-ō } waša\text{\textsubscript{NOM}} w-ā. ]
Isa-GEN-FOC-M son.NOM M-come
‘ISA’s son came.’

(2b) *[ʕiso-w-R-ō \text{waša-š:u-r}]\text{\textsubscript{OBL}} awal žērāX.
Isa-GEN-FOC-M son-OBL-ERG house builds
expected: ‘ISA’s son is building a house.’
Layered nominal inflection

• A characteristic trait of East Caucasian morphology.
• Also attested in Indo-Iranian, most notably in Romani (Elšík 2000), but also in a covert form in Ossetic (Belyaev 2014).
• Marginally in West Caucasian (cf. Arkadiev 2014).
Layered nominal inflection

• Layered nominal inflection in (East) Caucasian presents challenges for the theories of morphology and morphology-syntax interface (see further on multiple exponentence) and
• opens potential windows into the history of nominal inflection with successive cycles of grammaticalization.
Overview

1. Layered nominal inflection in East Caucasian and elsewhere
2. Multiple exponence
3. Non-trivial affixes
4. Polysynthesis in West Caucasian
Overview

1. Layered nominal inflection in East Caucasian and elsewhere
2. Multiple exponence
3. Non-trivial affixes
4. Polysynthesis in West Caucasian
Multiple exponence

• One function expressed by more than one form in a single word (cf. “extended exponence”, Matthews 1972).
Multiple exponence

- One function expressed by more than one form in a single word (cf. “extended exponence”, Matthews 1972).
- Explicitly prohibited by most current theories of morphology.
Multiple exponence

• One function expressed by more than one form in a single word (cf. “extended exponence”, Matthews 1972).
• Explicitly prohibited by most current theories of morphology.
• But actually a widespread phenomenon with its own rationale (Harris 2017).
Multiple exponence

• “There is no ‘multiple exponence’ of features from a single syntactic or morphological node.” (Halle & Marantz 1993: 138)
Multiple exponence

• “There is no ‘multiple exponence’ of features from a single syntactic or morphological node.” (Halle & Marantz 1993: 138)

• “Because operations are informationally additive, multiple additions of identical information are precluded.” (Steele 1995: 280)
Multiple exponence

• Harris (2017):
  – a comprehensive typology of multiple exponence singling out four distinct structural types associated with different paths of diachronic origin;
  – an insightful discussion of the challenges for morphological theory that multiple exponence presents.
Multiple exponence

- Harris (2017)’s typology of ME:
  - periodic ME
  - alternating ME
  - reinforcement ME
  - accidental ME

- All types are attested in the languages of the Caucasus
Multiple exponence

- Periodic ME “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).
Multiple exponence

**Batsbi** (a.k.a. Tsova-Tush; Nakh < East Caucasian, Georgia)

- ca. 3000 speakers, highly endangered
Multiple exponence

• Periodic ME of gender in Batsbi (Harris 2009: 268)

\textit{tiši^n c’}a \quad \textit{dañ} \quad d-\textit{ex-d-o-d-an-iš}

old house\text{(NOM)} \quad \text{PV} \quad \text{CM-destroy-CM-PRS-CM-EVID-2PL.ERG}

‘Y’all are evidently destroying the old house.’

CM - class marker, EVID – evidential, PRS – present tense, PV - preverb
Multiple exponence

- Periodic ME of gender in Batsbi (Harris 2009: 268)

\[ tiši^n \text{ c’a } daň d-ex-d-o-d-an-ıš \]
old house(NOM) PV CM-destroy-CM-PRS-CM-EVID-2PL.ERG

‘Y’all are evidently destroying the old house.’

CM - class marker, EVID – evidential, PRS – present tense, PV - preverb
Multiple exponence

- Alternating ME “is very similar to Type 1, the difference being that in Type 2 the carrier morpheme does not host the doubled exponent when the carrier occurs as an independent word.” (Harris 2017: 59)
Multiple exponence

- Alternating ME of case in Georgian (Vogt 1971: 44-46)
  
  *rame* ‘something’, the Dative form:
  
  *ra-s=me* (older variant)
  
  *ra-s-me-s* (intermediate variant)
  
  *ra-me-s* (newer variant)
Multiple exponence

- Alternating ME of case in Georgian (Vogt 1971: 44-46)

  *rame* ‘something’, the Dative form:

  - *ra-s=me* (older variant)
  - *ra-s-me-s* (intermediate variant)
  - *ra-me-s* (newer variant)

Cf. “externalization of inflection” (Haspelmath 1993)
Multiple exponence

- Reinforcement ME “characteristically involves exponents that are identical in feature representation but not identical in form”.
Multiple exponence

Khinalug (a family-level isolate in East Caucasian, Azerbaijan)

- a one-village language
- ca. 1000 speakers, endangered
Multiple exponence

- Reinforcement ME in Khinalug nominal plurals (Harris 2017: 64)

<table>
<thead>
<tr>
<th>SG</th>
<th>PL</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>dušman</td>
<td>dušman-ır</td>
<td>‘enemy’</td>
</tr>
<tr>
<td>taka</td>
<td>taka-d</td>
<td>‘goat’</td>
</tr>
<tr>
<td>kixir</td>
<td>kixir-d-ır</td>
<td>‘drop’</td>
</tr>
<tr>
<td>eng</td>
<td>eng-ır-d-ır</td>
<td>‘cheese’</td>
</tr>
</tbody>
</table>
Multiple exponence

- Reinforcement ME in Khinalug nominal plurals (Harris 2017: 64)

<table>
<thead>
<tr>
<th>SG</th>
<th>PL</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>dušman</td>
<td>dušman-ir</td>
<td>‘enemy’</td>
</tr>
<tr>
<td>taka</td>
<td>taka-d</td>
<td>‘goat’</td>
</tr>
<tr>
<td>kixir</td>
<td>kixir-d-ir</td>
<td>‘drop’</td>
</tr>
<tr>
<td>eng</td>
<td>eng-ir-d-ir</td>
<td>‘cheese’</td>
</tr>
</tbody>
</table>
Multiple exponence

- Reinforcement ME in Khinalug nominal plurals (Harris 2017: 64)

<table>
<thead>
<tr>
<th>SG</th>
<th>PL</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>dušman</td>
<td>dušman-ir</td>
<td>‘enemy’</td>
</tr>
<tr>
<td>taka</td>
<td>taka-d</td>
<td>‘goat’</td>
</tr>
<tr>
<td>kixir</td>
<td>kixir-d-ir</td>
<td>‘drop’</td>
</tr>
<tr>
<td>eng</td>
<td>eng-ir-d-ir</td>
<td>‘cheese’</td>
</tr>
</tbody>
</table>
Multiple exponence

**Abaza** (Abkhaz-Abaza < West Caucasian, Russia and Turkey)

- ca. 40 000 speakers
- own fieldwork data, Inzhich-Chukun, 2017-2019
Multiple exponence

• Reinforcement ME in Abaza negative finite verbal forms (textual examples)

(4a)  \( j-sə-m-dář-wa-ta \)
3SG.N.ABS-1SG.ERG-NEG-know-IPF-ADV
‘as I did not know that...’ (non-finite)

(4b)  \( jə-g’-sə-m-dář-ት \)
3SG.N.ABS-NEG-1SG.ERG-NEG-know(AOR)-DCL
‘I did not know that.’ (finite)
Multiple exponence

- Reinforcement ME in Abaza negative finite verbal forms (textual examples)

(4a) \( j-\text{sə-}m\text{-dár-wa-ta} \)
\[
\begin{align*}
3\text{SG.N.ABS-}1\text{SG.ERG-NEG-know-IPF-ADV} \\
\text{‘as I did not know that...’ (non-finite)}
\end{align*}
\]

(4b) \( jə-g’-sə-\text{m-dár-ť} \)
\[
\begin{align*}
3\text{SG.N.ABS-NEG-}1\text{SG.ERG-NEG-know(AOR)-DCL} \\
\text{‘I did not know that.’ (finite)}
\end{align*}
\]

Multiple exponence

• Reinforcement ME in Abaza negative finite verbal forms (textual examples)

(4a)  \( j-\text{sə}-m-\text{dár-wa-ta} \)
     3SG.N.ABS-1SG.ERG-NEG-know-IPF-ADV
     ‘as I did not know that…’ (non-finite)

(4b)  \( jə-g’-\text{sə}-m-\text{dár-ṭ} \)
     3SG.N.ABS-NEG-1SG.ERG-NEG-know(AOR)-DCL
     ‘I did not know that.’ (finite)

ABS – absolutive, AOR – aorist, DCL – declarative,
IPF – imperfective, N – non-human gender
Multiple exponence

- Accidental ME “involves exponents in a subset or overlapping relationship”, i.e. “if one realizes a feature set that is a proper subset of the feature set realized by the other”. (Harris 2017: 64)
Multiple exponence

• Accidental ME of plural in Archi (cf. above):
  GEL ‘cup’

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>gel</td>
<td>gel-um</td>
</tr>
<tr>
<td>ERG</td>
<td>gel-li</td>
<td>gel-um-čaj</td>
</tr>
<tr>
<td>GEN</td>
<td>gel-li-n</td>
<td>gel-um-če-n</td>
</tr>
<tr>
<td>DAT</td>
<td>gel-li-s</td>
<td>gel-um-če-s</td>
</tr>
</tbody>
</table>
Multiple exponentence

- Accidental ME of plural in Archi (cf. above): 
  *GEL* ‘cup’

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td><em>gel</em></td>
<td>*gel-<em>um</em></td>
</tr>
<tr>
<td>ERG</td>
<td>*gel-<em>li</em></td>
<td>*gel-*um-<em>čaj</em></td>
</tr>
<tr>
<td>GEN</td>
<td>*gel-*li-<em>n</em></td>
<td>*gel-*um-*če-<em>n</em></td>
</tr>
<tr>
<td>DAT</td>
<td>*gel-*li-<em>s</em></td>
<td>*gel-*um-*če-<em>s</em></td>
</tr>
</tbody>
</table>
Multiple exponentence

**Ubykh (West Caucasian)**

- before 1860-ies the modern Sochi region, afterwards in Turkey
- the last fluent speaker, Tevfik Esenç, died in 1992
Multiple exponence

- ME of absolutive plural in Ubykh verbs
  - dedicated person-number prefixes
  - tense-dependent plural suffixes
  - retrospective shift (≈ pluperfect) markers
  - causative prefixes
  - root suppletion

(Fenwick 2011: 135)
Multiple exponence

- ME of absolutive plural in Ubykh verbs:

(5a)  $a$-$z$-$\nu e$-$dax$-$\acute{a}$-$n$

3PL.ABS-1SG.ERG-CAUS.PL-stand.PL-PL-PRS

‘I make them stand up.’ (Vogt 1963: 112)

(5b)  $\ddot{s}'$-$\check{a}$-$n$-$\nu e$-$\check{\j}le$-$me$

1PL.ABS-go-PL-IPF-RS.PL-NEG

‘We weren’t going’ (Fenwick 2011: 122)

CAUS - causative  PRS - present
IPF - imperfective  RS - retrospective shift
Multiple exponence

- ME of absolutive plural in Ubykh verbs:
  (5a) \( a-z-\text{κε}-\text{dex}-\acute{a}-n \)
  \( 3\text{PL.ABS-1SG.ERG-CAUS.PL-stand.PL-PL-PRS } \)
  ‘I make them stand up.’ (Vogt 1963: 112)
  
  (5b) \( \text{š’}-\text{k’}-\acute{a}-\text{ne}-\text{jle}-\text{me} \)
  \( 1\text{PL.ABS-go-PL-IPF-RS.PL-NEG } \)
  ‘We weren’t going’ (Fenwick 2011: 122)

CAUS - causative
PRS - present
IPF - imperfective
RS - retrospective shift
Multiple exponence

• ME of absolutive plural in Ubykh verbs:
  (5a) \textit{a-z-ke-dex-á-n}
  \textit{3PL.ABS-1SG.ERG-CAUS.PL-stand.PL-PL-PRS}
  ‘I make them stand up.’ (Vogt 1963: 112)

  (5b) \textit{š’-k’-á-ne-jle-me}
  \textit{1PL.ABS-go-PL-IPF-RS.PL-NEG}
  ‘We weren’t going’ (Fenwick 2011: 122)

CAUS - causative  PRS - present
IPF - imperfective  RS - retrospective shift
Multiple exponence

• ME of absolutive plural in Ubykh verbs:
  – “accidental” according to Harris (2017)’s typology;
  – highly systematic and pervasive in the system of the language;
  – unique among the West Caucasian languages.
Multiple exponence

• The indigenous languages of the Caucasus are one of the “hotbeds” of multiple exponence in the languages of the world.
Multiple exponence

• The indigenous languages of the Caucasus are one of the “hotbeds” of multiple exponence in the languages of the world.

• Some of the cases of ME in the languages of the Caucasus are highly systematic and cannot be “explained away” as accidental quirks.
Multiple exponence

• The indigenous languages of the Caucasus are one of the “hotbeds” of multiple exponence in the languages of the world.
• Some of the cases of ME in the languages of the Caucasus are highly systematic and cannot be “explained away” as accidental quirks.
• Morphological theory has to take these facts at face value and develop analytical tools to account for them (and give up constraints ruling them out).
Overview

1. Layered nominal inflection in East Caucasian and elsewhere
2. Multiple exponence
3. Non-trivial affixes
4. Polysynthesis in West Caucasian
Overview

1. Layered nominal inflection in East Caucasian and elsewhere
2. Multiple exponence
3. Non-trivial affixes
4. Polysynthesis in West Caucasian
Non-trivial affixes

• Canonically, affixes are continuous strings of phonemes that linearly either follow (suffixes) or precede (prefixes) their hosts (stems or words).

• Non-canonical behaviour of affixes:
  – do not have a fixed linear position (ambifixed)
  – occur inside their hosts (infixes)
  – are split by their hosts (circumfixes)
  – are intertwined with their hosts (transfixes)
Non-trivial affixes

• While the majority of affixes in the languages of the Caucasus are canonical, one finds there specimens of all non-canonical types as well.
Non-trivial affixes

- Ambifixes (for cross-linguistic and theoretical observations see Crysmann & Bonami 2016, Stump 2017, Arkadiev & Lander 2020):
- Affixes that occur as prefixes in some environments and as suffixes in others.
Non-trivial affixes

**Abkhaz** (Abkhaz-Abaza < West Caucasian, Abkhazia, Turkey)

- ca. 125,000 speakers
Non-trivial affixes

• Ambifixal negation in Abkhaz (Chirikba 2003: 44; similar patterns also found in Abaza and Ubykh):

(6a) $d\emptyset-r-ga-wa-m$
3SG.H.ABS-3PL.ERG-carry-IPF-NEG
‘They do not carry him/her.’

(6b) $d-r\emptyset-m-ga-j\ddot{f}$
3SG.H.ABS-3PL.ERG-NEG-carry-DCL
‘They did not carry him/her.’

ABS – absolutive 
H – human 
DCL – declarative 
IPF – imperfective 
ERG – ergative
Non-trivial affixes

• Ambifixal negation in Abkhaz (Chirikba 2003: 44; similar patterns also found in Abaza and Ubykh):
  (6a) \( d\text{-}r\text{-}ga\text{-}wa\text{-}m \) \( \) suffix
  3SG.H.ABS-3PL.ERG-carry-IPF-NEG
  ‘They do not carry him/her.’
  (6b) \( d\text{-}r\text{ə}\text{-}m\text{-}ga\text{-}jṭ \) \( \) prefix
  3SG.H.ABS-3PL.ERG-NEG-carry-DCL
  ‘They did not carry him/her.’

ABS – absolutive  H – human
DCL – declarative  IPF – imperfective
ERG – ergative
Non-trivial affixes

- Ambifixal negation in Abkhaz (Chirikba 2003: 44; similar patterns also found in Abaza and Ubykh):

<table>
<thead>
<tr>
<th>Tense</th>
<th>finite</th>
<th>non-finite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>\textit{də-r-ga-wa-m}</td>
<td>\textit{jə-rə-m-ga-wa}</td>
</tr>
<tr>
<td>Aorist</td>
<td>\textit{d-rə-m-ga-ʃṭ}</td>
<td>\textit{jə-rə-m-ga}</td>
</tr>
<tr>
<td>Imperfect</td>
<td>\textit{də-r-ga-wa-mə-z-ṭ}</td>
<td>\textit{jə-rə-m-ga-wa-z}</td>
</tr>
<tr>
<td>Future I</td>
<td>\textit{də-r-ga-rə-m}</td>
<td>\textit{jə-rə-m-ga-ra}</td>
</tr>
<tr>
<td>Perfect</td>
<td>\textit{də-rə-m-ga-c-ṭ}</td>
<td>\textit{jə-rə-m-ga-c}</td>
</tr>
</tbody>
</table>
Non-trivial affixes

- Ambifical negation in Abkhaz (Chirikba 2003: 44; similar patterns also found in Abaza and Ubykh):

<table>
<thead>
<tr>
<th>Tense</th>
<th>finite</th>
<th>non-finite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td><em>dǝ-r-ga-wa-m</em></td>
<td><em>jǝ-rǝ-m-ga-wa</em></td>
</tr>
<tr>
<td>Aorist</td>
<td><em>d-ре-m-ga-jṭ</em></td>
<td><em>jǝ-rǝ-m-ga</em></td>
</tr>
<tr>
<td>Imperfect</td>
<td><em>dǝ-r-ga-wa-mǝ-z-ṭ</em></td>
<td><em>jǝ-rǝ-m-ga-wa-z</em></td>
</tr>
<tr>
<td>Future I</td>
<td><em>dǝ-r-ga-rǝ-m</em></td>
<td><em>jǝ-rǝ-m-ga-ra</em></td>
</tr>
<tr>
<td>Perfect</td>
<td><em>dǝ-rǝ-m-ga-c-ṭ</em></td>
<td><em>jǝ-rǝ-m-ga-c</em></td>
</tr>
</tbody>
</table>
Non-trivial affixes

- Circumfixes: bipartite affixes consisting of a prefixal and a suffixal part that (normally) do not occur independently and whose function cannot be compositionally derived from the functions of the two parts.
Non-trivial affixes

Circumfixes in Kartvelian

• caritive $u-\sqrt{o}$: puli ‘money’ : $u$-pul-o ‘penniless’
• intensive $u-\sqrt{es}$: meṭi ‘more’ : $u$-meṭ-es-i ‘still more’
• nom. abstr. si-$\sqrt{e}$: mayali ‘high’ : si-mayl-e ‘height’
• nom. loci: sa-$\sqrt{e}$: puli ‘money’ : sa-pul-e ‘wallet’
• nom. agt.: me-$\sqrt{e}$: bayi ‘garden’ : me-bay-e ‘gardener’
• participle: $m-\sqrt{ar/al}$: mo-ḳvda ‘he died’ : mo-m-ḳvd-ar-i ‘dead’
Non-trivial affixes

• Circumfixes in Northwest Caucasian

Abaza Circumferential $k^w\sqrt{}-\text{ša}$ (Klychev 2000: 32):

(7) č’arχ-dəw-k $\zeta$a-rə-$k^wə$-j-ga-ša-n
wheel-big-INDF CSL-3PL.IO-CIRC-3SG.M.ERG-carry-CIRC-PST
‘He carried a large wheel around them.’

West Circassian ‘upwards’ $de-\sqrt{}$-je (textual example):

(8) š’ebzaš’e-r-jə waš$^w$e-m $de$-bəbə-je
arrow-ABS-ADD sky-OBL UP-fly-UP
‘The arrow flies up into the sky.’

ABS – absolutive
ADD – additive
CSL – cislocative
ERG – ergative
INDF – indefiniteness
IO – indirect object
OBL – oblique
PST – past tense
Non-trivial affixes

• Infixes are affixes that occur inside their hosts (roots, stems, rarely other affixes).

• Infixes commonly arise from canonical suffixes or prefixes by several paths (Yu 2007):
  – phonologically driven metathesis;
  – “entrapment” due to reanalysis of former complex stems as simple;
  – reduplication mutation.
Non-trivial affixes

• Infixation is attested in various branches of Nakh-Dagestanian in a number of functions, usually alongside other morphological processes, both affixal and non-affixal.
Non-trivial affixes

Sanzhi (Dargic < East Caucasian, Dagestan)

• a one-village language
• ca. 250 speakers
• critically endangered
Non-trivial affixes

- Sanzhi Dargwa aspectual stems (Forker 2020: 207-211)

<table>
<thead>
<tr>
<th>gloss</th>
<th>perfective</th>
<th>imperfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘understand’</td>
<td>arʁ-</td>
<td>irʁ-</td>
</tr>
<tr>
<td>‘saw’</td>
<td>erč-</td>
<td>urč-</td>
</tr>
<tr>
<td>‘throw’</td>
<td>ixʷ-</td>
<td>irxʷ-</td>
</tr>
<tr>
<td>‘stick, attach’</td>
<td>kat’-</td>
<td>kalt’-</td>
</tr>
<tr>
<td>‘milk’</td>
<td>b-irc:-</td>
<td>irc:-</td>
</tr>
<tr>
<td>‘turn, grind’</td>
<td>b-elq’-</td>
<td>b-uq’-</td>
</tr>
</tbody>
</table>
### Non-trivial affixes

- Sanzhi Dargwa aspectual stems (Forker 2020: 207-211)

<table>
<thead>
<tr>
<th>gloss</th>
<th>perfective</th>
<th>imperfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘understand’</td>
<td><em>arβ</em>-</td>
<td><em>irβ</em>-</td>
</tr>
<tr>
<td>‘saw’</td>
<td><em>erč</em>-</td>
<td><em>urč</em>-</td>
</tr>
<tr>
<td>‘throw’</td>
<td><em>ixʷ</em>-</td>
<td><em>irxʷ</em>-</td>
</tr>
<tr>
<td>‘stick, attach’</td>
<td>*kat’-</td>
<td>*kalt’-</td>
</tr>
<tr>
<td>‘milk’</td>
<td>*b-irc:-</td>
<td>*irc:-</td>
</tr>
<tr>
<td>‘turn, grind’</td>
<td>*b-elq’-</td>
<td>*b-uq’-</td>
</tr>
</tbody>
</table>
Non-trivial affixes

- Sanzhi Dargwa aspectual stems (Forker 2020: 207-211)

<table>
<thead>
<tr>
<th>gloss</th>
<th>perfective</th>
<th>imperfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘understand’</td>
<td><em>ar vets</em></td>
<td><em>i r vets</em></td>
</tr>
<tr>
<td>‘saw’</td>
<td><em>e r c</em>-</td>
<td><em>u r c</em>-</td>
</tr>
<tr>
<td>‘throw’</td>
<td><em>i x w</em>-</td>
<td><em>i r x w</em>-</td>
</tr>
<tr>
<td>‘stick, attach’</td>
<td>*k a t’-</td>
<td>*k a l t’-</td>
</tr>
<tr>
<td>‘milk’</td>
<td><em>b i r c:-</em></td>
<td><em>i r c:-</em></td>
</tr>
<tr>
<td>‘turn, grind’</td>
<td>*b e l q’-</td>
<td>*b-u q’-</td>
</tr>
</tbody>
</table>

*infixation in the imperfective*
Non-trivial affixes

- Sanzhi Dargwa aspectual stems (Forker 2020: 207-211)

<table>
<thead>
<tr>
<th>gloss</th>
<th>perfective</th>
<th>imperfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘understand’</td>
<td>arʁ-</td>
<td>irʁ-</td>
</tr>
<tr>
<td>‘saw’</td>
<td>erč-</td>
<td>urč-</td>
</tr>
<tr>
<td>‘throw’</td>
<td>ixʷ-</td>
<td>irxʷ-</td>
</tr>
<tr>
<td>‘stick, attach’</td>
<td>kat’-</td>
<td>kalt’-</td>
</tr>
<tr>
<td>‘milk’</td>
<td>b-irc:-</td>
<td>irc:-</td>
</tr>
<tr>
<td>‘turn, grind’</td>
<td>b-elq’-</td>
<td>b-uq’</td>
</tr>
</tbody>
</table>

*infixation in the perfective*
Non-trivial affixes

- Gender-marking with verbs in Archi (Kibrik 1977: 80; inanimate gender marker *b*)

<table>
<thead>
<tr>
<th>gloss</th>
<th>durative</th>
<th>terminative</th>
<th>finalis</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘drive’</td>
<td>bark’ur</td>
<td>abk’u</td>
<td>abk’as</td>
</tr>
<tr>
<td>‘let’</td>
<td>bartir</td>
<td>abt:i</td>
<td>abtis</td>
</tr>
<tr>
<td>‘measure’</td>
<td>barsin</td>
<td>absni</td>
<td>absmus</td>
</tr>
</tbody>
</table>
Non-trivial affixes

- Gender-marking with verbs in Archi (Kibrik 1977: 80; inanimate gender marker $b$)

<table>
<thead>
<tr>
<th>gloss</th>
<th>durative</th>
<th>terminative</th>
<th>finalis</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘drive’</td>
<td>$bark’ur$</td>
<td>$abk’u$</td>
<td>$abk’as$</td>
</tr>
<tr>
<td>‘let’</td>
<td>$bartir$</td>
<td>$abt:i$</td>
<td>$abtis$</td>
</tr>
<tr>
<td>‘measure’</td>
<td>$barsin$</td>
<td>$absni$</td>
<td>$absmus$</td>
</tr>
</tbody>
</table>
Non-trivial affixes

• Transfixes are discontinuous affixes inserted into discontinuous stems yielding morphological structures where lexical and grammatical exponents are intertwined.
• Characteristic of Afroasiatic, primarily Semitic languages.
• Classical Arabic: Sg *sulṭān* ~ Pl *salāṭin*
Non-trivial affixes

Budukh (Lezgic < East-Caucasian, Azerbaidjan)
• ca. 50 speakers
• highly endangered
Non-trivial affixes

- Budukh transfixation in verbs (Authier 2009):

<table>
<thead>
<tr>
<th>gloss</th>
<th>gender</th>
<th>perfective</th>
<th>imperfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘sleep’</td>
<td>masculine</td>
<td>eχir</td>
<td>arχar</td>
</tr>
<tr>
<td>animal</td>
<td></td>
<td>öχür</td>
<td>orχor</td>
</tr>
<tr>
<td>‘make sleep’</td>
<td>masculine</td>
<td>eχir</td>
<td>erχi</td>
</tr>
<tr>
<td>animal</td>
<td></td>
<td>öχür</td>
<td>örχü</td>
</tr>
</tbody>
</table>
Non-trivial affixes

- **Budukh transfixation in verbs (Authier 2009):**

<table>
<thead>
<tr>
<th>gloss</th>
<th>gender</th>
<th>perfective</th>
<th>imperfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘sit’</td>
<td>masculine</td>
<td><em>aq’ul</em></td>
<td><em>alq’al</em></td>
</tr>
<tr>
<td></td>
<td>animal</td>
<td><em>oq’ul</em></td>
<td><em>olq’ol</em></td>
</tr>
<tr>
<td>‘make sit’</td>
<td>masculine</td>
<td><em>eq’il</em></td>
<td><em>elq’i</em></td>
</tr>
<tr>
<td></td>
<td>animal</td>
<td><em>öq’ül</em></td>
<td><em>ölq’ü</em></td>
</tr>
</tbody>
</table>
Non-trivial affixes

• Budukh transfixation emerged via phonological change affecting root vowels in combination with gender infixes and the causative suffix going back to the verb *i- ‘do’ (Authier 2009).
  • öχür < *e-w-χ-r ‘it (animal) slept’, cf. F e-r-χi-r
  • orχor < *a-w-r-χ-ar ‘it (animal) sleeps’
  • elq’il < *a-lq- + *i- ‘makes him sit’
  • ölq’ü < *a-w-lq’- + *i- ‘makes it (animal) sit’
Overview

1. Layered nominal inflection in East Caucasian and elsewhere
2. Multiple exponence
3. Non-trivial affixes
4. Polysynthesis in West Caucasian
Overview

1. Layered nominal inflection in East Caucasian and elsewhere
2. Multiple exponence
3. Non-trivial affixes
4. Polysynthesis in West Caucasian
Polysynthesis in West Caucasian

• West Caucasian
  – Abkhaz-Abaza:
    • Abkhaz
    • Abaza
  – Circassian:
    • West Circassian (Adyghe)
    • East Circassian (Kabardian)
  – Ubykh (extinct)
Polysynthesis in West Caucasian

- West Caucasian peoples and languages have severely suffered during the Caucasian war (1817-1864) and the ensuing expulsions and resettlements.
- A number of varieties have become extinct, and the whole linguistic landscape has been disrupted.
Polysynthesis in West Caucasian
Polysynthesis in West Caucasian
Polysynthesis in West Caucasian

What is polysynthesis?

• “To qualify as core polysynthetic a language must display holophrasis (i.e. be able to represent a whole clause — including all bound core pronominals — by a single word) and must allow more than one lexically ‘heavy’ morpheme within the holophrastic verb, whether it be lexical or affixal”. (Fortescue 2017: 122)
Polysynthesis in West Caucasian

What is polysynthesis?

• “To qualify as core polysynthetic a language must display holophrasis (i.e. be able to represent a whole clause — including all bound core pronominals — by a single word) and must allow more than one lexically ‘heavy’ morpheme within the holophrastic verb, whether it be lexical or affixal”. (Fortescue 2017: 122)
Polysynthesis in West Caucasian

What is polysynthesis?

• “To qualify as core polysynthetic a language must display holophrasis (i.e. be able to represent a whole clause — including all bound core pronominals — by a single word) and must allow more than one lexically ‘heavy’ morpheme within the holophrastic verb, whether it be lexical or affixal”. (Fortescue 2017: 122)
Polysynthesis in West Caucasian

• Besleney Kabardian polysynthetic predicate
  (own fieldwork, v. Ulyap, 2011-2013)

\[ sə-qə-zer-a-x^wə-č’erə-mə-\text{tetə}-č’ə-ž’-a-r \]

1SG.ABS-DIR-REL.FCT-3PL.IO-BEN-LOC-NEG-tie-ELAT-RE-PST-ABS

‘that they could not untie me from there’

ABS – absolutive
BEN – benefactive
DIR – directional preverb
ELAT - elative
IO – indirect object
LOC – locative preverb
NEG - negation
PL - plural
PST – past
RE - refactive
REL.FCT – factive relativization
SG - singular
Polysynthesis in West Caucasian

• Besleney Kabardian polysynthetic predicate (own fieldwork, v. Ulyap, 2011-2013)
  
  $sə$-qə-zer-a-xʷə-č’erə-mə-ṭeta-č’ə-ž’-ə-r

  1SG.ABS-DIR-REL.FCT-3PL.IO-BEN-LOC-NEG-tie-ELAT-RE-PST-ABS

  ‘that they could not untie me from there’

  ABS – absolutive
  BEN – benefactive
  DIR – directional preverb
  ELAT - elative
  IO – indirect object
  LOC – locative preverb

  NEG - negation
  PL - plural
  PST – past
  RE - refactive
  REL.FCT – factive relativization
  SG - singular
Polysynthesis in West Caucasian


\[ sə-qə-zer-a-x^wə-č’erə-mə-ṭetə-č’ə-ž’-a-r \]

1SG.ABS-DIR-REL.FCT-3PL.IO-BEN-LOC-NEG-tie-ELAT-RE-PST-ABS

‘that they could not untie me from there’

ABS – absolutive
BEN – benefactive
DIR – directional preverb
ELAT - elative
IO – indirect object
LOC – locative preverb
NEG - negation
PL - plural
PST – past
RE - refactive
REL.FCT – factive relativization
SG - singular
Polysynthesis in West Caucasian

• Besleney Kabardian polysynthetic predicate (own fieldwork, v. Ulyap, 2011-2013)

\[ sə-qə-zer-a-x^wə-č’erə-mə-ṭetə-č’ə-ž’-a-r \]

1SG.ABS-DIR-REL.FCT-3PL.IO-BEN-LOC-NEG-tie-ELAT-RE-PST-ABS

‘that they could not untie me from there’

ABS – absolutive
BEN – benefactive
DIR – directional preverb
ELAT - elative
IO – indirect object
LOC – locative preverb

NEG - negation
PL - plural
PST – past
RE - refactive
REL.FCT – factive relativization
SG - singular
Polysynthesis in West Caucasian

• Besleney Kabardian polysynthetic predicate (own fieldwork, v. Ulyap, 2011-2013)

\[sə-qə-zer-ə-x^{wə}-č'ərə-ма-тетə-č'ə-ž'-a-r\]

1SG.ABS-DIR-REL.FCT-3PL.IO-BEN-LOC-NEG-tie-ELAT-RE-PST-ABS

‘that they could not untie me from there’

ABS – absolutive
BEN – benefactive
DIR – directional preverb
ELAT - elative
IO – indirect object
LOC – locative preverb
NEG - negation
PL - plural
PST – past
RE - refactive
REL.FCT – factive relativization
SG - singular
Polysynthesis in West Caucasian


\[ sə-qə-zer-ə-xʷə-č’erə-mə-ťetə-č’ə-ž’-ə-r \]

1SG.ABS-DIR-REL.FCT-3PL.IO-BEN-LOC-NEG-tie-
ELAT-RE-PST-ABS

‘that they could not untie me from there’

ABS – absolutive
BEN – benefactive
DIR – directional preverb
ELAT - elative
IO – indirect object
LOC – locative preverb
NEG - negation
PL - plural
PST – past
RE - refactive
REL.FCT – factive relativization
SG - singular
Polysynthesis in West Caucasian


\[ sə-qə-zer-ə-x^wə-č’erə-mə-τɛtə-č’ə-ž’-a-r \]

1SG.ABS-DIR-REL.FCT-3PL.IO-BEN-LOC-NEG-tie-ELAT-RE-PST-ABS

‘that they could not untie me from there’
Polysynthesis in West Caucasian

• Besleney Kabardian polysynthetic predicate (own fieldwork, v. Ulyap, 2011-2013)

\[ sə-ːqə-zer-a-x^{\text{w}ə-ː}č’erə-ṃə-ţetə-ː č’ə-ž’-a-r \]

1SG.ABS-DIR-REL.FCT-3PL.IO-BEN-LOC-NEG-tie-ELAT-RE-PST-ABS

‘that they could not untie me from there’

ABS – absolutive
BEN – benefactive
DIR – directional preverb
ELAT - elative
IO – indirect object
LOC – locative preverb
NEG - negation
PL - plural
PST – past
RE - refactive
REL.FCT – factive relativization
SG - singular
Polysynthesis in West Caucasian


\[sə-qə-zer-ə-xʷə-č’erə-mə-ṭətə-č’ə-ž’-ə-r\]

1SG.ABS-DIR-REL.FCT-3PL.IO-BEN-LOC-NEG-tie-ELAT-RE-PST-ABS

‘that they could not untie me from there’

ABS – absolutive
BEN – benefactive
DIR – directional preverb
ELAT - elative
IO – indirect object
LOC – locative preverb
NEG - negation
PL - plural
PST – past
RE - refactive
REL.FCT – factive relativization
SG - singular
Polysynthesis in West Caucasian

- Besleney Kabardian polysynthetic nominal (Yury Lander’s fieldwork data)

\[d{-jə-}[v^{wəne}\text{̆w} = bəζəλx^{wəne} = daxe = dede] - m\]

1PL.PR-POSS-neighbour=woman=beautiful=very-OBL

‘our very beautiful lady-neighbour’

OBL – oblique case
POSS – possession marker
PL – plural
PR – possessor
Polysynthesis in West Caucasian

• Besleney Kabardian polysynthetic nominal (Yury Lander’s fieldwork data)

\[d-j\'e-[b^{\prime}w\etae\’\w = b\vz\alpha\lambda\chi^{\’}\w\v\v e = d\v\v e = d\v\v de]-m\]

1PL.PR-POSS-neighbour=woman=beautiful=very-OBL

‘our very beautiful lady-neighbour’

OBL – oblique case
PL – plural
POSS – possession marker
PR – possessor
Polysynthesis in West Caucasian

• Besleney Kabardian polysynthetic nominal (Yury Lander’s fieldwork data)

\(d\text{-}j\text{ʰ}e\text{-}[\text{b}^w\text{ŋpən}\text{w} = \text{bə̂zəλx}^w\text{əve} = \text{daxe} = \text{dede}]-m\)

1PL.PR-POSS-neighbour=woman=beautiful=very-OBL

‘our very beautiful lady-neighbour’

OBL – oblique case
POSS – possession marker
PL – plural
PR – possessor
Polysynthesis in West Caucasian

• Besleney Kabardian polysynthetic nominal (Yury Lander’s fieldwork data)
  
  \[ d-jə-[v^wəpet^w = bəəλχ^wəbe = daxe = dede] -m \]
  
  1PL.PR-POSS-neighbor=woman=beautiful=very-OBL
  
  ‘our very beautiful lady-neighbor’

OBL – oblique case
POSS – possession marker
PL – plural
PR – possessor
Polysynthesis in West Caucasian

• Besleney Kabardian polysynthetic nominal (Yury Lander’s fieldwork data)

\[ d-jə-[v^{w}ənev^{w} = bəəλx^{w}əxe = daxe = dede] - m \]

1PL.PR-POSS-neighbour=woman=beautiful=very-OBL
‘our very beautiful lady-neighbour’

OBL – oblique case
POSS – possession marker
PL – plural
PR – possessor
Polysynthesis in West Caucasian

- Besleney Kabardian polysynthetic nominal (Yury Lander’s fieldwork data)

\[ d-jə-[vr̥nərb̥̊w = bzəλx̂ωəe = daxe = dede] - m \]
1PL.PR-POSS-neighbour=woman=beautiful=very-OBL
‘our very beautiful lady-neighbour’

OBL – oblique case
POSS – possession marker
PL – plural
PR – possessor
Polysynthesis in West Caucasian

- Exuberant polypersonalism facilitated by a rich system of semantically specialized applicatives introducing indirect objects
- A rich system of locative affixes
- An intricate mixture of templatic and scopal organization
- Nominal complexes sharing properties of words and phrases
- Typologically exceptional structures
Polysynthesis in West Caucasian

- Polypersonalism in West Circassian (Lander & Letuchiy 2010: 266)

\[sə-qə-t-de-p-fə-Ø-r-a-ka-że-š’tə-ʁ\]

1SG.ABS-DIR-1PL.IO-COM-2SG.IO-BEN-3SG.IO-DAT-3PL.ERG-CAUS-read-IPF-PST

‘They were making me read it to you together with us.’
Polysynthesis in West Caucasian

- Polypersonalism in West Circassian (Lander & Letuchiy 2010: 266)

\[ sə-qə-t-de-p-fə-Ø-r-a-κa-že-š’tə-κ \]

1SG.ABS-DIR-1PL.IO-COM-2SG.IO-BEN-3SG.IO-DAT-3PL.ERG-CAUS-read-IPF-PST

‘They were making me read it to you together with us.’
Polysynthesis in West Caucasian

• Polypersonalism in Abaza (Inzhich-Chukun, 2017, textual example)

   \( j-\hat{s}ə-z-j-á-s-h^{w}-p \)

   3SG.N.ABS-2PL.IO-BEN-3SG.M.IO-DAT-1SG.ERG-say-NPST.DCL

   ‘I will tell this to him about y’all.’
Polysynthesis in West Caucasian

- Polypersonalism in Abaza (Inzhich-Chukun, 2017, textual example)

\[ j{-}\breve{s}\-a{-}\breve{z}\-j{-}\breve{a}\-s{-}\breve{h}^w{-}\breve{p} \]

3SG.N.ABS-2PL.IO-BEN-3SG.M.IO-DAT-1SG.ERG-say-NPST.DCL

‘I will tell this to him about y’all.’
Polysynthesis in West Caucasian

• Polypersonalism:
  – three-participant verbal forms common;
  – four-participant verbal forms uncommon, but attested in texts;
  – five-participant verbal forms can be constructed and parsed by speakers (and are reported in grammars written by native speakers).
Polysynthesis in West Caucasian

• Polypersonalism
  – *prima facie* counterexample to the claim often expressed in generative and functionalist work alike that predicates in natural languages don’t take more than three arguments (cf. Babby 2009; Nichols 2017: 64)
  – “open head-marking” (Nichols 2017)
Polysynthesis in West Caucasian

• Applicatives
  – introduce indirect objects and do not affect agent and patient;
  – are very numerous (up to several dozens in Ubykh and Abaza);
  – in terms of semantics range from underspecified (“dative”) to highly specific (mainly locative);
  – allow stacking and limited recursion;
  – mainly go back to body-part nouns.
Polysynthesis in West Caucasian

Locative applicatives in Kabardian (Kumakhov 1964: 165):

(10) a. *tjepšeč’ə-м*  *jə-λə-н*
   plate-OBL LOC:container-lie-MSD
   ‘to be on a plate’

b. *škampə-м*  *de-λə-н*
   cupboard-OBL LOC:enclosure-lie-MSD
   ‘to be in a cupboard’

c. *daʁe-м*  *xe-λə-н*
   oil-OBL LOC:mass-lie-MSD
   ‘to be in oil’

d. *šxəʔenə-м*  *kʷeçə-λə-н*
   blanket-OBL LOC:through-lie-MSD
   ‘to be in a blanket’
Polysynthesis in West Caucasian

Locative applicatives in Kabardian (Kumakhov 1964: 165):

(10) a. tjepšeč’ə-m  jə-λə-n
     plate-OBL    LOC:container-lie-MSD
     ‘to be on a plate’

b. škampə-m  de-λə-n
     cupboard-OBL  LOC:enclosure-lie-MSD
     ‘to be in a cupboard’

c. daʁe-m  xe-λə-n
     oil-OBL  LOC:mass-lie-MSD
     ‘to be in oil’

d. šxəʔepə-m  kʷeçə-λə-n
     blanket-OBL  LOC:through-lie-MSD
     ‘to be in a blanket’
Polysynthesis in West Caucasian

• Highly specialized applicatives in Abaza:

(11)  j-s-nərə-ça-rə-l-č-ṭ
       3SG.N.ABS-1SG.IO-LOC:hand-LOC:below-LOC:front-3SG.F.ERG-break(AOR)-DCL
       ‘She broke it in my hands.’ (Klychev 1995: 170)

(12)  j-lə-qʷdə-l-ẑa-ṭ
       3SG.N.ABS-3SG.F.IO-LOC:neck-3SG.F.ERG-tear(AOR)-DCL
       ‘She tore it from her neck.’ (Klychev 1995: 275)
Polysynthesis in West Caucasian

• Highly specialized applicatives in Abaza:

(11) $j$-$s$-nařə-ça-pə-l-č-ṯ

3SG.N.ABS-1SG.IO-LOC:hand-LOC:below-LOC:front-3SG.F.ERG-break(AOR)-DCL

‘She broke it in my hands.’ (Klychev 1995: 170)

(12) $j$-$lə$-$q^w$-də-l-ža-ṯ

3SG.N.ABS-3SG.F.IO-LOC:neck-3SG.F.ERG-tear(AOR)-DCL

‘She tore it from her neck.’ (Klychev 1995: 275)
Polysynthesis in West Caucasian

• Applicative recursion in West Circassian (Lander & Letuchiy 2010: 269):

\[ s-a-fə-Ø-f-e-txe \]

1SG.ABS-3PL.IO-BEN-3SG.IO-BEN-DYN-write

‘I write to him for their benefit.’
Polysynthesis in West Caucasian

• Applicative recursion in West Circassian (Lander & Letuchiy 2010: 269):
  s-a-fə-Ø-f-e-txe
  1SG.ABS-3PL.IO-BEN-3SG.IO-BEN-DYN-write
  ‘I write to him for their benefit.’
Polysynthesis in West Caucasian

• Applicative recursion in West Circassian (Lander & Letuchiy 2010: 269):
  
  s-a-fə-Ø-f-e-txe
  1SG.ABS-3PL.IO-BEN-3SG.IO-BEN-DYN-write
  ‘I write to him for their benefit.’
Polysynthesis in West Caucasian

• Morphological organization
  – layered morphology (order of morphemes based on their semantic scope, cf. Baker’s Mirror Principle);
  – template morphology (order of morphemes based on a rigid template with semantic opacity and discontinuous dependencies)

Polysynthesis in West Caucasian

The general West Caucasian verbal template (Arkadiev & Lander 2021):

<table>
<thead>
<tr>
<th>prefixes</th>
<th>root</th>
<th>suffixes</th>
</tr>
</thead>
<tbody>
<tr>
<td>argument structure zone</td>
<td>pre-stem elements</td>
<td>stem (Σ)</td>
</tr>
<tr>
<td>absolutive</td>
<td>applicatives</td>
<td>aspectual, modal</td>
</tr>
<tr>
<td>subordinators</td>
<td>and indirect</td>
<td>and evaluative operators</td>
</tr>
<tr>
<td>objects</td>
<td>ergative</td>
<td>temporal operators</td>
</tr>
<tr>
<td></td>
<td>preradical</td>
<td>suffixal negation</td>
</tr>
<tr>
<td></td>
<td>negation</td>
<td>illocutionary operators</td>
</tr>
<tr>
<td></td>
<td>causative</td>
<td>operators or subordinators</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>&gt;1</td>
</tr>
<tr>
<td>&gt;1</td>
<td>1</td>
<td>1 or 2</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>may be complex</td>
</tr>
<tr>
<td>1 or 2</td>
<td>&gt;1</td>
<td>&gt;1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>&gt;1</td>
<td>&gt;1</td>
</tr>
</tbody>
</table>
Polysynthesis in West Caucasian

• Despite an apparent templatic organization, some zones of the verbal word clearly follow scopal ordering (cf. Korotkova & Lander 2010, Lander 2016 on West Circassian, Panova 2018 on Abaza).
Polysynthesis in West Caucasian

• Scope ordering of suffixes in West Circassian (Lander 2016: 3523)

(14) a.  $g^w\omega\hat{s}^w e-\hat{s}^w e-\hat{z}'\omega-\nu$
    be.glad-SML-RE-PST
    ‘s/he pretended again that s/he was happy’
    (refactive > similative)
Polysynthesis in West Caucasian

• Scope ordering of suffixes in West Circassian (Lander 2016: 3523)

(14) a. $g^{w\omega}s^{w}e-{\hat{s}^{w}e-\dot{\jmath}'\omega-\nu}$
   be.glad-SML-RE-PST
   ‘s/he pretended again that s/he was happy’
   (refactive $>$ similative)
Polysynthesis in West Caucasian

• Scope ordering of suffixes in West Circassian (Lander 2016: 3523)

(14) a. \( g^{w}ə\hat{s}^{w}e-\hat{s}^{w}e-ž^{′}ə-\nu \)
   be.glad-SML-RE-PST
   ‘s/he pretended again that s/he was happy’
   (refactive > similative)

b. \( g^{w}ə\hat{s}^{w}e-ž^{′}ə-\hat{s}^{w}a-\nu \)
   be.glad-RE-SML-PST
   ‘s/he pretended that s/he was happy again’
   (similative > refactive)
Polysynthesis in West Caucasian

• Scope ordering of suffixes in West Circassian
  (Lander 2016: 3523)

(14) a. $g^\text{wəš}^\text{w}e-\hat{s}^\text{w}e-\tilde{ž}^\text{ə}-\kappa$
    be.glad-SML-RE-PST
    ‘s/he pretended again that s/he was happy’
    (refactive > similative)

b. $g^\text{wəš}^\text{w}e-\tilde{ž}^\text{ə}-\hat{s}^\text{w}a-\kappa$
    be.glad-RE-SML-PST
    ‘s/he pretended that s/he was happy again’
    (similative > refactive)
Polysynthesis in West Caucasian

• Discontinuous dependencies between suffixes and prefixes (cf. Arkadiev & Letuchiy 2011 on West Circassian)
Polysynthesis in West Caucasian

• Discontinuous dependencies in Abaza (cf. Lomtigidze et al. 1989: 111-112)

(15) a.  
\[ d-c-əw-n \]
3SG.H.ABS-go-IPF-PST.DCL
‘S/he was going.’ (finite)

b.  
\[ j-c-əw-z \]
REL.ABS-go-IPF-PST.NFIN
‘the one who was going’ (non-finite)

DCL - declarative
H - human class
IPF - imperfective
NFIN - non-finite
REL - relative
Polysynthesis in West Caucasian

• Discontinuous dependencies in Abaza (cf. Lomtadze et al. 1989: 111-112)

(15) a.  \( d\text{-}\text{c-ə}w\text{-}n \)
3SG.H.ABS-go-IPF-PST.DCL
‘S/he was going.’ (finite)

b.  \( j\text{-}\text{c-ə}w\text{-}z \)
REL.ABS-go-IPF-PST.NFIN
‘the one who was going’ (non-finite)

DCL - declarative
H - human class
IPF - imperfective
NFIN - non-finite
REL - relative
Polysynthesis in West Caucasian

• Floating prefixes in Besleney Kabardian (own fieldwork data, Ulyap, 2011):

(16) a. \textit{sə-}q̇-a-de-\textit{k}^w-\textit{a}
   1SG.ABS-DIR-3PL.IO-COM-go-PST
   ‘I came with them.’

COM - comitative
IO - indirect object
DIR - directional preverb
Polysynthesis in West Caucasian

- Floating prefixes in Besleney Kabardian (own fieldwork data, Ulyap, 2011):

  (16) a. \( sə-\dot{a}-\text{de-}k^w-a \)
  \( 1\text{SG.ABS-DIR-}3\text{PL.IO-COM-go-PST} \)
  ‘I came with them.’

COM - comitative  
IO - indirect object  
DIR - directional preverb
Polysynthesis in West Caucasian

- Floating prefixes in Besleney Kabardian (own fieldwork data, Ulyap, 2011):

(16) a. \( sə-\dot{q}-a-de-\dot{k^w}-a \)
    1SG.ABS-DIR-3PL.IO-COM-go-PST

b. \( s-a-\dot{q}ə-de-\dot{k^w}-a \)
    1SG.ABS-3PL.IO-DIR-COM-go-PST

‘I came with them.’

COM - comitative  IO - indirect object
DIR - directional preverb
Polysynthesis in West Caucasian

• Morphological organization in West Caucasian defies any straightforward analysis aiming at reducing morpheme ordering to semantic scope or syntactic derivation.
Polysynthesis in West Caucasian

• Some further brain-teasers and typologically outstanding phenomena:
  – “nominal complex” striding the boundaries between phrases and compounds (Lander 2017);
  – relativization by means of verbal morphology (Caponigro & Polinsky 2011, Lander 2012);
  – interrogative inflection in Abaza and Abkhaz (“parasitic” on the former, Arkadiev 2020);
  – morphologically-bound complementation in Abaza (Panova 2019) with parallels in Lezgic (Maisak 2016).
Conclusions

• The languages of the Caucasus present a wealth of non-trivial and typologically rare morphological phenomena.
Conclusions

• The languages of the Caucasus present a wealth of non-trivial and typologically rare morphological phenomena.

• An ideal testing-ground for theories of morphology and morphology-syntax-semantics interface.
Conclusions

• The languages of the Caucasus present a wealth of non-trivial and typologically rare morphological phenomena.

• An ideal testing-ground for theories of morphology and morphology-syntax-semantics interface.

• A no less ideal field of inquiry into micro- and macrovariation in morphology.
Conclusions

• Much of this diversity is still insufficiently documented and most of it is endangered to different degrees.
Conclusions

• Much of this diversity is still insufficiently documented and most of it is endangered to different degrees.
• Urge for a better (precise, sophisticated, typologically- and theory-informed, but non-aprioristic) description
Conclusions

• Much of this diversity is still insufficiently documented and most of it is endangered to different degrees.

• Urge for a better (precise, sophisticated, typologically- and theory-informed, but non-aprioristic) description ... before it is too late.
Acknowledgments

• All my Circassian and Abaza consultants
• Yury Lander, Yakov Testelets and other participants of the Northwest Caucasian fieldwork project
• Russian Foundation for Basic Research, grant # 17-04-00444
Thank you for your attention!

Hvala za vašo pozornost!
References

Alpatov 2018: Алпатов В.М. Слово и части речи. Москва: ЯСК.
References


References


References


References


Kibrik 1977: Кибрик А.Е. Опыт структурного описания арчинского языка. Том II. Таксономическая грамматика. М.: Изд-во Московского университета.
References


References


Lander 2012: Ландер Ю.А. Релятивизация в полисинтетическом языке: адыгейские относительные конструкции в типологической перспективе. Диссертация ... кандидата филологических наук. Москва, Российский государственный гуманитарный университет.
References


References


References


