

# **Studies in Asian and African Geolinguistics**

## **II**



**ILCAA Joint Research Project 2020 - 2022 ‘Studies in Asian and African Geolinguistics’  
Research Institute for Languages and Cultures of Asia and Africa  
Tokyo University of Foreign Studies**

*Studies in Asian and African Geolinguistics II*  
*“Grammatical relations”*

Report of ILCAA JOINT RESEARCH PROJECT 2020–2022  
“STUDIES IN ASIAN AND AFRICAN GEOLINGUISTICS”

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***Studies in Asian and African Geolinguistics 2***

**Featured topic: Grammatical relations**

## Subgrouping of Ainu

The major subgrouping of Ainu is into the three groups of the Sakhalin, Hokkaido, and northern Kuril dialects, generally accepted in previous studies (Hattori and Chiri 1960, Asai 1974, Tamura 2000). The Hokkaido dialect can be divided into the eastern and western dialectal groups. The southern Kuril dialect can be included in the eastern Hokkaido dialect (Hayashi 1973).

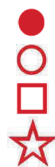
We will not deal with further subgroupings in Ainu here apart from the following brief note. The dialects in

and around Saru and Chitose in western Hokkaido area often show special patterns in vocabulary, including functional words, that may be similar to those of the Sakhalin dialect. Hattori and Chiri (1960) and Chiri and Murayama (1974) suggested the minor subgrouping of the northernmost dialect of Soya and the southernmost dialect of Samani in Hokkaido.

(FUKAZAWA Mika)



- Hokkaido dialect
  - Western Hokkaido dialect
  - Eastern Hokkaido dialect
- Sakhalin dialect
- Northern Kuril dialect



# Grammatical Relations in Asian and African languages

## 1. Project aims

Languages mark the grammatical relations of transitive sentences in varied ways: for example, by case, by agreement, or by constituent order. Moreover, patterns may be split through diverse factors such as animacy or information structures, even in a single language.

This project intended to conduct a geolinguistic analysis of the ways of distinguishing the grammatical relations of highly transitive vis-à-vis intransitive sentences. It is first necessary to establish a specific analysis target because the scholarly subject of geolinguistics does not denote the whole system of a language; rather, it pertains to each individual linguistic phenomenon (Sibata 1969/1977). Typological projects such as Dryer and Hapelmath (2013) illustrate the distribution of typological systems, including the locus of marking in the clause (23a), the alignment of the case marking of full noun phrases (98a) and pronouns (99a), and the configuration of verbal person marking (100A). Conversely, geolinguists draw a map focusing on the common-target type sentences so that they can analyze the linguistic history.

Therefore sentences were set for this study to meet the conditions listed below as the common focus for analysis:

- The subject and object are equal in the empathy/animacy/person hierarchy: for example, both are 3<sup>rd</sup> person or animals.
- The subject and object are definite, specific, and/or referential.
- The predicate is simple and/or plain in voice and/or mood.
- The predicate is verbal with high volitionality and/or affectedness.
- The event described by the sentence has occurred or is finished/completed in the past.
- The information structure and word order are unmarked or most general.

However, the use of sample sentences that did not meet these conditions was accepted if a contributor could confirm the absence of equivalent distinctions in the concerned languages or stipulated that such distinctions did not affect the grammatical relation marking.

Thus, ‘The fox killed the snake.’ represented a typical sentence for scrutiny. The abovementioned stipulations were selected with reference to Hopper and Thompson (1980) to ensure the examination of sentences with high transitivity.

## 2. Classification criteria

Table 1 illustrates the major classifications and basic map symbols commonly used during this project. The letters A, S, and P in the title column respectively indicate the subject of a transitive verb, the subject of an intransitive verb, and the object of a transitive verb. Types A–E correspond to the types of alignment: A) nominative–accusative, B) ergative–absolutive, C) split of S such as active–stative, D) tripartite, and E) neutral. The numbers following the capitals indicate the loci of marking: 1) dependent, 2) head, 3) double, and 4) none (Nichols 1986). The notation ‘X’ in double-marking types represents a conflict between dependent and head (e.g., the case alignment is nominative–accusative, but the verbal morphology shows hierarchical agreement). E2 denotes that the head-marking morphology does not directly mark grammatical relations, for example, hierarchical marking. Languages with no morphological markings (4) may be classified into A4–E4 depending on the constituent order or other syntactic phenomena.

The splits within the common-target type sentences are also addressed. The symbols for split patterns are listed below Table 1. If more than one type of split was found in the common-target type sentences of a single language, and both were considered equally major, multiple symbols were stacked on the map. For example, if the pattern was split between A1 and A2 according to information structures, it was classified as A1/A2c and marked with both ‘|’ and ‘—’. However, if four or more three split patterns were observed, the language/dialect was classified as “F,” and a star symbol was inserted for higher visibility. Moreover, a language could be classified as G if the pattern did not fit any of the abovementioned types.

Table 1: Major types and prearranged symbols.

	Dependent -marking	Head- marking	Double- marking	No marking
AS/P	I A1	/ A2	\ A3	- A4
			^ AX3	
A/SP	Δ B1	▽ B2	▽ B3	Δ B4
			▽ BX3	
S1/S2	▭ C1	▮ C2	▮ C3	▮ C4
			▮ CX3	
A/S/P	◩ D1	◻ D2	◊ D3	◻ D4
			◊ DX3	
ASP	○ E1	○ E2:	● E3	○ E4
			● EX3	

Split patterns:

- Hierarchy of nouns, including nouns vs. pronouns.
- Lexical properties of verbs.
- Pragmatic features, including the information structure.
- Features of noun phrases.
- Word order.
- Features of the predicate.
- Others.

### 3. Geographical distribution and interpretation

Some languages in Asia and Africa cannot be categorized within the prescribed framework, such as the symmetrical voice in Austronesian, the transitive alignment in Iranian and Nuristani languages in South Asia, and the bidirectional markings in the Songhay languages of Nilo-Saharan. These patterns are thus classified to Type G. Additionally, complex splits occur even within the common-target type sentences in Torwali (South Asia) and Northern Lwo (Nilo-Saharan). However, Types C4, D2, D3, D4, E1, E3, and EX3 are either not attested or are extremely rare.

The maps provided by contributors evince the following tendencies in terms of geographical distribution:

The alignment pattern Type A (nominative–accusative) is most widespread. Conversely, pattern Type B (ergative–absolutive) exhibits continuous distribution in the central regions: the Himalayas, the

Western part of the Indian subcontinent, and the Southern and Western sides of the Caspian Sea (See Suzuki in this volume for the distribution in the Caucasus). The Type C pattern (active–inactive) shows sporadic distribution in the Eastern regions such as Nepal (South Asia), the Pacific (Austronesian), and Southwestern Japan (Japonic). Pattern Type D (tripartite) is sporadically found in limited languages of Nilo-Saharan, South Asia, Austronesian, Tibeto-Burman, and Japonic.

Type A4 (neutral marking but syntactically nominative–accusative) tends to be distributed through the East and West peripheral regions of the Asia-Africa continuum. The East represents the Sinitic, Kra-Dai, Eastern regions of Austroasiatic and Northern regions of Japonic; the West encompasses the Western regions of the Nilo-Saharan and Niger-Congo, and the peripheral regions of Semitic.

Most verbal markings are nominative–accusative in pattern (Types A2 and A3). The verbal markings of the ergative pattern (Types B2 and B3) are found only in South and Southwest Asia. The active–inactive pattern is rare but is attested in an Austronesian language spoken in Northern Sumatra (Type C3). The tripartite pattern is not attested to as a verbal marking system.

(SHIRAI Satoko)

### References

- Dryer, Matthew S. and Martin Haspelmath (eds.) (2013) *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. (Available online at <http://wals.info>, Accessed on 2021-10-06.)
- Hopper, Paul J. and Sandra A. Thomason (1980) Transitivity in grammar and discourse. *Language* 56(2): 251-299.
- Nichols, Johanna (1986) Head-marking and dependent-marking grammar. *Language* 66. 56-119.
- Sibata, Takesi [柴田武] (1969) 『言語地理学の方法』 [*Methods in linguistic geography*]. Tokyo: Chikuma Shobo.
- Suzuki, Hiroyuki (this volume) Grammatical relations in Caucasian languages: Preliminary mapping.

# Grammatical Relations in Ainu

## 1. Classification of grammatical relations

Ainu has SOV constituent order and no case marking of nouns and pronouns for Agent (A), Subject (S), or Patient (P). Arguments for obliques such as locatives, allatives, and ablatives are marked by postpositions. Moreover, Ainu is a so-called pro-drop language, since personal pronouns are uninflected and often omitted in subject (A/S) and object (P) position (Bugaeva 2012; cf. Kindaichi & Chiri 1936; Refsing 1986; Shibatani 1990).

Personal verb affixes act as a personal obligatory index within the verb conjugation, constituting “verbal cross-reference marking” (Bugaeva 2012: 472; Table 1). 3SG/PL indexing involves not only zero-marking on verb, but also no case marking of arguments. Word order is known to be relatively flexible (cf. Tamura 2000).

- (1) a.

*ekasi*

*huci*

$\emptyset$ - $\emptyset$ -*nukar*

grandfather grandmother 3.A.3.P-see

‘Grandfather see(/saw) grandmother.’

(Tamura 2000: 42)
- b.

*poyson*

$\emptyset$ -*cis*

small\_child 3.S-cry

‘The small child cry(/cried).’

(Tamura 2000: 26)

The Ainu language has ordinarily been classified as having “a mixed (but basically tripartite) alignment” (Bugaeva 2012: 461; cf. Okuda 2015). However, here Ainu is classified as Type E2a, because the 3SG/PL zero-marking is defined as the ASP neutral and hierarchically head-marking type.

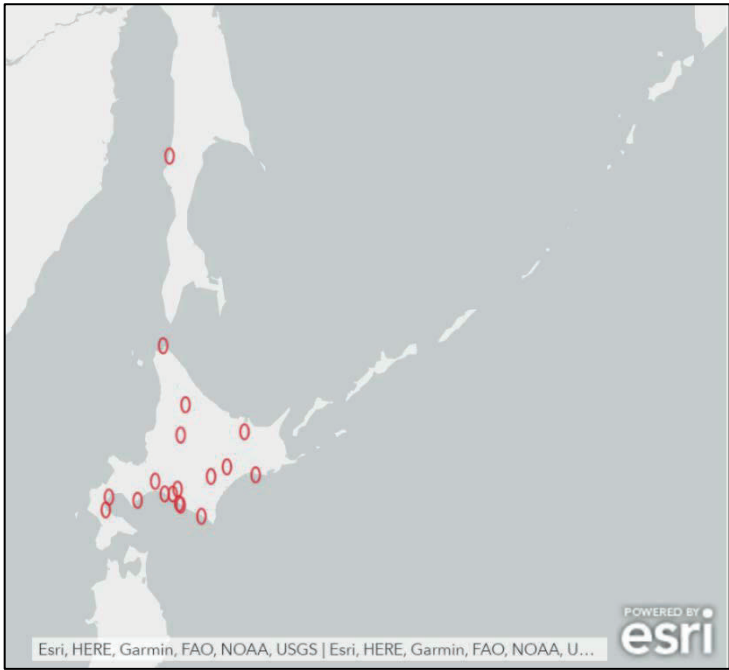
Table 1: Personal verb affixes in Ainu

Grammatical Person	A	S	P
1SG	<i>ku-</i>		<i>en-</i>
1PL.exclusive	<i>ci-</i>	<i>-as</i>	<i>un-</i>
1PL.inclusive (Hokkaido dialect)	<i>a(n)-</i>	<i>-an</i>	<i>i-</i>
1PL (Sakhalin dialect)			
Indefinite			
2SG	<i>e-</i>		
2PL	<i>eci-</i>		
2PL (Hokkaido dialect of Asahikawa)	<i>es-</i>		
3SG/PL	<i>∅</i>		

## 2. Geographical distribution

See Figure 1.

(FUKAZAWA Mika)



0 E2a

Figure 1: Grammatical Relations in Ainu

## Grammatical Relations in Japonic

### 1. Classification

In the maps, the synchronic types of grammatical relations in Japonic (Japanese and Ryukyuan) are classified into four major categories:

A1: **AS/P**; nominative-accusative marking

A4: **AS/P**; no marking but word order

C1: **S1/S2**; split intransitivity

D1: **A/S/P**; tripartite alignment

In addition, subcategories are recognized under A1 and A4, and mixed types are also found.

Since Japonic languages are agglutinative, particles are usually used for case marking.

- (1) *aicu=ga bīru=o reizōko=kara toridasita*  
that.guy=NOM beer=ACC refrigerator=ABL took.out  
'That guy took out beer from the refrigerator.'  
<Tokyo, Shimoji 2018: 92>

For A1 and A4, we created subcategories based on (a) whether or not the relevant forms to mark grammatical relations exist and (b) whether or not the forms drop in natural discourse. For (b), we used data from the Corpus of Japanese Dialects (COJADS) of the National Institute for Japanese Language and Linguistics (NINJAL), which contains transcriptions of approximately 4,000 hours of dialectal discourse from over 200 locations throughout Japan.

The subcategories for A1 are as follows:

A1-1: Both nominative (NOM) and accusative (ACC) forms exist, and the frequency of both occurring simultaneously is 50% or more.

A1-2: Both NOM and ACC forms exist, but the frequency of the ACC is less than 50%.

A1-3: The NOM form exists, but the ACC does not.

The subcategories for A4 are as follows:

A4-1: Both NOM and ACC forms exist, but the frequency of both occurring simultaneously is less than 50%.

A4-2: Both of NOM and ACC forms do not exist.

Moreover, the map includes markings with diacritic symbols for "animacy," "definiteness," and "honorific" that are related to grammatical relations: animacy is marked with "a," definiteness with "d," and honorifics with "h".

### 2. Geographical distribution and interpretation

In the mainland Japan, there are five types of case marking: A1-1, A1-2, A4-1, C1, and D1.

The languages and dialects that belong to each type are shown in map 1 and 2. We will show example sentences of each type by giving typical points.

Hiroshima dialect is A1-1 type. In this dialect, **A** and **S** are marked by =*ga*, and **P** is marked by \*=*o*.

- (2) a. *o-zii-san=ga [...] taaraa* (< \**taara=o*) *an-de*  
HON-old.man-HON=NOM [...] straw.bag.ACC knit-GER  
'the old man knitted a straw bag'  
b. *hurue=nnjaa bonkura=ga or-an*  
Furue=LOC.TOP sodden.person=NOM be-NEG  
'there is no sodden person in Furue'  
<Hiroshima city, COJADS>

Ōsaka dialect is A1-2 type. In this dialect, **A** and **S** are marked by =*ga*, and **P** is usually with no marking.

- (3) a. *kanai=ga [...] hanasi si-ta=n=ja=kedo*  
wife=NOM [...] chat do-PST=NMLZ=COP=CNC  
'my wife had a chat'  
b. *bantoo=ga suwat-te-masi-ta-desu=wa*  
head.clerk=NOM sit-GER-POL-PST-POL=SFP  
'the head clerk was sitting'  
<Osaka city, COJADS>

Toyama dialect in Hokuriku is A4-1 type. In this dialect, **A**, **S**, and **P** are usually not marked morphologically but marked by word order.

- (4) a. *ora toru=no taberu-joo-na mon tabe-ta*  
1SG chicken=GEN eat-SEEM-ADN thing eat-PST  
'I ate something like chickens eat'  
b. *mata ahat-te kuru mon ot-te*  
again go.up-GER come person be-GER  
'there was a person who came up again'  
<Tonami city, COJADS>

Tsugaru dialect in Tōhoku is the type of A4-1d. In this dialect, **A**, **S** and **P** are usually not marked morphologically but marked by word order. However, when **P** is high in specificity, like proprietary noun or demonstratives, **P** is marked by =*goto*.

- (5) a. *ano zu-sama taego-ko tadage-ba*  
that old.man-HON drum-DIM beat-COND  
'when that old man beats a drum'

- b. *ameuri* *ki-ta=on*  
candy.seller come-PST=SFP  
'the candy seller has come, right'
- c. *soe=goto orando ko su-te nameru=N=daa*  
that=ACC 1PL this.way do-GER lick=NMLZ=COP  
'we lick it (= the candy) this way'  
<Hirosaki city, COJADS>

Shiiba dialect in Miyazaki is C1 type. In this dialect, **A** is marked with =*ga*, **P** is not usually morphologically marked. **S** is divided into **S1** and **S2** by agentivity. **S1** is always marked with =*ga* and **S2** is marked with =*no* or =*ga*. When the agentivity of **S** is high, **S** takes =*ga*, and when it is low, it takes =*no*.

- (6) a. *anoko=ga awee huku ki-tor-u*  
that.child=NOM blue clothes wear-RES-NPST  
'That child is wearing blue clothes.'
- b. *onago=ga tat-tor-u*  
woman=NOM stand-RES-NPST  
'A woman is standing.'
- c. *akjaa hana{=no/=ga} sjaa-tot-ta=nee*  
red flower=NOM bloom-RES-PST=SFP  
'Red flowers were in bloom, weren't they.'  
(“Shiiba Hōgen Goishū forth coming”)

Hakata dialect in Fukuoka is A1/D1 type. In this dialect, when the subject is a first-person or second-person pronoun, **A** and **S** are marked with =*ga*, and **P** is marked with =*ba*. However, when the subject is not a proper noun nor a kinship noun nor a pronoun, **A** is marked with =*ga* and **S** is usually marked with =*no*.

- (7) a. *omae=ga ore=N=to=ba tabe-taroo=ga*  
2SG=NOM 1SG=GEN=NMLZ=ACC eat-PST.INFR=SFP  
'You would have eaten mine.'
- b. *omae=ga taore-ru=bai*  
2SG=NOM get.sick-NPST=SFP  
'you will get sick'
- c. *gokiburi=ba kodomo=ga jaccuke-ta*  
cockroach=ACC child=NOM beat-PST  
'The child beat the cockroach.'
- d. *warusoo{=no/=ga} or-u*  
bad.child=NOM be-NPST  
'There is a naughty kid.'  
<Hakata, Sakai forth coming>

In the Koshiki-jima Teuchi dialect, **A** and **S** are generally marked with =*ga*, and **P** is marked with =*ba*,

however when the subject is a respected person, **A** is marked with =*ga*, and **S** is marked with =*ga* or =*no*.

- (8) a. *omai{=ga/=no} kokee suwat-ta=naa*  
2SG.HON=NOM here.LOC sit.down-PST=SFP  
'You sat here.'
- b. *kokee wai=ga suwat-tajoo=ga*  
here.LOC 2SG=NOM sit.down-PST.INFR=SFP  
'You would have sat here.'  
<Teuchi, Sakai 2019>

In Ryukyuan languages, there are six types of case marking for grammatical relations: A1-1, A1-2, A1-3, A4-1, A4-2, and C1. In some of the dialects and languages, animacy has an effect on case alignment.

A1 type languages are widely distributed on the Ryukyu Islands. Of these, A1-3 (marked nominative type) is distributed from Yoro Island to Naha on Okinawa Island, and A1-1 is distributed around the A1-3 regions. The westernmost Yonaguni is C1 type. A4 type is distributed in Yaeyama with A4-1 type in Iriomote-Sonai, and A4-2 type in Hateruma, which has no morphological markers.

Okinoerabu in south Amami is A1-3a type. In this language, **A** and **S** are marked by =*ga* or =*nu* depending on the position in the animacy hierarchy (Dixon 1979: 85): nouns that are located in a higher position in the hierarchy are marked by =*ga*, and nouns in a lower position are marked by =*nu*. **P** is not marked morphologically.

- (9) a. *wa=ga ura mic-ju-n*  
1SG=NOM 2SG see-NPST-IND  
'I see you.'
- b. *wa=ga ic-ju-n*  
1SG=NOM go-NPST-IND  
'I go (there).'
- c. *?maa=nu ic-ju-n*  
horse=NOM go-NPST-IND  
'(The) horse goes (there).'

This marked nominative type is known to be very rare, with only 6 languages reported on the WALS maps. However, it is relatively common in Ryukyus.

Hateruma dialect in Yaeyama is A4-2 type, which is with (almost) no marking of the distinction between **AS** and **P**. In this language, **A**, **S**, and **P** are not marked morphologically but marked by word order.

- (10) a. *baa* *nuf-u-n*  
1SG sleep-NPST-IND  
'I sleep.'
- b. *baa* *sumuci* *jum-u-n*  
1SG book read-NPST-IND  
'I read a book.'
- c. *tun* *butu* *tum-a-n*  
wife husband look.for-DUR.NPST-IND  
'(The) wife is looking for (the) husband.'
- (Aso 2020: 109, 111)

We assume that A1-1 type is the oldest type in history since it is widely distributed in both mainland Japan and Ryukyus, from Tohoku to Southern Ryukyus.

The marked nominative types (A1-2 and A1-3), which are typologically rare, are considered to be the result of the decrease and disappearance of ACC marking. In the A4-1 and A4-2 types, not only the ACC case marking but also the NOM case marking became less frequent and disappeared.

Since the A4 types are distributed in the outermost part of Japonic, that is, Tohoku and Yaeyama, they seem to be the oldest at first glance. In addition, the case marker was not developed in ancient Japanese, it is possible that the proto system is retained in these areas. However, since types that have case markers are distributed in the neighborhood of A4 and there are traces that the language of A4 once had case markers, it is presumed that the present A4 types are developed from A1 types.

The C1 types are considered to have developed from the A1 type in parallel. The C1 type in Kyushu marks NOM by =*ga* or =*no* depending on the agentivity. This type seems to be the retention of Old Japanese system. Similarly, most of the C1 types of Ryukyus (northern Ryukyus and Yonaguni) are considered to be the result of the reduction and loss of =*nu* (< \*=*no*), which marks **Sp** (non-agentive **S**). Like the C1 type, the D1 type is a system in which **A** is marked with =*ga* and **S** is marked with =*no* depending on the agentivity and the position in the animacy hierarchy. C1 in the Miyako-Tarama dialect has an inactive marker =*ba* (Celik and Hayashi 2017), which originally marks ACC but now also marks **Sp**. In Hachijo dialect and Old Japanese, there are examples of **Sp** marked with an ACC particle. The C1 type of Awaji is developed from A1-2 by omitting the NOM case marking from **Sp**. Since marked nominative types do not have ACC markers, the case omission in **Sp** is the result of merger with **P**.

The animacy hierarchy is used as a criterion for the usage of NOM markers =*ga* and =*no*; if the animacy of a NOM is high in the hierarchy, it is marked with =*ga*, and =*no* is used if it is low. This difference developed from that of agentivity since they are strongly related: a noun that is more animate tends to be an agent, and a noun that is less animate tends to be a patient. Definiteness concerns ACC markers, which is known as differential object marking (DOM) such as =*goto* in Tohoku-Tsugaru (see 5c), and it is considered to be an innovation in these areas. Honorific is related to the proper usage of the NOM markers =*ga* and =*no*. This is developed in relation to agentivity, since weakening agentivity shows honor to nominatives.

In addition to the marking with/without particles, contracted forms and lengthened forms are also observed in case marking (see 2a). It is considered that the markings with no particles are derived from contracted forms through lengthened forms, rather than particles being merely omitted.

- (11) a. *kore=wo* 'this=ACC' > *kore-u* > *korjo* > *kore* > *kore*  
b. *kore=ga* 'this=NOM' > *kore-ã* > *korjã* > *kore* > *kore*  
c. *kore=no* 'this=NOM' > *kore-n* > *korẽ* > *kore* > *kore*  
d. *kore=woba* 'this=ACC.TOP' > *kore-uba* > *korjo:ba* > *kore:ba* > *koreba*

Marked nominative alignment seems to be the result of diachronic sound changes. Since the ACC case marker =*wo* was developed earlier than NOM case markers, the change in (11a) also occurred earlier and became the zero form. The particle =*ba* probably came from =*woba*. The sound /wo/ was fused in a process like (11d), leaving only =*ba*.

In Old Japanese, case marking is not obligatory, and particles =*ga* and =*no* are originally genitive markers. The ACC marker =*wo* developed from the interjectory particle, which seems to mark the inactive case. Later, the genitive in the attributive clause was recognized as the NOM, and then the NOM case markers emerged.

#### Abbreviations:

ADN: adnominal, CNC: concessive, DIM: diminutive, GER: gerundive, HON: honorific, INFR: inferential, NPST: non-past, POL: polite, RES: resultative, RLS: realis, SEEM: seeming, SFP: sentence-final particle

(KIBE Nobuko, NAKAZAWA Kohei, and YOKOYAMA Akiko)

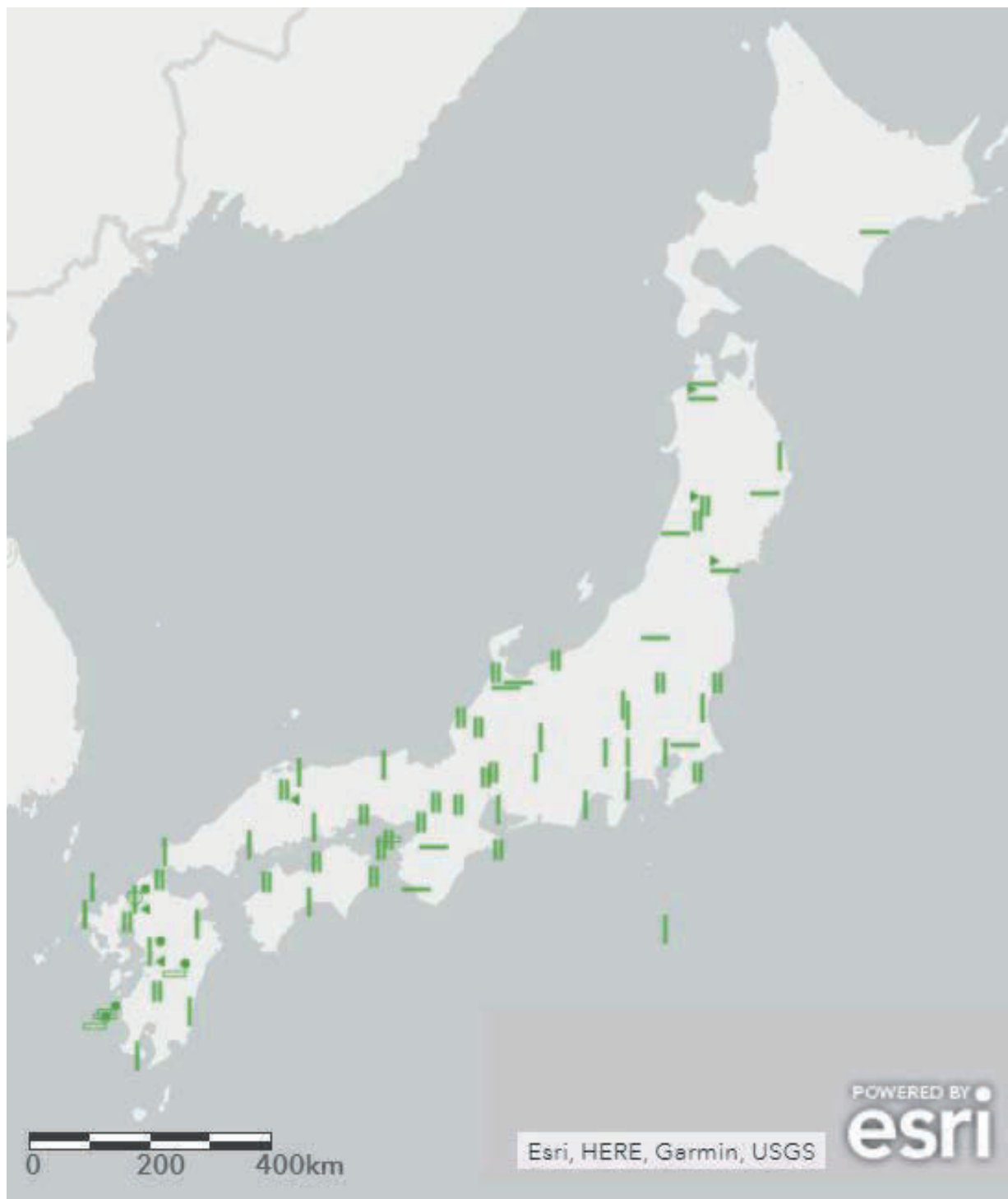


Figure 1: Grammatical Relations in mainland Japan

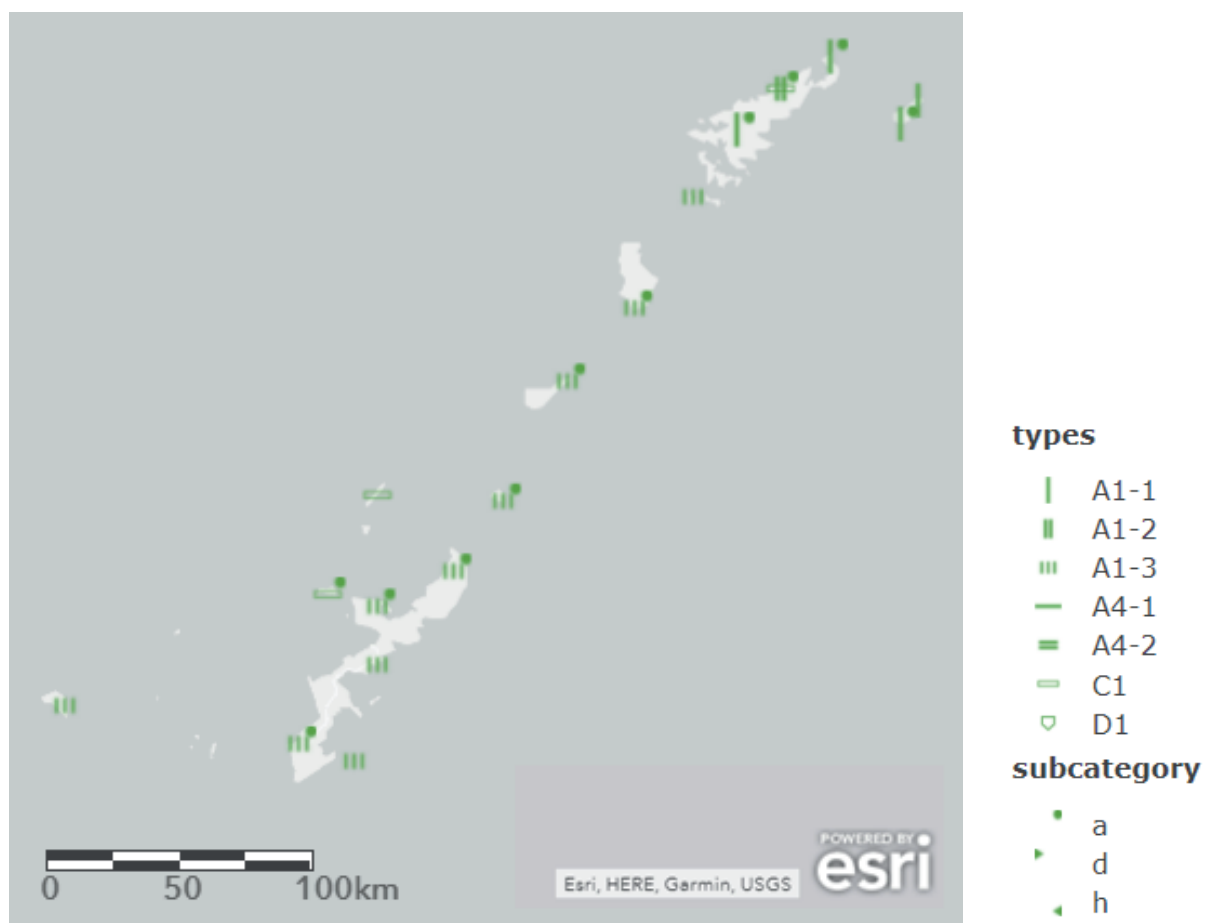


Figure 2: Grammatical Relations in Northern Ryukyu Islands

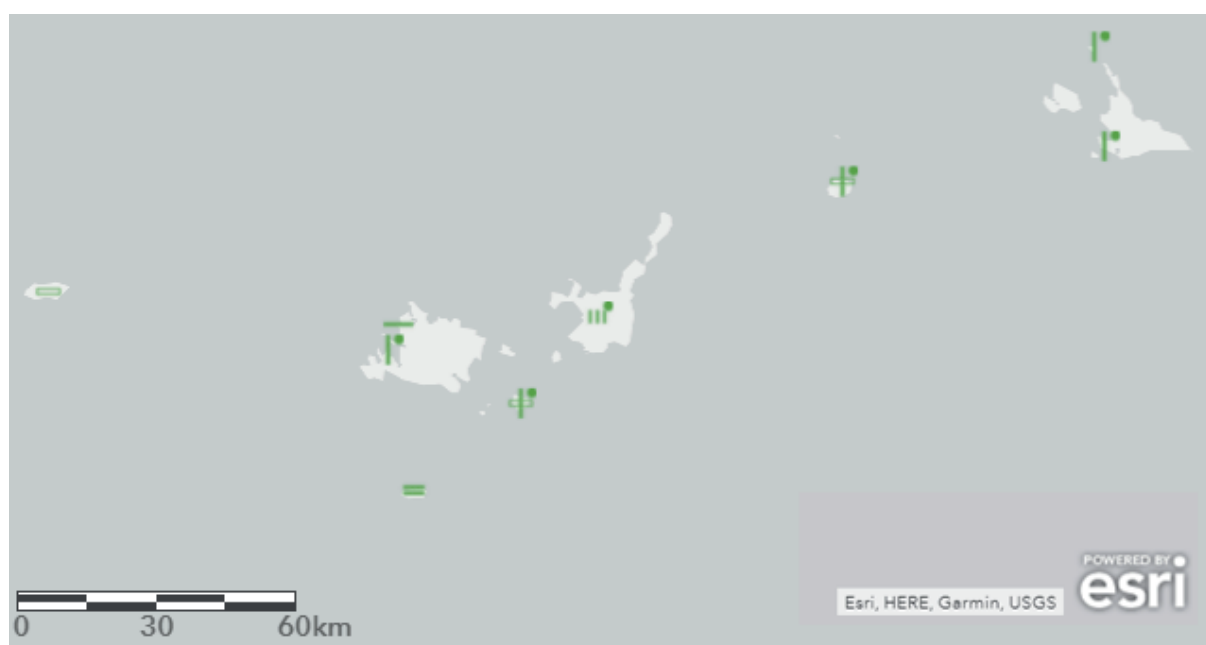


Figure 3: Grammatical Relations in Southern Ryukyu Islands

# Grammatical Relations in Korean

## 1. Classification

The Korean language has the following characteristics regarding grammatical relations.

Morphology: agglutinative

Basic word order: SOV

Cases-marker: postposition

Locus of marking: dependent-marking

Alignment pattern: AS/P

Therefore the basic type of this language is A1 according to the framework of this project.

However, there are some problems. In colloquial speech, case-markers are often not used and the conditions on the use and non-use of case-markers are complex (for example, Kim Jihyun 2016).

Kazama (2015) argued that in colloquial Japanese case-markers are not used frequently and the distinction of the grammatical person often depends on the kinds and structure of the predicate so that the colloquial Japanese tends to be a head-marking language. The situation is quite similar in the case of the Korean colloquial language although the conditions are not the same.

In this respect, Middle Korean is interesting because it had the so-called volitive prefinal ending ‘-o/u-’ (‘-wo/wu-’ in Yale Romanization) which has been also called the first person marker according to some researchers. Examples are the following:

- (1) i    tojsan- $\lambda$ r    p<sup>h</sup> $\lambda$ r-o-ri-ra  
this garden-ACC sell-O-FUT-DEC  
“I will sell this garden.”  
이 東山을 팔로리라 <1447 稊譜詳節6:24b>

- (2) na-spun    jonh-o-ra    h $\lambda$ -si-mye  
I-only    honored-O-DEC    say-HON-CONV  
“Only I am honored”. (唯我独尊)  
나뿐 尊호라 하시며 <1447 稊譜詳節6:17a>

If we treat this ‘-o-’ as the first person marker then this language might be classified as the A3 type.

Lee and Ramsey (2011) describe this prefinal ending as follows:

The “volitive” –wo/wu- (called the modulator in Martin 1992) was a complex morpheme known

only from Middle Korean. Its meaning is enigmatic and its phonological shape varied. (p. 205)

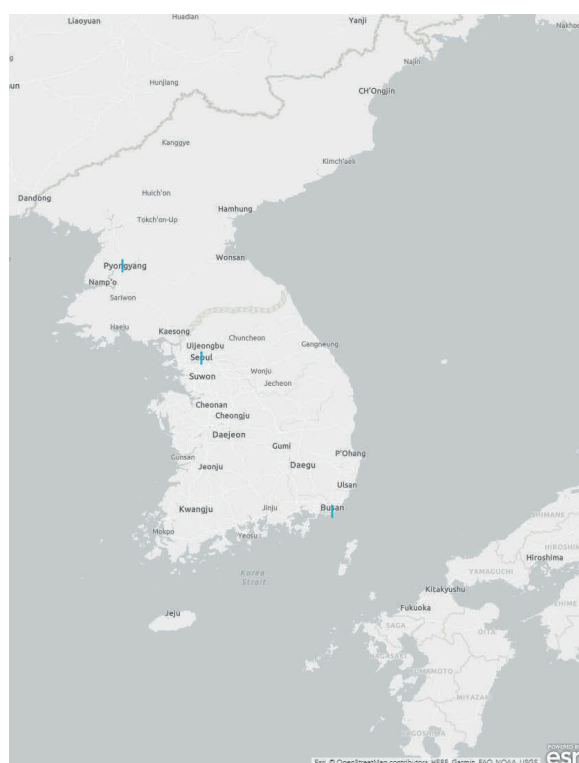
The meaning of the volitive morpheme is difficult to delineate with any precision. However, it seems to have been used for actions (or states) that were of subjective will or intent, not for factual, objective narrative. (p. 206)

It seems difficult to maintain the first person marker theory because there are apparent counter examples. However, it still has something to do with the restrictions on the selection of the grammatical person in a predicate structure. It may be that some kind of unidentified grammatical function (for example, Professor Randy LaPolla suggested the notion ‘epistemic authority’ when I presented a preliminary version of this paper) lies behind the scene.

## 2. Geographical distribution and interpretation

As to the basic grammatical relations, there is no geographical differences in Korean dialects.

(FUKUI Rei)



A1

## Grammatical Relations in Sinitic

### 1. Classification

Most Sinitic languages are classified under the A4 (No-marking, AS/P) type. The subject of a transitive verb (A) and an intransitive verb (S) can be placed at the beginning of a sentence, while the object of a transitive verb (P) follows the transitive verb. Examples from standard Chinese are as follows:

小李走了。‘Xiao-Li is gone.’

Xiao-Li go perfect-aspect

小张打伤小李了。‘Xiao-Zhang hurt Xiao-Li.’

Xiao-Zhang hit injured Xiao-Li perfect-aspect

Some dialects use both SVO and SOV, for which the symbols of the A4 (No-marking, AS/P, SVO) and E4 (No-marking, ASP, SOV) types overlap for convenience.

The object of a transitive verb is also shifted to precede the transitive verb through the *ba* 把 construction, which typically means “disposal.”

张三把李四打跑了。

Zhang-san marker Li-si beat away perfect-aspect

‘Zhang-san beat Li-si away.’

The actual behavior of the *ba* construction varies widely. Therefore, we consider only whether the dialects possess the *ba* construction and overlook the conditions of usage. The markers of the *ba* construction are usually prepositive, classified under A1-1 (Dependent-marking, AS/P), but sometimes are postpositive as well, classified as A1-2.

### 2. Geographical distribution and interpretation

Grammatical relations in Sinitic languages show an anonymous distribution of A4 type, while the A1-1 type is observed in most Chinese dialects. The “+” symbols in the map indicate that the dialect adopts the SVO order and has the *ba* construction. However, *ba* is not always a typical marker of a prepositive object. In standard Chinese, the *ba* construction has certain structural restrictions: The verbal component needs to carry other components and cannot be a sole verb; the postpositive nominal component needs to be definite. Further, the object can sometimes follow the verb (Lü 1965).

他把橘子剥了皮。‘He peeled the oranges.’

he marker orange v.peel perfect-aspect n.peel

This type of *ba* construction is observed over a large area, especially in northern China, while some dialects show unique developments.

For instance, in some dialects of northwest China,

*ba* is a marker of a prepositive object and does not express disposal.

我把他们的话知道。‘I know what they say.’

I marker they structural-particle word know

(Gansu Lanzhou 兰州 dialect, Huang 1996)

The *ba* construction varies in function, marker, and sentence type. In some dialects, *ba* serves as both a disposal marker and other markers, such as passive. Some dialects use other markers derived from verbs such as taking (*na* 拿), giving (*gei* 给, *bi* 界), or helping (*bang* 帮). In some dialects, the markers can be omitted (Li and Chappell 2013).

In the Gansu Linxia 临夏 dialect, the object usually occurs before the transitive verb (SOV) except in copular sentences using *shi* 是. To distinguish subject and object, *ha* 哈 often follows the object, especially when personal pronouns are used (Wang 1993).

我他哈叫来了。‘I called him.’

I him marker call come perfect-aspect

我哈他叫来了。‘He called me.’

me marker he call come perfect-aspect

With the spread of standard Chinese, the “*ba* + O + *ha*” construction later appeared in the Linxia dialect.

我把我的亲人哈想者。

I marker I structural-particle n.relative marker miss

‘I miss my relatives.’

It has been pointed out that contact with Altaic or Tibeto-Burman languages has led northwest dialects to develop the marker of a prepositive object. Based on conditions in the Linxia dialect, Li and Chappell (2013) further argued that through strong language contact, SOV languages such as Mongolian, Turkish, and Tibetan directly influenced the development of the “O + *ha* 哈” construction and the replacement of the *ba* construction.

The “O + *shang* 上” construction is seen in Shangri-La 香格里拉 Mandarin dialect. This is also due to intense contact with SOV languages (Zhou 2016).

狼狗上咬死喽。‘The wolf bit a dog to death.’

wolf bite marker bite dead perfect-aspect

The “-” symbols in the map, indicating dialects that lack the *ba* construction, show a scattered distribution in the Guangdong and Guangxi provinces. The southern dialects tend to use a basic SVO order for disposal sentences, and the *ba* construction can be used only under limited conditions.

(SUZUKI Fumiki)



A1 (Dependent-marking, AS/P)

- | A1-1 (prepositive)
- ▮ A1-2 (postpositive)
- A4 (No-marking, SVO)
- E4 (No-marking, SOV)

Figure 1: Grammatical Relations in Sinitic

## Grammatical Relations in Kra-Dai

### 1. Classification

The core argument in Kra-Dai belongs to the type A4 category, which is characterized by no markings for subjects and objects, coupled with the prevalence of the basic word orders AVP and SV.

In the Baoding Li language in Hainan (Ouyang and Zheng 1980:58, 66, 40):

ɬu:k<sup>7</sup>o<sup>1</sup> rau<sup>2</sup> tshia<sup>3</sup>  
student read book  
“Students read books.”  
na<sup>1</sup> ra:u<sup>1</sup>  
he to laugh  
“He laughs.”

This type is applicable to Kra-Dai in general. However, the so-called “ba 把” construction exists in almost all Kra-Dai languages inside China. For example, consider this Li sentence construction:

deu<sup>1</sup> tsu<sup>2</sup> hom<sup>1</sup> wa:u<sup>1</sup> tsho:n<sup>2</sup> du<sup>3</sup> tsho<sup>1</sup>  
ACC one CLF bowl put on table  
“Put the bowl on the table!”

Here, deu<sup>1</sup> serves as “ba” in Chinese. This type belongs to A1.

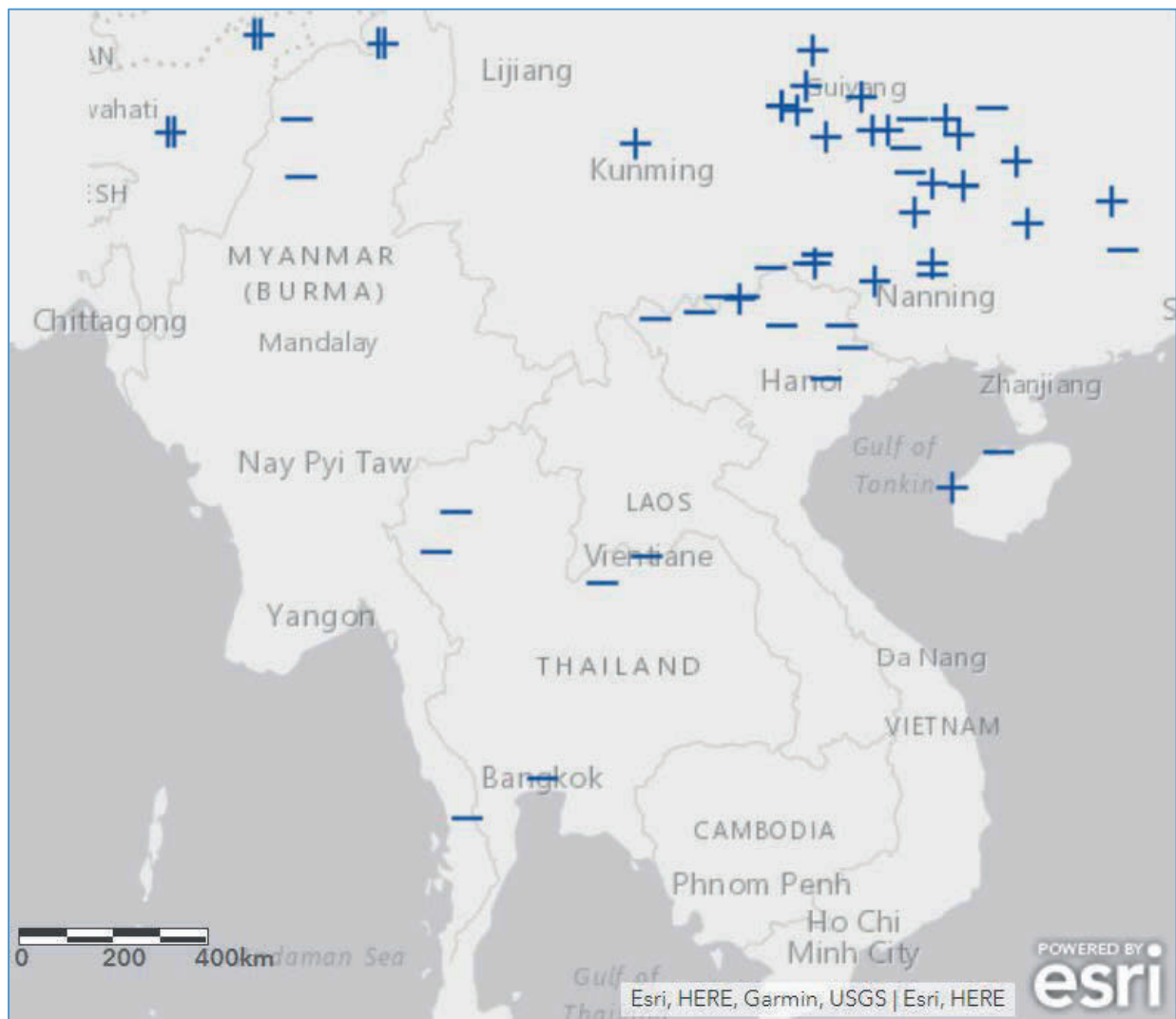
Another subtype A1b is found in Khamti Shan, wherein a human endpoint, prototypically a recipient of a physical transaction, is marked by “mai” (here) (Ingris 2018: 135). In addition, an animate or inanimate object of a transitive verb is marked by “mai” (here) if foreground information is being provided (Ingris 2018: 140–142). In Phake and Aiton Tai, subtype A1b comprises the original AVP word order; however, a preposition may be added to P. This preposition is not a prerequisite; a prepositional phrase is added only in the cases in which A and P are both animate (Morey 2005: 272).

### 2. Geographical distribution and interpretation

In Figure 1, type A4 is denoted by — and type A1 by |. Hence, the place where both types exist resembles +. Although some languages not categorized under type A1 also exist within China, these languages lack detailed grammatical descriptions; consequently, they do not bear any trace of the “ba” construction. In the Southeast Asian Kra-Dai languages, including Bangkok’s Thai and Vientiane’s Lao, the existence of the “ba” construction has not been found. Type A1b is found in Myanmar and India, with the latter influence interpreted as the result of an aerial contact with the Tibeto–Burman language (Morey 2005: 270).

As described by Ouyang and Zheng (1980:40), “The ‘ba’ construction is scarcely used in Li language. Instead, the Chinese construction ‘ba + object + verb + complement’ is expressed in Li as ‘verb + object + complement’. For instance, the Chinese construction ‘ba<sup>3</sup> wan<sup>3</sup> da<sup>3</sup>po<sup>4</sup>, ba + bowl + hit + break) is expressed as ‘tha:i<sup>2</sup> wa:u<sup>1</sup> pho:n<sup>3</sup> (hit + bowl + break, ‘break a bowl’ in Li. With the growing Chinese influence, the use of deu<sup>1</sup> as a preposition continues to increase...” Liang (1980: 59) explained that in Maonan language, the use of the “ba” construction is not yet common, except among learned people. Some languages borrow the same word form “ba” from Chinese, while other Kra-Dai languages also make use of calque expressions such as “deu<sup>1</sup>” and tɛi<sup>2</sup> (meaning “take”). Hence, this construction seems to be borrowed from individual Kra-Dai languages independently under the recent Chinese influence.

(ENDO Mitsuaki, TOMITA Aika, HIRANO Ayaka)






-  A4
-  A4 plus A1 ("ba" construction)
-  A4 plus A1b

Figure 1: Grammatical Relations in Kra-Dai

## Grammatical Relations in Tibeto-Burman

### 1. Classification

Tibeto-Burman (TB) languages are characterized by widely diverse patterns of grammatical relations. In this project, we classify, in accordance with the common criteria, the patterns found in common target-type sentences, namely, transitive sentences with equally animate arguments and high transitivity (Shirai, this volume). Moreover, several languages show split patterns based on animacy or pragmatics. Parts of languages also have highly developed agreement systems when the first and second persons, which are usually at the top of the empathy hierarchy, are involved. Even though these split patterns are eliminated when focusing exclusively on the common sentence type, TB languages still display a variety of grammatical relation marking patterns presented as follows (single language names are followed by the group name in square brackets):

Type A: The nominative–accusative or anti-agentive type

A1: Dependent marking. Burmish, Loloish (also E4), Jinghpaw–Luish, Bodo–Garo, nDrapa [Qiangic], and Manang [Tamangic].

A2: Head marking. Kaman [isolate].

AX3: Double marking; however, the verbal agreement pattern is non-nominative. Trung [Nungic] (also DX3) and Jinghpaw [Jinghpaw–Luish].

A4: No morphological marking and the SVO constituent order. Baic and Karenic.

Type B: The ergative–absolutive type

B1 (including B1a and B1b): Dependent marking. Himalayish (including Tibetic), Qiangic, Nusu [Loloish], Malimasa [Naish], Larong sMar, Lamo, Songlin [isolate], etc.

BX3: Double marking; however, the verbal agreement pattern is not ergative. Kiranti, Kuki–Chin, Qiangic, Newar, and Kinnauri.

Type D: The tripartite type

D1: Dependent marking. Tamangic and Gochang [Q].

DX3: Double marking; however, the verbal agreement pattern is not tripartite. Trung (also A3-1) and Rawang [both Nungic].

Type E: The neutral type

E2: Other types of head marking (e.g., hierarchical): Qiangic.

E4 (including E4a, E4e): No morphological marking; SVO constituent order. Loloish, Qiangic, Naish, and Tujia.

Among these types, A1, B1, BX3, and E4 are the most commonly found types of sentence patterns. A4 is limited to two language groups, while A2, AX3, D1, DX3, and E2 are found in one or few languages/dialects. No language has Type C as the primary type: Although some languages (Prinmi, Kurtöp, Tshangla, Kyirong Tibetan, etc.) may mark the subjects of intransitive predicates as either ergative or agentive within marked contexts, generally may not in the common-type sentences.

Moreover, we found the following split patterns: (a) features of noun phrases: the split between nouns and pronouns; (b) features of verbs: the lexical split; and (c) word order.

### 2. Geographical distribution and interpretation

Figures 1 and 2 present the geographical distributions of the alignment types, which are relatively distinguishable from one another. These are described below.

Type A is found primarily in Myanmar, Northeastern India, and a corridor from the China–Myanmar border to Northwestern Sichuan. In particular, the languages of the southern regions tend to be of Type A. Type A is also found sporadically in Nepal and Yunnan.

Type B is widely found in the Tibetan Plateau and its adjacent regions as well as in Northwestern Myanmar. Despite being the most widespread type of sentence patterns, Type B is clustered geographically.

Type D is found sporadically in Nepal (Tamangic), Western Sichuan (Gochang), and the China–Myanmar border (Nungic). Among them, Trung [Nungic] consists of the split between Types AX3 and DX3.

Type E is mainly found in the eastern region. As an enclaved distribution, it also features in Puroik spoken in Southern Tibet.

These distributions suggest that each marking system of grammatical relations is developed in each of the areas. However, it is difficult to find relative time depth from the geographical distribution alone.

Previous comparative linguistic studies concluded that there was no relational morphology, at least at the Proto-Sino-Tibetan stage (e.g., LaPolla 2017). At the Proto-Tibeto-Burman stage, it was closer to the “role-dominated” system, which is typically found in Lolo-Burmese (LaPolla 1992a, b). Moreover, the

ergative (or agentive) and primary object markings in TB have typically developed to disambiguate the semantic roles (ibid).

Thus, applying our classification to these arguments leads to the following hypothesis: Type E is the oldest morphological alignment pattern, while Types A and B have been developed in each areal context. In fact, our data reveal that Loloish languages are typically Type E4 for the common-type sentences, showing splits with A1 or B1 under various conditions, such as constituent order and pragmatics. For example, in Jinuo, all arguments can be left unmarked (Type E4), as in (1). However, once the object comes to the sentence-initial, it can be followed by the particle *le*<sup>33</sup> (Type A1 but in pragmatically marked contexts), as in (2) (Hayashi 2009).

At the same time, many languages with a Type B1 basic sentence pattern are characterized by splits with C1, D1, or E4, as exemplified in most Tibetan dialects; e.g., (3) and (4), which consist of splits with C1 but in pragmatically limited contexts. These facts suggest that our data support LaPolla's (1992a, b) view. Here, we present examples (2) and (4) for the purpose of explanation; however, these are not the common pattern types that this study would focus on.

Jinuo [Loloish] (Hayashi 2009)

- (1) *teu*<sup>35</sup>*ma*<sup>44</sup>      *ki*<sup>55</sup>*ki*<sup>44</sup>      *jə*<sup>35</sup>-*mɿ*<sup>35</sup>.  
 aunt                  uncle                  scold-PAST  
 'Aunt scolded uncle.'
- (2) *ki*<sup>55</sup>*ki*<sup>44</sup>=*va*<sup>55</sup>      *teu*<sup>35</sup>*ma*<sup>44</sup>      *jə*<sup>35</sup>-*mɿ*<sup>35</sup>.  
 uncle=OBJ      aunt                  scold-PAST  
 'Aunt scolded uncle./Uncle was scolded by aunt.'

Lhasa Tibetan (Hoshi & Tahuwa 2017)

- (3) *ŋa*                  *dro*-*ki*      *yi*<sub>N</sub>.  
 1SG                  go-IPFV:EGO  
 'I will go.'
- (4) *ŋää*                  *te*<sup>hi</sup><sub>N</sub>      *ko*.  
 1SG:ERG      go                  VOL  
 'I will go.' (with emphasis on the volitional actor)

By considering the geographical distribution, we can hypothesize that Type A possibly developed in the south and spread to the central and eastern regions of the whole TB area, while Type B must have originated in the west and spread to the central and northeastern regions. Furthermore, Type D is the most recent among the morphological alignment patterns.

In TB, the typical verbal morphology with regard to grammatical relations is called 'pronominalization,' which is characterized by the addition of affixes derived from pronouns. Some languages also have inverse affixes. There are two possibilities to consider from a historical linguistic viewpoint: whether to reconstruct this phenomenon back to the proto-language (e.g., DeLancey 1989), or to assume a relatively simple proto-language from which morphology has gradually developed (e.g., LaPolla 1992a).

In our study, the TB verbal morphology in terms of grammatical relations is reflected in Types AX3, BX3, DX3, and E2. Except for Type BX3, which is relatively widespread, all other types exhibit geographically concentrated distributions in the central region. Moreover, no languages in the eastern, northern, and southern peripheral regions have person/number agreement on the predicate. Considering the general tendency for old forms to remain in the peripheral regions (Yanagita 1930), the geographical distribution of AX3, BX3, DX3, and E2 suggests that the verbal morphology of grammatical relations is relatively new in TB.

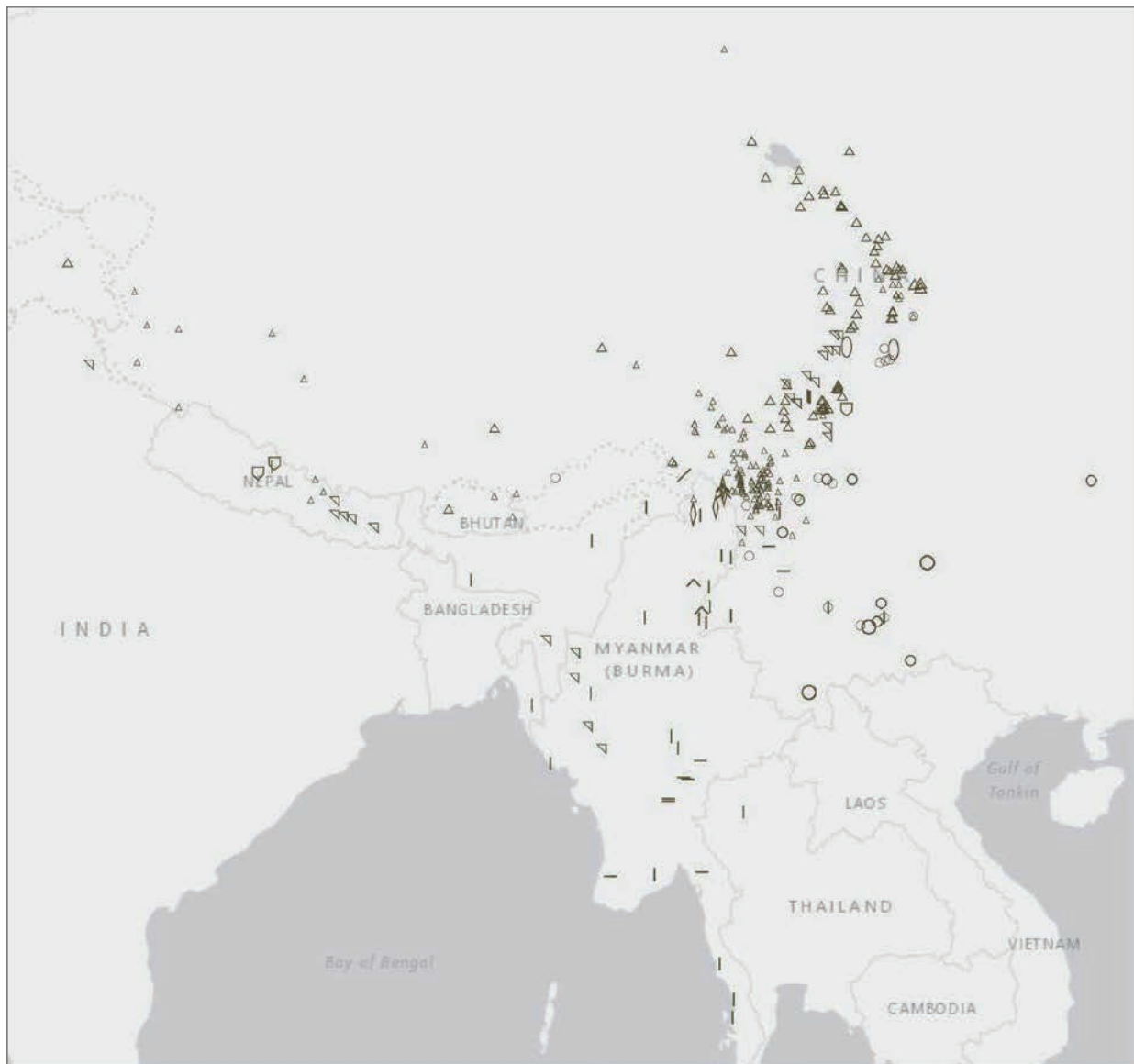
Furthermore, upon comparing the dependent-marking types and head- or double-marking types, we find that Type BX3 is distributed in the peripheral regions of the Type-B area. This finding suggests that Type BX3 first developed in terms of its verbal morphology and later obtained its case marking system.

Meanwhile, Type A4, the SVO constituent order with no morphological marking, is found in Baic and Karenic. Baic is known to have been strongly influenced by Chinese. Kato (2019) argues that it is difficult to determine how the constituent order in Karenic languages has been developed; however, their loanwords suggest that Karen people had contacts with Mon (Austroasiatic) at a very early stage.

On the basis of the discussion presented above, we provisionally propose the following hypothesis about the development of grammatical relations in TB:

$$\begin{array}{lcl} \text{E4} > & \text{A1, A2, AX3} & > \text{D1, DX3, A4} \\ & \text{E2} > \text{BX3, B1} & \end{array}$$

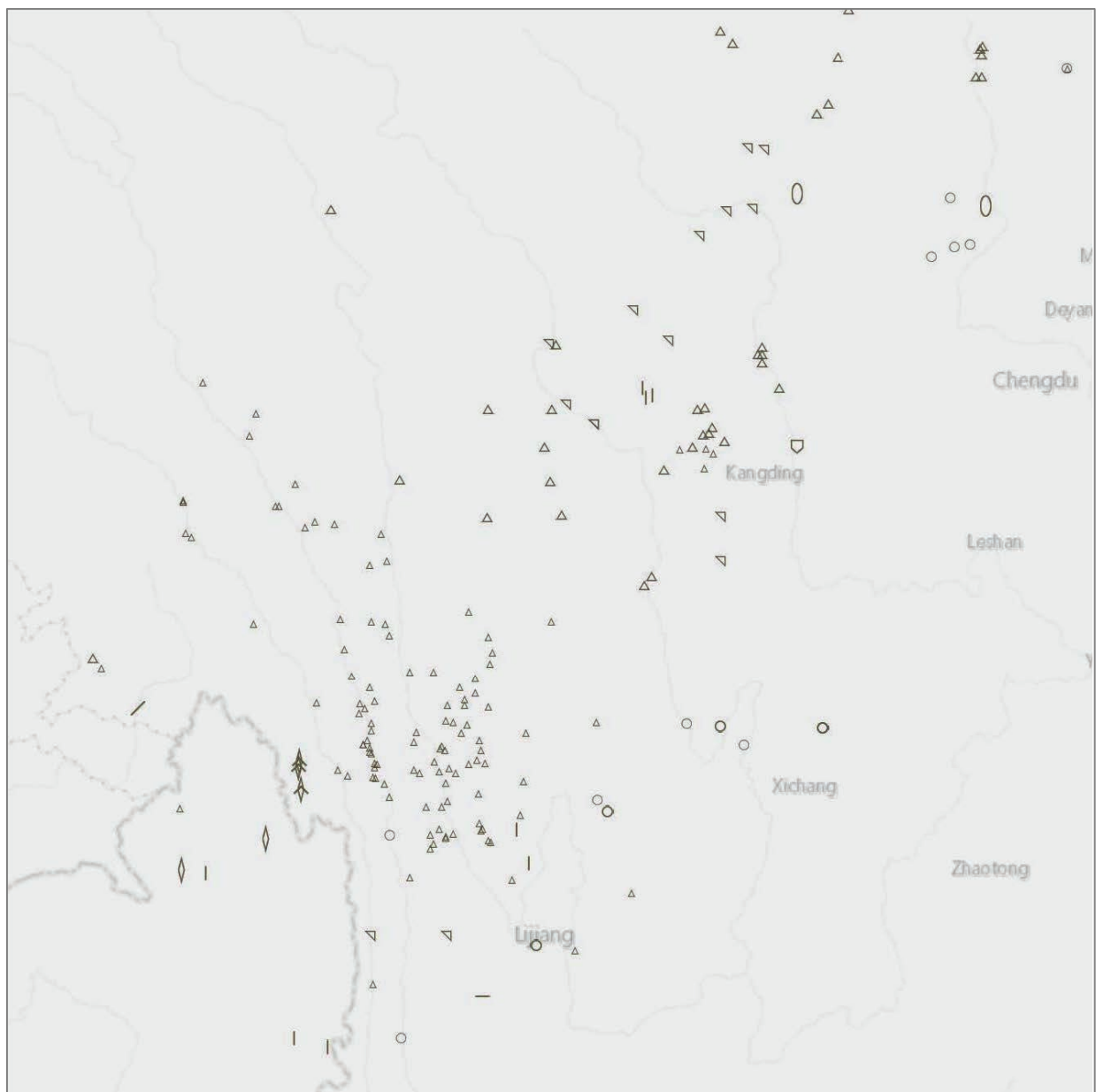
(SHIRAI Satoko, EBIHARA Shiho, IWASA Kazue, KURABE Keita, and SUZUKI Hiroyuki)



Esri, HERE, Garmin, USGS

Figure 1: Grammatical Relations in Tibeto-Burman

	A1	○	E2
/	A2	○	E4
^	AX3	○	E4a
-	A4	○	E4e
△	B1	▽	D1
△	B1a	◇	DX3
▽	BX3		



Esri, HERE, Garmin, USGS

Figure 2: Grammatical Relations in Tibeto-Burman: enlarged

	A1	0	E2
/	A2	○	E4
^	AX3	○	E4a
—	A4	○	E4e
△	B1	▽	D1
△	B1a	◇	DX3
▽	BX3		

## Grammatical Relations in Austroasiatic

### 1. Major split in geographic distribution between mainland Southeast Asia and eastern India

All Austroasiatic languages are nominative-accusative (AS/P) in their case-marking patterns. They are classified into two major groups—one in mainland Southeast Asia, the other in east India—based on the use of markers denoting core cases such as subject and object in transitive sentences.

While the languages in Southeast Asia have no case markers and thus are Type A4, those on the Indian subcontinent and Malay Peninsula have head-marking clitics or pronouns denoting animate subjects and/or objects attached to transitive verbs and thus are Type A2. Types A4 and A2 have the respective subtypes A4v and A2v regarding basic word order.

Type A4: No marking with basic verb-medial word order AVP

Subtype A4v: No marking with basic verb-initial word order alternating with verb-medial word order

Type A2: Head marking with basic verb-final word order APV

Type A2v: Head marking with basic verb-initial word order VPA

### 2. Geographical distribution

Type A4 with transitive AVP order prevails in mainland Southeast Asia. The Monic, Pearic, Bahnaric, Katuic, Khmuic, Mangic, and Palaungic subgroups of Mon-Khmer languages are of this type. It should be noted, however, that languages may vary in their intransitive word order. For example, Khmer has both SV and VS patterns. According to Ueda (2020), the VS order is favored in case it denotes an implicit result after the preceding context expresses some kind of cause, although native Khmer speakers do not observe clear semantic differences between SV and VS sentences.

Type A2 with transitive APV order dominates on the Indian subcontinent, where people speak the Munda subfamily of Austroasiatic languages, such as Mundari, Santali, and Kharia mostly in the state of Jharkhand; Sora in the state of Odisha; and Korku in the state of Maharashtra in East India. They are head-marking languages with no case marker attached to the agent or patient argument, but clitics denoting the agent and patient follow the verb in case they are animate. The

Aslian languages of the Malay Peninsula—Jahai, Semaq Beri, and Ceq Wong—are also Type A2. In Semaq Beri, a pronoun denoting an obligatory agent follows transitive verbs. In Ceq Wong, on the other hand, a preverbal pronoun denoting the agent appears with the transitive verb.

Car Nicobarese, isolated in the Indian Ocean, is of an exceptional A2v in that the verb is followed with a clitic denoting the agent or subject, with basic verb-initial word order VPA.

The split in geographic distribution between A4 and A2 languages provides no clue to historical changes in the morphosyntax of the language family. Jenny, Weber & Weymuth (2015) suggest that the APV word order and head-marking morphology of the Munda subfamily might be the result of influence from dominant Indo-European or Dravidian languages.

Another exceptional A4v subtype—head initial with verb-initial order—is spoken in regions quite distant from each other. One is Palauk Wa of the Palaungic subgroup spoken in Cangyuan County, Yunnan, China (雲南省滄源佤族自治縣). Palauk Wa has AVP with alternative VAP, but the basic order cannot be clearly established. Another is Pnar of the Khasic group in the state of Meghalaya in Assam. Unlike the standard Khasi of Type A4, the basic word order of Pnar is verb-initial VAP, although AVP is also possible.

(MINEGISHI Makoto, SHIMIZU Masaaki)

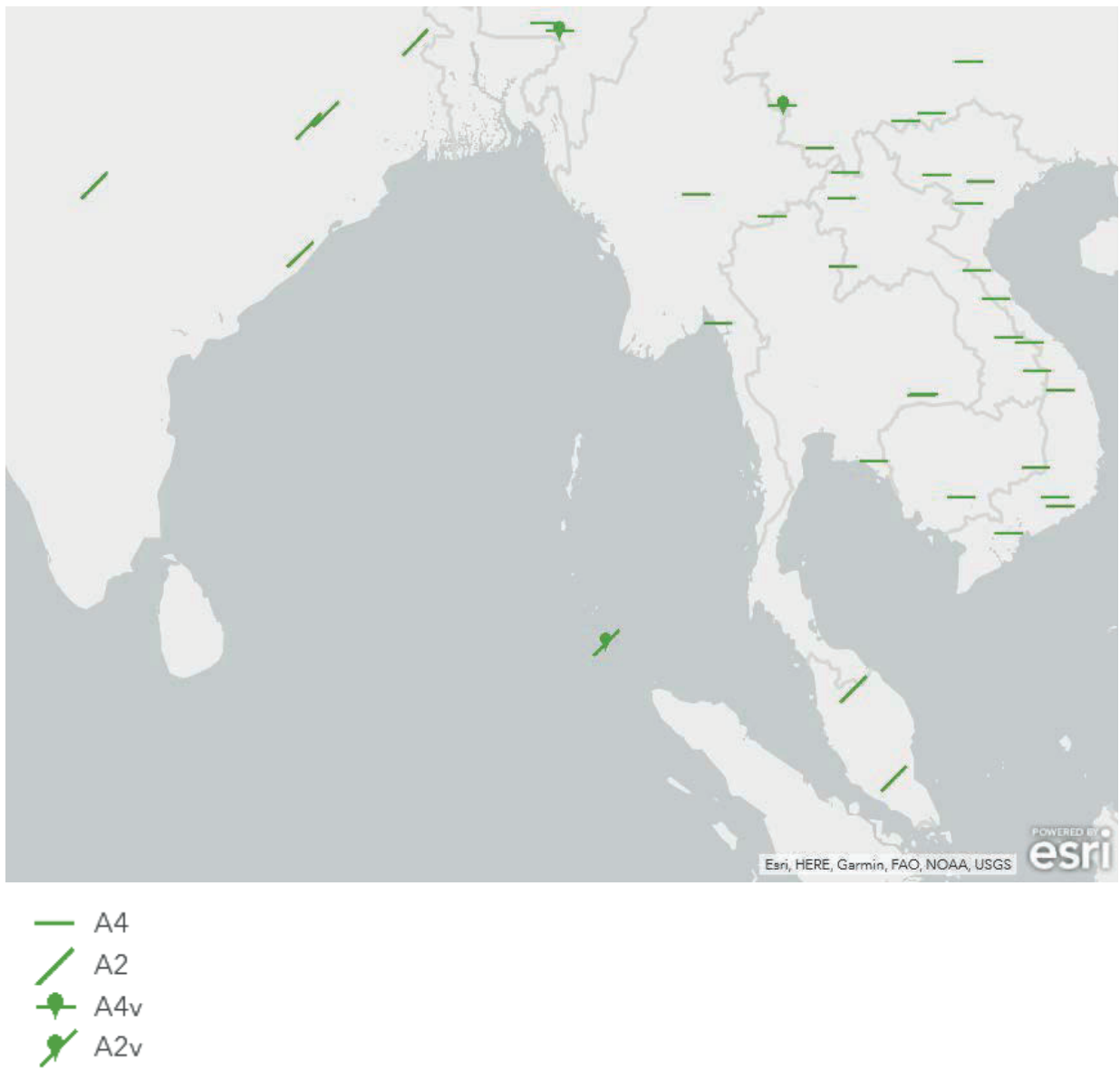


Figure 1: Grammatical Relations in Austroasiatic

## Grammatical Relations in Austronesian

### 1. Classification

Austronesian languages exhibit a variety of grammatical relations in terms of case marking and alignment of nominal arguments. The level of verbal morphology varies from very rich ones in Philippine languages to relatively simple ones in Malayic and some of Oceanic languages. Nevertheless, most languages do exhibit verbal morphology related to grammatical voice, which, in most languages, correlates word order or marking on the nouns that serve as core arguments.

There have been extensive discussions on morpho-syntactic alignment of many Austronesian languages because it is not easy to decide what is the ‘basic’ transitive construction, which is supposed to involve the simplest verb form. In many languages in Taiwan, Philippines and Indonesia, however, a verb might take equally complex form in two or more grammatical voices thus it makes arguable which is the ‘most basic’ transitive verb. These languages are often called ‘symmetrical voice language’ (cf. Himmelmann 2005). There has been a considerable amount of discussion whether such a language is an accusative or an ergative. This study concludes that these symmetrical voice languages are categorized into ‘other patterns’. The subtypes are posited so as to reflect researchers’ analyses on the grammatical alignment, which quite often involve perspectives on syntactic and discourse ergativity.

C3: S1/S2 (Split of S) Double-marking

D1: A/S/P (Different marking on A, S and P),  
Dependent-marking

G3-1: Symmetrical voice, Double-marking, Analyzed  
as AS/P (Nominative-accusative alignment)

G3-2: Symmetrical voice, Double-marking, Analyzed  
as A/SP (Ergative-Absolutive alignment)

G4-1: Symmetrical voice, No marking, Analyzed as  
AS/P (Nominative-accusative alignment)

G4-2: Symmetrical voice, No marking, Analyzed as  
A/SP (Ergative-Absolutive alignment)

### 2. Distribution

Formosan (Taiwan), Philippine languages as well as Indonesian languages exhibit symmetrical voice alternation, and they fall in type G. Those languages are largely divided into double-marking and no-marking

languages. In double-marking languages, core argument nouns take noun/case markers, and their grammatical role (subject/object/oblique) are determined with respect to the verb form in most of the languages. They are analyzed to fall in either type G3-1 with nominative-accusative alignment or type G3-2 with ergative-absolutive alignment. In no-marking languages, which are found in Sumatra and Java islands and Eastern Indonesia, word order is often employed to show grammatical relations. They are categorized either as type G4-1 (nominative-accusative alignment) or type G4-2 (ergative-absolutive alignment).

Researchers on Formosan and Philippine languages as well as on Philippine-type languages in Sulawesi and Kalimantan generally consider that those languages are ergative-absolutive alignment (type G3-2). Rukai in Taiwan, Muna, Bantik, Talaud in Sulawesi, and Kelabit in Kalimantan are the exception to this since they are analyzed as nominative-accusative (type G3-1). No-marking nominative-accusative languages are found among languages of Sumatra, Java and Eastern Indonesia, which fall in type G3-1 or G4-1. Split of case marking on subject (type C3) is not very common although Acehnese in northern Sumatra is claimed to exhibit it (Durie 1985). Äiwoo is the only language within the scope of this paper which exhibit different marking on A, S and P (Type D1, NÆSS 2015).

(UTSUMI Atsuko)



Figure 1: Taiwan

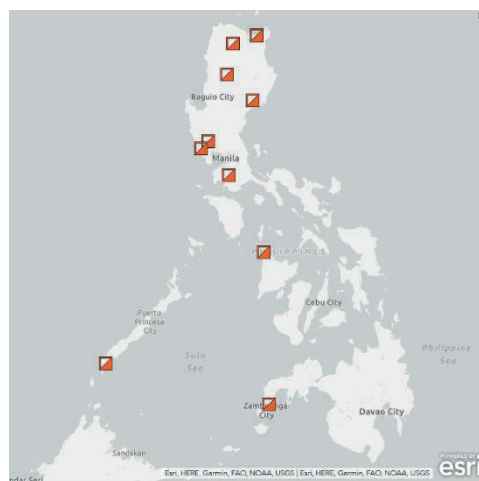


Figure 2: Philippines



Figure 3: Indonesia

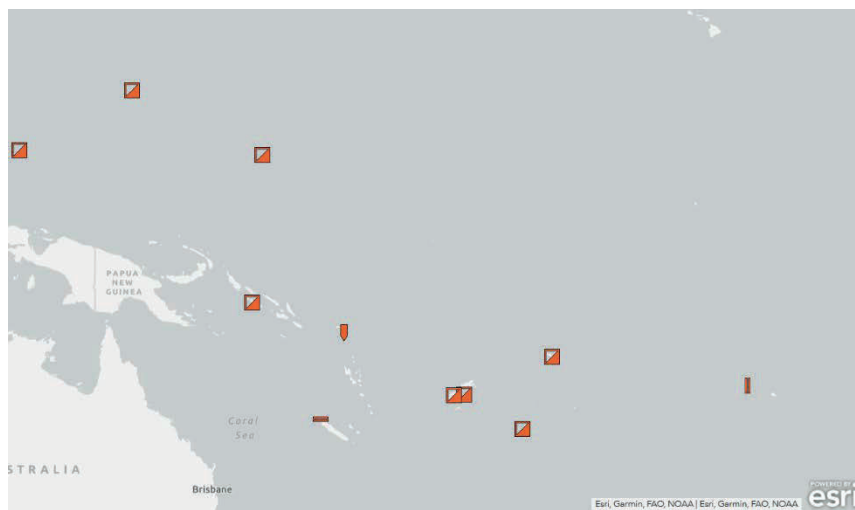


Figure 4: Papua and Pacific Islands

## Grammatical Relations in Tungusic

### 1. Classification

All Tungusic languages have SOV, AN, the agglutinative word-formation and also postpositions as the typological characters. It could be said that only the verb-predicate final position in sentences is highly strict, so the other components of the sentence can be omitted.

All Tungusic languages have the apparent accusative form for P, and the zero form is mainly used for subject, that is A and S. Namely all Tungusic languages are classified in one type AS/P, and verbs conjugate with the person and number of subject A and S except in Sibe.

A3: the others

A1: Sibe

In addition, A3 is subclassified into 3 subtypes according to how many case forms for P they have, and how these forms are used.

	<i>Dependent</i>			<i>Head</i>
	A	S	P	V
A3-1	NOM.	NOM.	ACC.	AS
A3-2	NOM	NOM.	ACCD. ACCIN.	AS
A3-3	NOM.	NOM.	ACC. DES.	AS
A1/E4	NOM.	NOM.	NOM. ACC.	$\varnothing$

A3-1: Hezhe?

A3-2: Evenki, Negidal, Orochon, Ewenke

A3-3: Ewen, Orochi, Udege, Nanay, Ulich, Uilta

Evenki (3A-2) have 2 accusative forms according to the definiteness, Definite-Accusative (ACCD) and Indefinite Accusative (ACCIN).

Table 1: Case markers in Evenki

	simple	POSS 'my'	PREFL 'own'
NOM	$-\varnothing$	$-v$	
ACCD	$-va$	$-va-v$	$-vi$
ACCIN	$-ja$	$-ja-v$	$-ja-vi$

1) a Purta-va-s min-du bu:kel.

knife-ACCD-2SG.POSS I-DAT give-2SG.IMP

'Give me you knife.'

(Nedjalkov 1997: 148)

b D'av-ja-v o:kal. (ibid. :147)

boat-ACCIN-1SG.POSS make-2SG.IMP

'Make a boat for me.'

c Bi oro-r-vi etejet-che-m. (ibid. :144)

I reindeer-PL-PREFL guard-PRS-1SG

'I guard my reindeer.'

In Ewen (A3-3) the case markers' distribution is very similar to Evenki, only the term Designative case (DES) in Ewen corresponds to Indefinite Accusative in Evenki. On the other hand, the functions between them vary in a few such as in 2) where Designative is used for the beneficial subject.

2) Kuma-ŋ-ga-ku hic-n.

seal-AL.POS-DES-1SG appear-NFUT:3SG

'A seal appeared for me (that is, to my benefit)'

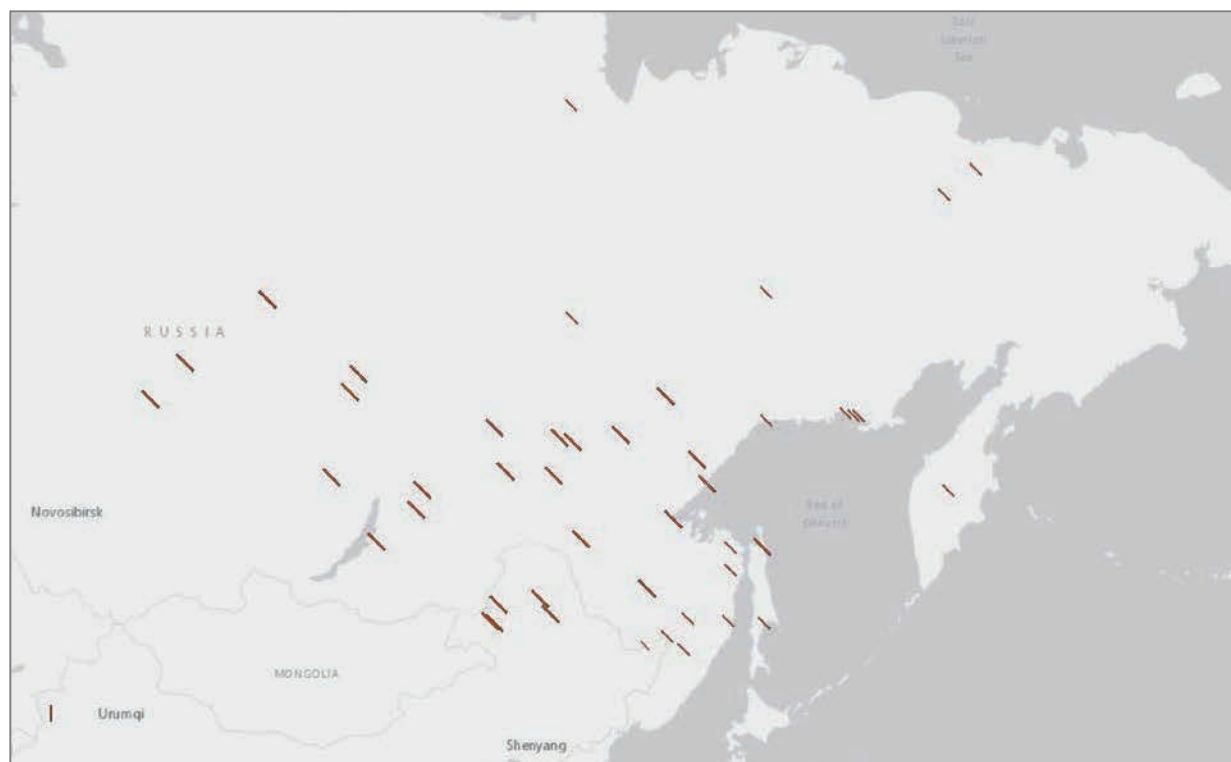
(Malchukov 1995: 10)

A1/E4 pattern resembles to Mongolic and Turkic languages.

### 2. Geographical distribution and interpretation

It is very clear that Tungusic has only one type AS/P, but also has a few forms for P, which is being lost in China. In Hezhe Accusative form has remained, and Sibe has got the differentiation between zero (Nominative) and Accusative forms by the languages contact.

(MATSUMOTO Ryo)



- | A1
- A3-1
- A3-2
- A3-3

Esri, HERE, Esri, HERE, Garmin, USGS, NRCan

Figure 1: Grammatical Relations in Tungusic

## Grammatical Relations in Uralic

### 1. Classification

Uralic has typologically SVO (in the west) or SOV (in the east), AN word order and the agglutinative word formation. The grammatical relations are marked by the case suffixes.

All Uralic languages basically belong to Nominative-Accusative type and verbs conjugate with Subject (A3), which can be subgrouped by the following points:

- how to mark P in Dependent-marking
  - a: one form for P
  - b: over 2 forms for P by the definiteness, aspectual function etc.
- what and how to mark in Head-marking (y1 and y2 are represented in a same mark on the Map)
  - x: Subject's person and number
  - y1: Subject's person and number, and Object's number and definiteness
  - y2: Subject's person and number, and Object's definiteness
  - y3: Subject's person and number, and Object's number and definiteness, but no accusative form
  - z: Subject's person and number, and Object's person and number

Each Uralic languages are classified as below:

- A3ax: Komi, Udmurt (Permic), Mari (Mari), Saami
- A3bx: Karelia, Veps, Votic, Izhorian, Estonian, Livonian, Finnish (Balto-Finnic)
- A3ay<sub>1</sub>: Nenets, Enets, Nganasan, Selkup (Samoedic)
- A3ay<sub>2</sub>: Hungarian
- A3ay<sub>3</sub>: Khanty, Mansi (Ob-Ugric)
- A3az: Moksha, Erzya (Mordvinic)

According to the grouping system of our project, these types are symbolized as follows:

- A3ax → A3-1
- A3bx → A3-1d
- A3ay<sub>1/2</sub>, A3az → A3-2
- A3ay<sub>3</sub> → A3-2/A2

Type A3-1 is very simple type. In type A3-1d, for example in Finnish in (1), *kirja* 'book' has some forms although they stand for the object, which express the definiteness, imperfectivity and the object of the imperative mood.

- 1) a. Ostan kirjan.  
       buy\_PR.S.1SG book-SG.GEN  
       'I'll buy a book.'

Table 1: Classification of Uralic

	Dependent			Head
	A	S	P	V
A3ax	NOM.	NOM.	ACC.	AS
A3bx	NOM.	NOM.	ACC.~GEN. PART.	AS
A3ay	NOM.	NOM.	ACC.~NOM.	AS/P <sub>1</sub>
A3az	NOM.	NOM.	GEN.	AS/P <sub>2</sub>

- b. En osta kirjaa.  
       NEG\_1SG buy\_PART book\_SG.PART  
       'I won't buy a book.'
- c. Ostin kirjoja.  
       buy\_PST.1SG book\_PL.PART  
       'I bought some books.'
- d. Osta kirja!  
       buy\_IMP.2SG book\_SG.NOM  
       'Buy a book!'

(White 2008: 278)

A3-2/A2, that is Khanty and Mansi, has Accusative form only in the pronoun. Examples from Khanty:

- 2) a. a:ši pox-əl xo:t-əl-na wa:n-sə-lli  
       father son-3SG house-3SG-LOC see-PST-SG/3SG  
       'The father saw his son in his house.'
- b. ma naŋ-e:n wa:n-s-e:m.  
       I you-ACC see-PST-SG/1SG  
       'I saw you.'

(Nikolaeva 1999: 65, 66)

### 2. Geographical distribution and interpretation

It could be divided in 3 areas. In the east Samoedic and Ugric, in the central Permic, and in the west Finnic. Only Mordvinic in the south is rather different from others.

	West	Central	East
Dependent	b	>	a
Head	x	x	<

We can say that there is tendency that the system of the dependent (noun) marking becomes more complicated in the west, and that of head (verb) marking becomes more complicate in the east.

(MATSUMOTO Ryo)



Esri, HERE, Garmin, USGS, Esri, HERE





-  A3-1
-  A3-1d
-  A3-2
-  A3-2/A2

Figure 1: Grammatical Relations in Uralic

## Grammatical Relations in Mongolic and Turkic

### 1. Classification

The Mongolic and Turkic languages are all agglutinative in morphology with the basic word order of SOV in syntax. Cases are marked with postpositions. In a simple sentence, the agent/subject and the patient are treated differently in terms of case marking, and therefore the languages belong to the nominative-accusative type in morpho-syntactic alignment.

Most Turkic languages except Salar and Sarıg Yughur and some Mongolic languages such as Moghol, Oirad, Kalmyk, Buryad, Dagur and Khamnigan are double-marking, indicating person and number of an agent/subject both in the argument and in the verb. E.g.,

Buryad:

Bī nom unša-ba-b.  
1SG-NOM book read-PST-1SG  
'I read a book.'

Turkish:

Ben kitap oku-du-m.  
1SG-NOM book read-PST-1SG  
'I read a book.'

In all Mongolic and Turkic languages, case is manifested in arguments. In simple sentences, nouns used as an agent/subject receive zero case marking and those used as a patient either take or do not take accusative case marking. The addition of the accusative suffix to a noun is conditioned by various factors (see, for instance, works of K. Hashimoto, M. Mizuno, Y. Yamakoshi, etc. for Mongolian and Buryad, and those of Y. Kuribayashi, A. Göksel & C. Kerslake, Y. Şahin, etc. for Turkish). It is a complex matter, but we can say that definiteness/specificity of the noun used as a direct object is associated with the phenomenon in all Mongolic and Turkic languages. To speak roughly, the direct object is marked with an accusative case marker when it is definite/specific, and with a zero case marker when it is unspecific. E.g.,

Mongol:

Čon-Ø xon-Ø id-ən.  
wolf sheep eat-PRS  
'A wolf eats a sheep.'  
Čon-Ø en xon-ig id-əw.  
wolf this sheep-ACC eat-PST  
'A wolf ate this sheep.'

Turkish:

Kurt-lar-Ø koyun-Ø ye-r-Ø.  
wolf PL sheep eat-AOR-3SG  
'Wolves eat sheep.'

Kurt-Ø bu koyun-u ye-di-Ø.  
wolf this sheep-ACC eat-PST-3SG  
'The wolf ate this sheep.'

The following is an example of an indefinite but specific object with the accusative suffix.

Turkish:

Bir sözcüğü hatırla-ya-mı-yor-um.  
a word-ACC remember-POSB-NEG-PRES-1SG  
'I cannot remember a word.'

### 2. Geographical distribution and interpretation

All languages show definiteness/specificity-conditioned use of an accusative case marker, while languages with number and person of an agent/subject in both the argument and the verb are spread except in the southeastern area ranging from Mongolia to Gansu Province in China. (Y. Kuribayashi provided the author with information about some Turkic languages.) The languages can be classified into the following two types:

		Definite/specific object in accusative case	
		+	–
Person and number of agent/subject in the verb	+	A3d	
	–	A1d	

The geographical distribution of the two types may indicate that the presence or absence of double-marking is an areal feature rather than a genetic one.

(SAITÔ Yoshio)

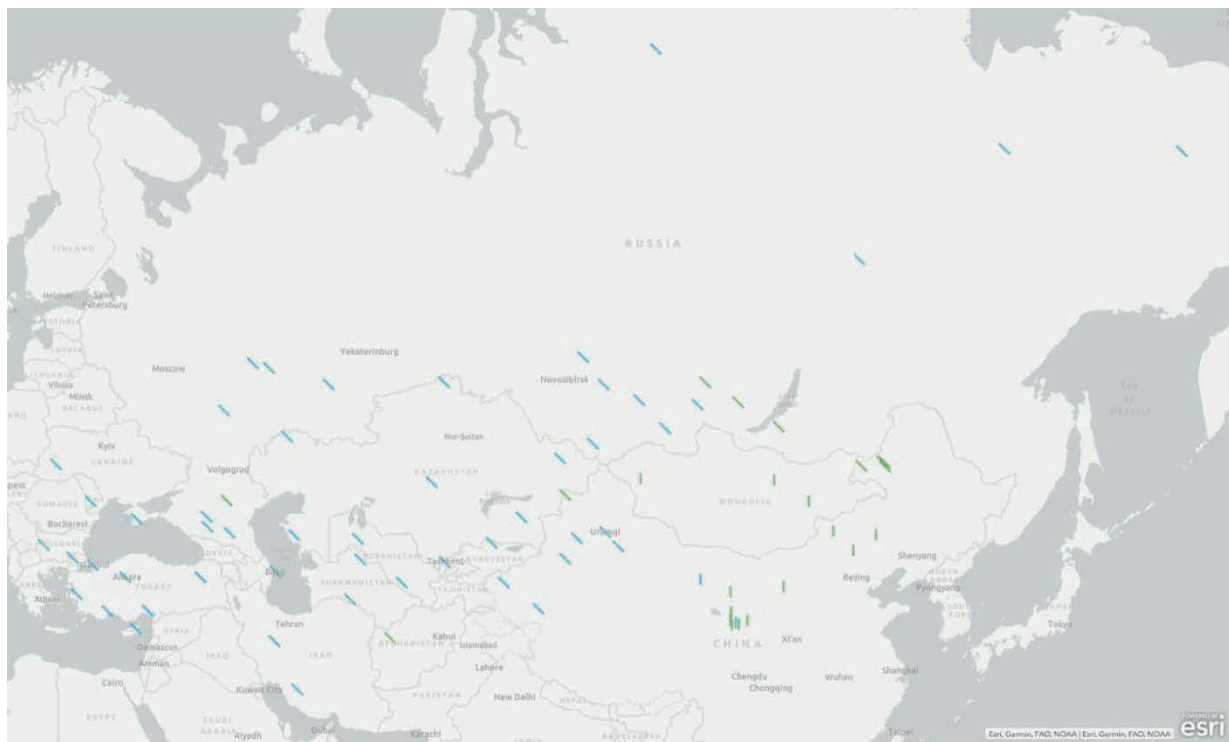


Figure: Personal Endings in Mongolic and Turkic

## Grammatical Relations in South Asia

### 1. Classification

I describe the languages of Indo-Aryan (IA), some small language families/branches, and language isolates in South Asia. Eleven different symbols are used in the maps following the common classification of grammatical relations used in articles in this volume. Note that this classification is based on the most ‘standard’ sentences.

The numbers of languages classified into each type based on the presentation of grammatical relations in this volume are as follows: This paper covers 76 languages, but the total number is higher because a language might be classified into several types.

A1:	5	BX3:	19
A2:	21	CX3:	1
A3:	26	DX3:	31 (1)
AX3:	2 (1)	E4:	6
B2:	1 (1)	GX3:	8
B3:	15 (1)		

The numbers in brackets are the total number of symbols not shown on the map. This is because where a language must be classified into four types even within its ‘standard’ situations, it is shown as F-class on map, while where a language is classified into three or fewer classes, the symbols are overlaid. Thus, there is a language shown as F [☆] here, Torwali (in northern Pakistan). This language has a system of verbal agreement with a participant in the absolutive case, so it is classified into four classes: AX3/B2/B3/DX3.

Most of the languages I treat here show split marking. The triggering factors of such splits are numerous and wide-ranging. They are commonly found in the region in the following order (see Shirai’s paper in this volume for trigger symbols and details): d (48) > a (45) > g (36) > f (20) > b (17) > c (9) > e (1).

### 2. Geographical distribution and interpretation

I now point out four major clear areal features.

First, there are languages with perfect circles on the islands. These are Andaman languages, Sinhala (IA; Sri Lanka), and Vedda (isolate; Sri Lanka). These languages commonly have the E4 pattern, which is a pattern lacking both case marking and agreement. There is one more language with the E4 pattern in far inland India: Nihali (isolate; central India).

Second, regarding agreement systems, the languages in Pakistan and the western half of India have ergative

(ERG: S/P) verbal agreement, whereas those in the eastern half of India, Nepal, and Bangladesh show the accusative (ACC: S/A) agreement pattern; they are clearly divided into two groups by agreement type. In addition, in northern Pakistan and eastern Afghanistan, there coexist languages of both types, and some of them interchange the patterns language-internally depending on a variety of conditions.

Third, with reference to case marking systems, most languages located in the northern half of South Asia have an ERG case; on the other hand, none of the languages in the south (except the western coast of India) have it. That is, the ERG case is absent in the south. There are many Dravidian languages in the southern part of South Asia, where the languages do not have ERG alignment (see Kodama’s paper on Dravidian). Therefore, it can be assumed that the lack of an ERG case in IA (and other minor) languages spoken in the area is due to language contact with Dravidian. Alternatively, the lack in Andamanese languages might be an inherent feature or might be affected by the Austroasiatic languages in the Nicobar Islands (see Minegishi & Shimizu’s paper on Austroasiatic).

While this is generally true of the case marking of agents and subjects, the ‘standard’, i.e., specific (or even definite), referential, *and* identical patients are quite widely and commonly marked by any case other than the absolutive case so that the arguments are morphologically marked. On the maps, A3 (ACC alignment + ACC agreement) and DX3 (tripartite alignment + ERG or ACC agreement) represent languages in such situations. In other words, in most languages of South Asia, either nonspecific, non-referential, or generic patients tend to take no overt case marking. This is especially true for inanimate patients.

Outside South Asia, all IA languages show the ACC pattern for grammatical relations. The triggers for DOM are not common in the languages: definiteness in Domari, pronoun/noun in Lomavren, and both animacy and definiteness in Romani.

Fourth, there is a minor case alignment pattern called ‘transitive’ shown by some IA and Nuristani languages in and around the northern border between Afghanistan and Pakistan. This pattern distinguishes S from A and P: in Dameli, *ai āgyem* ‘I(DIR) came’, *iseg āga* ‘he(DIR) came’, while *mū tas yaṇḍām* ‘I(OBL) beat him(OBL)’. Certain Iranian languages are famous for this alignment pattern (see Iwasaki’s paper on Iranian in the next volume). (YOSHIOKA Noboru)

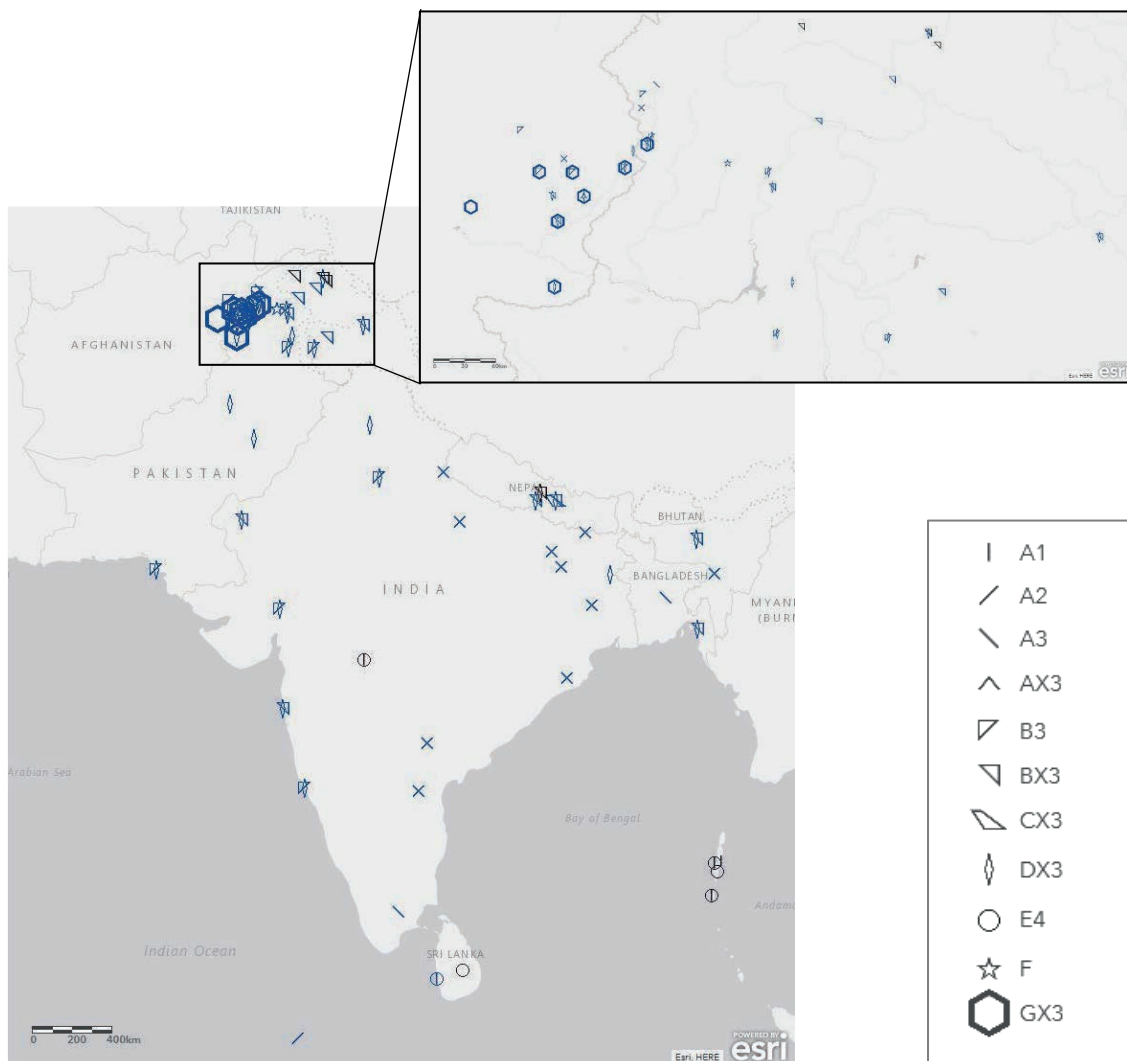


Figure 1: Types of how to show grammatical relations in Indo-Aryan, Nuristani (both in navy blue), Andamanese, and language isolates (those in black)

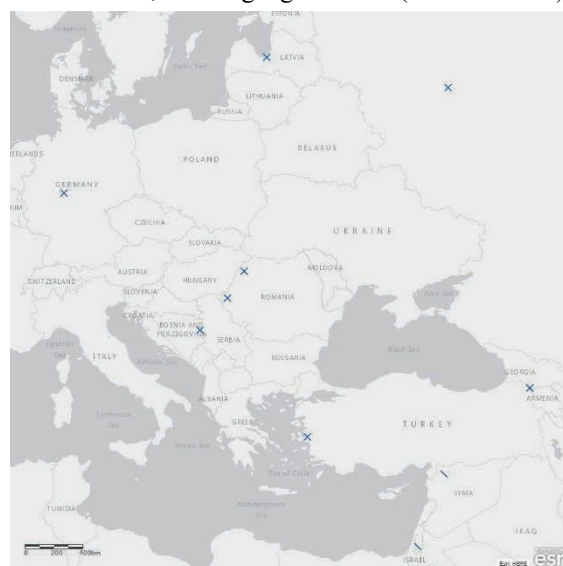


Figure 2: Types of Indo-Aryan languages outside South Asia

## Grammatical Relations in Dravidian

### 1. Classification

In this map, all the languages are classified as AS/P alignment type. In all the languages the AS/P alignment is morphologically coded in the case system, and, with a single exception of Malayalam, finite verb forms agreeing with the A or S argument.

A minor split is observed in all the languages. The coding of inanimate P in the oblique case is reported to be optional in most languages, an option for definite or at least specific inanimate nouns. Otherwise, the nominative case covers A, S and P for inanimate nouns and pronouns.

S and A are coded in the nominative as the canonical subject which triggers agreement in the finite verb, except Malayalam. In most languages, some stative and change-of-state predicates such as possessives and verbs of emotion code S and A in an oblique case, or the dative if available. If P of those verbs are coded in the nominative, it may trigger the agreement. Otherwise the finite verb is impersonal and remains in the default form, usually the third person neuter.

Apart from Malayalam, another subclass is characterized by the head marking of P (or other non-S/A argument) in the first or second person, which is a shared innovation in Kui-Kuvi and Pengo-Manda subgroups of South Central Dravidian. Sanford Steever (1993) showed that this innovation is a result of fusion and subsequent grammaticalization of the benefactive construction *V-tar* for the beneficiary in the first or second person.

Brahui codes pronominal P in the cliticized pronoun following the host verb like Balochi, the dominant language in the area where Brahui is spoken.

The red color of the symbols indicates a distinction between the Accusative and the Dative cases, as is reconstructed for Proto-Dravidian. Green symbols indicate distinct case forms which are largely interchangeable between the two cases. Blue symbols are for the languages and dialects without the accusative/dative distinction, as is the case with New-Indo-Aryan and New Iranian languages.

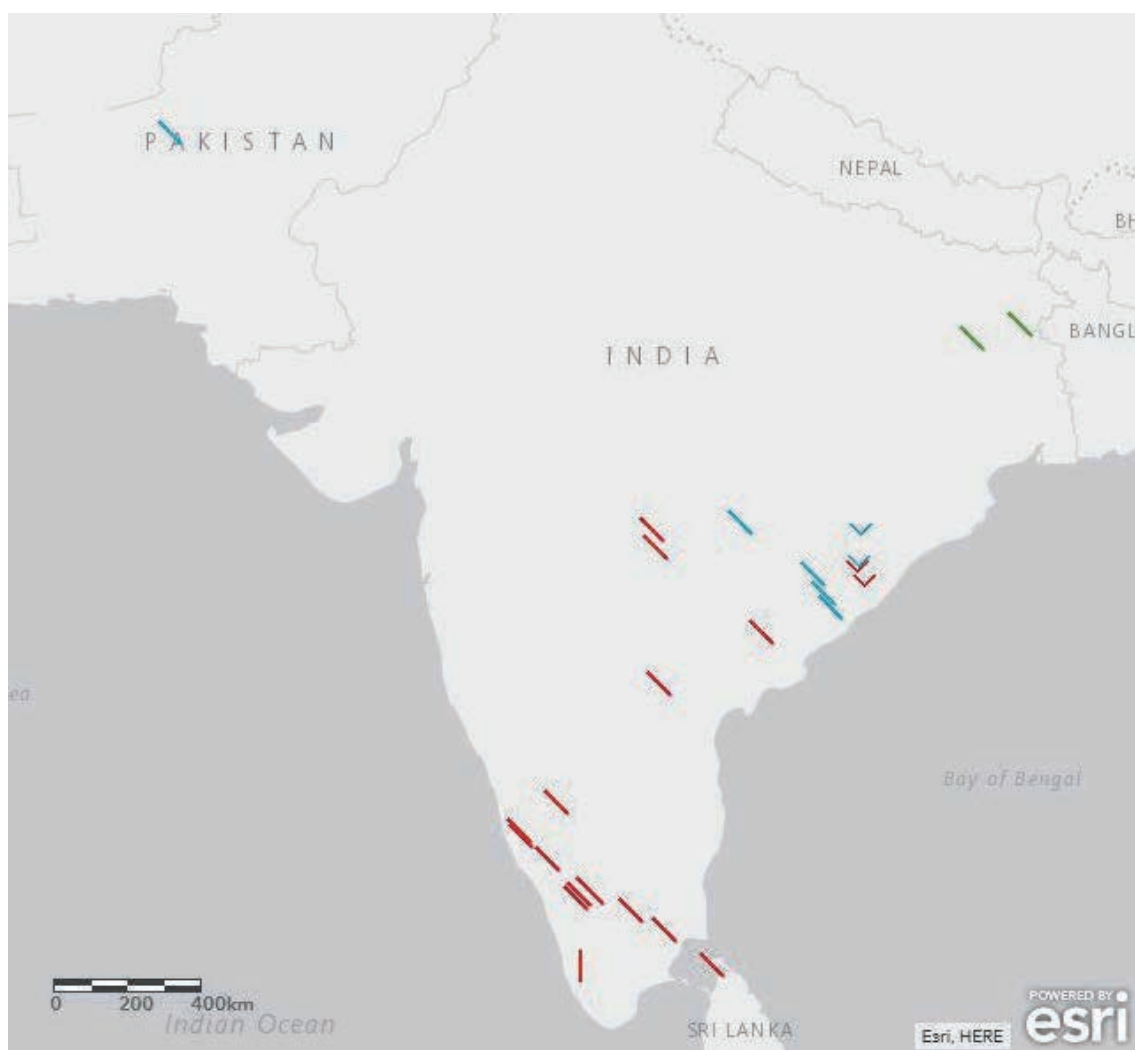
### 2. Geographical distribution and interpretation

Merger of the Accusative and the Dative is observed in languages and dialects with speaker populations of relatively small size, less than 50,000 in Central and South Central Dravidian, such as Pengo, Manda, Parji,

Gadaba. and Gondi dialects spoken in Orissa. All the three languages of so called North Dravidian subgroup, each with more than 100,000 (Malto) or 1,000,000 speakers (Brahui, Kurux), but isolated from other subgroups, seem to have come through some degree of the Accusative/Dative merger. It might be safely assumed that the merger of the two cases is a contact induced change, resulting from extensive bilingualism with New Indo-Aryan or New Iranian. The case system has been susceptible to contact induced changes.

With this in view, the uniformity of Dravidian in regard to the AS/P alignment presented on this map appears to be extraordinary. Split A/SP alignment prevalent in western New Indo-Aryan languages such as Marathi and Hindi as well as New Iranian languages such as Balochi does not seem to have influenced minority languages such as Kolami, Naiki, Gondi and Brahui. It might be simply that dialect data with A/SP alignment have escaped my attention. Or it may be that A-S-P alignment is more resistant to borrowing than individual cases.

(KODAMA Nozomi)



#### Head-marking of AS

A3(A2ad): with the Accusative distinct from the Dative \

A3(A2ad): with a general Oblique /

A3(A2ad): with the Accusative overlapping the Dative \

#### Head-marking of AS and P

A3(A2ad): with the Accusative distinct from the Dative ✓

A3(A2ad): with a general Oblique ✓

#### No Head-marking

A1 |

Figure 1: Grammatical Relations in Dravidian

## Grammatical Relations in Semitic

### 1. Classification of Grammatical relations

Semitic languages are, in general, Nominative-accusative type. And most of them have SVO word order, although Ethiopian Semitic and some peripheral Arabic dialects have SOV order. The Grammatical relations of Semitic are classified as follows.

A3/A4: SVO. A S is indicated on V by the conjugation (A3). P is indicated by word order (A4).

A3/A1: SOV. AS is indicated on V by the conjugation (A3). P is indicated on V by a suffix(A1).

A4: SVO. V has no conjugation.

B2: SOV. A, S and P are both marked on V.

E4: SOV. Neither P nor V are marked

### 2. Geographical distribution and interpretation

#### 2-1. A3/A4

A3/A4 is the most widely spread type in Semitic except Ethiopian. Most of Arabic dialects are A3/A4.

Egyptian Ar.: *ha:ni fa:f meħammed*.

‘Hani saw Muhammad.’

[Hani saw.3rd.m.sg. Muhammad]

In Syrian Ar., a core dialect, when P is a person, P and V may be marked, P by a preposition and V by a personal pronominal suffix referencing to P.

Syrian Ar.: (Brustad 2000: 354)

*fıft-u la mħammad*. ‘I saw Muhammad.’

[saw.3rd.m.sg.-him DAT Muhammad]

#### 2-2. A3/A1

In Cypriot and Maltese, P is marked by the DAT preposition, when P is definite in Cypriot, and when P is a person in Maltese. In Maltese it maybe because of the contact with the Romance languages.

Cypriot Ar. (Borg 1985: 138)

*kıfta rkáſat l-óxtak* ‘why did you hit your sister’

[why hit.PST.2SG DAT sister-your]

Maltese (Borg 1997: 277)

*Rat li t-tifel ta hu-k*. ‘She saw your brother’s son.’

[saw.3rd.f.sg. DAT the-boy of brother-your]

Northwest Semitic languages also have SVO word order. In Hebrew, P is marked by a preposition *et* when P is definite.

Modern Hebrew

*ani kore et ha-sefer*. ‘I read the book’.

[I read.m.sg. ACC the- book]

South Arabian languages have SVO order with no marking on P. There is also the observation that the

neutral word order in Soqotri is VSO.

Soqotri: (Kogan&Bulakh 2019: 304)

*fəlʋos ʕag ʔoben be-maʕʔal*. ‘A man broke up a stone with a hammer.’ [broke man stone INS-hammer]

Uzbekistan Ar. dialect, in contact with Turkic and Iranian languages, has SOV order and both S is indicated by conjugation of V (A3), and P by a prefix *i-* and V by a pronominal suffix referencing to P (A1).

Uzbekistan Ar.: (Jastrow 2005: 136)

*i-xaʔīb dʒa:bt-u*. ‘She brought the mollah,’

[ACC-mollah brought.3rd.f.sg.-him]

#### 2-3. A4

Some Arabic peripheral dialects, in which the conjugation has lost, are A4.

Juba Ar. (Nakao 2017:194)

*ána dúgu ɲerekúk*. ‘I hit a/the child.’ [I hit child]

Nubi in Kenya (Heine1982:29)

*mária ááínú nyerekú*. ‘the woman saw the child’

[woman saw child]

In Çukurova Ar. (south Turkey, adjacent to Syria) the O marking is highly generalised.

Çukurova Ar. (Procházka 2002: 158)

*illēli ʕıft-a la-Fa:ʔma*. ‘Today I saw Fatima.’

[Today saw.1st.sg.-her DAT-Fatima]

#### 2-3. B2

In North-Eastern Neo-Aramaic, in the boarder region between Turkey, Iraq and Iran, both AS and P are marked on V by suffix.

Jewish Sanandaj: (Khan 2010: 1)

*baxt-äke barux-äwal-i garš-ä-lu*.

‘The woman pulls my friends.’

[woman-the friend-PL-my pull-NOM.3FS-DAT.3PL.]

#### 2-4. E4

Ethiopian languages have SOV order. V agrees with S but O is not marked. In Amharic, when P is definite, P and V are marked, P by suffix *-n* and V by a personal pronominal suffix.

Amharic: (Wakasa 2018:40)

*lədʒu-n əndet agäɲɲäf-əu*. ‘how did you find her?’

[child-ACC how found-her]

In Tigrinya V is not marked.

Tigrinya: (/wiki/tigrinya\_language, 21.3.28 )

*ħagʷäs nə- 'almaz räxibūwwa* ‘Hagos met Almaz’

[Hagos ACC- Almaz met]

(NAGATO Youichi)

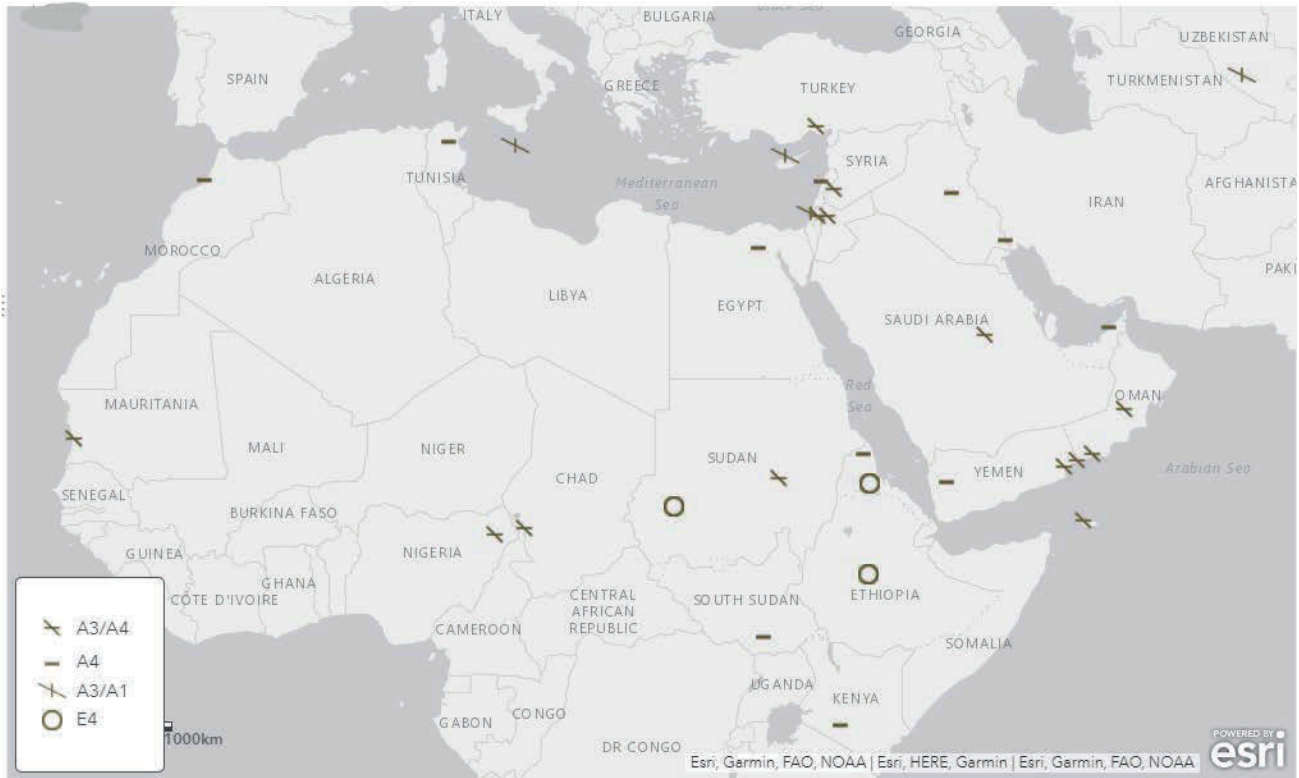


Figure 1: Grammatical Relations in Semitic

## Grammatical Relations in Nilo-Saharan

### 1. Classification

On this map, Nilo-Saharan languages are classified as consisting of 18 types:

Simple patterns

- A1 AS/P dependent-marking
- A2 AS/P head-marking
- A3 AS/P double-marking
- A4 AS/P no-marking  
(including optional head-marking)
- G1 ‘bidirectional’ dependent-marking

Complex double-marking patterns

- AX3 AS/P double-marking  
and A/SP head-marking
- BX3 A/SP dependent-marking (optional)  
and S1/S2 head-marking
- DX3 A/S/P head-marking (optional)  
and AS/P dependent-marking

‘No case before the verb’ split patterns

- A1/A4e AS/P dependent-marking (postverbal A/S)  
and AS/P no-marking (preverbal A/S)
- A2/A3e AS/P double-marking (postverbal A/S)  
and AS/P head-marking (preverbal A/S)
- A3/A4e AS/P double-marking (postverbal A/S)  
and AS/P no-marking (preverbal A/S)
- A4/B3e AS/P double-marking (postverbal A/S)  
and AS/P no-marking (preverbal A/S)
- F complex split

The other major split patterns

- A1/A4g limited use of case markers
- A1/E1g AS/P, neutralized in certain clause types
- A2/B2d indefinite patient as anti-passive adjunct
- A3/BX3c AS/P double-marking (topic A/S)  
and A/SP double-marking (non-topic A)

### 2. Geographical distribution and interpretation

Nilo-Saharan languages exhibit great diversity and complexity of the morphosyntactic systems for coding grammatical relations, which made them the main phylum of African languages extensively surveyed by König (2008) and thereafter has been the theme of an ever-increasing number of typological studies. While the majority of Nilo-Saharan has an AS/P system, a significant number of languages exhibit a partial ergative, active, tripartite or neutral system combined with another one. To simplify our argument, here we omit the splits based on ‘optional’ case marking and the noun/pronoun split (cf. Dimmendaal 2010).

Types A1, A2, A3 and A4 represent the simplest systems found among Nilo-Saharan (although further in-depth descriptive studies may reveal that they are more complex). A1 is extremely rare (only Chabu, probably a language isolate), but A2, A3 and A4 are widely distributed. All A3 languages have unmarked nominative and marked accusative, except for Sinyar (Central Sudanic) with marked nominative plus marginal accusative for non-common nouns while most Central Sudanic are devoid of case marking. Most A4 languages have <A V P> order although Deiga has <V A P> and Avokaya (Central Sudanic) use both <A V P> and <A P V> according to the tense-aspect. Some A4 languages may have optional AS/P type cross-reference (under certain conditions).

Type G1 is based on Heath (2007)’s analysis of *na* in Songhay languages as a ‘bidirectional’ case marking, which appears only between A and P <A *na* P V> but not in intransitive clauses <S V>. The slot for *na* between A and P is usually filled with modality, aspect and negation markers, but *na* is a semantically empty morpheme that only codes the boundary of A and P. As such, this type would otherwise be categorized as A4.

AX3, BX3 and DX3 types combine two different alignment systems. Recent studies have revealed that many Nubian languages and Nyimang have accusative case marking in addition to AS/P person and A/SP number cross-references (AX3), Kanuri (Saharan) has tripartite case marking and AS/P type cross-reference (BX3) and Beria and Dazaga (Saharan) have A/SP case(-cum-focus) marking and S1/S2 (active/inactive) cross-reference (DX3).

Types A1/A4e, A2/A3e and A3/A4e represent a type of marked nominative system commonly found among East African Nilo-Saharan, where the nominative case is assigned only to ‘non-topic (i.e., postverbal) subjects’ (NTS). For example, Akie (Southern Nilotic) and Murle (Surmic) have <V A/S-NOM (P)> and <A/S V (P)> (A1/A4e), Tirma (Surmic) and Turkana (Eastern Nilotic) has <(P/X) V-A/S A/S-NOM> and <A/S V-A/S (P)> (A2/A3e) where the word order does not affect the verbal form. On the other hand, Dinka (Western Nilotic) and Berta have <A/S V P/X> and <P/X V.NTS A/S.NOM> (A3/A4e) where the verbal form changes according to word order, superficially resembling the ‘Philippine-type’ pivot systems. The preverbal slot usually codes the syntactic topic/focus or adverbial clause markers. This feature, dubbed ‘no case before the verb’ in the literature, has been attested across the

Nilo-Saharan, Afroasiatic and Niger-Congo phyla (König 2008). Among this type, Tennet (Surmic) is the only language that marks the preverbal topic subject by the nominative case, although the preverbal subject focalized by clefting is unmarked.

Type A4/B3e is attested only by Gaam (Eastern Jebel), which has <S V> vs. <A V P> and <P V-NTS A-ERG> like A3/A4e, but, according to Stirz (2014), S never occurs postverbally. Although Uduk (Koman) has almost the same distribution, it can be categorized as A1/A4e since it allows postverbal S when a certain dependent clause marker fills the preverbal slot (Killian 2015).

Type F represents the complex systems represented by Northern Lwo (Western Nilotic). For example, Pări has <S V> vs. <P V A-NOM>, in addition to <A P V-A>, <A V-FOC P> (FOC: focus the postverbal element), <P V-FOC A-NOM> and <A V-AP (PREP P)> (AP: antipassive; P is coded as an adjunct), etc. Like Uduk, these languages have postverbal S only in some marginal (e.g., dependent) clauses or sentence types. Uduk and Type F languages may as well be labelled ‘(split) ergative’ due to these facts. As for Anywa, closely related to Pări, Reh (1996) alternatively describes it as a postverbal ‘definite’ (subject) marker, but here we simply analyze it as a marked nominative.

The other types of major split include what follows: Type A1/A4g is attested only by Keliko (Central Sudanic) which has nominative and accusative case markers only in some specific (e.g., relative) clauses. Type A1/E1g is attested only by Ik (Kuliak), whose nominative, accusative and oblique cases are functionally neutralized in certain clause types (in parallel with languages like Classical Arabic). Type A2/B2d is attested by Jumjum and Mabaan (Southern Burun, Western Nilotic), where definite P is coded by ergative word order <P V A> (vs. <S V>), but indefinite P is coded as a (non-marked) adjunct of an antipassive clause <A V-AP (P)>. Type A3/BX3c is attested only by Majang (Surmic), where sentences with non-topic subjects <V-A A-ERG P> (and <V-S S>) have A/SP case marking and AS/P cross-reference but sentences with topicalized subjects <A-NOM V-A P> (and <V-S S-NOM>) have AS/P double-marking. The ergative and nominative markers in Majang, however, only differ in tone.

Historically, the accusative markers *-k(a)/-g(a)/-(k)o* found in Types A3, AX3, BX3 and DX3 (plus A1, i.e., Chabu, a possible language isolate) may share the same

origin. On the other hand, Fur and Kunama share the accusative(-cum-dative) marker *-si*, but their historical relationship remains understudied. There is a debate over the historical relationship of the ergative/nominative/active/genitive markers *-ye/-e/-i* found in A1/A4e, A2/A3e, A4/B3e, BX3, DX3 and F (Nilotic, Surmic, Eastern Jebel, Saharan and possibly Nobiin or Old Nubian), but it remains unclear (cf. Ehret 2001; König 2008; Dimmendaal 2014; Dimmendaal et al. 2019). Also note that some Afroasiatic (Cushitic and Omotic) languages have the nominative/genitive marker *-i*. Some Type A1/A4e languages, i.e., Nilotic, Surmic and Berta code the marked nominative case only or mainly by tone. This feature is also attested in some Cushitic and Omotic languages, such as Somali and thus it could be an areal feature (König 2008).

(NAKAO Shuichiro)

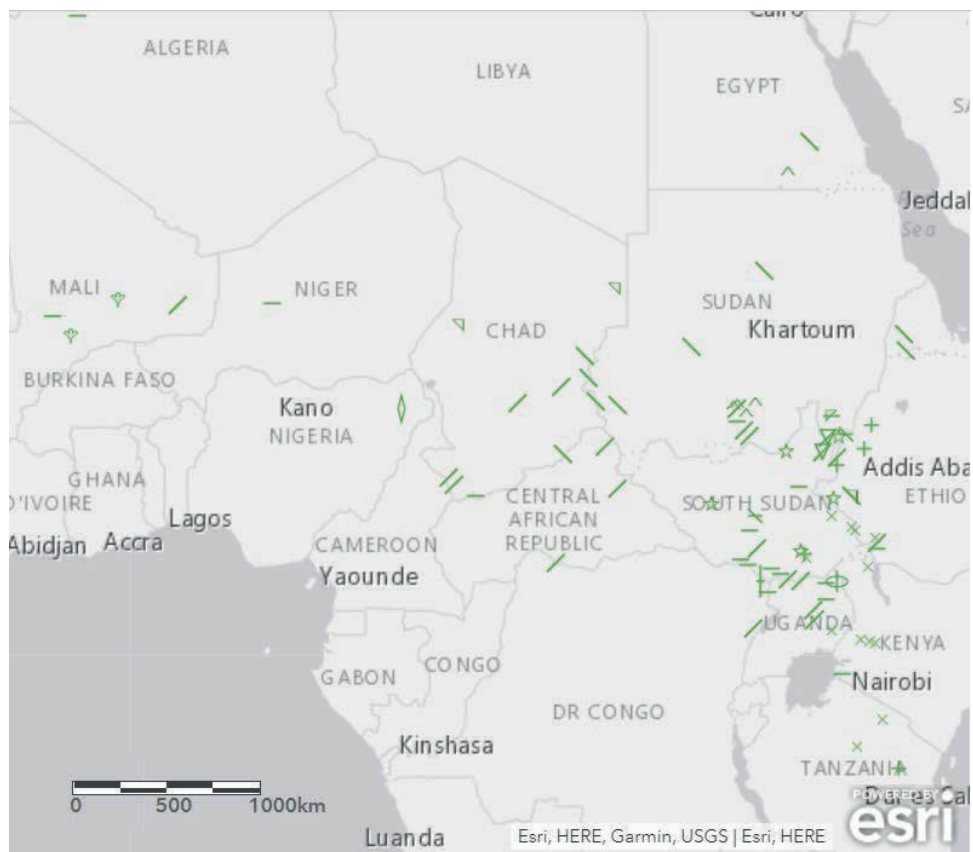


Figure 1: Grammatical Relations in Nilo-Saharan

A1	
A1/A4e	+
A1/A4g	†
A1/E1g	⊕
A2	/
A2/A3e	×
A2/B2d	↘
A3	\
A3/A4e	↗
A3/BX3	▽
AX3	^
A4	-
A4/B3	≡
BX3	▽
DX3	◇
F	☆
G1	✧

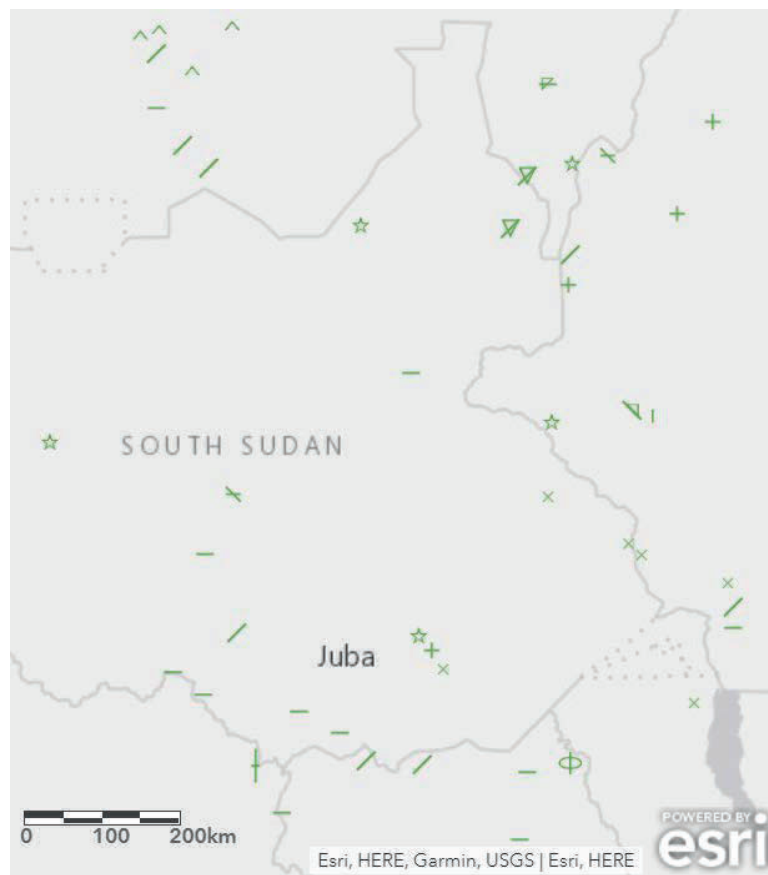


Figure 2: Nilo-Saharan in and around South Sudan

# Grammatical Relations in Niger-Congo

## 1. Classification

As is widely accepted in the literature, a general tendency of African languages is that the grammatical relations (GR) such as the subject and the object tend not to be expressed through case marking morphology. This especially applies to the Niger-Congo phylum including Bantu languages (cf. Creissels 2000, Van der Wal 2015). It is also well known that while western Niger-Congo languages, including western Bantu languages (especially zones A and B in Guthrie's (1967–71) classification), tend to have analytic morphology, synthetic morphology is the norm of the most (non-western) Bantu languages. Reflecting on the structural tendencies, case marking patterns in Niger-Congo languages are generally classified into two categories, namely i) no marking in analytic languages, and ii) head marking in synthetic languages, as illustrated in (1) from Kisi and (2) from Swahili, respectively.

(1) Kisi [Atlantic; Southern Mel]

sàà sàà sàà

Saa grab sheep

'Saa grabs the sheep' (Tucker-Childs 1995:43)

(2) Swahili [Benue-Congo; Bantu E]

sisi tu-li-m-on-a

PRON1PL SM1PL-PST-OM1-see-IND

'We saw him/her'

Moreover, as a typical head marking type, subject and object agreement are marked in designated slots of the morphological template of the verb (glossed as SM and OM in (2)). While the markers agree in person, number and the noun class of referent nominals, they do not indicate case distinction. This makes the (positional marking of) nominative-accusative the only possible case alignment pattern, i.e., the typology of GR marking in Niger-Congo can be quite simple and uniform. However, more fine-grained classifications can be provided when we include intermediate types in the synthetic–analytic scale, as well as relevant features that may affect the regularity of the system of GR marking. The following three parameters have been constructed to examine the internal variety of GR expressions in Niger-Congo.

Parameter 1 (P1): Structural synthesis

Synthetic vs. Synthetic-minus-OM vs.

Analytic-plus-OM vs. Analytic

Parameter-2 (P2): Topic sensitivity of SM

Subject prominent, vs. Topic prominent

Parameter-3 (P3): OM plurality and order restriction

Presence vs. Absence of external restrictions to object marking

Based on the parameters, the possible subcategorizations of GR marking in Niger-Congo are classified as follows.

A4: No marking (Analytic) [14 languages]

A4': Only Object can be head-marked  
(Analytic [+OM]) [2]

A2': Only Subject can be head-marked  
(Synthetic [–OM]) [7]

A2: Head marking (Synthetic) [57]

A2c: Topic-sensitive SM (Synthetic) [12]

A2'c: Topic-sensitive SM (Synthetic [–OM]) [0]

A2x: Object marking with external restrictions  
(Synthetic) [27]

A4'x: Object marking with external restrictions  
(Analytic [+OM]) [0]

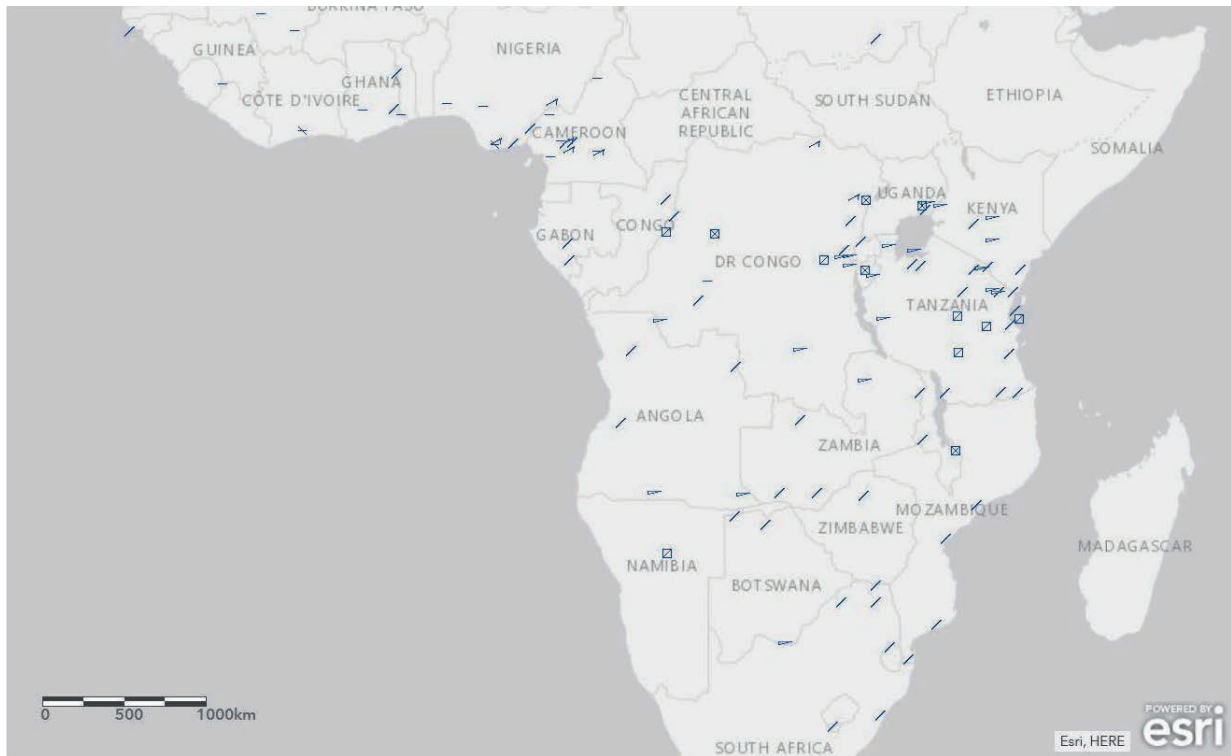
## 2. Geographical distribution and interpretation

Concerning P1, our survey confirms the general tendency, i.e. Analytic (A4) in the west (including western Bantu languages) vs. Synthetic in the Bantu area. While the two intermediate types are few, Synthetic-minus-OM type (A2') distributes across different sub-branches including western Bantu, non-Bantu Benue-Congo and non-Benue-Congo Volta-Congo.

In terms of topic sensitivity of subject markers, while the subject-prominent type appears to be the overall majority in the Bantu area, the topic-prominent type is also widely distributed. As suggested in Meeussen (1967: 120), topic agreement could possibly be reconstructed in Proto Bantu.

What may be striking about the distribution of types pertaining to external factors affecting object marking regularities is the high variability of different types, especially in the eastern Bantu area. This may suggest that, at least in Bantu, object marking can be regarded synchronically as well as diachronically as a fluid morphosyntactic operation.

(SHINAGAWA Daisuke & KOMORI Junko)



A4:	No marking (Analytic)	[14 languages]	—
A4':	Object can be head-marked (Analytic [+OM])	[2]	↘
A2':	Subject can be head-marked (Synthetic [−OM])	[7]	↗
A2:	Head marking (Synthetic)	[57]	/
A2c:	Topic-sensitive SM (Synthetic)	[7]	☐
A2x:	Object marking with external restrictions (Synthetic)	[22]	▤
A2c/x:	Topic-sensitive SM + Object marking with external restrictions (Synthetic)	[5]	☒

Figure 1: Grammatical Relations in Niger-Congo

## Grammatical Relations in the Kalahari Basin area

### 1. Classification

Figure 1 shows the geographical distribution of case marking in the languages of the Kalahari Basin area (KBA).

Generally, the nominative-accusative system (or possibly, neutral system for some languages) can be regarded as the dominant alignment type of KBA languages. The 13 sample languages show three types of case marking (A1, A2, and A4 below).

A1: AS/P, Dependent-marking

A2: AS/P, Head-marking

A4: AS/P, No-marking

NB: In Type A4 languages, nominative-accusative alignment is basically observed in the word order, though with intricate language-specific variations that are beyond the scope of this paper.

### 2. Geographical distribution and interpretation

As shown in Figure 1, non-Khoe-Kwadi languages are basically Type A4 (AS/P, no-marking) languages, except for the West and East !Xoon languages, in which the verbs index the object (Witzlack-Makarevich and Nakagawa, 2019: 402). At this stage, it is not clear from the data available to us whether this feature of !Xoon is contact-induced.

On the other hand, languages in the Khoe-Kwadi family show a different tendency from the other two families. Except for the Naro (Type A4) language, Khoe-Kwadi languages morphologically display the following case markings: Type A1 (AS/P, dependent-marking, observed in five languages in Botswana, namely, Xade and Khute varieties of Glui, Gllana, Tshila and Ts'ixa); and Type A2 (AS/P, head-marking, e.g., Standard Khoekhoe and !Ani).

(KIMURA Kimihiko, NAKAGAWA Hiroshi)

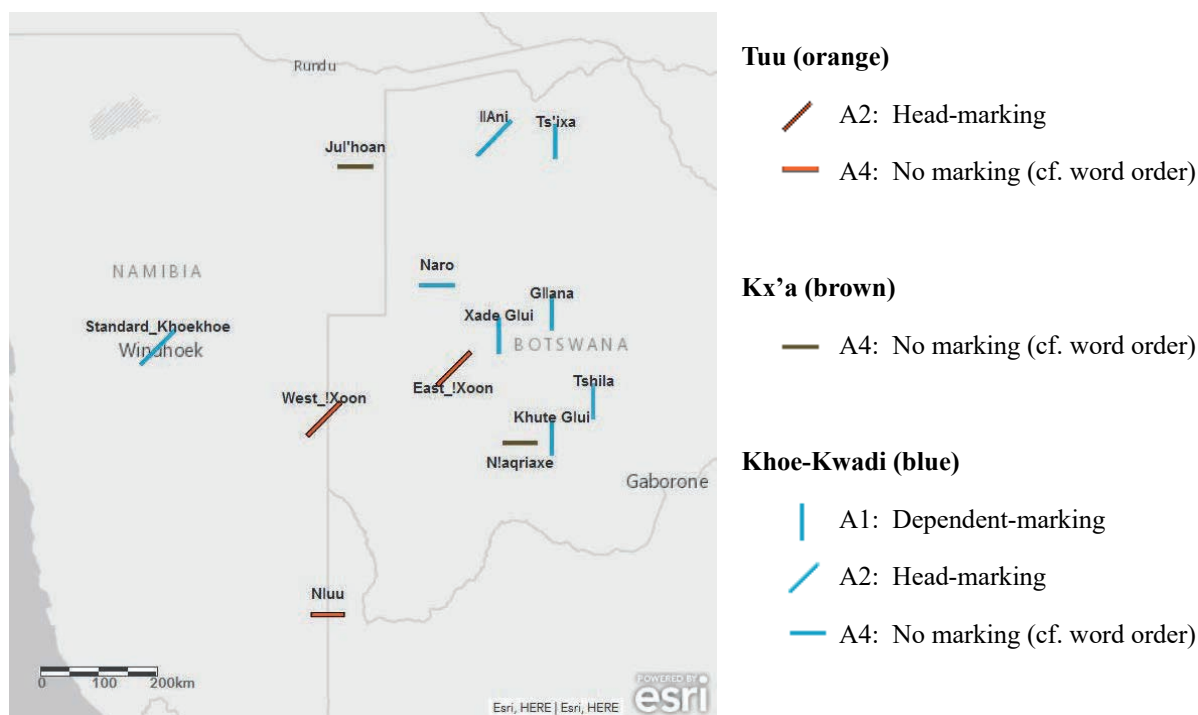


Figure 1: The geographical distribution of case marking types in KBA

## Cumulative references

### Subgrouping of Ainu

- Asai, Tōru (1974) Classification of dialects: Cluster analysis of Ainu dialects. *Bulletin of the Institute for the Study of North Eurasian Cultures, Hokkaido University* 8. 45–136.
- Hattori, Shirō and Mashiho Chiri (1960). Ainugo sho-hōgen no kisogoi tōkeigakuteki kenkyū [A lexicostatistic study of the Ainu dialects]. *The Japanese journal of ethnology*, 24(4). 33–66.
- Hayashi, Kingo (1973) Shikotan-tō no Ainu-zoku [The Ainu people on Shikotan Island]. In Nihon Jōmin Seikatsu Kenkyūjo (ed.), *Nihon jōmin seikatsu shiryō sōsho* [Series of materials on the lives of the people of Japan] 7, 552–505. Tokyo: Sanichi Shobō.
- Tamura, Suzuko (2000) *The Ainu Language*. Tokyo: Sanseido.

### Grammatical relations in Ainu

- Bugaeva, Anna (2012) Southern Hokkaido Ainu. *The Languages of Japan and Korea*. Abingdon, UK and New York: Routledge.
- Kindaichi, Kyōsuke & Chiri, Mashiho (1936) *Ainu gohō gaisetsu* [The grammar of the Ainu language]. Tokyo: Iwanami shoten.
- Okuda, Osami (2015) Ainugo no Ninshō hyōji ni okeru “mokutekikaku” no yūsei. *Ainugo Kenkū no Shomondai*. Sapporo: Hokkaido Publication Project Center.
- Refsing, Kirsten (1986) *The Ainu Language: The Morphology and Syntax of the Shizunai Dialect*. Denmark, Aarhus: Aarhus University Press.
- Shibatani, Masayoshi (1990) *The Languages of Japan*. Cambridge: Cambridge University Press.
- Tamura, Suzuko (2000) *The Ainu Language*. Tokyo: Sanseido.

### Japonic

- Asō, Reiko 麻生玲子 (2013) Hateruma (Yaeyama Ryukyuan). In: Michinori, Shimoji and Pellard, Thomas (ed.) *An Introduction to Ryukyuan Languages*. 189–227. Research Institute for Languages and Cultures of Asia and Africa.
- Asō, Reiko 麻生玲子 (2020) *Minami Ryūkyū Yaeyamago hateruma hōgen no bumpō* 南琉球八重山語波照間方言の文法 [Grammar of Hateruma dialect, Yaeyaman, South-Ryukyuan]. Doctoral Dissertation in TUFS 東京外国語大学博士論文.
- Carlino, Salvatore カルリノ・サルバトーレ (2019) *Kita-Ryūkyū Okinawa go Iheya hōgen no bumpō* 北琉球沖縄語伊平屋方言の文法 [A Grammar of the Iheya Dialect of the Northern Ryukyuan Okinawan Language]. Doctoral Dissertation in Hitotsubashi University 一橋大学博士論文.
- Celik, Kenan and Hayashi, Yuka セリック ケナン・林由華 (2017) Miyako shohōgen no ‘daini taikaku’ wa ‘taikaku’ ka? Tarama hōgen o chūshin ni 宮古諸方言の「第二対格」は「対格」か？—多良間方言を中心に— [Is the ‘second accusative’ of Miyako dialects an ‘accusative?’]. In: *Nihongo gakkai 2017 nendo shūki taikai yokōshū* 日本語学会2017年度秋季大会予稿集 [Proceedings of the 2017 Autumn Meeting of the Society for Japanese Linguistics]. 69–76.
- Katō, Kanji 加藤幹治 (2020) Tokunoshima Isenchō hōgen bumpō gaisetsu 徳之島伊仙方言文法概説 [A sketch grammar of the Tokunoshima Isen dialect]. In: *Gengo Chiiki bunka kenkyū* 言語・地域文化研究 [Studies of Languages and Regional Cultures]. 26: 211–227.

- Harada, Sōichirō 原田走一郎 (2016) *Minami Ryūkyū Yaeyama Kuroshima hōgen no bumpō* 南琉球八重山黒島方言の文法 [*A Grammar of the Yaeyama Kuroshima Dialect of Southern Ryukyus*]. Doctoral Dissertation in Osaka University 大阪大学博士論文.
- Hayashi, Yuka (2010) Ikema (Miyako Ryukyuan). In: Michinori, Shimoji and Pellard, Thomas (ed.) *An Introduction to Ryukyuan Languages*. 167–188. Research Institute for Languages and Cultures of Asia and Africa.
- Kaneda, Akihiro 金田章宏 (2001) *Hachijō hōgen dōshi no kisokenkyū* 八丈方言動詞の基礎研究 [*The Verb in the Hachijō Dialect*]. Kasama Shoin 笠間書院.
- Kaneda, Akihiro 金田章宏 (2008) Okinawa Iriomote (Sonai) hōgen no kaku to toritate no imi yōhō 沖縄西表島(祖納)方言の格ととりたての意味用法 [The usage of Case and Toritate particles of Okinawa Iriomote Island (Sonai) dialect]. In: *Ryūkyū no hōgen* 琉球の方言 [*Dialects of Ryukyus*] 33: 19–63. Institute for Okinawan Studies, Hosei University 法政大学沖縄文化研究所.
- Konishi, Izumi 小西いずみ (2016) *Toyamaken hōgen no bumpō* 富山県方言の文法 [*Grammar of Dialects in Toyama Prefecture*]. Hituzi Syobo ひつじ書房.
- Miyagi, Shin'yū 宮城信勇 (2003) *Ishigaki hōgen jiten* 石垣方言辞典 [*Dictionary of the Ishigaki dialect*]. The Okinawa Times 沖縄タイムス.
- Nakahara, Jō 仲原穰 (2021) Kumejima Gushikawa hōgen no kakuhyōshiki 久米島具志川方言の格標識 [Case markers in the Gushikawa Dialect of Kume Island]. In: *Kokuritsu kokugo kenkyūjo kyōdōkenkyū purojekuto 'Nihon no shōmetsu kiki gengo hōgen no kiroku to dokyumentēshon no sakusei' 2020 nendo dai 2 kai kenkyū happyōkai* 国立国語研究所共同研究プロジェクト「日本の消滅危機言語・方言の記録とドキュメンテーションの作成」2020年度第2回研究発表会 [National Institute for Japanese Language and Linguistics Joint Research Project 'Documentation of Endangered Languages and Dialects in Japan' second research meeting in 2020].
- Nakazawa, Kōhei 中澤光平 (2017) *Awaji hōgen no kijutsu to keitō* 淡路方言の記述と系統 [*Descriptive and Phylogenetic Studies of Awaji Dialect*]. Doctoral Dissertation in the University of Tokyo 東京大学博士論文.
- National Institute for Japanese Language and Linguistics 国立国語研究所 (ed.) (1963) *Okinawago jiten* 沖縄語辞典 [*Dictionary of the Okinawan language*]. Ministry of Finance Printing Bureau 大蔵省印刷局.
- National Institute for Japanese Language and Linguistics 国立国語研究所 (ed.) (1989) *Hōgen bumpō zenkoku chizu dai 1 shū* 方言文法全国地図 第1集 [*Grammar Atlas of Japanese Dialects Vol. 1*]. Ministry of Finance Printing Bureau 大蔵省印刷局.
- Niinaga, Yūto 新永悠人 (2013) *A Grammar of Yuwan, a Northern Ryukyuan Language*. Doctoral Dissertation in the University of Tokyo 東京大学博士論文.
- Nohara, Mitsuyoshi 野原三義 (1983) Okinawa ken Kunigami son benoki hōgen no joshi 沖縄県国頭村辺野喜方言の助詞 [Particles in the Benoki Dialect of Kunigami Village, Okinawa Prefecture]. In: *Ryūkyū no hōgen* 琉球の方言 [*Dialects of Ryukyus*] 8:7–30. Institute for Okinawan Studies, Hosei University 法政大学沖縄文化研究所.
- Oshio, Mutsuko 生塩睦子 (1999) *Okinawa Iejima hōgen jiten* 沖縄伊江島方言辞典 [*Dictionary of the Iejima dialect, Okinawan*]. Board of education in Iejima village 伊江村教育委員会.
- Oshio, Mutsuko. 生塩睦子 (2017) Okinawa Ieshima hōgen no bun no kumitate: Ījimaguchi no hozon keishō notameni 沖縄伊江島方言の文の組み立て: イージマグチの保存・継承のために [Sentence Structure in the Okinawan Dialect of Ieshima: For the Preservation of the "Ījimaguchi" Dialect]. In: *Hiroshima keizai daigaku sōritsu gojūshūnen kinen ronbunshū* 広島経済大学創立五十周年記念論文集 [*Hiroshima University of Economics 50th Anniversary Commemorative Essays*]. 69–106.
- Sakai, Mika 坂井美日 (2017) Kyūshū no hōgen to kakuhyōji: Kumamoto hōgen no bunretsu jidōshisei o chūshin ni 九州の方言と格標示: 熊本方言の分裂自動詞性を中心に [Kyushu dialect and case marking: Focusing on the split intransitivity of the Kumamoto dialect]. In: *Seijō Gakuen sōritsu 100 shūnen daigakuin bungaku*

*kenkyūka sōsetsu 50 shūnen kinen symposium “watashitachi ga shiranai <Nihongo> Ryūkyū, Kyūshū, Honshū no hōgen to kakuhyōji” 成城学園創立100周年・大学院文学研究科創設50周年記念シンポジウム「私たちの知らない〈日本語〉—琉球・九州・本州の方言と格標示—」* [Seijo Gakuen 100<sup>th</sup> Anniversary / Graduate School of Literature 50<sup>th</sup> Anniversary Symposium “<Japanese> we don’t know —Dialects of Ryukyus, Kyushu, and Honshu and Case markings—”].

Sakai, Mika 坂井美日 (2019) Koshikijima hōgen no kaku nitsuite 甕島方言の格について [On Case Marking in Koshijima Dialects]. In: Kubozono, Haruo, Kibe, Nobuko, and Takagi, Chie 窪蘭晴夫・木部暢子・高木千恵 (ed.) *Kagoshima hōgen kara miru bumpō no shosō* 鹿児島県甕島方言からみる文法の諸相 [Aspects of grammar from the Koshiki dialects in Kagoshima Prefecture]. Kurosio Publishers くろしお出版.

Sakai, Mika 坂井美日 (forthcoming) Kyūshū hōgen no kakuhyōgen 九州方言の格表現 [Case marking in Kyushu dialects]. In: Kibe, Nobuko, Takeuchi, Shiro, and Shimoji, Michinori 木部暢子・竹内史郎・下地理則 (ed.) *Nihongo no kakuhyōgen* 日本語の格表現 [Case marking in Japanese]. Kurosio Publishers くろしお出版.

Shigeno, Hiromi and Shirata, Rihito 重野裕美・白田理人 (2019) Kita-ryūkyū Amami Yoro jima Yoro hōgen no kaku-hyōshiki 北琉球奄美与路島与路方言の格標識 [Case markers in the Yoro Dialect of North Ryukyu Amami Yoro Island]. In: *Kokuritsu kokugo kenkyūjo kyōdōkenkyū purojekuto ‘Nihon no shōmetsu kiki gengo hōgen no kiroku to dokyumentēshon no sakusei’ 2019 nendo dai 1 kai kenkyū happyōkai* 国立国語研究所共同研究プロジェクト「日本の消滅危機言語・方言の記録とドキュメンテーションの作成」2019年度第1回研究発表会 [National Institute for Japanese Language and Linguistics Joint Research Project, Documentation of Endangered Languages and Dialects in Japan, first research meeting in 2019].

Shimoji, Michinori 下地理則 (2016) Minami Ryūkyū Yonagunigo no kakuhairitsu nitsuite 南琉球与那国語の格配列について [Case Arrangement of the Yonaguni Ryukyuan, South Ryukyus]. In: Takubo, Yukinori, Whitman, John and Hirako, Tatsuya 田窪行則・ジョンホイットマン・平子達也 (ed.) *Ryūkyū shogo to kodai Nihongo* 琉球諸語と古代日本語 [Ryukyuan Languages and Ancient Japanese]. 173–204. Kurosio Publishers くろしお出版.

Shimoji, Michinori 下地理則 (2018) Dialects. In: Hasegawa, Yoko (ed.) *Handbook of Japanese Linguistics*. Cambridge University Press.

Shirata, Rihito 白田理人 (2015) Kikaijima Onotsu hōgen no mōra hyō / goreito kakujoshi / toritate joshino reibun 喜界島小野津方言のモーラ表／語例と格助詞／とりたて助詞の例文 [Morae of the Onotsu Dialect of Kikai Island / Examples of Words and Case Markers / Toritate Particles]. In *Kikitekina jōkyōni aru gengo hōgen no ākaibuka o sōtei shita jicchi chōsa kenkyū* 危機的な状況にある言語・方言のアーカイブ化を想定した実地調査研究 [A Field Research Study Assuming the Archiving of Languages and Dialects in a Critical Situation]. 5–32.

Shirata, Rihito 白田理人 (2016) *Ryūkyū Amami Kikaijima Kamikatetsu hōgen no bumpō* 琉球奄美喜界島上嘉鉄方言の文法 [Grammar of the Kamikatetsu Dialect of Ryukyu-Amami Kikai Island]. Doctoral Dissertation in Kyoto University 京都大学博士論文.

Tabata, Chiaki 田畑千秋 (2011) Naze hōgen no kakuhyōshiki nitsuite 名瀬方言の格標識について [On Case Marking in the Naze Dialect]. In: *dai 26 kai Chūnichī riron gengo kenkyūkai* 第26回中日理論言語研究会 [The 26<sup>th</sup> meeting of Chinese and Japanese Theoretical Linguistics Circle].

Tōyama, Nana 當山奈那 (2019) Yoron hōgen no kaku toritate nitsuite 与論方言の格＝とりたてについて [About the Case / Toritate particles of Yoron Dialects]. In: *Kokuritsu kokugo kenkyūjo kyōdōkenkyū purojekuto ‘Nihon no shōmetsu kiki gengo hōgen no kiroku to dokyumentēshon no sakusei’ 2019 nendo dai 1 kai kenkyū happyōkai* 国立国語研究所共同研究プロジェクト「日本の消滅危機言語・方言の記録とドキュメンテーションの作成」2019年度第1回研究発表会 [National Institute for Japanese Language and Linguistics Joint Research Project, Documentation of Endangered Languages and Dialects in Japan, first research meeting in 2019].

Urabe, Yūko 占部 由子 (2019) Minami-ryūkyū Yaeyamago Iriomotejima Funauki hōgen no bumpō gaisetsu 南琉球八重山語西表島船浮方言の文法概説 [A sketch grammar of Funauki dialect in Iriomote Island,

Yaeyaman, South-Ryukyuan]. In: *Ryūkyū no hōgen* 琉球の方言 [*Dialects in Ryukyus*]. 44: 91–150. Institute for Okinawan Studies in Hosei University 法政大学沖縄文化研究所.

Van der Lubbe, Gijus ファン＝デル＝ルベ, ハイス (2019) Okinawa Ginoza Sokei hōgen no Meishi no kaku 沖縄語宜野座惣慶方言の名詞の格 [The case of nouns in the Ginosa Sokei dialect of Okinawan]. In: *Kokusai Ryūkyū Okinawa Ronshū* 国際琉球沖縄論集 [*International Review of Ryukyuan and Okinawan Studies*]. 8: 45–56. Research Institute for Islands and Sustainability, University of Ryukyus 琉球大学島嶼地域科学研究所.

Yokoyama-Tokunaga, Akiko 横山 (徳永) 晶子 (2017) *Ryūkyū Okinoerabujima Kunigami hōgen no bumpō* 琉球沖永良部島国頭方言の文法 [*A Grammar of the Kunigami Dialect of Ryukyu Okinoerabu Island, Doctoral dissertation*] Doctoral Dissertation in Hitotsubashi University 一橋大学博士論文.

## Korean

Kazama, Shinjiro 風間伸次郎 (2015) Nihongo (hanashikotoba) wa jūzokubu hyōjigata no gengo nanoka? 日本語 (話しことば) は従属部表示型の言語なのか? [Is colloquial Japanese a dependent-marking language?] *Kokuritsu kokugo kenkyūsyō ronsyū* 国立国語研究所論集 9: 51-85.

Kim, Jihyun (2016) *Nikkan taisyō kenkyū ni yoru wa to ga to mujoshi* [Contrastive studies on wa, ga and non use of particle in Japanese and Korean] 日韓対照研究によるハとガと無助詞 Tokyo: Hituzi Syobo.

Lee, Ki-Moon and S. Robert Ramsey (2011) *A history of the Korean language*. Cambridge: Cambridge University press.

## Sinitic

Huang, Borong [黄伯荣] (1996) *Hanyu fangyan yufa lei bian* [汉语方言语法类编], 青岛出版社.

Li, Lan [李蓝] and Hilary M. Chappell [曹茜蕾] (2013) On the Disposal Constructions in Chinese Dialects [汉语方言中的处置式和“把”字句 (上) (下)], *Fangyan* 《方言》 2013(1, 2): 11-30; 97-110.

Lü, Shuxiang [吕叔湘] (1965) Bei ziju, ba ziju dongci dai binyu [被字句、把字句动词带宾语], *Zhongguo yuwen* 《中国语文》 1965(4).

Wang, Sen [王森] (1993) Gansu Linxia fangyan de liang zhong yuxu [甘肃临夏方言的两种语序], *Fangyan* 《方言》 1993(3): 11-30; 191-194.

Zhou, Yang [周洋] (2016) The Case Marker Shang(上) in Shangri-La(香格里拉) Mandarin Dialect: On the Grammaticalization Chain from Positional Words to Case Markers [香格里拉话的格标记“上”——兼论从方位词到格标记的语法化链], 《语言研究》 2016 (2): 76-84.

## Tibeto-Burman

Burling, Robbins (2017) Garo. In: Graham Thurgood and Randy J. LaPolla (eds.) *The Sino-Tibetan Languages*, 2nd ed, 243-257. New York: Routledge.

Dai, Qingxia 戴庆厦 (2005) 《浪速语研究》 [*A study of Langsu*]. Beijing: Minzu Chubanshe.

Dai, Qingxia & Cui Zhichao (eds.) 戴庆厦, 崔志超编著 (1985) 《阿昌语简志》 [*Outline of Achang*]. Beijing: Minzu Chubanshe.

Dai, Qingxia & Jiang Ying and Kong Zhi'en 戴庆厦, 蒋颖, 孔志恩 (2007) 《波拉语研究》 [*A study of Bola*]. Beijing: Minzu Chubanshe.

Dai, Qingxia & Li Jie 戴庆厦, 李洁 (2007) 《勒期语研究》 [*A study of Leqi*]. Beijing: Zhongyang Minzudaxue Chubanshe.

- Dai, Qingxia & Xu Xijian 戴庆厦, 徐悉艰 (1992) 《景颇语语法》 [*The grammar of Jingpo*]. Beijing: Zhongyang Minzu Xueyuan Chubanshe.
- DeLancey, Scott (1989) Verb agreement in Proto-Tibeto-Burman. *Bulletin of the School of Oriental and African Studies* 52.2: 315-333.
- Hayashi, Norihiko 林範彦 (2009) 『チノ語文法(悠楽方言)の記述研究』 [*A descriptive study on the grammar of the Jino language (Youle dialect)*]. Kobe: Kobe City University of Foreign Studies. (神戸市外国語大学研究叢書 43)
- Hildebrandt, Kristine (2004) A grammar and dictionary of the Manange language. In Carol Genetti (ed.), *Tibeto-Burman Languages of Nepal: Manange and Sherpa*, pp. 2-189. Canberra: Pacific Linguistics. (Pacific linguistics 557)
- Hkaw Luk (2017) A grammatical sketch of Lacid. MA thesis, Payap University.
- Hoshi, Izumi & Kelsang Tahuwa 星泉 & ケルサン・タウワ (2017) 『ニューエクスプレス チベット語』 [*New express Tibetan*]. Tokyo: Hakusuisya.
- Huziwara, Keisuke 藤原敬介 (2008) 「チャック語の記述言語学的研究」 [*A descriptive linguistic study of the Cak language*]. Doctoral dissertation, Kyoto University.
- Hyslop, Gwendolyn (2010) Kurtöp case: The pragmatic ergative and beyond. *Linguistics of the Tibeto-Burman Area* 33.1: 1-40.
- Kato, Atsuhiko 加藤昌彦 (1993) 「スゴー・カレン語の動詞連続」 [Verb serialization in Sgaw Karen]. *Journal of Asian and African Studies* 45: 177-204.
- Kato, Atsuhiko 加藤昌彦 (2008) 「ゲーバー語基礎資料」 [Basic materials in Geba]. *Asian and African Languages and Linguistics* 3: 169-219.
- Kato, Atsuhiko (2017) Pwo Karen. In: Graham Thurgood and Randy J. LaPolla (eds.) *The Sino-Tibetan Languages*, 2nd ed, 942-958. New York: Routledge.
- Kato, Atsuhiko (2019) Karen and surrounding languages. Norihiko Hayashi (ed.) *Topics in Middle Mekong linguistics*, 123-150. Kobe: Kobe City University of Foreign Studies.
- Kato, Atsuhiko and Khin Pale (2012) The Myeik dialect of Burmese. *Journal of Asian and African Studies* 83: 117-160.
- LaPolla, Randy J. (1992a) On the dating and nature of verb agreement in Tibeto-Burman. *Bulletin of the School of Oriental and African Studies* 55.2: 298-315.
- LaPolla, Randy J. (1992b) 'Anti-ergative' marking in Tibeto-Burman. *Linguistics of the Tibeto-Burman Area* 15.1: 1-9.
- LaPolla, Randy J. (2017) Overview of Sino-Tibetan morphosyntax. In: Graham Thurgood and Randy J. LaPolla (eds.) *The Sino-Tibetan Languages*, 2<sup>nd</sup> ed. New York: Routledge.
- Li, Daqin 李大勤 (2002) *Gemanyu yanjiu* 格曼语研究 [*Study on Kaman*]. Beijing: Minzu Chubanshe.
- Liu, Guangkun 刘光坤 (1998) 《麻窝羌语研究》 [*Study on Mawo Qiang*]. Chengdu: Sichuan Minzu Chubanshe.
- Morey, Stephen (2010) *Turung: A Variety of Singpho Language Spoken in Assam*. Canberra: Pacific Linguistics.
- Naw Hsa Eh Ywar (2013) A grammar of Kayan Lahta. MA thesis, Payap University.
- Nishida, Tatsuo 西田龍雄 (1967) 「ビルマにおけるパオ族の言語について」 [Notes on the Pao language in Burma]. *Gengo Kenkyu* 50: 15-33.
- Okell, John (1995) Three Burmese dialects In: David Bradley (ed.) *Papers in Southeast Asian Linguistics No. 13: Studies in Burmese Languages*, 1-138. Canberra: Pacific Linguistics.
- Onishi, Hideyuki 大西秀幸 (2016) 「対格～方向格：ラワン語の格助詞səŋに見られる方言差」 [Accusative ~ Allative: Dialectal differences in the case particle səŋ in Rawang]. Paper presented at the Field Linguistics Workshop: Special gathering, ILCAA, Tokyo University of Foreign Studies.

- Peterson, David A. (2017) Hakha Lai. In: Graham Thurgood and Randy J. LaPolla (eds.) *The Sino-Tibetan Languages*, 2nd ed, 258-276. New York: Routledge.
- Sangdong, David (2012) A grammar of the Kadu (Asak) language. Doctoral dissertation, LaTrobe University.
- Sawada, Hideo (2012) Optional marking of NPs with core case functions P and A in Lhaovo. *Linguistics of the Tibeto-Burman Area* 35.1: 15-34.
- Solnit, David B. (1997) *Eastern Kayah Li: Grammar, texts and glossary*. Honolulu: University of Hawaii Press.
- Sun, Hongkai 孙宏开 (1981) 《羌语简志》 [*A brief description of Qiang*]. 北京: 民族出版社.
- Swanson, Kirstie (2011) Serial verb constructions in Bwe Karen. MA thesis, Payap University.
- Xu, Xijian and Xu Guizhen (eds.) 徐悉艰, 徐桂珍编著 (1984) 《景颇族语言简志: 载瓦语》 [*A brief description of the Zaiwa language of the Jinghpaw people*]. Beijing: Minzu Chubanshe.
- Yanagita, Kunio 柳田國男 (1930) 『蝸牛考』 刀江書院.
- Yabu, Shiro 藪司郎 (1980) 「ビルマ語ヨー方言の資料」 [Linguistic data of the Yaw dialect of the Burmese language]. *Journal of Asian and African Studies* 19: 164-182.
- Yabu, Shiro 藪司郎 (1981a) 「ビルマ語タウンヨウ方言の資料」 [Linguistic data of the Taung'yo dialect of the Burmese language]. *Journal of Asian and African Studies* 21: 154-87.
- Yabu, Shiro 藪司郎 (1981b) 「ビルマ語ダヌ方言の会話テキスト」 [Conversational texts of the Danu dialect of Burmese]. *Journal of Asian and African Studies* 22: 124-138.
- Yabu, Shiro 藪司郎 (1992) 『アツィ語基礎語彙集』 [*Classified dictionary of the Atsi or Zaiwa language*] Tokyo: ILCAA, Tokyo University of Foreign Studies.
- Wang, Chaohui 王朝晖 (2005) 《仙岛人及其语言》 [*The Xiandao people and their language*]. Beijing: Minzu Chubanshe.

### Austroasiatic

- Alves, Mark J. 2006. *A grammar of Pacoh : a Mon-Khmer language of the central highlands of Vietnam*. Pacific linguistics 580. Research School of Pacific Linguistics Studies.
- Jenny, Mathias, Paul Sidwell & Mark Alves (eds). (2020). *Austroasiatic Syntax in Areal and Diachronic Perspective*. Leiden, Boston: Brill.
- Krupse, Nicole, Niclas Burenhult and Ewelina Wnuk (2015) Nothern Aslian. In: Jenny, Mathias & Paul Sidwell (eds) , 419-474.
- Krupse, Nicole (2015) Semaq Beri. In: Jenny, Mathias & Paul Sidwell (eds) , 475-516.
- Ring, Hiram 2020. Word order and the grammaticalization of Gender in Khasian. In: Jenny, Mathias, Paul Sidwell & Mark Alves (eds) , 107-134.
- Yamada, Atsushi 2020. Word order in the Wa languages. In: Jenny, Mathias, Paul Sidwell & Mark Alves (eds) , 135-154.
- Yamada, Atsushi 山田敦士 (2020), Palaw Wa go パラウク・ワ語 Tokyo: Kuroshio Shuppan くろしお出版.

### Austronesian

- Arka, I. Wayan. (2002) Voice systems in the Austronesian languages of Nusantara: Typology, symmetry and Undergoer orientation. Paper presented at *The 10th National Symposium of the Indonesia Linguistics Society*, Bali, Indonesia.
- Arka, I. Wayan & Malcom D. Ross (eds). (2005) *The Many Faces of Austronesian Voice Systems: Some New Empirical Studies*. Canberra: Pacific Linguistics.

- Cooreman, Ann. (1994) A Functional Typology of Antipassive. In Barbara Fox & Paul J. Hopper (eds.) *Voice: Form and Function*, pp 49-88. Amsterdam and Philadelphia: John Benjamins.
- Blust, Robert (2013) *The Austronesian languages* (Revised edition), *Canberra: Australian National University*.
- Davis, William D. (2005) The richness of Madurese voice. In I Wayan Arka and Malcolm D. Ross (eds). *The many faces of Austronesian voice systems*. Canberra: Pacific Linguistics: pp 1-15.
- Foley, William. (2008) The place of Philippine languages in a Typology of Voice Systems. In Peter K. Autrin & Simon Musgrave (eds.), *Voice and Grammatical Relations in Austronesian Languages*. pp 22-44. Stanford: CSLI Publications.
- Durie, Mark (1985) *A Grammar of Acehnese*. Dordrecht: Foris Publication.
- Himmelman, Nikolaus P. (2005) The Austronesian Languages of Asia and Madagascar: Typological Characteristics. In Alexander Adelaar & Nikolaus P. Himmelman (eds.) *The Austronesian Languages of Asia and Madagascar*. pp110-181. London: Routledge.
- Himmelman, Nikolaus P. and Sonja Riesberg. (2013) Symmetrical Voice and Applicative Alternations: Evidence from Totoli. *Oceanic Linguistics*. Vol.52[2]: pp 396-422.
- Katagiri, Masumi. (2005) Voice, Ergativity and Transitivity in Tagalog and Other Philippine Languages: A typological perspective. In I Wayan Arka & Malcom Ross (eds.) *The Many Faces of Austronesian Voice Systems: Some New Empirical Studies*, pp 153-174. Canberra: Pacific Linguistics.
- Musgrave, Simon. (2001) *Non-subject Arguments in Indonesian*. Unpublished doctoral dissertation. University of Melbourne: Melbourne.
- NÆSS, ÅSHILD (2015) The Äiwoo verb phrase: Syntactic ergativity without pivots. *Journal of Linguistics*. 51:75-106.
- Sneddon, James Neil. (1996) *Indonesian: A comprehensive grammar*. London: Routledge.
- Smith, Alexander D. (2017). "The Western Malayo-Polynesian Problem". *Oceanic Linguistics*. 56 (2): 435–490. doi:10.1353/ol.2017.0021
- Paul, Ileana & Travis, Lisa. (2006). Ergativity in Austronesian languages: What it can do, what it can't, but not why. In A. Johns, D. Massam, & J. Ndayiragije (Eds.), *Ergativity: Emerging Issues* (pp. 315–335). Dordrecht, The Netherlands: Springer.
- Liao, Hsiu-chuan. (2004) Transitivity and Ergativity in Formosan and Philippine languages. Doctoral Philosophy submitted to University of Hawaii at Manoa.
- Mithun, Marianne. (1994) The Implications of Ergativity for a Philippine voice System. In Barbara Fox and Paul J. Hopper (Eds) *Voice: Form and Fuction*, pp 247-278. Amsterdam and Philadelphia: John Benjamins.
- Reid, Lawrence A. and Hsiu-chuan Liao. (2004) A Brief Syntactic Typology of Philippine languages. *Language and Linguistics* 5(2): 433-490.

## South Asia

- Abbi, Anvita (2006) *Endangered Languages of the Andaman Islands*. München: LINCOM EUROPA.
- Alok, Deepak (2016) The syntax of split: The case of Hindi and Magahi. *Proceedings of FASAL* 6: 53–61.
- Bashir, Elena (2007) Dardic. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages. Second edition*, 818–894. Oxford: Routledge.
- Bashir, Elena and Thomas J. Connors (2019) *A Descriptive Grammar of Hindko, Panjabi, and Saraiki*. Berlin: De Gruyter Mouton.
- Buddruss, Georg (1960) *Die Sprache von Woṭapur und Kaṭārqaḷā* [*The language of Woṭapur and Kaṭārqaḷā*]. Bonn: Orientalischen Seminar der Universität Bonn.
- Buddruss, Georg and Almuth Degener (2017) *Materialien zur Prasun-Sprache des afghanischen Hindukusch, Teil 2: Grammatik* [*Materials on the Prasun language of the Afghan Hindukush, vol 2: Grammar*]. Cambridge: Department of South Asian Studies, Harvard University.

- Cardona, George and Babu Suthar (2007) Gujarati. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages. Second edition*, 659–697. Oxford: Routledge.
- Dasgupta, Dipankar (1978) *Linguistic Studies in Juang, Kharia Thar, Lodha, Mal-Pahariya, Ghatoali, Pahariya*. Calcutta: Anthropological Survey of India.
- Dasgupta, Probal (2007) Bangla. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages. Second edition*, 351–390. Oxford: Routledge.
- De Silva, M.W. Sugathapala (1972) *Vedda Language of Ceylon: Texts and Lexicon*. München: Kitzinger.
- Deb, Debajit (2012) On Case Marking in Assamese Bengali and Oriya. *International Journal of Applied Linguistics & English Literature* 1 (2): 102–111.
- Degener, Almuth (1998) *Die Sprache von Nisheygram im afghanischen Hindukusch [The language of Nisheygram in the Afghan Hindukush]*. Wiesbaden: Harrassowitz Verlag.
- Dhakal, Dubi Nanda (2015) Darai verb agreement. *Himalayan Linguistics* 14 (2): 1–38.
- Dhakal, Dubi Nanda (n.d.) Notes on Rana Tharu grammar. [https://www.academia.edu/43908543/Notes\\_on\\_Rana\\_Tharu\\_grammar](https://www.academia.edu/43908543/Notes_on_Rana_Tharu_grammar) [accessed on 20 March 2021].
- Edelman, D.I. (1983) *The Dardic and Nuristani Languages*. Moscow: Nauka.
- Gair, James W. (2007) Sinhala. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages*, 766–817. Oxford: Routledge.
- Gnanadesikan, Amalia E. (2017) *Dhivehi: The Language of the Maldives*. Berlin: De Gruyter Mouton.
- Goswami, G.C. and Jyotiprakash Tamuli (2003) Asamiya. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages. Second edition*, 391–443. Oxford: Routledge.
- Grierson, G.A. (1908) *The Linguistic Survey of India. Vol. IX, Indo-Aryan Family, Central Group. Part II, Rājasthānī & Gujarātī*. Delhi, Varanasi, and Panta: Motilal Banarsidass.
- Grjunberg, A.L. (1980) *Jazyk Kati: Teksty, Grammaticheskij Oчерk [The Kati Language: Texts, Grammatical Sketch]*. Moscow: Nauka.
- Hallberg, Daniel G. and Calinda E. Hallberg (1999) *Indus Kohistani: A Preliminary Phonological and Morphological Analysis*. Islamabad: National Institute of Pakistan Studies, Quaid-i-Azam University.
- Herin, Bruno (2012) The Domari Language of Aleppo (Syria). *Linguistic Discovery* 10 (2): 1–52.
- Hock, Hans Henrich, Elena Bashir, and K.V. Subbarao (2016) Morphology. In: Hans Henrich Hock and Elena Bashir (eds.) *The Languages and Linguistics of South Asia: A comprehensive guide*, 437–500. Berlin and Boston: De Gruyter Mouton.
- Khubchandani, Lachman M. (2007) Sindhi. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages. Second edition*, 622–658. Oxford: Routledge.
- Kogan, A.I. (2011) Avadchi jazyk [The Awadhi language]. In: Tatiana I. Oranskaja, Yulia V. Mazurova, Andrej A. Kibrik, Leonid I. Kulikov, and Aleksandr Y. Rusakov (eds.) *Jazyki Mira: Novye indoarijskie jazyki [Languages of the World: New Indo-Aryan languages]*, 105–118. Moscow: Academia.
- Kuiper, F.B.J. (1962) *Nahali: A Comparative Study*. Amsterdam: N.V. Noord-Hollandsche Uitgevers Maatschappij.
- Lehr, Rachel (2014) *A Descriptive Grammar of Pashai: The Language and Speech Community of Darrai Nur*. Unpublished doctoral dissertation, University of Chicago.
- Liljegren, Henrik (2016) *A grammar of Palula*. Berlin: Language Science Press.
- Matras, Yaron (2002) *Romani: A Linguistic Introduction*. Cambridge: Cambridge University Press.
- Matras, Yaron (2012) *A Grammar of Domari*. Berlin: De Gruyter Mouton.
- Miranda, Rocky V. (2007) Konkani. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages. Second edition*, 729–765. Oxford: Routledge.

- Mohapatra, Rudranarayan (2015) Odia Case-Marker Agreement to Multi Word Expressions (MWE) for English-Odia Machine Translation System. *International Research Journal of Humanities, Language and Literature* 2 (7): 9–13.
- Morgenstierne, Georg (1945) Notes on Shumashti. *Norsk Tidsskrift for Sprogvidenskap* [Norwegian Journal of Linguistics] 13: 240–281.
- Pandharipande, Rajeshwari (2007) Marathi. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages*, 698–728. Oxford: Routledge.
- Perder, Emil (2013) A Grammatical Description of Dameli. Unpublished doctoral dissertation, Stockholm University, Department of Linguistics.
- Radloff, Carla F. (1999) *Aspects of the Sound System of Gilgiti Shina*. Islamabad: National Institute of Pakistan Studies, Quaid-i-Azam University.
- Ramaswami, N. (1904) *Brokskat Grammar*. Reprint, Mysore: Central Institute of Indian Languages, 1982.
- Ray, Tapas S. (2007) Oriya. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages*, 444–476. Oxford: Routledge.
- Reinhard, Johan and Tim Toba (1970) *A Preliminary Linguistic Analysis and Vocabulary of the Kusunda Language*. self-published.
- Riccardi, Theodore (2007) Nepali. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages*, 538–580. Oxford: Routledge.
- Schikowski, Robert (2013) Object-conditioned differential marking in Chintang and Nepali. Unpublished doctoral dissertation, University of Zurich, Faculty of Arts.
- Schmidt, Ruth Laila (2007) Urdu. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages*, 286–350. Oxford: Routledge.
- Schmidt, Ruth Laila and Razwal Kohistani (2008) *A Grammar of the Shina Language of Indus Kohistan*. Wiesbaden: Harrassowitz Verlag.
- Shackle, Christopher (2007) Panjabi. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages*, 581–621. Oxford: Routledge.
- Shapiro, Michael C. (2007) Hindi. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages. Second edition*, 250–285. Oxford: Routledge.
- Sharma, J.C. (1901) *Gojri Phonetic Reader*. Reprint, Mysore: Central Institute of Indian Languages, 1979.
- Sinha, Kali Prasad (1981) *The Bishnupriya Manipuri language*. Calcutta: Firma KLM.
- Trail, Ronald L. (1970) *A Grammar of Lamani*. Norman: Summer Institute of Linguistics of the University of Oklahoma.
- Trail, Ronald L. and Gregory R. Cooper (1999) *Kalasha Dictionary —with English and Urdu*. Islamabad: National Institute of Pakistan Studies, Quaid-i-Azam University.
- Učida, Norihiko (1970) *Der Bengali-Dialekt von Chittagong: Grammatik, Texte, Wörterbuch* [The Bengali dialect of Chittagong: Grammar, texts, dictionary]. Wiesbaden: Otto Harrassowitz.
- Učida, Norihiko (1979) *Oral Literature of the Saurashtrans*. Calcutta: Simant Publications India.
- Varma, G. Srinivasa (1970) *Vaagri Boli: An Indo-Aryan Language*. Annamalainagar: Annamalai University.
- Verbeke, Saartje (2011) Alignment pattern in the Hindi varieties: the relation between ergativity and transitivity. *Bulletin d'études indiennes* [Bulletin of the Indian Studies] 28/29: 187–203.
- Verma, Manindra K. (2007) Bhojpuri. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages. Second edition*, 515–537. Oxford: Routledge.
- Verma, Sheela (1985) *The Structure of the Magahi Verb*. New Delhi: Manohar.
- Verma, Sheela (2007) Magahi. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages*, 498–514. Oxford: Routledge.

- Voskanjan, V.S. (2011) Lomavren Jazyk [The Lomavren language]. In: Tatiana I. Oranskaja, Yulia V. Mazurova, Andrej A. Kibrik, Leonid I. Kulikov, and Aleksandr Y. Rusakov (eds.) *Jazyki Mira: Novye indoarijskie jazyki* [Languages of the World: New Indo-Aryan languages], 811–818. Moscow: Academia.
- Wali, Kashi and Omkar N. Koul (2007) *Kashmiri: A cognitive-descriptive grammar*. London and New York: Routledge.
- Wunderlich, Dieter (2012) Case and agreement variation in Indo-Aryan. <http://www.zas.gwz-berlin.de/wunderlich.html> [accessed on 18 March 2021].
- Yadav, Ramawatar (2007) Maithili. In: George Cardona and Dhanesh Jain (eds.) *The Indo-Aryan Languages*, 477–514. Oxford: Routledge.
- Zamponi, Raoul and Bernard Comrie (2020) *A Grammar of Akabea*. Oxford: Oxford University Press.

## Dravidian

- Kobayashi, Masato and Tirkey, Bablu (2017) *The Kurux language: Grammar, Texts and Lexicon*. Brill.
- Krishnamurti, Bhadriraju. (2003) *The Dravidian Languages*. Cambridge University Press.
- Steever, Sanford B. (1993) *Analysis to Synthesis: The Development of Complex Verb Morphology in the Dravidian Languages*. Oxford University Press.
- Steever, Sanford B. (ed.) (1998) *Dravidian Languages*. Routledge.

## Nilo-Saharan

- Andersen, Torben (1984) Aspect and word order in Moru. *Journal of African Languages and Linguistics* 6: 19–34.
- Andersen, Torben (1988) Ergativity in Pări, a Nilotic OVS language. *Lingua* 75: 289–324.
- Andersen, Torben (1991) Subject and topic in Dinka. *Studies in Language* 15: 265–294.
- Andersen, Torben (1999) Anti-logophoricity and indirect mode in Mabaan. *Studies in language* 23: 499–530.
- Andersen, Torben (2015) Syntacticized topics in Kurmuk: A ternary voice-like system in Nilotic. *Studies in African Linguistics* 39: 508–554.
- Andersen, Torben (2017) Clause-internal antitopics in Berta, a Nilo-Saharan verb-second language. *Studies in Language* 41: 99–141.
- Andersen, Torben (2018) The encoding of subjects and objects in Jumjum, a Nilotic OV language. *Lingua* 204: 78–116.
- Arensen, Jon (1982) *Murle grammar*. Juba: Summer Institute of Linguistics.
- Barasa, David (2017) Ateso grammar: A descriptive account of an Eastern Nilotic Language. Doctoral dissertation, University of Cape Town.
- Beer, Samuel James (2017) Grammatical contraction in Nyang’i: A descriptive and comparative study. Doctoral dissertation, University of Colorado at Boulder.
- Blackings, Mairi and Nigel Fabb (2003) *A grammar of Ma’di*. Berlin: Mouton de Gruyter.
- Boyeldieu, Pascal (1987) *Les langues fer (“kara”) et yulu du nord centrafricain: Esquisses descriptives et lexiques*. Paris: Geuthner.
- Boyeldieu, Pascal (2015) Case alignment(s) in Sinyar. In: Angelika Mietzner and Anne Storch (eds.) *Nilo-Saharan: Models and descriptions*, 21–36. Cologne: Rüdiger Köppe.
- Buth, Randall (1981) Ergative word order: Luwo is OVS. *Occasional Papers in the Study of Sudanese Languages* 1: 74–90.
- Callinan, Lynne (1984) Sentence constructions in Avokaya. *Occasional Papers in the Study of Sudanese Languages* 5: 48–72.

- Comfort, Jade (2014) Verbal number in the Uncu language (Kordofan Nubian). *Dotawo* 1: 145–63.
- Crazzolara, Joseph Pasquale (1933) *Outlines of a Nuer grammar*. Vienna: Verlag der Internationalen Zeitschrift “Anthropos”.
- Crazzolara, Joseph Pasquale (1955) *A study of the Acooli language: Grammar and vocabulary*. London: Oxford University Press.
- Crazzolara, Joseph Pasquale (1960) *A study of the Logbara (Ma'di) language: Grammar and vocabulary*. London: Oxford University Press.
- Creider, Chet A. and Jane Tapsubei Creider (1989) *A grammar of Nandi*. Hamburg: Helmut Buske.
- Cyffer, Norbert (1983) Case marking in Kanuri. *Afrika und Übersee* 66: 191–202.
- Dimmendaal, Gerrit Jan (1983) *The Turkana language*. Dordrecht: Foris Publications.
- Dimmendaal, Gerrit Jan (2010) Differential object marking in Nilo-Saharan. *Journal of African Languages and Linguistics* 31: 13–46.
- Dirk Kievit and Erika Robertson (2012) Notes on Gwama grammar. *Studies in African Linguistics* 41: 39–97.
- Heath, Jeffrey (2007) Bidirectional case-marking and linear adjacency. *Natural Language & Linguistic Theory* 25: 83–101.
- Heine, Bernd (1980) Camus, a Maa dialect. In: Bernd Heine (ed.) *The Non-Bantu languages of Kenya*, 99–140. Berlin: Dietrich Reimer.
- Heine, Bernd and König Christa (2010) *The Labwor language of Northeastern Uganda: A grammatical sketch*. Tokyo: Research Institute for Languages and Cultures of Asia and Africa
- Inui, Hideyuki 乾秀行 (2014) Kowegugo no bumpoo suketchi コウエグ語の音素目録 [A grammar sketch of Kowegu]. *Studies in Ethiopian Languages* 3: 24–49.
- Jake, Janice L. (1985) Raising in Fur. *Studies in African Linguistics*, Supplementary issue 9: 157–162.
- Jakobi, Angelika (2006) Focus in an active/agentive alignment system: the case of Beria (Saharan). *ZAS Papers in Linguistics* 46: 105–127.
- Jakobi, Angelika (2017) Verbal number and transitivity in Karko (Kordofan Nubian). *Language Typology and Universals* 70(1): 117–142.
- Jakobi, Angelika, Ali Ibrahim and Gumma Ibrahim Gulfan (2020) Verbal number and grammatical relations in Tagle. *Faits de Langues* 51(1): 99–116.
- Jakobi, Angelika & El-Shafie El-Guzuuli (2016) Heterosemy of case markers and clause-linkers in Andaandi (Nile Nubian). *Studies in African Linguistics* 45(1–2): 161–188.
- Jerono, Prisca (2015) Case marking in Tugen. In: Angelika Mietzner and Anne Storch (eds.) *Nilo-Saharan: Models and descriptions*, 37–47. Cologne: Rüdiger Köppe.
- Khalil, Mohamed K. (2015) The verbal plural marker in Nobiin (Nile Nubian). *Dotawo* 2: 59–71.
- Kibebe, Tsehay Taye (2015) Documentation and grammatical description of Chabu. Doctoral dissertation, Addis Ababa University.
- Kießling, Roland (2007) The ‘marked nominative’ in Datooga. *Journal of African Languages and Linguistics* 28: 149–191.
- König, Christa (2008) *Case in Africa*. Oxford: Oxford University Press.
- König, Christa (2009) Ik. In: Gerrit J. Dimmendaal (ed.) *Coding participant marking: Construction types in twelve African languages*, 141–172. Amsterdam: John Benjamins.
- König, Christa, Bernd Heine and Karsten Legère (2015) *The Akie language of Tanzania: A sketch of discourse grammar*. Tokyo: Research Institute for Languages and Cultures of Asia and Africa.
- Kossmann, Maarten (2015) A Tasawaq (Northern Songhay, Niger) text with grammatical notes. *Linguistic Discovery* 13: 82–118.

- Miller, Cynthia L and Leoma G. Gilley (2001) Evidence for ergativity in Shilluk. *Journal of African Languages and Linguistics* 22: 33–68.
- Moodie, Jonathan and Rosey Billington (2020) *A Grammar of Lopit: An Eastern Nilotic language of South Sudan*. Leiden: Brill.
- Noonan, Michael (1992) *A grammar of Lango*. Berlin: Mouton de Gruyter.
- Norton, Russell (2012) Number in Ama verbs. *Occasional Papers in the Study of Sudanese Languages* 10: 75–94.
- Okoth-Okombo, Duncan (1982) *Dholuo morphophonemics in a generative framework*. Berlin: Dietrich Reimer.
- Osamu Hieda (2013) *A grammar of Kumam: the interaction between syntax and pragmatics*. Tokyo: Research Institute for Languages and Cultures of Asia and Africa.
- Persson, Andrew M. (1981) Clause types in Jur Mödö. *Occasional Papers in the Study of Sudanese Languages* 1: 110–121.
- Reh, Mechthild (1985) *Die Krongo-Sprache (Niino Mó-di): Beschreibung, Texte, Wörterverzeichnis*. Berlin: Dietrich Reimer.
- Reh, Mechthild (1994) A grammatical sketch of Deiga. *Afrika und Übersee* 77: 197–261.
- Reh, Mechthild (1996) *Anywa language: description and internal reconstruction*. Cologne: Rüdiger Köppe.
- Stevenson, Roland (1956-1957) A survey of the phonetics and grammatical structure of the Nuba Mountain Languages, with particular reference to Otoro, Katcha and Nyimang. *Afrika und Übersee* 40: 73–84, 93–115, 41: 27–65, 117–152, 171–196.
- Stirtz, Timothy M. (2014) Ergative, antipassive and other verb derivational morphemes in Gaahmg. *Journal of African Languages and Linguistics* 35: 243–272.
- Thompson, David E. (1976) Nera. In: M. Lionel Bender (ed.) *The Non-Semitic Languages of Ethiopia*, 484–494. East Lansing: East Lansing, Michigan: African Studies Center, Michigan State University.
- Thompson, David E. (1983) Kunama: Phonology and noun phrase. In: Marvin Lionel Bender (ed.) *Nilo-Saharan language studies*, 281–322. East Lansing: African Studies Center, Michigan State University.
- Tucker, Archibald N. and J. Tompo Ole Mpaayei (1955) *A Maasai grammar with vocabulary*. London: Longmans, Green & Co.
- Turner, Darryl John (2016) Morphosyntax of Katcha nominals: A dynamic syntax account. Doctoral dissertation, University of Edinburgh.
- Vandame, Charles (1963) *Le ngambay-moundou: phonologie, grammaire et textes*. Dakar: IFAN.
- Waag, Christine (2018) The grammar of space in Keliko, a Central Sudanic language of South Sudan. In: Helga Schröder and Prisca Jerono (eds.) *Nilo-Saharan issues and perspectives*, 193–209. Cologne: Köppe.
- Waag, Christine and Martin Phodunze (2015) The pronominal system of Baka, a Central Sudanic language of South Sudan. In: Angelika Mietzner and Anne Storch (eds.) *Nilo-Saharan: Models and Descriptions*, 135–150. Cologne: Köppe.
- Walters, Josiah Keith (2016) *A grammar of Dazaga*. Leiden: Brill.
- Worku, Firew Girma (2020) A grammar of Mursi, a Nilo-Saharan language. Doctoral dissertation, James Cook University.

## The Kalahari Basin Area

- Witzlack-Makarevich, Alena and Hiroshi Nakagawa (2019) Linguistic Features and Typologies in Languages Commonly Referred to as ‘Khoisan’. In: Ekkehard Wolff (ed.) *The Cambridge Handbook of African Linguistics*: 382-416. Cambridge: Cambridge University Press.

# Geolinguistic analysis of ‘hand’, ‘wind’, and ‘moon’ in Tibetan languages in sMarkhams, mDzogong, and rDzayul counties

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## Abstract

This article examines geolinguistic features of the sound and word forms of ‘hand’, ‘wind’, and ‘moon’ in Tibetan languages spoken in three counties at the southeast corner of Tibet Autonomous Region, namely sMarkhams, mDzogong, and rDzayul. The three lexical items ‘hand’, ‘wind’, and ‘moon’ contain ‘l’-sound in their forms in Literary Tibetan roots—*lag*, *rlung*, and *zla*, respectively. Hence, the article focuses on the sound correspondence of the ‘l’-sound as well as word forms. The synthetic linguistic map shows that two dialects located at the southernmost and westernmost areas of the map have a different type of the given sound correspondence.

## 1 Introduction

This article provides a preliminary geolinguistic study on Tibetan languages spoken in three counties at the southeast corner of Tibet Autonomous Region (TAR), namely sMarkhams, mDzogong, and rDzayul counties. These counties belong to the Khams region in the traditional Tibetan geography together with other counties in Chamdo Municipality as well as their adjacent administrative regions—Kandze Tibetan Autonomous Prefecture of Sichuan Province and Dechen Tibetan Autonomous Prefecture of Yunnan Province. Geolinguistic studies have been accumulated in the Tibetosphere of Sichuan and Yunnan (e.g., Suzuki 2009, 2012, 2013, 2017, 2018). Hence, this article’s data can be easily connected with those in the previous studies.

The present topic originates from the issue raised by Suzuki (2020, 2021), discussing the sound correspondences of Literary Tibetan (LT) initials *l* and *y* with Tibetan languages in Yunnan. Although we have only limited data available for the study, we elucidate how Tibetan languages spoken in the three counties are connected with those in Sichuan and Yunnan.

In addition, non-Tibetic Tibeto-Burman languages are also spoken by Tibetans in those counties, such as Lamo and Larong sMar (Suzuki et al. 2018, 2021; Tashi Nyima & Suzuki 2019; Zhao 2019; Suzuki & Tashi Nyima 2021). These languages contain many Tibetan loanwords, and we require data of local Tibetan varieties to investigate lexical borrowing between them. From this perspective, a geolinguistic approach by mapping lexical data is essential.

## 2 Dataset

The data for this study consist of 23 dialects from sMarkhams, mDzogong, and rDzayul counties as our first-hand data. Table 1 displays the dialect names and word forms of three lexical items. The description of segmental sounds follows the framework by Zhu (2010) as well as Suzuki (2016), including IPA (International Phonetic Alphabet) symbols and additional indispensable phonetic symbols employed in Chinese linguistics. The analysis of suprasegmental sounds follows Kitamura (1977), with a necessary expansion.

Table 1: Dataset.

County	Dialect (township/village)	‘hand’	‘wind’	‘moon’
sMarkhams	sGarthog	ˈlaʔ pa	ˈʰlũ	ˈn̩da ɣa:
sMarkhams	sGarthog/lCanggrong	ˈla: pa	ˈʰlũ	ˈn̩da wa
sMarkhams	Rongme/Kharkyang	ˈlaʔ pa	ˈʰlu: ma	ˈn̩da ɣa:
sMarkhams	Gruparong	ˈlaʔ pa	ˈʰlõ	ˈn̩da ɣe:
sMarkhams	Gruparong/sTarkhasteng	ˈlaʔ pa	ˈʰlõ	ˈn̩da ɣe:
sMarkhams	Zurdoshod/Gadnagshod	ˈla ka	ˈʰlũ	ˈʰdo:
sMarkhams	Zurdoshod/bCudponshod	ˈlaʔ pa	ˈʰlõ	ˈʰdo:
sMarkhams	mBumpa	ˈla: pa	ˈʰlũ	ˈn̩da wa
sMarkhams	gTsangshod	ˈla: pa	ˈʰlũ	ˈn̩da:
sMarkhams	Byisgrong	ˈlaʔ pa	ˈʰlõ	ˈn̩da ɣe:
sMarkhams	Byisgrong/nDzotsha	ˈlaʔ pa	ˈʰlũ	ˈn̩da ɣe:
sMarkhams	Byisgrong/mButsha	ˈla: pa	ˈʰlũ	ˈn̩da ɣja:
sMarkhams	Byisgrong/sMadpa	ˈla: pa	ˈʰlõ	ˈʰdo:
sMarkhams	rMogshod/Agdong	ˈlaʔ pa	ˈʰlõ	ˈn̩da gi:
sMarkhams	Tshwakhalo/lCanglung	ˈlaʔ pa	ˈʰlõ	ˈn̩da wa
sMarkhams	Tshwakhalo/nJang	ˈla: pa	ˈʰlõ	ˈn̩da gi:
sMarkhams	mChodrtan	ˈlaʔ pa	ˈʰlõ	ˈn̩da wa
mDzogong	Bulthog/Buram	ˈlaʔ pa	ˈʰlo	ˈn̩da ɦã
mDzogong	bKrayul/Ragsmal	ˈlaʔ pa	ˈʰlũ	ˈn̩da:
mDzogong	Wamda/dBuyag	ˈlaʔ pa	ˈʰlõ	ˈʰdza ɣa:
mDzogong	Zhaglingkha/Shezri	ˈlaʔ pa	ˈʰlõ	ˈn̩da wa
mDzogong	Rabchen	ˈlaʔ pa	ˈʰlõ	ˈn̩da wa
rDzayul	Tshawarong/rTsela	ˈlã ɳgu	ˈʰlũ	ˈʰlɛ fia

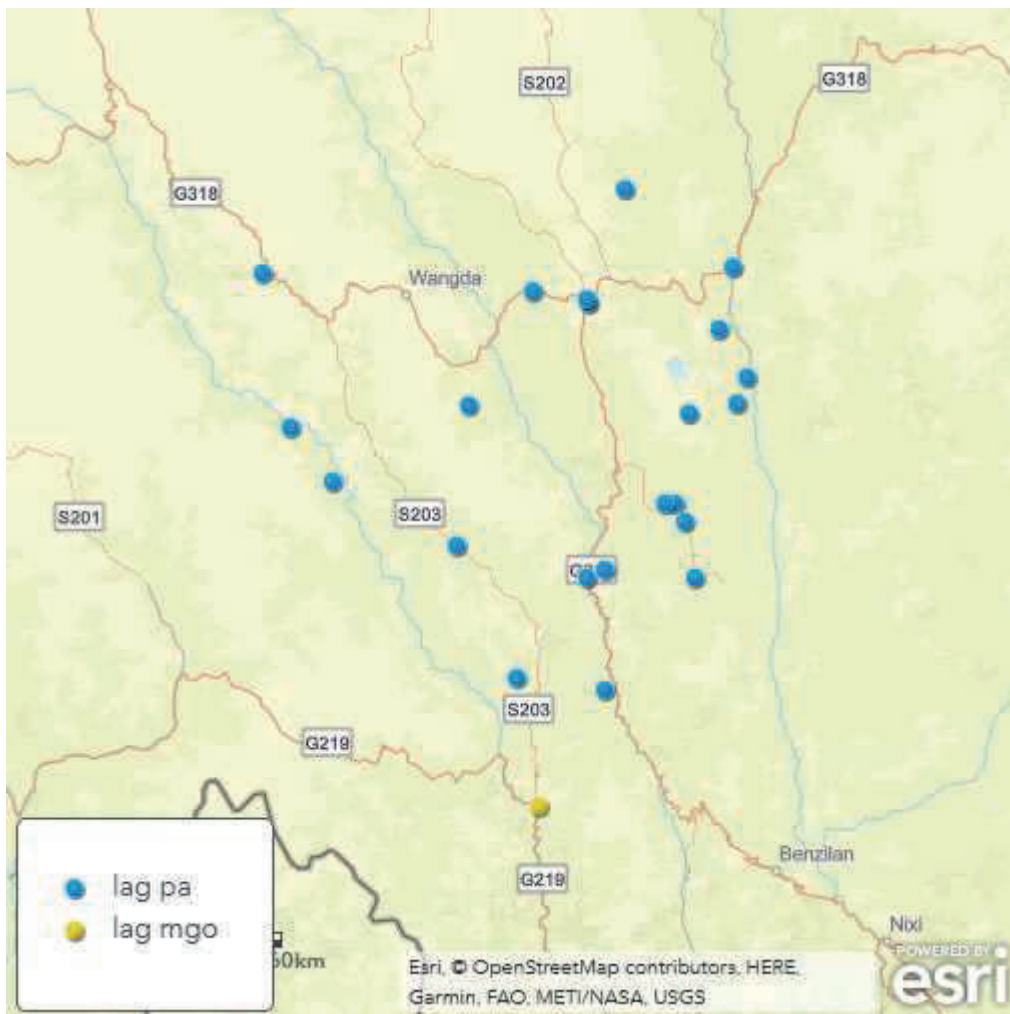
Other than the data in Table 1, we have obtained data of the mGola dialect (mGola Township, rDzayul County). We include this information in our analysis but not on the maps.

### 3 Observation and analysis

This section provides linguistic maps of three word forms and their analyses. One or two maps are displayed for each word form. Finally, we provide a synthetic map of the initial sound of the three word forms to relate the analysis to that provided by Suzuki (2020, 2021).

#### 3.1 ‘Hand’

The word form for ‘hand’ is divided into two categories: *lag pa* and *lag mgo*. The initial consonant of all the varieties is /l/. As shown in Map 1, the distribution of *lag mgo* is limited to the single variety spoken in the southernmost area (the Tshawarong dialect).

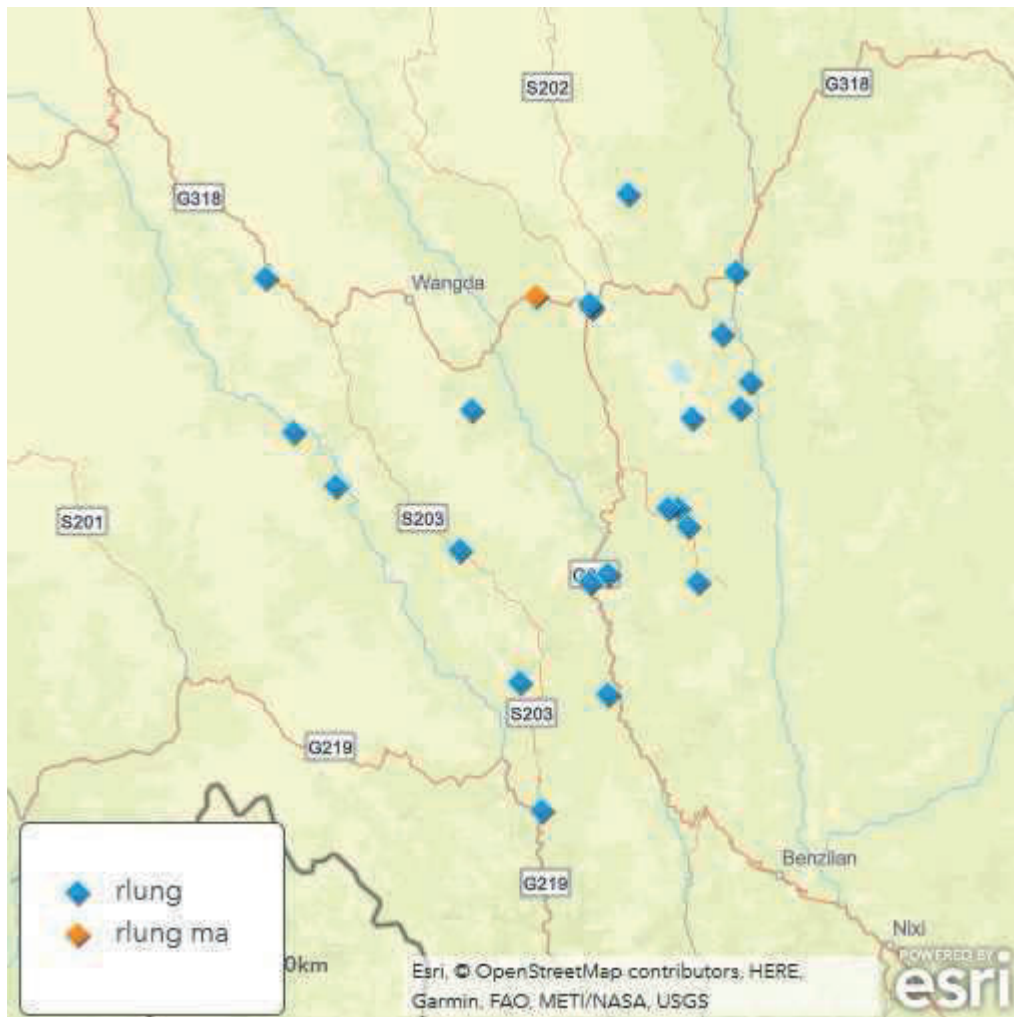


Map 1: Distribution of the word form for ‘hand’.

As Table 2 shows, there are slight differences in the pronunciation of the first syllable. Of the dialects, the Gadnagshod has a form /<sup>h</sup>la ka/. This can be analysed as a change of syllabification of the final velar consonant /k/ to the following syllable. A potential sound change process is described as follows: *lag pa* (LT) : \*/lak pa/ > \*/lak kwa/ > /laʔ kwa/ (attested in rGyalthag Tibetan; Suzuki 2018:86-87) > /la ka/. The word form for ‘hand’ in the mGola dialect corresponds to *lag pa*, with a /l/-initial; hence, it belongs to the majority in Map 1.

### 3.2 ‘Wind’

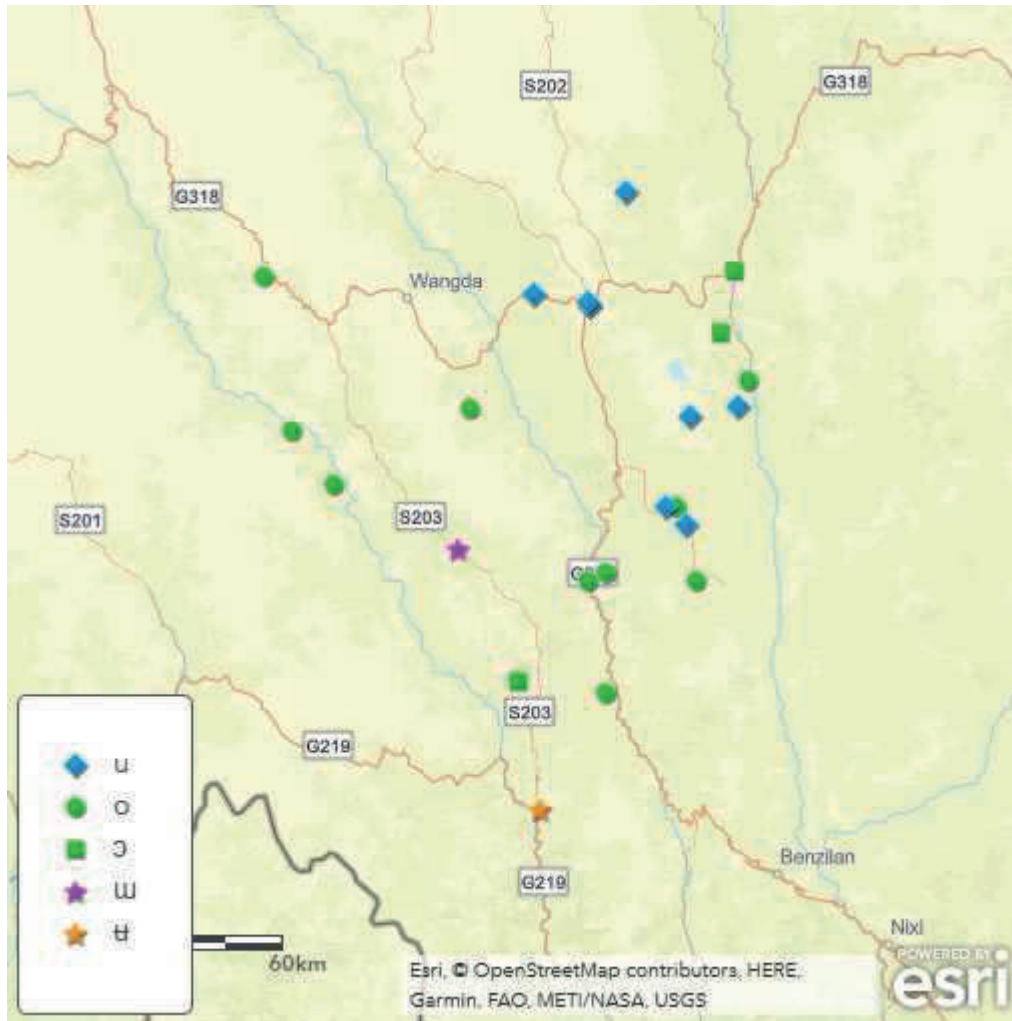
The word form for ‘wind’ is divided into two categories: *rlung* and *rlung ma*. The initial consonant of all the varieties is /l/. As evident in Map 2, the distribution of *rlung ma* is limited to the single variety spoken in the central area (the Kharkyang dialect).



Map 2: Distribution of the word form for ‘wind’.

The forms *rlung ma* (as well as *rlung dmar*) are widely attested in Yunnan, especially in the western part of the Yunnan Tibetosphere (Suzuki 2017). Hence, with regard to the distribution, the form *rlung ma* in the Kharkyang dialect is not directly connected to that in Yunnan. A careful examination of the map by Suzuki (2017) revealed that in the northwesternmost part of the Yunnan Tibetosphere, dialects use a form corresponding to *rlung*, the single monosyllabic stem. Suzuki (2020) suggests the discrepancy of these dialects from others spoken to the south, which use *rlung ma* or *rlung dmar*. Additionally, the word form for ‘wind’ in the mGola dialect corresponds to *rlung*, with a /l/-initial; hence, it belongs to the majority in Map 2.

As Table 2 shows, there are slight differences in the vowel quality. Of the dialects, notably, the Bulthog dialect does not exhibit a nasalised vowel, although it has an oral-nasal contrast in the vocalism. Map 3 shows the vocalic qualities (focusing on the tongue position) and their distribution.



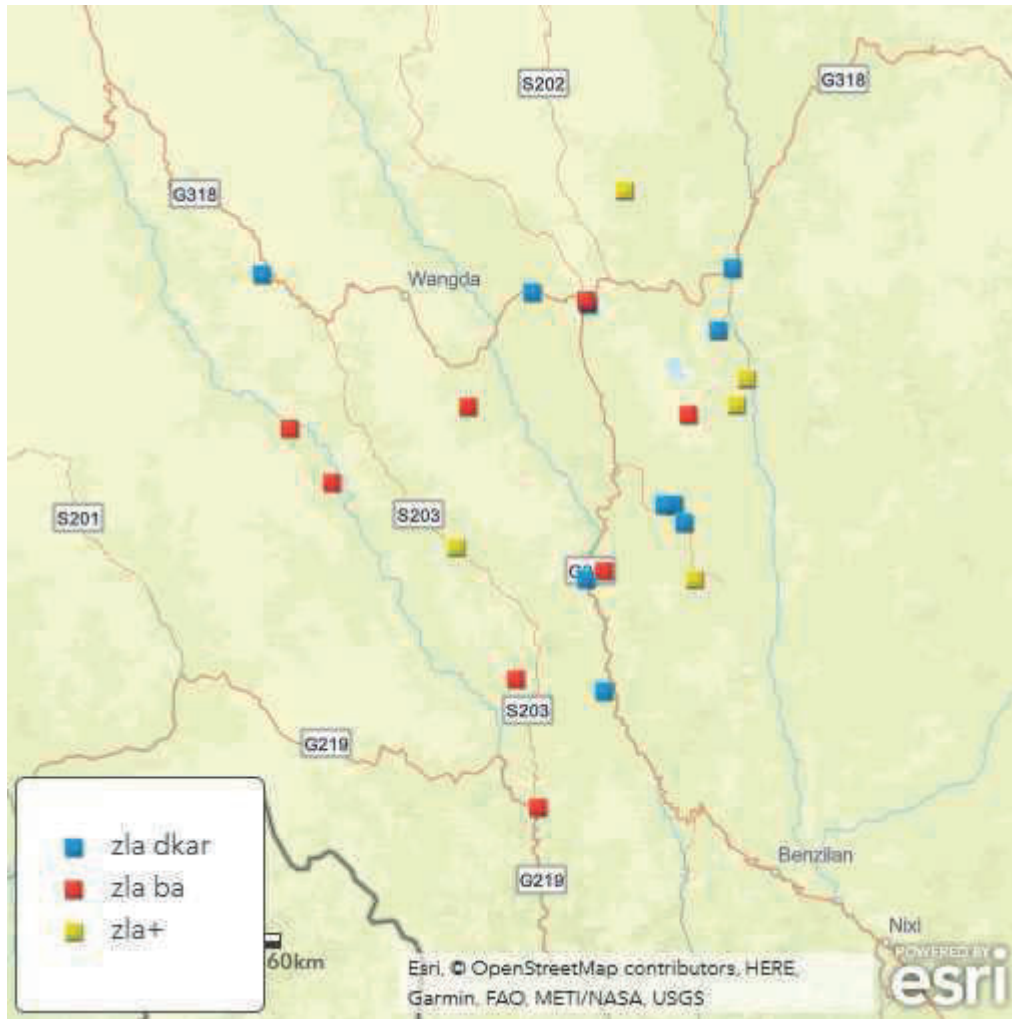
Map 3: Distribution of the vocalic quality of the stem of the word ‘wind’.

Although the LT stem (*rlung*) contains the *u*-vowel, the vowel of the rhyme *ung* does not always correspond to /u/ in the Tibetic varieties in Khams. Type /u/ is surrounded by Types /o/ and /ɔ/. However, it is difficult to state that Type /u/ is a recently generated form following the ABA-distribution theory, although sGarthog, the chief seat of sMarkhams County, can be regarded as the centre of the sMarkhamgang region in the traditional Tibetan geography.

Types /u/ and /ɛ/ are attested only in the Ragsmal and Tshawarong dialects, respectively. These types are exceptional in the Tibetic varieties in Khams; they are not common to the varieties in Yunnan. The present dataset reflected in Map 3 is insufficient to point out a relationship between the vocalic quality and the distribution.

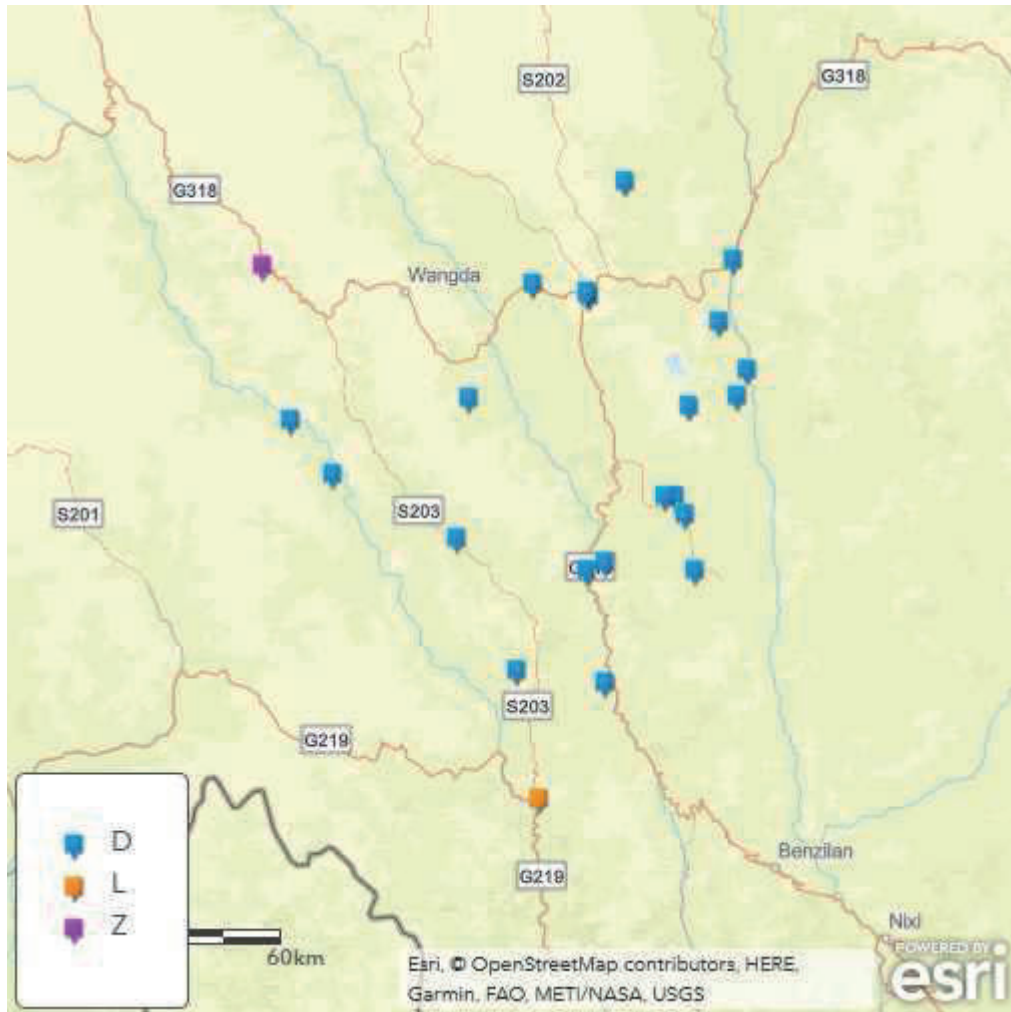
### 3.3 ‘Moon’

The word form for ‘moon’ is divided into three categories: *zka ba*, *zla dkar*, and a coalescent form of one of the first two. The initial consonant of the stem has three types: /d/ (Type D), /l/ (Type L), and /dz/ (Type Z). Map 4 shows the distribution of the word form, and Map 5 shows that of the initial consonant.



Map 4: Distribution of the word form for ‘moon’.

Both the word forms *zla ba* and *zla dkar* are widely attested in Yunnan (Suzuki 2018:114-115). However, the coalescent form is rare, found only in two varieties. In Map 4, the coalescent form is attested in five varieties, mainly spoken in the eastern area of the map. Except for the case of the Ragsmal dialect, the remaining four cases are possibly derived from *zla dkar*, appearing in the surrounding dialects.



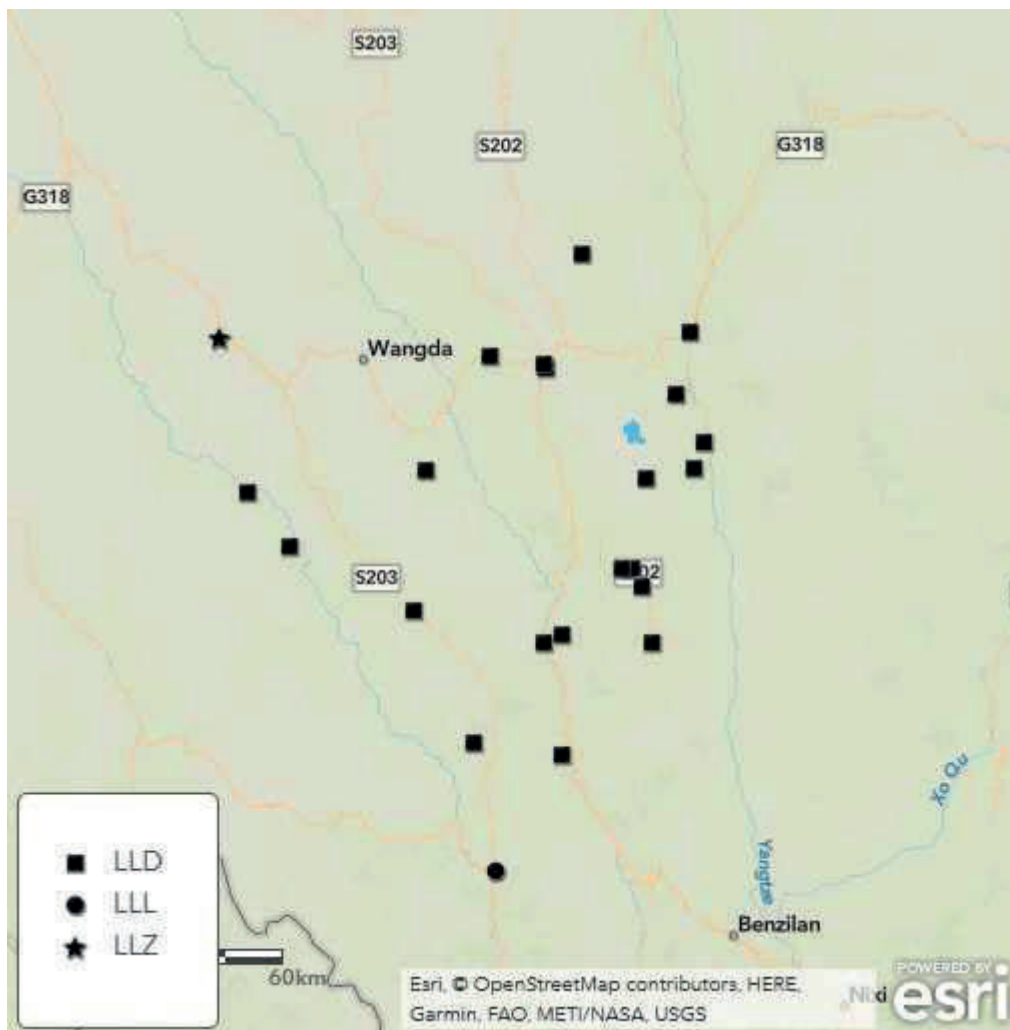
Map 5: Distribution of the initial consonant of the word ‘moon’.

Map 5 shows that Type D is the majority in the target area; Type L is only found in the southernmost place; and Type Z is present only in the westernmost place.

The word form for ‘moon’ in the mGola dialect corresponds to a coalescent form, with a /l/-initial; hence, it belongs to the minority in Maps 4 and 5. Near the mGola dialect-speaking area, the coalescent form is found in Ragsmal dialect, and the /l/-initial is attested only in the Tshawarong dialect. In this sense, the features of the word form in the mGola dialect are connected to those of surrounding dialects.

### 3.4 Synthetic map of the initial consonant of the three words

We provide a synthetic map in Map 6. The classification is, consequently, the same as in Map 3. The essential difference is the symbol specifically identical to that in Suzuki’s (2020) synthetic map of the three words.



Map 6: Synthetic map of the initial consonants.

#### 4 Conclusion

This article reported a geolinguistic analysis of the three word forms ‘hand’, ‘wind’, and ‘moon’ of twenty-three dialects from sMarkhams, mDzogong, and rDzayul counties of TAR. These three words are selected as a reference to Suzuki (2020) to examine the sound correspondence of the initial consonant of LT *l*-initial series (*l*-, *rl*-, and *zl*-). Consequently, this preliminary study does not provide any typical geolinguistic interpretations; however, we have an opportunity to connect this result with data from the surrounding regions.

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## References

- Kitamura, H. 1977. *Tibetan (Lhasa) dialect*. Tokyo: Research Institute for Languages and Cultures of Asia and Africa.
- Suzuki, H. 2009. Preliminary report on the linguistic geography for multicoloured Tibetan dialects of Yunnan. In M. Minegishi, K. Thepkanjana, W. Aroonmanakun & M. Endo (eds) *Proceedings of the Chulalongkorn-Japan Linguistics Symposium*, 267-279. Global COE Program ‘Corpus-based Linguistics and Language Education’, Tokyo University of Foreign Studies.
- Suzuki, H. 2012. Tibetan *pigs* revisited : multiple *piglets* with a sow in Yunnan Tibetan and beyond. *Papers from the First International Conference on Asian Geolinguistics*, 79-88.
- Suzuki, H. 2013. The words for ‘rain’ and ‘wind’ in Tibetic languages spoken in the Ethnic Corridor. *Papers from the First Annual Meeting of the Asian Geolinguistic Society of Japan*, 58-67.
- Suzuki, H. 2016. In defense of prepalatal non-fricative sounds and symbols: towards the Tibetan dialectology. *Researches in Asian Languages* 10, 99-125. URI: <http://id.nii.ac.jp/1085/00002195/>
- Suzuki, H. 2017. Geolinguistic analysis of ‘wind’ in Tibetic languages in the eastern Tibetosphere. *Studies in Asian Geolinguistics IV —Wind—*, 27-32. URI: [https://publication.aa-ken.jp/sag4\\_wind\\_2017.pdf](https://publication.aa-ken.jp/sag4_wind_2017.pdf)
- Suzuki, H. 2018. *100 linguistic maps of the Swadesh word list of Tibetic languages from Yunnan*. Research Institute for Languages and Cultures of Asia and Africa. URI: [https://publication.aa-ken.jp/sag\\_mono3\\_tibet\\_yunnan\\_2018.pdf](https://publication.aa-ken.jp/sag_mono3_tibet_yunnan_2018.pdf)
- Suzuki, H. 2020. Cong diliyuanxue de jiaodu lai jiang Yunnan Zangyu de lishi fazhan. *Zhongguo yuyan dili bijiao yanjiu luntan huiyi lunwenji*, 38-48.
- Suzuki, H. 2021. Cong diliyuanxue de jiaodu kan Yunnan Zangyu /l/ ji /j/ de lishi fazhan. In H. Suzuki and M. Endo (eds) *Zhongguo yuyan dili yanjiu lunwenji*, 19-38. URI: [https://publication.aa-ken.jp/sag\\_mono1\\_papers\\_on\\_geolinguistic\\_studies\\_of\\_the\\_languages\\_in\\_china\\_2021.pdf](https://publication.aa-ken.jp/sag_mono1_papers_on_geolinguistic_studies_of_the_languages_in_china_2021.pdf)
- Suzuki, H., Sonam Wangmo & Tsering Samdrup. 2021. Lamei, another dialect of Lamo (mDzogong, TAR): Vocabulary and sentence structure. In Y. Nagano & T. Ikeda (eds) *Grammatical phenomena of Sino-Tibetan languages 4: Link languages and archetypes in Tibeto-Burman*, 25-69. Institute for Research in Humanities, Kyoto University. URI: <http://hdl.handle.net/2433/263977>
- Suzuki, H. & Tashi Nyima. 2021. Evidential system of copulative and existential verbs in Lamo. In Y. Nagano & T. Ikeda (eds) *Grammatical phenomena of Sino-Tibetan languages 4: Link languages and archetypes in Tibeto-Burman*, 259-287. Institute for Research in Humanities, Kyoto University. URI: <http://hdl.handle.net/2433/263981>
- Suzuki, H., Tsering Samdrup & Sonam Wangmo. 2018. Contrastive word list of three non-Tibetic languages of Chamdo—Lamo, Larong sMar, and Drag-yab sMar—. *Kyoto University Linguistic Research* 37, 79-104. doi: <https://doi.org/10.14989/240980>
- Suzuki, H., Tsering Samdrup & Sonam Wangmo. 2021. Taya-ma (Drag-yab sMar) go Bae (mBengo) hoogen no goi siryo (Nitiei taisyoo). *Journal of Kijutsuken* 13, 189-213. URI: <http://id.nii.ac.jp/1422/00004151/>
- Tashi Nyima & H. Suzuki. 2019. Newly recognised languages in Chamdo: Geography, culture, history, and language. *Linguistics of the Tibeto-Burman Area* 42.1, 38-82 doi: <https://doi.org/10.1075/ltba.18004.nyi>
- Zhao, H. 2019. Xinfaxian yuyan Larongyu chutan—Yinxi, cihui, xintai yu puxi diwei. MA thesis, Zhongshan Daxue.
- Zhu, X. 2010. *Yuyinxue*. Shangwu Yinshuguan.

# Grammatical relations in Caucasian languages: Preliminary mapping

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## Abstract

This article arranges data on grammatical relations from previous works on Caucasian languages (Kartvelian, Abkhazo-Adyghean, and Nakho-Dagestanian) as supplementary material for the *Studies in Asian and African Geolinguistics* project. The languages generally show an ergative-marking system for dependent-marking and person(+gender)-indexation for head-marking. Among the Caucasian languages, Kartuli has a split-ergative system based on tense-aspectual differences as case marking, whereas the verb morphology indicates a person-indexation system based on the semantic roles S/A/P regardless of the case marking of each noun phrase.

## 1 Introduction

This article provides supplementary data on the Caucasian languages (Kartvelian, Abkhazo-Adyghean, and Nakho-Dagestanian; see Suzuki 2021 for the location) for the project *Studies in Asian and African Geolinguistics-II* (SAAG-2). Basic information on the grammatical relations in the Caucasian languages is available in several references such as Klimov (1994) and Hewitt (2004). However, only a few monographs provide an exhaustive paradigm of the grammatical relations in a given language.

Kartuli (Georgian; Kartvelian) exhibits the following case marking split based on verb classes and tense-aspectual differences (Aronson 1989:462; see also Fähnrich 1993; Kojima 2011). Based on Aronson's (1989) classification, the verbs fall into four categories: (1) transitive, (2) intransitive for *i*-prefixed passives and *d*-prefixed change-of-state verbs, (3) intransitive for activities and (4) emotion. Table 1 presents a summary of the case marking for Classes 1 and 3:

Table 1: Summary of case marking for Classes 1 and 3 of Kartuli verbs (adapted from Aronson 1989:462).

TA-series	Subject/Agent	Direct object/Patient	Indirect object
Present/Future	nominative	dative	dative
Aorist	ergative	nominative	dative
Perfect	dative	nominative	dative

For Class 2, the single argument is nominative, and the indirect object (if necessary) is dative. For Class 4, the undergoer is dative, and the object is nominative. In summary, Kartuli takes a split-ergative system, in which the ergative appears only in an aorist-series construction of transitive verbs. In addition, a similar syntactic agreement system has been observed since the period of Old Kartuli (Fähnrich 1994).

Abkhaz (Abkhazo-Adyghean) exhibits the head-marking type for grammatical relations (Klychev & Chkadua 1999a). Nouns have no inflection, while verbs have a highly complex marking system of morphology, including a series of markings presenting grammatical relations (Hewitt 2010).

Forker (2020:373-402) describes a complete picture of the agreement system of Sanzhi Dargwa (Nakho-Dagestanian). This language has agreement for number (singular and plural), gender (masculine, feminine, and neuter), and person (1st, 2nd, and 3rd). In verb morphology, the marking depends on the TAM forms.

## 2 Dataset and sources

Table 2 lists the sources of data for each language in the maps. See Shirai (this volume) for the classification of the grammatical relation types. As Table 2 shows, four types are identified:

- B1: Ergative-absolutive pattern + dependent-marking
- B2: Ergative-absolutive pattern + head-marking
- B3: Ergative-absolutive pattern + double-marking
- BX3: Ergative-absolutive pattern + double-marking with a conflict between dependent- and head-markings

Table 2: Dataset for mapping.

Language	Grammatical relation types	Source
Kartuli (Georgian)	BX3	Aronson (1989)
Mingrelian	BX3	Klimov (1999a)
Laz	BX3	Klimov (1999b)
Svan	BX3	Sharadzenidze (1999)
Abzhywa (Abkhaz)	B2	Klychev & Chkadua (1999a) / Hewitt (2010)
T'ap'anta (Abaza)	B2	Klychev & Chkadua (1999b)
Ubykh	BX3	Kumakhov (1999)
Chechen	B1	Desherieva (1999)
Ingush	B1	Desheriev & Desherieva (1999) / Guerin (2001)
Avar	B3	Alekseev (1999a)
Andi	B3	Alekseev (1999b)
Botlikh	B3	Magomedbekova (1999a)
Godoberi	B3	Tatevosov (1999)
Akhvakh	B3	Magomedbekova (1999b)
Karata	B3	Magomedbekova (1999c)
Bagvalal	B3	Lyutikova & Tatevosov (1999) / Kibrik (red.) (2001)
Tindi	B3	Magomedbekova (1999d)
Chamalal	B3	Magomedova (1999)
Bezhta	B3	Testelefs & Khalilov (1999)
Hunzib	B3	van der Berg (1995)
Tsez	B3	Khalilov (1999)
Hinukh	B3	Khalilov & Isakov (1999)
Khvarshi	B3	Testelefs (1999)
Lak	BX3	Khaydakov (1999)
Dargwa	BX3	Musaev (1999)
Icari Dargwa	B3	Sumbatova & Mutalov (2003)
Sanzhi Dargwa	BX3	Forker (2020)
Mehweb	BX3	Ganenkova (2019)
Lezgi	B1	Meylanova & Sheykhov (1999)
Tabasaran	BX3	Khanmagomedov (1999)
Agul	BX3	Alekseev & Suleymanov (1999)
Rutul	BX3	Alekseev (1999c)
Ts'akhur	B1	Talibov (1999)
Archi	B3	Kibrik (1999)
Kryz	B3	Saadiyev (1999)
Budukh	B3	Sheykhov (1999) / Talibov (2007)
Udi	BX3	Dzheylanishvili (1999)
Khinalug	B3	Desheriev (1959) / Alekseev (1999d)

Because of the limitation of the data, detailed conditions of the splits are not specified in Table 2. According to Shirai (this volume), the type of Kartuli is classified into BX3-bf (there are splits with verb classes and TAM), as shown in Table 1; Icarl Dargwa shows personal agreement of the verb following the hierarchy  $2 > 1 > 3$  (Sumbatova & Mutalov 2003), and hence the type is B3-a. Further details are beyond the scope of this article.

In many languages that take Type B3, head-marking corresponds to a class of nouns that can function as a “subject”, that is, a single argument or agent. Distinctions between the classes vary across languages.

### 3 Mapping with ArcGIS online

Map 1 shows the grammatical relations in the Caucasian languages cited in Table 2. Each symbol is common to that in SAAG-2, defined by Shirai (this volume), so that we can contrast the data of Map 1 with the other languages systematically.



Map 1: Grammatical relations in the Caucasian languages.

Map 1 shows that the types of grammatical relations in the three language families vary. Kartvelian languages exhibit Type BX3, which is widely attested in the Caucasus. Then, Type B2 is dominant in Abkhazo-Adyghean languages, whereas Type B3 is prominent in Nakho-Dagestanian languages, of which Nakh languages (Chechen and Ingush) exhibit Type B1.

In sum, each of the three language families in the Caucasus uses different markings for grammatical relations. However, the existence of the ergative marking or conjugation is striking in all the languages discussed here.

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## References

- Alekseev, M. E. [Алексеев, М. Е.]. 1999a. Аварский язык. In М. Е. Алексеев (ред.), 203-216.
- Alekseev, M. E. [Алексеев, М. Е.]. 1999b. Андийский язык. In М. Е. Алексеев (ред.), 220-228.
- Alekseev, M. E. [Алексеев, М. Е.]. 1999c. Рутульский язык. In М. Е. Алексеев (ред.), 409-420.
- Alekseev, M. E. [Алексеев, М. Е.]. 1999d. Хиналугский язык. In М. Е. Алексеев (ред.), 460-469.
- Alekseev, M. E. [Алексеев, М. Е.] (отв. ред). 1999. *Языки мира: Кавказские языки*. Москва: Издательство Academia.
- Alekseev, M. E. & N. D. Suleymanov [Алексеев, М. Е. и Н. Д. Сулейманов]. 1999. Агульский язык. In М. Е. Алексеев (ред.), 399-408.
- Aronson, Howard L. 1989. *Georgian: A reading grammar (Corrected edition)*. Columbus: Slavica Publishers.
- van den Berg, H. 1995. *A grammar of Hunzib (with texts and lexicon)*. München: Lincom Europa.
- Desheriev, Yu. D. [Дешериев, Ю. Д.]. 1959. *Грамматика хиналугского языка*. Москва: Издательство Академии Наук СССР
- Desheriev, Yu. D. & T. I. Desherieva [Дешериев, Ю. Д. и Т. И. Дешериева]. 1999. Ингушский язык. In М. Е. Алексеев (ред.), 186-196.
- Desherieva, T. I. [Дешериева, Т. И.] 1999. Чеченский язык. In М. Е. Алексеев (ред.), 173-186.
- Dzheylanishvili, E. F. [Джейланишвили, Э. Ф.]. 1999. Удинский язык. In М. Е. Алексеев (ред.), 453-458.
- Dzidziguri, Sh. & N. Chanishvili [Дзидзигури, Ш. и Н. Чанишвили]. 1999. Грузинский язык. In М. Е. Алексеев (ред.), 20-52.
- Fähnrich, Heinz. 1993[1986]. *Kurze Grammatik der georgischen Sprache*, 3. Auflage. Leipzig: Langenscheidt-Verlag Enzyklopädie.
- Fähnrich, Heinz. 1994. *Grammatik der altgeorgischen Sprache*. Hamburg: Helmut Buske Verlag.
- Forker, Diana. 2020. *A grammar of Sanzhi Dargwa*. Berlin: Language Science Press. doi: <http://doi.org/10.5281/zenodo.3339225>
- Ganenkova, Dmitry. 2019. Case and agreement in Mehweb. In Michael Daniel, Nina Dobrushina & Dmitry Ganenkova (eds) *The Mehweb language: Essays on phonology, morphology and syntax*, 189-234. Berlin: Language Science Press. doi: <http://doi.org/10.5281/zenodo.3374730>
- Guerin, Françoise. 2001. *Description de l'ingouche: Parler du centre nord du Caucase*. München: Lincom Europa.
- Hewitt, B. George. 2004. *Introduction to the study of the languages of the Caucasus*. München: Lincom Europa.
- Hewitt, B. George. 2010. *Abkhaz: A comprehensive self-tutor*. München: Lincom Europa.
- Khalilov, M. Sh. [Халилов, М. Ш.]. 1999. Цезский язык. In М. Е. Алексеев (ред.), 320-331.
- Khalilov, M. Sh. & I. A. Isakov [Халилов, М. Ш. и И. А. Исаков]. 1999. Гинухский язык. In М. Е. Алексеев (ред.), 331-339.
- Khaydakov, S. M. [Хайдаков, С.М.]. 1999. Лакский язык. In М. Е. Алексеев (ред.), 347-357.
- Khanmagomedov, B.-G. K. [Ханмагомедов, Б.-Г. К.]. 1999. Табасаранский язык. In М. Е. Алексеев (ред.), 385-398.
- Kibrik, A. E. [Кибрик, А. Е.]. 1999. Арчинский язык. М. Е. Алексеев (ред.), 428-437.
- Kibrik, A. E. [Кибрик, А. Е.] (ред). 2001. *Багвалинский язык: Грамматика, тексты, словари*. Москва: Наследие.

- Klimov, G. A. 1994. *Einführung in die kaukasische Sprachwissenschaft* (Aus dem Russischen übersetzt und bearbeitet von Jost Gippert). Hamburg: Hemut Buske Verlag.
- Klimov, G. A. [Климов, Г. А.]. 1999a. Мегрельский язык. In М. Е. Алексеев (ред.), 52-59.
- Klimov, G. A. [Климов, Г. А.]. 1999b. Лазский язык. In М. Е. Алексеев (ред.), 59-65.
- Klychev, R. N. & L. P. Chkadua [Клычев, Р. Н. и Л. П. Чкадуа] (1999a) Абхазский язык. In М. Е. Алексеев (ред.), 113-131.
- Klychev, R. N. & L. P. Chkadua [Клычев, Р. Н. и Л. П. Чкадуа] (1999b) Абазинский язык. In М. Е. Алексеев (ред.), 131-146.
- Kojima, Yasuhiro. 2011. *Nyuuekusupuresu Guruziago*. Tokyo: Hakusuisya.
- Kumakhov, M. A. [Кумахов, М. А.]. 1999. Убыхский язык. In М. Е. Алексеев (ред.), 146-155.
- Lyutikova, E. A. & S. G. Tatevosov [Лютикова Е. А. и С. Г. Татевосовы]. 1999. Багвалинский язык. In М. Е. Алексеев (ред.), 269-283.
- Magomedbekova, Z. M. [Магомедбекова, З. М.]. 1999a. Ботлихский язык. In М. Е. Алексеев (ред.), 228-236.
- Magomedbekova, Z. M. [Магомедбекова, З. М.]. 1999b. Ахвахский язык. In М. Е. Алексеев (ред.), 252-261.
- Magomedbekova, Z. M. [Магомедбекова, З. М.]. 1999c. Каратинский язык. In М. Е. Алексеев (ред.), 261-269.
- Magomedbekova, Z. M. [Магомедбекова, З. М.]. 1999d. Тиндинский язык. In М. Е. Алексеев (ред.), 283-291.
- Magomedova, P. T. [Магомедова, П. Т.]. 1999. Чамалинский язык. In М. Е. Алексеев (ред.), 291-303.
- Meylanova, U. A. & E. M. Sheykhov [Мейланова, У. А. и Э. М. Шейхов]. 1999. Лезгинский язык. In М. Е. Алексеев (ред.), 373-385.
- Musaev, M.-S. M. [Мусаев, М.-С. М.]. 1999. Даргинский язык. In М. Е. Алексеев (ред.), 357-369.
- Saadiyev, Sh. M. [Саадиёв, Ш. М.]. 1999. Крызский язык. In М. Е. Алексеев (ред.), 437-445.
- Shagirov, A. K. [Шагиров, А. К.]. 1999. Кабардинский язык. In М. Е. Алексеев (ред.), 102-113.
- Sharadzenidze, T. [Шарадзенидзе, Т.]. 1999. Сванский язык. In М. Е. Алексеев (ред.), 65-74.
- Sheykhov, E. M. [Шейхов, Э. М.]. 1999. Будухский язык. In М. Е. Алексеев (ред.), 445-453.
- Shirai, Satoko. this volume. Grammatical relations in Asian and African languages.
- Sumbatova, Nina R. & Rasul O. Mutalov. 2003. *A grammar of Icarl Dargwa*. München: Lincom Europa.
- Suzuki, Hiroyuki. 2021. Stop series in Caucasian languages: Preliminary mapping. *Studies in Asian and African Geolinguistics I —Consonant system—*, 110-115.
- Talibov, B. B. [Талибов, Б. Б.]. 1999. Цахурский язык. In М. Е. Алексеев (ред.), 420-428.
- Talibov, Bukar Bekirovich [Талибов, Б. Б.]. 2007. *Будухский язык*. Москва: Издательство Academia.
- Tatevosov, S. G. [Татевосов, С. Г.]. 1999. Годоберинский язык. In М. Е. Алексеев (ред.), 236-252.
- Testeleets, Ya. G. [Тестелец, Я. Г.]. 1999. Хваршинский язык. In М. Е. Алексеев (ред.), 339-347.
- Testeleets, Ya. G. & M. Sh. Khalilov [Тестелец, Я. Г. и М. Ш. Халилов]. 1999. Бежтинский язык. In М. Е. Алексеев (ред.), 303-311.

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