Binary case features and *ABA in Buryat pronouns

Mariia Privizentseva

(Universität Potsdam, *mariia.privizentseva@uni-potsdam.de*)

1 Introduction

- Caha (2009) argues that case hierarchy in (1) predicts attested syncretisms in case morphology cross-linguistically.

(1) Case Hierarchy (Blake 1994, Caha 2009)
     NOM < ACC < GEN < DAT < INSTR < others

- The effects of the case hierarchy can be captured by privative case features and case containment, i.e., the notion that more complex cases contain the features of less complex cases.

(2) [[[[[NOM] ACC] GEN] DAT] INSTR]

- This account presupposes privative case features and while binary case systems were suggested (Jakobson 1962, Bierwisch 1967), the privative case features seem to be currently prevalent for case.
- At the same time, the debate on the use of binary vs. privative features is less settled for other categories and violations of *ABA generalization was used as an argument for binary features; see Smith et al. (2019) for number, Pertsova (2022), Streffer (2024) for person.
- In this talk, I will present a new case of *ABA violation in case morphology. It will be based on pronominal stem suppletion in Buryat.
- After this, largely building on the proposal by Smith et al. (2019) for number, I will suggest that a system of binary case features allow to account for *ABA generalization and for its limited violations.

2 ABA in case morphology

2.1 Buryat data

- The predictions of the hierarchy seem to hold for most languages, but there are also few known cases that violate it (Harðarson 2016, Starke 2017, Zompí 2019, Irimia 2020, Bárány 2021).
- This work brings to light an ABA pattern in case morphology. The data come from pronominal stem suppletion in Buryat
- Buryat is a Mongolic, Altaic language. It is mainly spoken in the Republic of Buryatia, Russia.[1]

(3) Personal pronouns in Buryat (Poppe 1960, Sanzheev 1962)

	1SG	2SG	1PL	2PL
NOM	bi	ši	bide	taanar
ACC	nam-aj-e	šam-aj-e	biden-ii-e	taanar-y-e
GEN	min-ii	šin-ii	biden-ej	taanar-aj
DAT	nam-da	šam-da	biden-de	taanar-ta
INSTR	nam-aar	šam-aar	biden-eer	taanar-aar
COM	nam-taj	šam-taj	biden-tej	taanar-taj
ABL	nam-haa	šam-haa	biden-hee	taanar-haa

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[1] Mongolian pronouns also have the pattern, but it is obscured by further allomorphy, so I will focus on Buryat here.

- The forms of ACC, DAT, and all more oblique forms have the same stem with the exclusion of GEN.

(4) Possible and impossible syncretisms

	possible	possible	possible	Buryat
NOM	A	A	A	A
ACC	A	A	A	A
GEN	A	B	A	B
DAT	B	B	A	A
INSTR	B	B	B	A

- Descriptively, the following hierarchy seems to be correct to Buryat. ACC and GEN seem to be re-ordered.

(5) Case Hierarchy in Buryat
NOM < GEN < ACC < DAT < INSTR < others

2.2 Other patterns

- Existing literature discusses another ABA pattern in case morphology. It also involves syncretism of ACC and DAT, but seems to require a different reordering. The data come from Icelandic (and some other West Nordic languages).

(6) Icelandic (Harðarson 2016)

	a-stem, N	o-stem, F	on-stem, F
	'land'	'queen'	'tongue'
NOM	land-Ø	drottning-Ø	tung-a
ACC	land-Ø	drottning-u	tung-u
GEN	land-s	drottning-ar	tung-u
DAT	land-i	drottning-u	tung-u

(7) Patterns in Icelandic

	a-stem, N	o-stem, F	on-stem, F
	'land'	'queen'	'tongue'
NOM	A	A	A
ACC	A	B	B
GEN	B	C	B
DAT	C	B	B

- Icelandic seem to require a different rearrangement of the hierarchy.

(8) Case Hierarchy in Icelandic
NOM < ACC < DAT < GEN < INSTR < others

- The reordering as in Buryat is also attested, in Skolt Saami.

(9) Skolt Saami (Feist 2010, Caha 2019)

	pronoun 1SG	hole, SG	hole, PL
NOM	mij	kåå'pp	kåå'v
GEN	mij	kåå'v	koo'v-i
ACC	mi'jjid	kåå'v	koo'v-i-d
DAT	mi'jjid	kåpp-a	koo'v-i-d

(10) Patterns in Skolt Saami

	pronoun 1SG	hole, SG	hole, PL
NOM	A	A	A
GEN	A	B	B
ACC	B	B	C
DAT	B	C	C

- To sum up, there are two types of ABA in case morphology and both require 'reordering' of adjacent cases.
  - The first one requires placing GEN before ACC (Buryat, Skolt Saami)
  - The second one requires placing DAT before GEN (West Nordic)

3 Proposal

3.1 Background: Binary features and ABA

- For number, Smith et al. (2019) observe that in some languages dual is more complex than plural, while in other languages plural is more complex than dual.

(11) Panytyima: Dual in plural

	SG	DU	PL
2	njinta	nhupalu	nhupalukuru

(12) Sursurunga: Plural in dual

	SG	PL	DU
3	-i/on/ái	di	di-ar

- To account for these data, it was suggested that binary features can derive containment, and *ABA generalization, but they may also predict some flexibility across languages (see also Müller 2020 for deriving *ABA with binary features).

(13) Features

$$[\pm\text{aug}]$$
root $[\pm\text{sg}]$
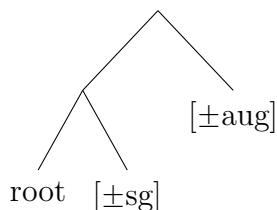
- The account requires to further assume that some feature values are default and default values do not need to be represented in the structure (cf. Noyer 1992, Nevins 2007, as well Weisser 2018 on markedness with binary features).
- For number, [+sg] is always default, but languages differ in whether [+aug] or [−aug] is a default value.
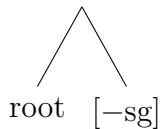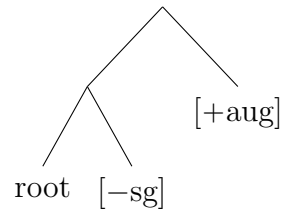
(14) SG

root

(15) PL if [+aug] is default

root [−sg]

(16) DU

[−aug]
root [−sg]

(17) SG

root
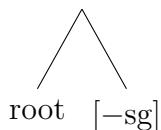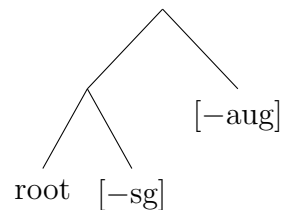
(18) DU if [−aug] is default

root [−sg]

(19) PL

[+aug]
root [−sg]

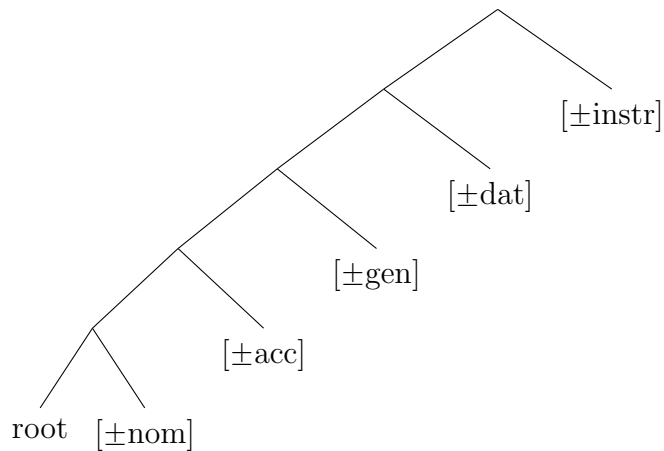## 3.2 Application to case

- First, I assume that case features are binary and are organized hierarchically in that the more marked feature may be merged only after the more marked feature.

(20) Case features

root   [±nom]
[±acc]
[±gen]
[±dat]
[±instr]

- Second, the positive or the negative value of a case feature might be default and if a value is default it does not need to be represented.
- Typically, the negative value is a default. This derives the standard *ABA generalization.

(21) NOM ([−acc] is default)   (22) ACC ([−gen] is default)   (23) GEN ([−dat] is default)

root   [+nom]

root   [+nom]
[+acc]

root   [+nom]
[+acc]
[+gen]
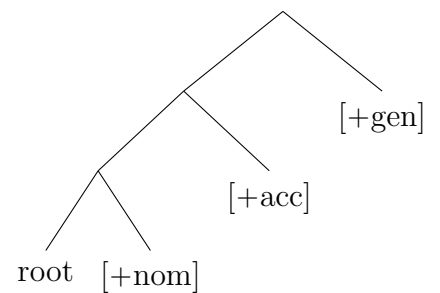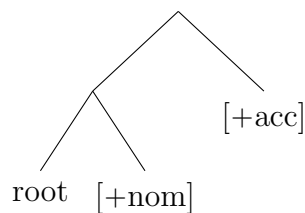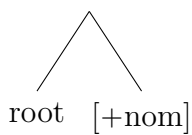
- If the positive value of some case happen to be default, this derives reordering of positions in the hierarchy.
- In particular, if [+gen] is default, genitive is fully contained in the accusative, as required for Buryat.

(24) NOM ([−acc] is default)   (25) GEN ([+gen] is default)   (26) ACC ([−gen] is default)

root   [+nom]

root   [+nom]
[+acc]

root   [+nom]
[+acc]
[−gen]
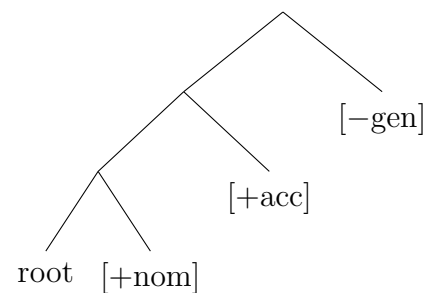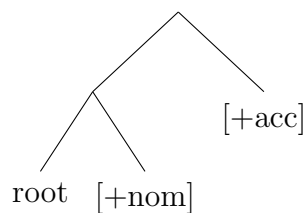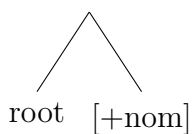
- This accounts for the Buryat data repeated in (27).

(27) Personal pronouns in Buryat (Poppe 1960, Sanzheev 1962)

|	1SG	2SG	1PL	2PL
NOM	bi	ši	bide	taanar
ACC	nam-aj-e	šam-aj-e	biden-ii-e	taanar-y-e
GEN	min-ii	šin-ii	biden-ej	taanar-aj
DAT	nam-da	šam-da	biden-de	taanar-ta
INSTR	nam-aar	šam-aar	biden-eer	taanar-aar
COM	nam-taj	šam-taj	biden-tej	taanar-taj
ABL	nam-haa	šam-haa	biden-hee	taanar-haa

- I assume that Vocabulary Insertion is regulated by the Subset Principle (Halle 1997).
- Pronominal stems in Buryat realize person and number features, while case features are present only as a contextual specification.
- First person pronouns in Buryat have then the following Vocabulary entries.

(28) Vocabulary items in Buryat
  a. bi ↔ 1SG / __[+nom]
  b. min ↔ 1SG / __[+nom,+acc]
  c. nam ↔ 1SG / __[+nom,+acc,−gen]

- In the same way, the approach allows for dative to be fully included in genitive as it seems to be required for Icelandic if [+dat] is a default value.

(29) ACC ([−gen] is default) (30) DAT ([+dat] is default)   (31) GEN ([−instr] is default)
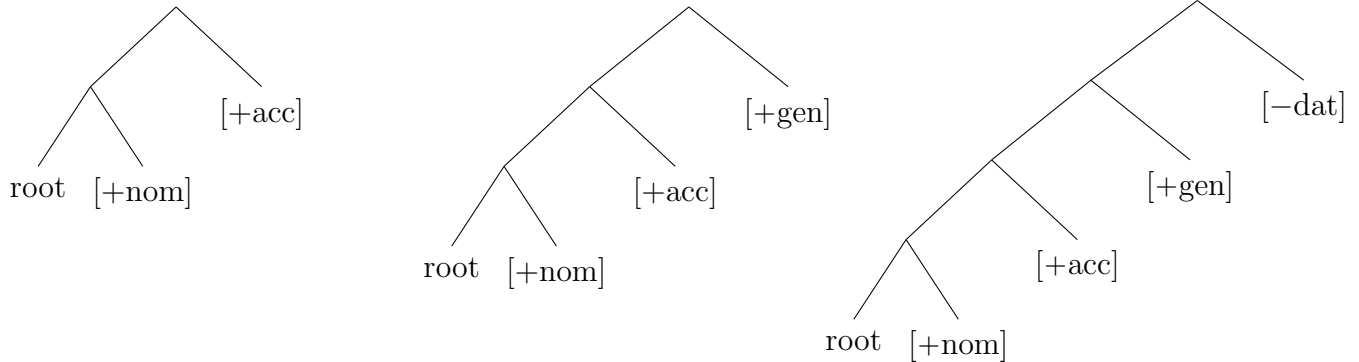
- To sum up, binary case features combined with the assumption that some feature values are default allows to account for *ABA generalization and its violations.

4 Existing approaches

- There are three existing approaches to *ABA violations.
  - Extending linear hierarchy (Starke 2017, Irimia 2020).
  - Non-linear hierarchy (Harðarson 2016, Bárány 2021).
  - Grouping cases: These are not cases, but groups of cases that are ordered (Smith et al. 2019, Zompí 2019).

4.1 Extending linear hierarchy

- The cases in different languages may be different, not all datives and not all accusatives must fit into one and the same ACC and DAT on the hierarchy (Starke 2017, Irimia 2020).
- There is a small (or structural) accusative / dative and a big accusative / dative.
- The two accusatives may also have distinct morphology; see (32) from Spanish.

(32) a. María quiere a   un abodago.
         Mary wants PREP a   lawyer
         'Mary wants a (specific) lawyer.'
      b. María quiere un abodago.
         Mary wants a   lawyer
         'Mary wants a lawyer (any lawyer).' (Starke 2017)

- The hierarchy remains universal, but not all languages have all the cases.

(33) Extended case hierarchy
      NOM < SACC < SDAT < GEN < BACC < BDAT < INSTR < others

- Interestingly, if a language has both BACC and BDAT, nominative turns out to be adjacent to the genitive on the hierarchy, exactly as required by Buryat and Skolt Saami data.
- However, the are several problems with this approach:

   1. Languages never have different morphological case marker for the *small* and *big* version of the case. Examples suggested in the literature always involve prepositions and marker vs. no marker alternation.

   2. Bárány (2021) has shown that in languages with differential object marking the two accusatives are functionally identical, at least with respect to passivization, control of secondary predicates, loss of case in ditransitives, nominalisations.

   3. Buryat has differential object marking, but suppletion and the accusative stem appear in both marked and unmarked direct objects.

(34) Badma turu:ʃi:nxʲijə: nam-aj / nam-aj-e   xar-a:.
      Badma for.the.first.time I-OBL   I-OBL-ACC see-PRT1
   'Badma saw me for the first time.' (based on Evstigneeva 2018)

4.2 Non-linear hierarchy

- There are different implementations of this approach (see Harðarson 2016, Bárány 2021).

- For the purposes of this talk, I will focus on a technically more detailed approach by Bárány (2021).
- It suggests partially ordered hierarchies as in (35). Some cases do not contain each other, but are still contained in more marked cases yielding a partially ordered hierarchy.

(35) Partially ordered sets

            {A,Z}
      {A} <   > {A,B,Z,D}
            {A,B}

- In Buryat, accusative and genitive are then added in parallel as shown in (36).

(36) Partially ordered sets in Buryat

$$\{\text{nom}\} < \begin{array}{c} \{\text{nom,gen}\} \\ \{\text{nom,acc}\} \end{array} > \{\text{nom,acc,gen,dat}\}$$
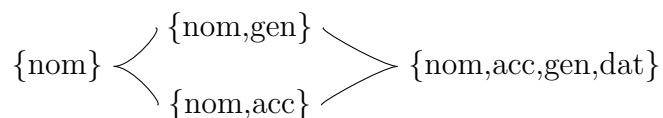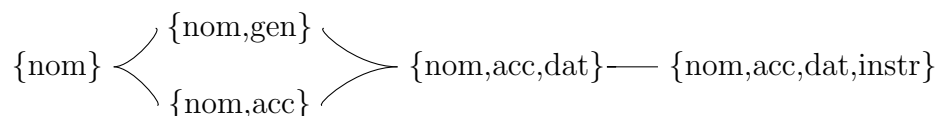
- This does not suffice to derive the data: Vocabulary entries (37b) and (37c) are equally specific.

(37) Vocabulary items in Buryat
   a. bi ↔ 1SG / __[nom]
   b. min ↔ 1SG / __[nom,gen]
   c. nam ↔ 1SG / __[nom,acc]

- The problem is resolved if a mechanism that forces realization of ACC over GEN is added. This additional component contradicts the actual case hierarchy and weakens its role in the analysis.
- Alternatively, it may be assumed that more marked cases do not need to fully include less marked ones. Such amendment makes the account unrestricted and allows syncretisms between any cases.

(38) Partially ordered sets in Buryat

$$\{\text{nom}\} < \begin{array}{c} \{\text{nom,gen}\} \\ \{\text{nom,acc}\} \end{array} > \{\text{nom,acc,dat}\} \!-\! \{\text{nom,acc,dat,instr}\}$$

5 Summary

- On the basis on ABA pattern in Buryat pronouns, I have shown that binary case features combined with the assumption that some feature values are default allows to account for *ABA generalization and its violations.
- This result aligns with recent research promoting binary features; see Smith et al. (2019) for number, Pertsova (2022) and Streffer (2024) for person.

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