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

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Introduction

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

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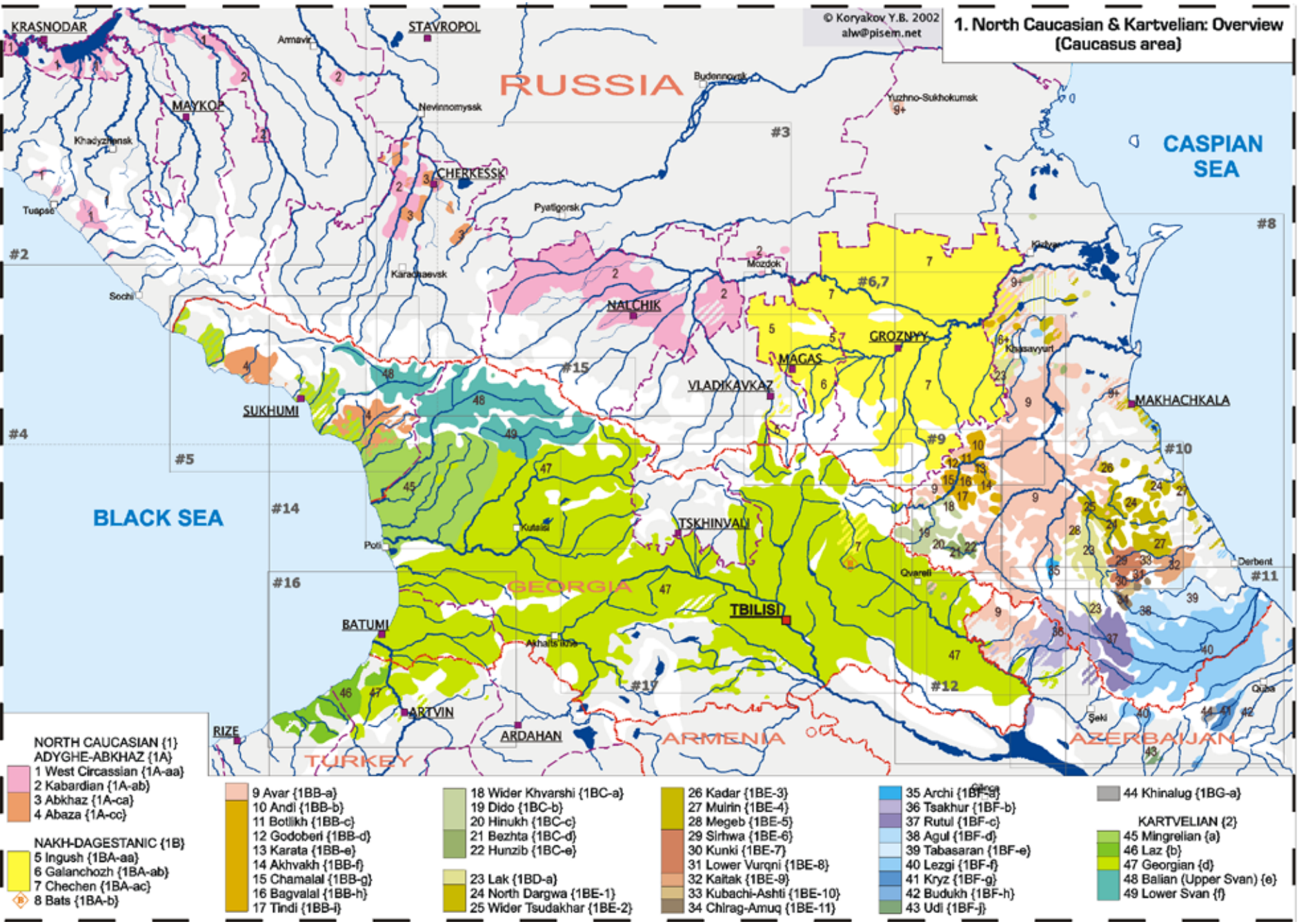
- The Caucasus is the most linguistically diverse region of Western Eurasia:
  - more than 50 living languages
  - three indigenous language families + a number of Indo-European and Turkic languages
  - a remarkable degree of structural diversity
  - a classic “accretion zone” à la Nichols 1992, 1997
  - a number of cross-linguistically rare phenomena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1. North Caucasian & Kartvelian: Overview
(Caucasus area)
RUSSIA
CASPIAN SEA
BLACK SEA
GEORGIA
ARMENIA
AZERBAIJAN
TURKEY
KRASNODAR
STAVROPOL
MAYKOP
CHERKESSK
NALCHIK
GROZNYY
MAGAS
VLADIKAVKAZ
MAKHACHKALA
SUKHUMI
TSKHINVALI
TBILISI
BATUMI
ARTVIN
ARDAHAN
RIZE
Derbent
#2
#3
#4
#5
#6,7
#8
#9
#10
#11
#12
#14
#15
#16
#17
NORTH CAUCASIAN {1}
ADYGHE-ABKHAZ {1A}
1 West Circassian {1A-aa}
2 Kabardian {1A-ab}
3 Abkhaz {1A-ca}
4 Abaza {1A-cc}
NAKH-DAGESTANIC {1B}
5 Ingush {1BA-aa}
6 Galanchozh {1BA-ab}
7 Chechen {1BA-ac}
8 Bats {1BA-b}
9 Avar {1BB-a}
10 Andi {1BB-b}
11 Botlikh {1BB-c}
12 Godoberi {1BB-d}
13 Karata {1BB-e}
14 Akhvakh {1BB-f}
15 Chamalal {1BB-g}
16 Bagvalal {1BB-h}
17 Tindi {1BB-i}
18 Wider Khvarshi {1BC-a}
19 Dido {1BC-b}
20 Hinukh {1BC-c}
21 Bezhta {1BC-d}
22 Hunzib {1BC-e}
23 Lak {1BD-a}
24 North Dargwa {1BE-1}
25 Wider Tsudakhar {1BE-2}
26 Kadar {1BE-3}
27 Mulrin {1BE-4}
28 Megeb {1BE-5}
29 Sirhwa {1BE-6}
30 Kunki {1BE-7}
31 Lower Vurqni {1BE-8}
32 Kaitak {1BE-9}
33 Kubachi-Ashti {1BE-10}
34 Chirag-Amuq {1BE-11}
35 Archi {1BF-a}
36 Tsakhur {1BF-b}
37 Rutul {1BF-c}
38 Agul {1BF-d}
39 Tabasaran {1BF-e}
40 Lezgi {1BF-f}
41 Kryz {1BF-g}
42 Budukh {1BF-h}
43 Udi {1BF-j}
44 Khinalug {1BG-a}
KARTVELIAN {2}
45 Mingrelian {a}
46 Laz {b}
47 Georgian {d}
48 Balian (Upper Svan) {e}
49 Lower Svan {f}

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)

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- 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

	SG	PL
NOM	*ev*	*evler*
ACC	*evi*	*evleri*
GEN	*evin*	*evlerin*
DAT	*eve*	*evlere*
LOC	*evde*	*evlerde*
ABL	*evden*	*evlerden*

"Agglutinative" paradigm:

Turkish,
EV 'house'

Layered nominal inflection

	SG	PL
NOM	*ev-Ø*	*ev-ler-Ø*
ACC	*ev-i*	*ev-ler-i*
GEN	*ev-in*	*ev-ler-in*
DAT	*ev-e*	*ev-ler-e*
LOC	*ev-de*	*ev-ler-de*
ABL	*ev-den*	*ev-ler-den*

"Agglutinative" paradigm:

Turkish,
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Layered nominal inflection

	SG	PL
NOM	*miestas*	*miestai*
ACC	*miestą*	*miestus*
GEN	*miesto*	*miestų*
DAT	*miestui*	*miestams*
LOC	*mieste*	*miestuose*
INS	*miestu*	*miestais*

Cumulative paradigm

Lithuanian, *MIESTAS* ‘city’

Layered nominal inflection

	SG	PL
NOM	*miest-as*	*miest-ai*
ACC	*miest-ą*	*miest-us*
GEN	*miest-o*	*miest-ų*
DAT	*miest-ui*	*miest-ams*
LOC	*miest-e*	*miest-uose*
INS	*miest-u*	*miest-ais*

Cumulative paradigm

Lithuanian, *MIESTAS* ‘city’

Layered nominal inflection

	SG	PL
NOM	*rājā*	*rājānas*
ACC	*rājānam*	*rājñas*
INS	*rājñā*	*rājabhis*
DAT	*rājñe*	*rājabhyas*
ABL	*rājñas*	*rājabhyas*
GEN	*rājñas*	*rājñām*
LOC	*rājñi*	*rājasu*

Paradigm with multiple stems

Sanskrit, *RĀJĀ* ‘king’

Layered nominal inflection

	SG	PL
NOM	*rājā*	*rājān-as*
ACC	*rājān-am*	*rājñ-as*
INS	*rājñ-ā*	*rāja-bhis*
DAT	*rājñ-e*	*rāja-bhyas*
ABL	*rājñ-as*	*rāja-bhyas*
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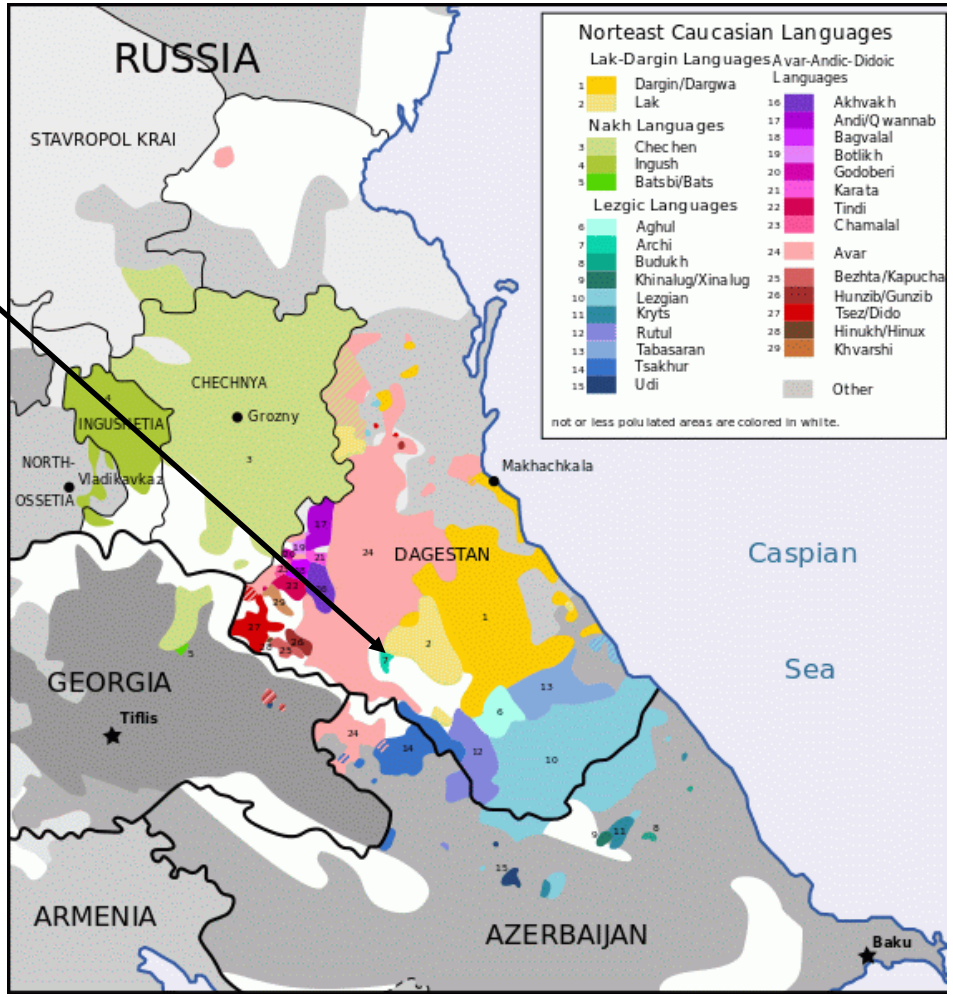
Paradigm with multiple stems

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

	SG	PL
NOM	*gel*	*gel-um*
ERG	*gel-li*	*gel-um-čaj*
GEN	*gel-li-n*	*gel-um-če-n*
DAT	*gel-li-s*	*gel-um-če-s*

Archi
GEL ‘cup’
(Kibrik 2003: 185)

Layered nominal inflection

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GEL ‘cup’:
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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 it 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

NOM	√-∅
ERG	√-OBL-∅
GEN	√-OBL-GEN
DAT	√-OBL-DAT

- Analysis 2

NOM	√-∅
ERG	√-ERG
GEN	√-ERG-GEN
DAT	√-ERG-DAT

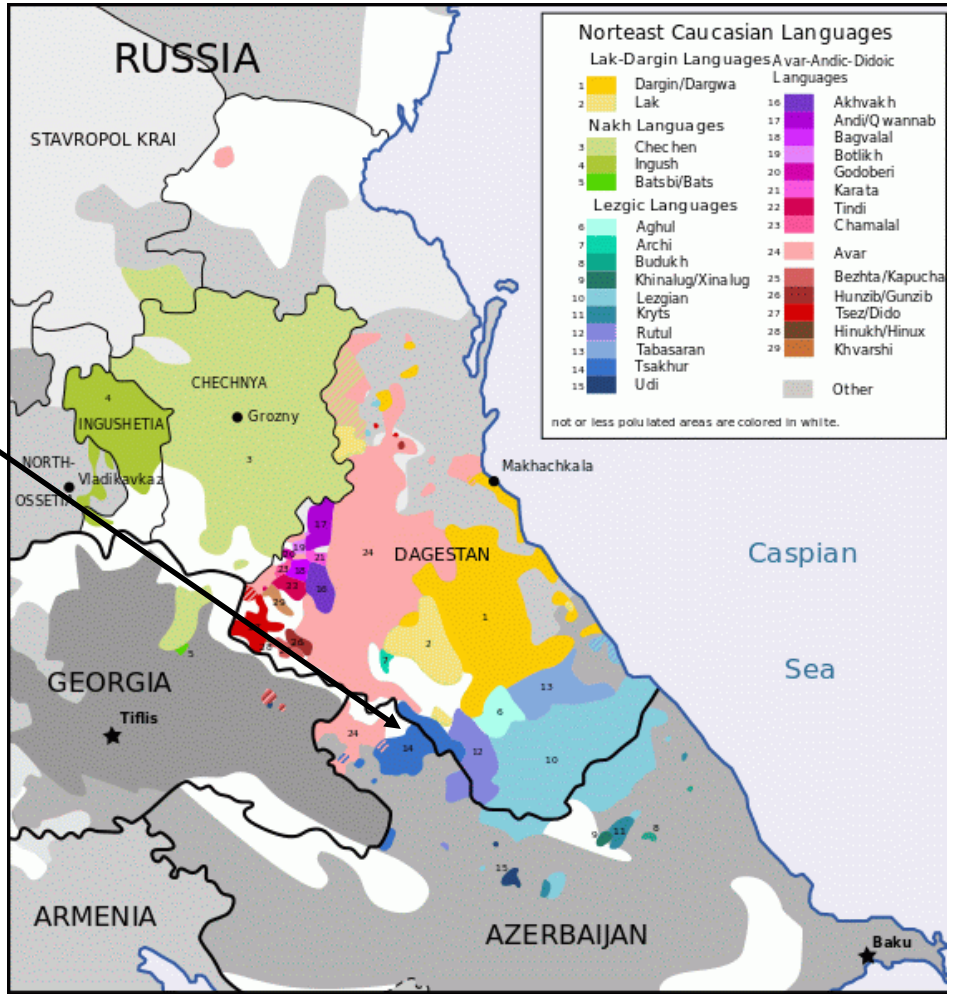
Layered nominal inflection

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

	Sg	Pl
NOM	*jaʾq*	*jaʾq-bɨ*
ERG	*jaʾq-ɨ-n*	*jaʾq-b-iš-e*
DAT	*jaʾq-ɨ-s*	*jaʾq-b-iši-s*

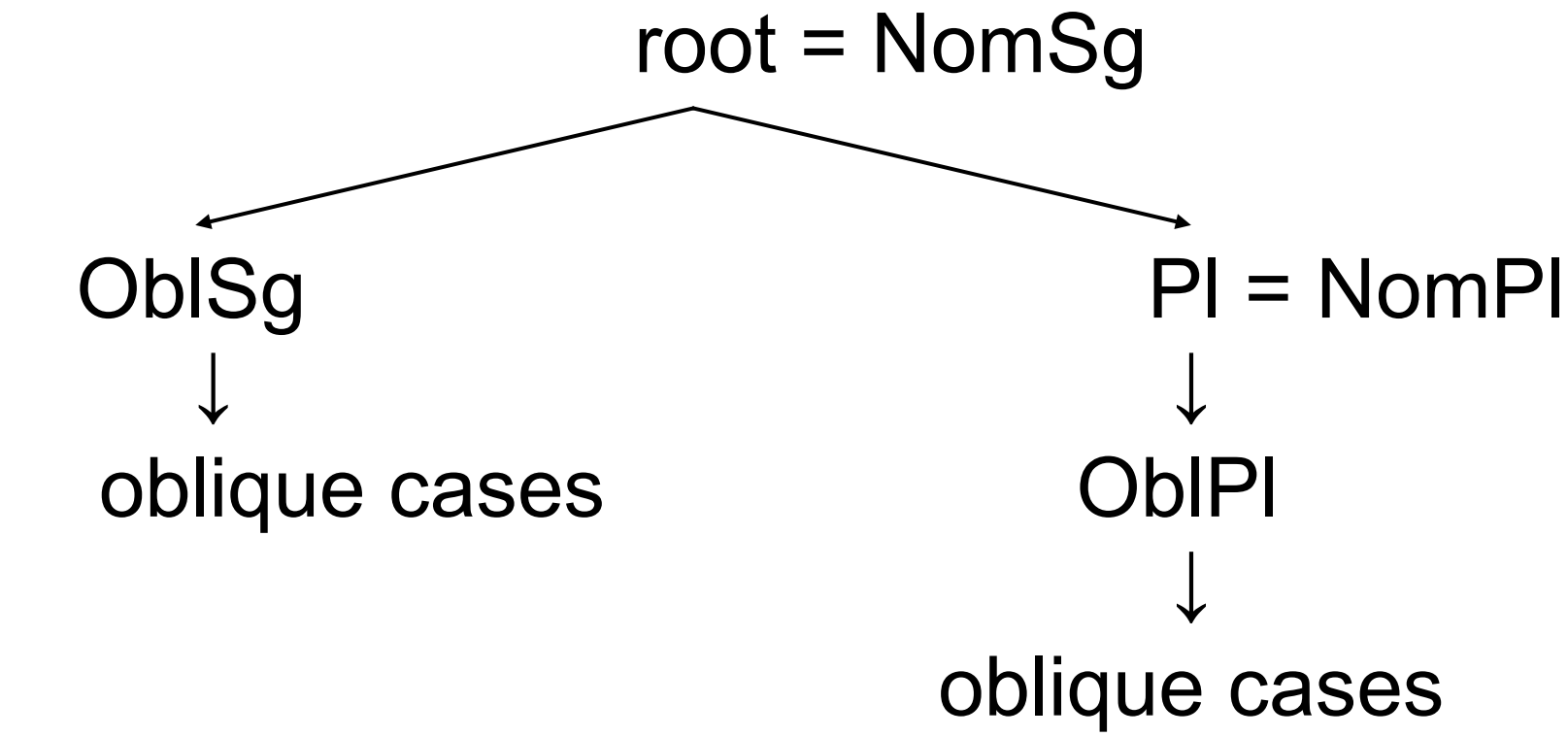
Tsakhur ‘road’
(Lyutikova 2017: 669)

Layered nominal inflection

	Sg	Pl
NOM	*jaʾq*	*jaʾq-bɨ*
ERG	*jaʾq-ɨ-n*	*jaʾq-b-iš-e*
DAT	*jaʾq-ɨ-s*	*jaʾq-b-išɨ-s*

Tsakhur ‘road’
(Lyutikova 2017: 669)

Layered nominal inflection



(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.

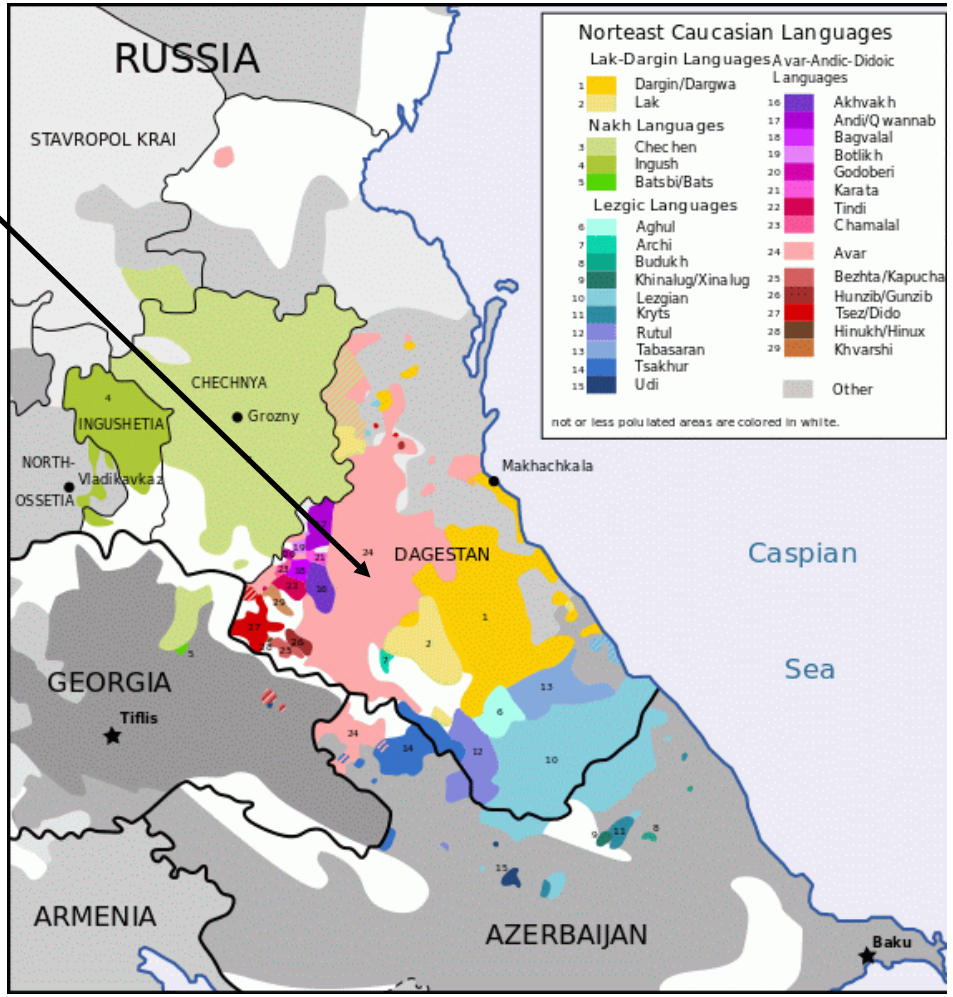
Layered nominal inflection

- 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)

	‘son’	‘2SG’
NOM	*was*	*mun*
ERG	*was-aš̄*	*du-ča*
GEN	*was-aš̄-ul*	*du-r*
DAT	*was-aš̄-e*	*du-e*

Layered nominal inflection

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	‘son’	‘2SG’
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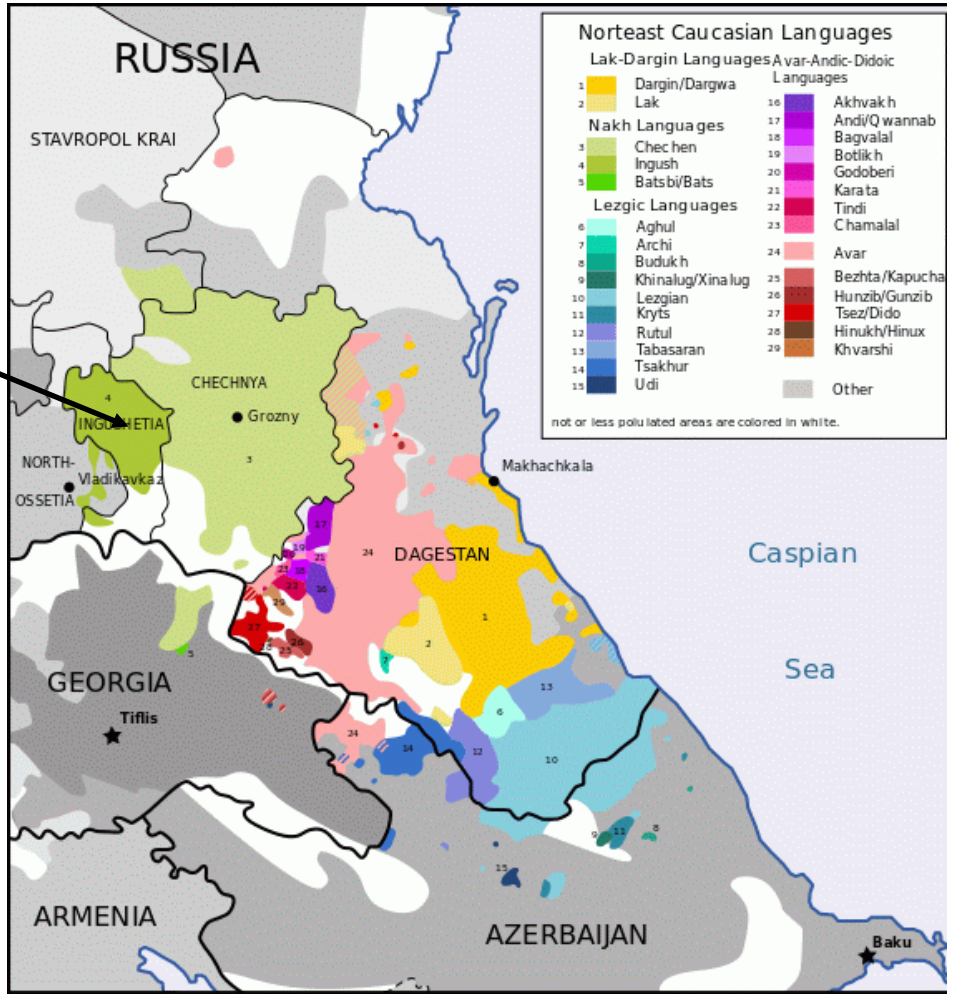
ERG	*was-aš*	*du-ča*
GEN	*was-aš-ul*	*du-r*
DAT	*was-aš-e*	*du-e*

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’

NOM	*shiila mux*
ERG	*shiilacha mixuo*
DAT	*shiilacha mixaa*
ALL	*shiilacha mixaga*

Layered nominal inflection

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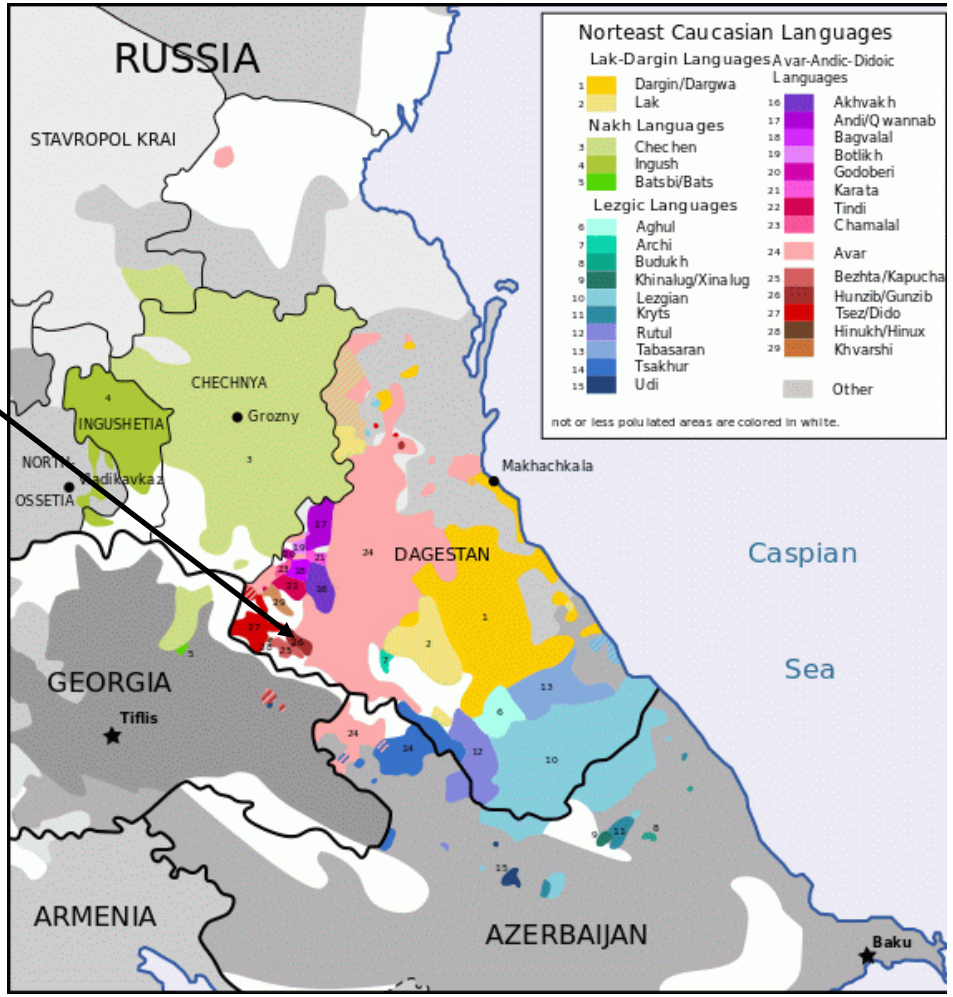
Layered nominal inflection

Bezhta (Tsezic < East Caucasian, Dagestan)

- ca. 10 000 speakers



Layered nominal inflection

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

(1a) *abo-s* *is*

father-GEN.DIR brother.NOM

'father's brother'

(1b) *abo-la* *is-t'i-l*

father-GEN.OBL brother-OBL-DAT

'to father's brother'

Layered nominal inflection

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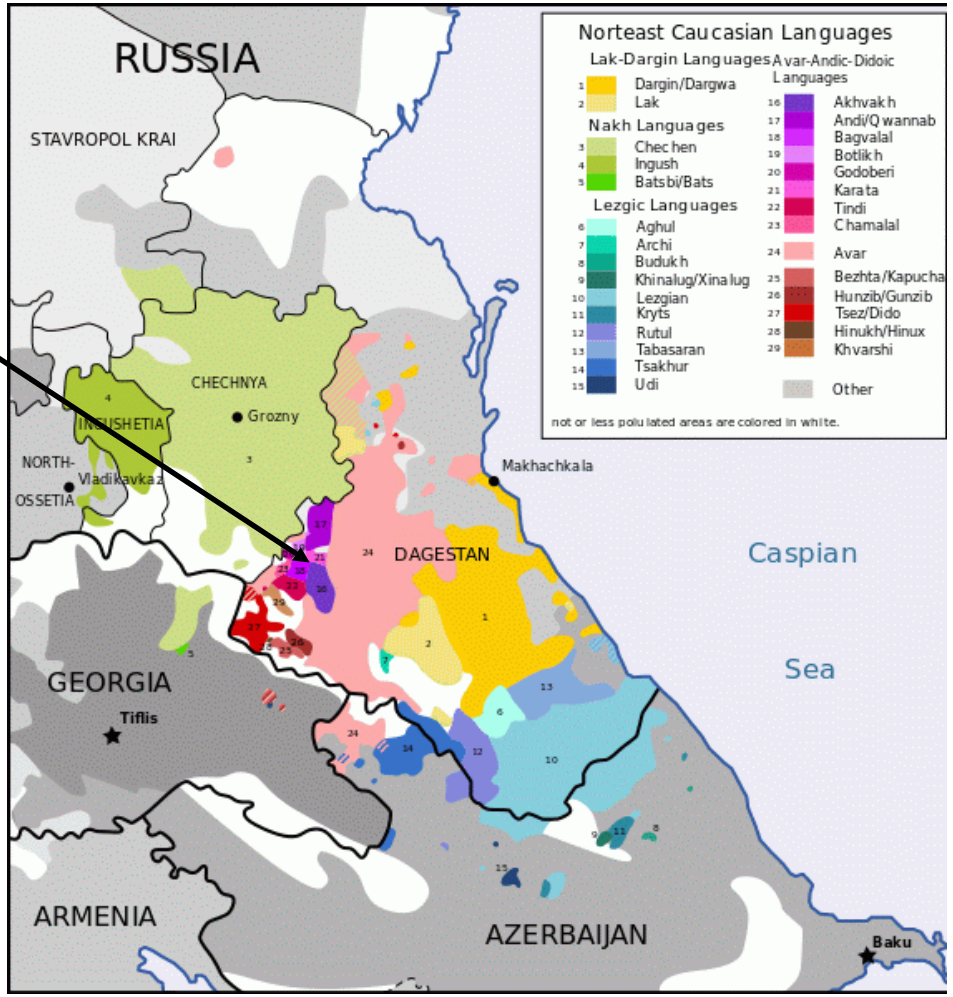
father-GEN.OBL brother-OBL-DAT

'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-ō* *waša-š:u-ɾ*]$_{OBL}$ *awal ǯērāX.*
Isa-GEN-FOC-M son-OBL-ERG house builds
expected: 'ISA's son is building a house.'

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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 exponence) and
- opens potential windows into the history of nominal inflection with successive cycles of grammaticalization.

Overview

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2. **Multiple exponence**
3. **Non-trivial affixes**
4. **Polysynthesis in West Caucasian**

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Multiple exponence

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

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- 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

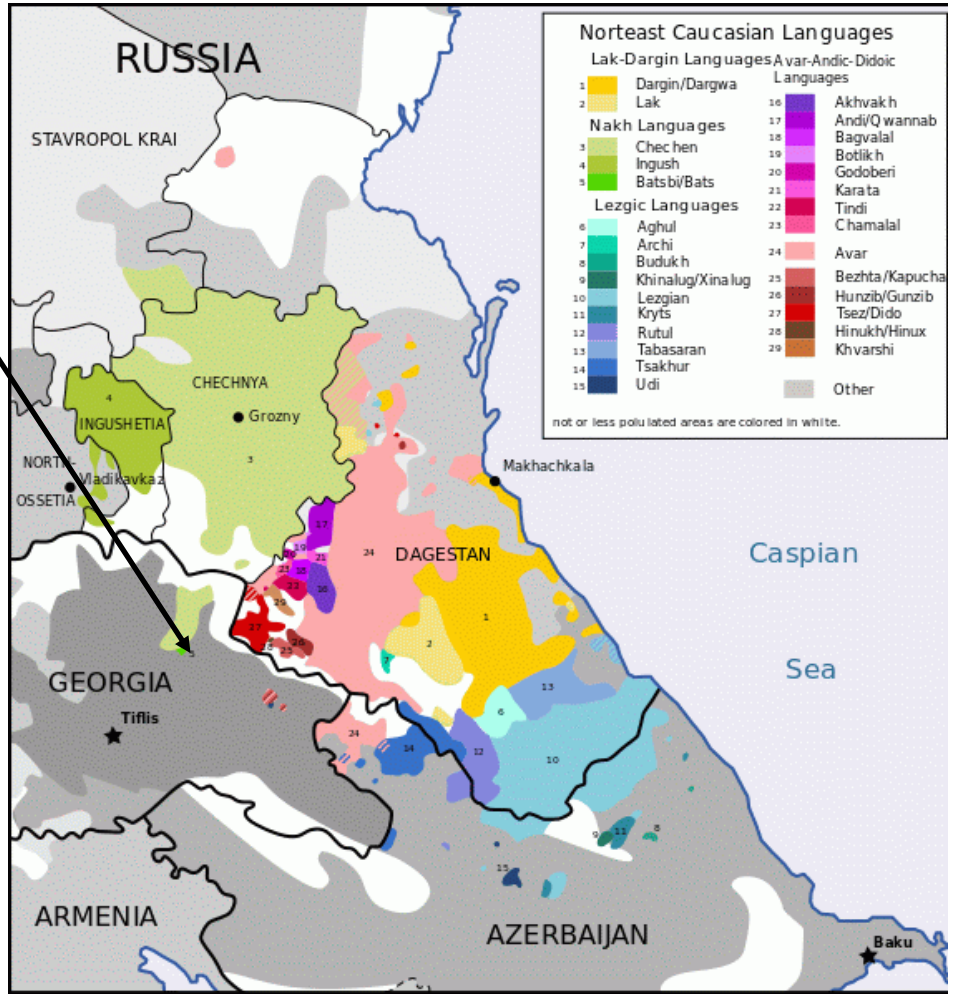
Multiple exponence

- 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)

tiši^{n} c'a		*daħ*	*d-ex-d-o-d-an-iš*
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

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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

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Cf. “externalization of inflection” (Haspelmath 1993)

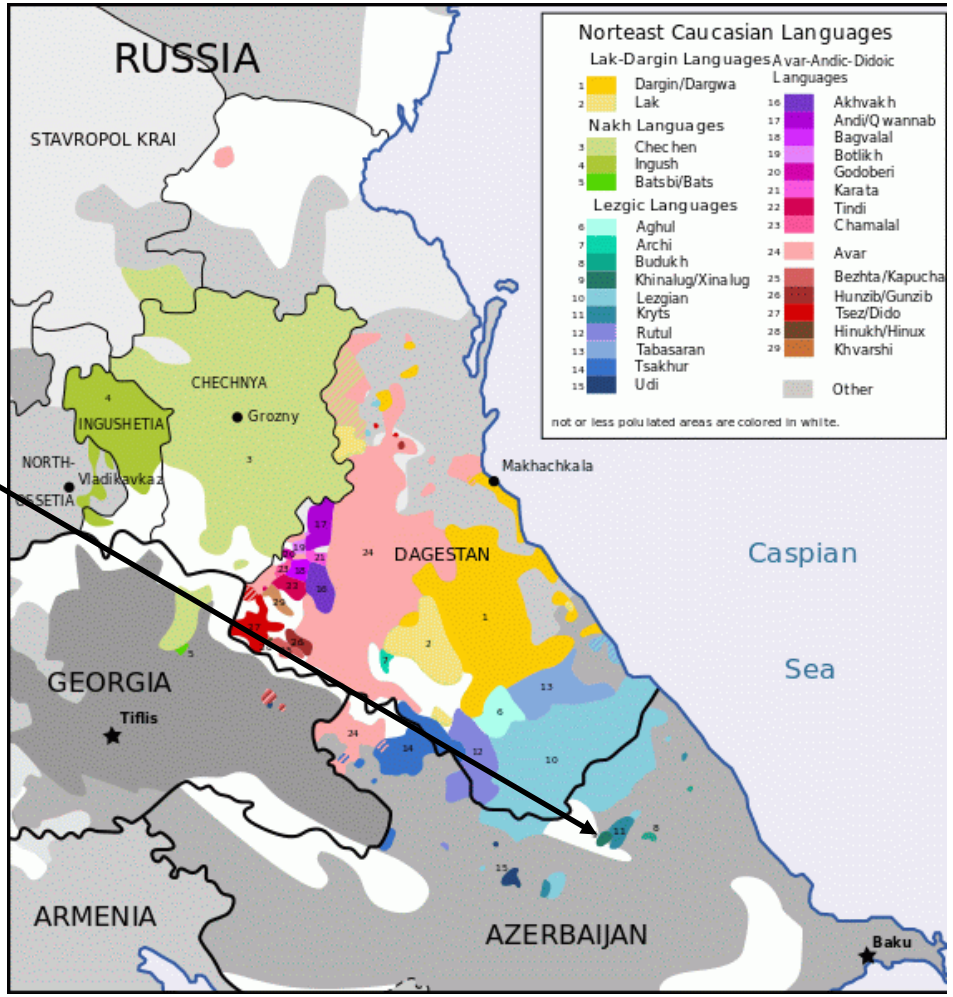
Multiple exponence

- 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)

SG	PL	gloss
dušman	*dušman-ır*	‘enemy’
taka	*taka-d*	‘goat’
kixir	*kixir-d-ir*	‘drop’
eng	*eng-ir-d-ir*	‘cheese’

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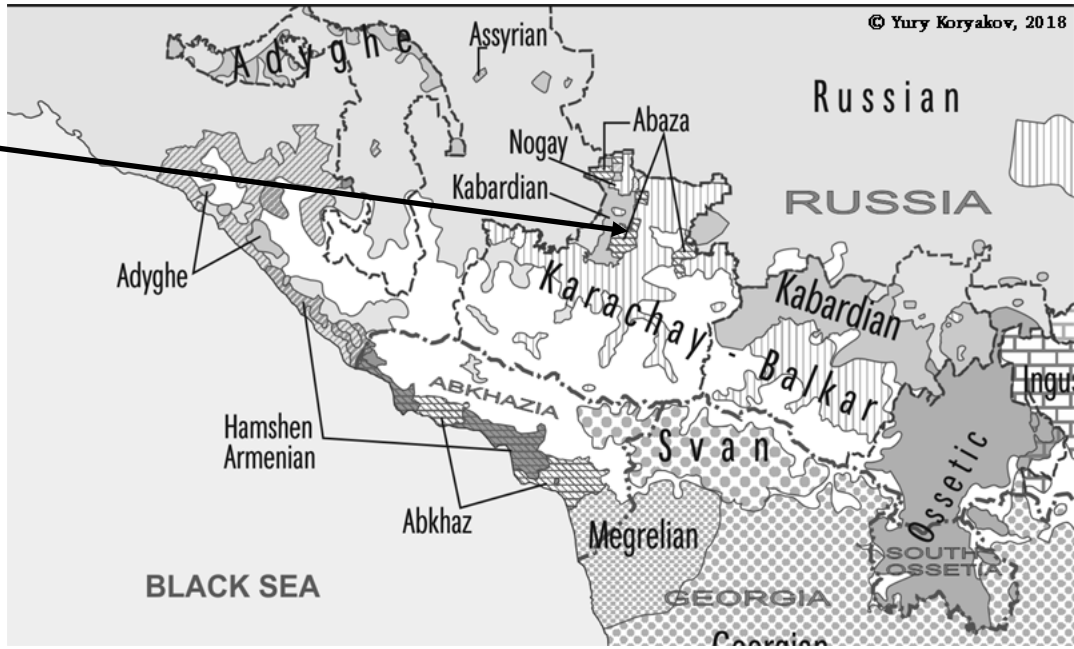
Multiple exponence

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-də́r-wa-ta*
3SG.N.ABS-1SG.ERG-NEG-know-IPF-ADV
'as I did not know that...' (non-finite)

(4b) *jə-g'-sə-m-də́r-ṭ*
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'I did not know that.' (finite)

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

Multiple exponence

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

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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’

	SG	PL
NOM	*gel*	*gel-um*
ERG	*gel-li*	*gel-um-čaj*
GEN	*gel-li-n*	*gel-um-če-n*
DAT	*gel-li-s*	*gel-um-če-s*

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Multiple exponence

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-ʁe-dex-á-n*
3PL.ABS-1SG.ERG-CAUS.PL-stand.PL-PL-PRS
'I make them stand up.' (Vogt 1963: 112)

(5b) *š'-ḳ'-á-ne-jλe-me*
1PL.ABS-go-PL-IPF-RS.PL-NEG
'We weren't going' (Fenwick 2011: 122)

CAUS - causative
IPF - imperfective
PRS - present
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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.

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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
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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 (ambifixes)
  - 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) *də-r-ga-wa-m*
3SG.H.ABS-3PL.ERG-carry-IPF-NEG
'They do not carry him/her.'

(6b) *d-rə-m-ga-jṭ*
3SG.H.ABS-3PL.ERG-NEG-carry-DCL
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Non-trivial affixes

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(6a) *də-r-ga-wa-m* suffix
3SG.H.ABS-3PL.ERG-carry-IPF-NEG
'They do not carry him/her.'

(6b) *d-rə-m-ga-jṭ* prefix
3SG.H.ABS-3PL.ERG-NEG-carry-DCL
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Non-trivial affixes

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	finite	**non-finite**
Present	*də-r-ga-wa-m*	*jə-rə-m-ga-wa*
Aorist	*d-rə-m-ga-jṭ*	*jə-rə-m-ga*
Imperfect	*də-r-ga-wa-mə-z-ṭ*	*jə-rə-m-ga-wa-z*
Future I	*də-r-ga-rə-m*	*jə-rə-m-ga-ra*
Perfect	*də-rə-m-ga-c-ṭ*	*jə-rə-m-ga-c*

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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

Georgian (Vogt 1971: 234-242, 249-250)

- caritive *u*-√-*o*: *puli* ‘money’ : *u*-*pul*-*o* ‘pennyless’
- intensive *u*-√-*es*: *meṭi* ‘more’ : *u*-*meṭ*-*es*-*i* ‘still more’
- nom. abstr. *si*-√-*e*: *mayali* ‘high’ : *si*-*mayl*-*e* ‘height’
- nom. loci: *sa*-√-*e*: *puli* ‘money’ : *sa*-*pul*-*e* ‘wallet’
- nom. agt.: *me*-√-*e*: *bayi* ‘garden’ : *me*-*bay*-*e* ‘gardener’
- participle: *m*-√-*ar/al*: *mo-ḳvda* ‘he died’ : *mo*-*m*-*ḳvd*-*ar*-*i* ‘dead’

Non-trivial affixes

- Circumfixes in Northwest Caucasian

Abaza Circumferential *ḳʷ-√-ša* (Klychev 2000: 32):

(7) *č'arχ-dəw-ḳ* *ʕa-rə-ḳʷə-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-√-je* (textual example):

(8) *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.'

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.

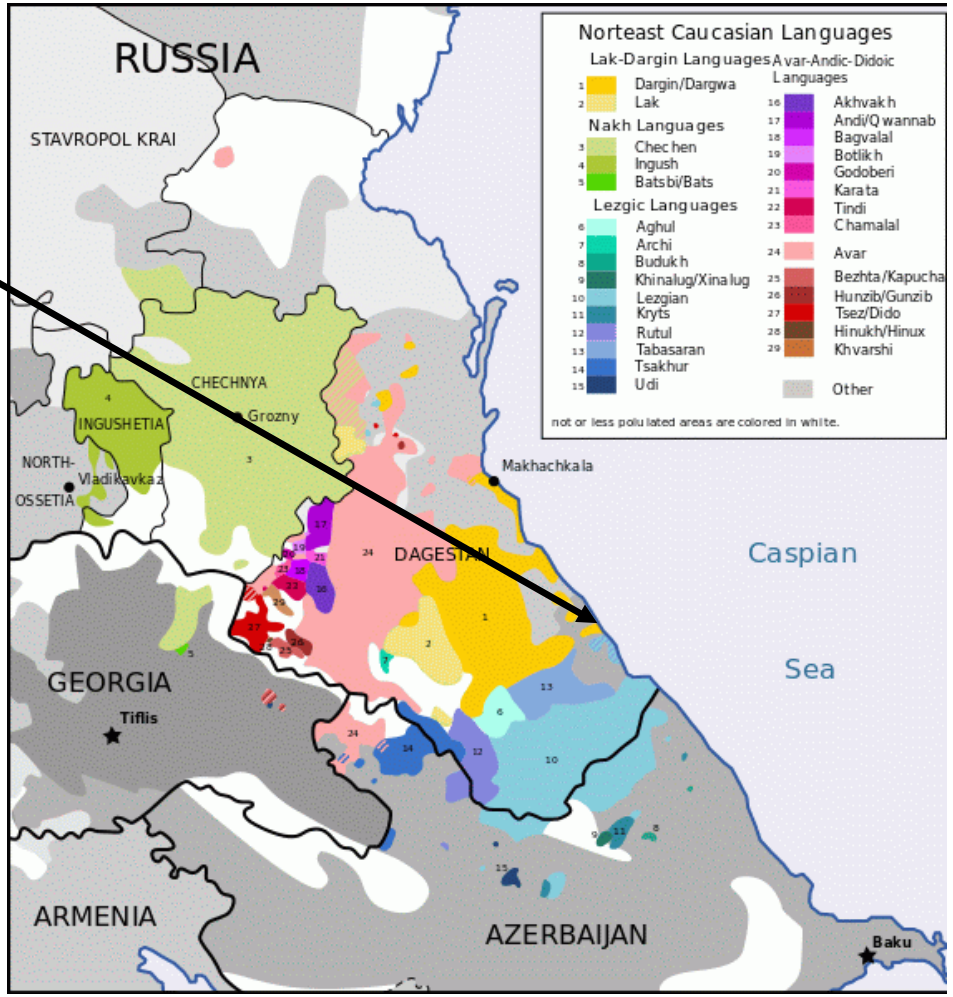
Non-trivial affixes

- 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)

gloss	perfective	imperfective
‘understand’	*arʁ-*	*irʁ-*
‘saw’	*erč-*	*urč-*
‘throw’	*ix^{w}-*	*irx^{w}-*
‘stick, attach’	*kat’-*	*kalt’-*
‘milk’	*b-irc:-*	*irc:-*
‘turn, grind’	*b-elq’-*	*b-uq’-*

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ablaut

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infixation in the imperfective

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infixation in the perfective

Non-trivial affixes

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

gloss	durative	terminative	finalis
‘drive’	*bark’ur*	*abk’u*	*abk’as*
‘let’	*bartir*	*abt:i*	*abtis*
‘measure’	*barsin*	*absni*	*absmus*

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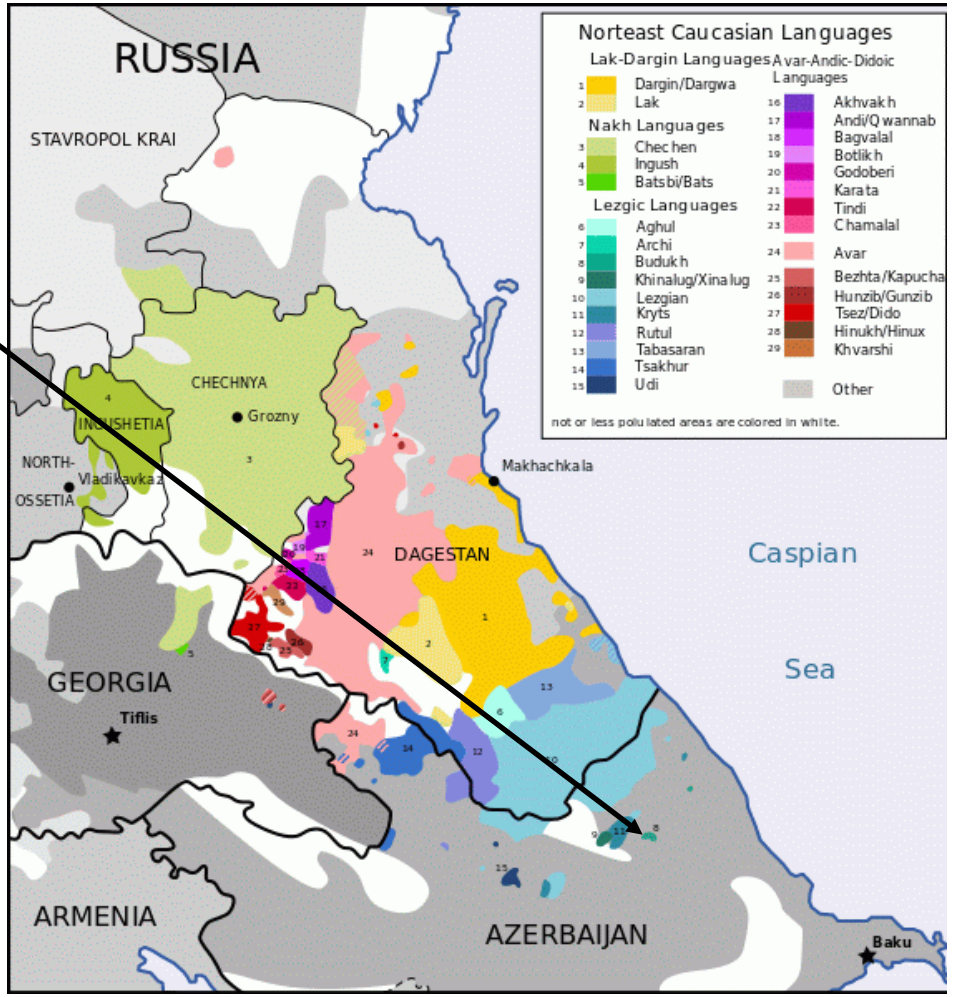
Non-trivial affixes

- 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):

gloss	gender	perfective	imperfective
‘sleep’	masculine	*eχir*	*arχar*
	animal	*öχür*	*orχor*
‘make sleep’	masculine	*eχir*	*erχi*
	animal	*öχür*	*örχü*

Non-trivial affixes

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gloss	gender	perfective	imperfective
‘sit’	masculine	*aq’ul*	*alq’al*
	animal	*oq’ul*	*olq’ol*
‘make sit’	masculine	*eq’il*	*elq’i*
	animal	*öq’ül*	*ölq’ü*

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’l* < **a-lq-* + **i-* ‘makes him sit’
- *ölq’ü* < **a-w-lq’-* + **i-* ‘makes it (animal) sit’

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Polysynthesis in West Caucasian

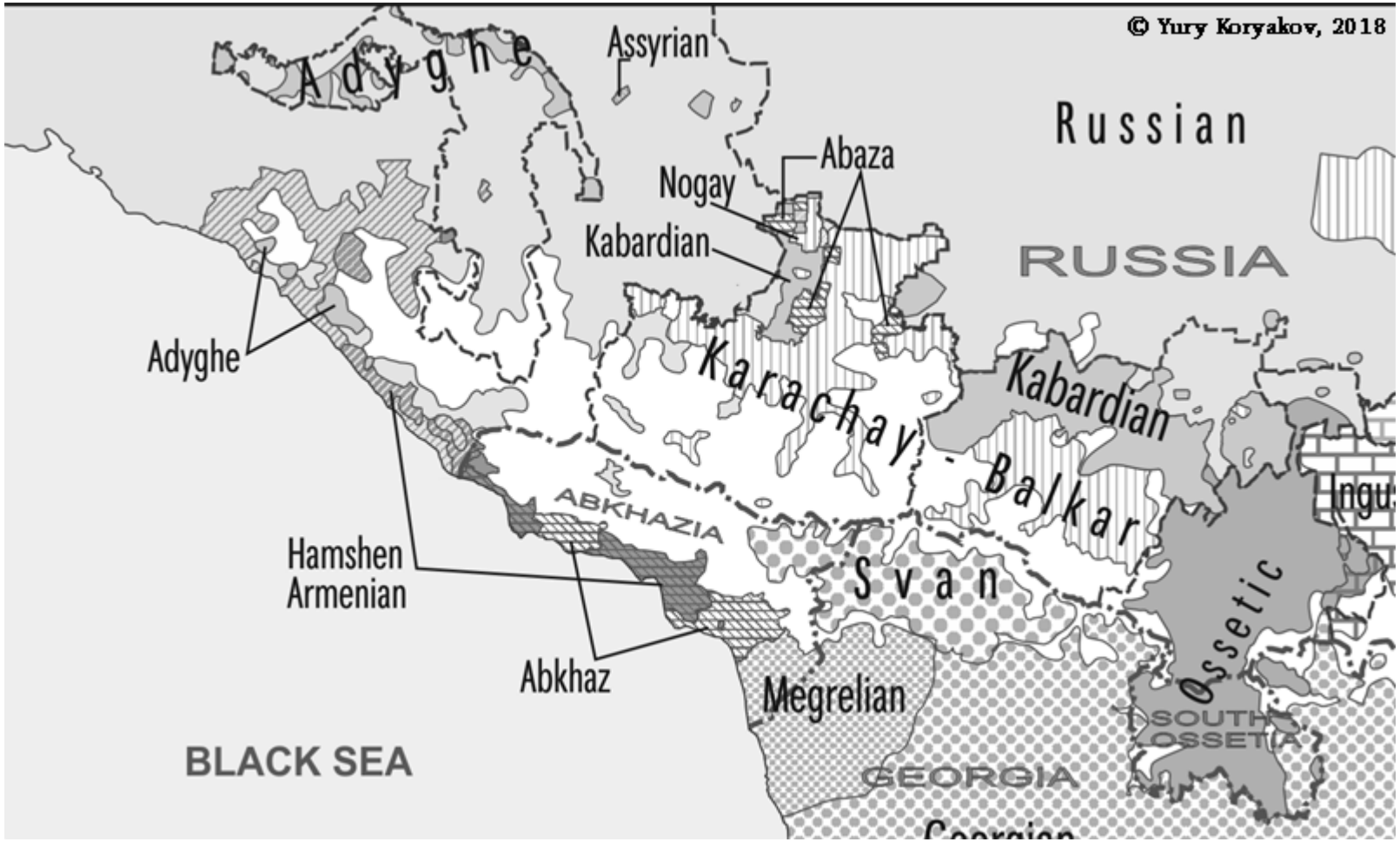
- West Caucasian
  - Abkhaz-Abaza:
    - Abkhaz
    - Abaza
  - Circassian:
    - West Circassian (Adyghe)
    - East Circassian (Kabardian)
  - Ubykh (extinct)

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

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Polysynthesis in West Caucasian

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- “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)

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Polysynthesis in West Caucasian

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

  sə-qə̇-zer-a-xʷə-ç̣’erə-mə-ṭetə-ç̣’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

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  d-jə-[ʁʷənɐʁʷ=bzəλxʷəʁɐ=daxɐ=dedɐ]-m

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

  'our very beautiful lady-neighbour'

OBL – oblique case
PL – plural

POSS – possession marker
PR – possessor

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

  'our very beautiful lady-neighbour'

OBL – oblique case
PL – plural

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Polysynthesis in West Caucasian

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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-ʁa-ǯe-šʼtə-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.’

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Polysynthesis in West Caucasian

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

  j-ŝə-z-j-á-s-h^{w}-ṗ

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

  ‘I will tell this to him about y’all.’

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  ‘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. *tʃəpŝeč'ə-m* *jə-λə-n*
plate-OBL LOC:container-lie-MSD
'to be on a plate'

b. *škampə̇-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. *šxəʔenə-m* *ḳʷeᵹə-λə-n*
blanket-OBL LOC:through-lie-MSD
'to be in a blanket'

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Polysynthesis in West Caucasian

- Highly specialized applicatives in Abaza:

(11) *j-s-naṗə-ça-pə-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)

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- 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.’

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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)

Baker 1985, Stump 2006, Manova & Aronoff 2010, Rice 2011, Mattissen 2017

Polysynthesis in West Caucasian

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

prefixes						root	suffixes			
argument structure zone				pre-stem elements	stem (Σ)				endings	
absolu-tive	subor-dinators	applicatives and indirect objects	erga-tive	preradical negation	causative	root	aspectual, modal and evaluative operators	temporal operators	suffixal negation	illocutionary operators or subordinators
1	1	>1	1	1	1 or 2	may be complex	>1	>1	1	>1

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. *gʷəŝʷe-ŝʷe-ž'ə-ʁ*

be.glad-SML-RE-PST

's/he pretended again that s/he was happy'

(refactive > similative)

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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. Lomtatidze 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

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Polysynthesis in West Caucasian

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

(16) a. *sə-ġ̇-a-de-ḳ̇^{w}-a*
1SG.ABS-DIR-3PL.IO-COM-go-PST
'I came with them.'

COM - comitative
DIR - directional preverb
IO - indirect object

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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

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- 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.

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  ... before it is too late.

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Hvala za vašo pozornost!

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