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Grammatical relations in Lohorung

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ABSTRACT

This study delves into the grammatical relations of Lohorung, a Tibeto-Burman language spoken in the Sangkhuwasabha district, Koshi Province. Lohorung exhibits an ergative-absolutive alignment with peripheral split-ergative patterns and follows a canonical SOV word order. Employing elicitation with native speakers and textual analysis, it examines subjects, objects, and peripheral arguments through verb agreement, case marking, and word order. Transitive verbs agree simultaneously with both subjects and objects, while intransitive verbs agree only with subjects, with many markers showing portmanteau forms. Singular, dual, and plural numbers are distinguished, and clusivity is overtly marked in first-person dual and plural forms. Equi-NP constructions are controlled by the matrix subject, reflexives are expressed with <-ʈaŋpe> 'self,' zero anaphora follows preceding subjects, and causativization is marked morphologically with <-mi->. The study also addresses nominal morphology, behavior-and-control properties, relativization, and co-reference in imperatives. These findings illustrate the systematic realization of grammatical relations in Lohorung, contributing to Tibeto-Burman typology and documentation of an endangered language.

Keywords: pronominal, clusivity, agreement, Equi-NP, morphosyntax

INTRODUCTION

Grammatical relations are structural relations of syntax that show how the constituents play a role within a sentence. Givón (2001) states that grammatical relations can be understood through two main formal features: the way they are explicitly marked in language (overt coding properties) and the way they influence syntactic behavior and control (behavior-and-control properties). In Lohorung, grammatical relations are primarily analyzed on the basis of the subject, direct object, and indirect object constructions.

The Lohorung people are supposed to be the first indigenous people to settle in Arun Valley of Sangkhuwasabha district (Rai, 2080, p. 49), bringing with them their unique culture and language. They primarily reside in areas of the Arun Valley (Hardman, 2002, p. 1). Historically this place is located in Pallo Kirat (Rai, 2015, p. 3). They continue to perform their

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rituals in accordance with the oral tradition of Mundhum with guidance from Yatangpa, a knowledgeable expert in both Mundhum and ritual practices. They are Kirati and Rai of Nepal, from eastern region of the country (Rai, 2021, p. 1).

Lohorung language falls in the Sino-Tibetan, Tibeto-Burman, Himalayish, Kirat and Rai language Family (Eppele et al., 2012). It is closely related to neighboring languages such as Yamphu [ybi], Southern Yamphu [lrr], Eastern and Western Mewahang [emg, raf], and Yakkha [ybi] (Rutgers, 1998). Hanβon (1991) mentions a scarcely documented variety called 'Biksit,' spoken near the upper Sabhakhola region, which may represent a dialect of Lohorung, although the available data are insufficient for a definitive classification. In contrast, the Lohorung Rai Society maintains that the language has no dialectal divisions. Lexical similarity studies indicate that the Pangma and Dhupu varieties share about 90% of their vocabulary, while Pangma and Angla, and Dhupu and Angla, share approximately 88% (Mitchell & Hilty, 2012, p. 21).

According to the National Statistics Office (NSO, 2023), the Lohorung population, categorized under caste and ethnicity, is reported as 2,598. The number of native speakers of the Lohorung language is 3,884, with an additional 622 individuals reporting it as a second language. Furthermore, Lohorung has been identified as the ancestral language of 4,925 people.

Despite some previous studies, research on the Lohorung language remains limited. Hardman (2001) conducted an ethnographic study of the Lohorung, transcribing ritual texts but without providing linguistic analysis. Rai (2015) investigated verb morphology in Lohorung, focusing on the structure of verbs and the use of person and number markers as affixes. Regmi (2015 [2072 B.S.]) analyzed Lohorung phonology and word classes, while Rai and Rai (2019 [2076 B.S.]) explored the historical connections of the Lohorung language to its land and environment. Rai (2021) examined the morphosyntax of Lohorung from a functional-typological perspective. Rai (2024 [2080]) carried out an anthropolinguistic analysis of Lohorung myths. Rai (2025 [2081]) conducted a study examining verb agreement patterns in the language[2]. Despite these contributions, no prior study has systematically analyzed the grammatical relations, which is the focus of the present research. This study also aims to situate its findings within a broader functional typological discussion of grammatical systems.

RESEARCH METHODS

This study employed a mixed-methods linguistic fieldwork design to investigate the encoding of grammatical relations in Lohorung. Primary data were collected through structured elicitation sessions with native speakers—Harka (age 66), Lal Bahadur (age 70), Katak Bahadur (age 86), Indu Mati (age 73), and Kul Bahadur (age 88)-from Pangma, Khartuwa, and Simle of Khandbari Municipality, Sankhuwasabha District. All consultants are fluent lifelong speakers of Lohorung, and the researcher's metalinguistic intuitions, as a native speaker, were used only for secondary verification and clarification of ambiguous

2 Rai (2009, 2010) also studied the Kirati Language in the relative area.

cases. Data collection involved structured and semi-structured elicitation tasks in which consultants translated, produced, and judged sentences designed to test subject, object, and oblique encoding; case alternations; word-order variation, relativization possibilities; and argument-structure patterns across verb classes. Controlled elicitation tasks manipulating person, number, and definiteness were used to identify morphosyntactic factors influencing grammatical relations, and consultants additionally provided grammaticality judgments on a three-point acceptability scale to evaluate subject-hood diagnostics, including control, raising, and reflexivization, as well as object properties and constraints on oblique arguments. Complementing the elicited data, narratives, procedural texts, and conversational recordings were collected to observe grammatical-relation phenomena in natural discourse, including zero anaphora, argument omission, clause chaining, and reference tracking. The analysis follows the functional–typological framework proposed by Givón (2001) and applies standard diagnostic-such as control and co-reference tests, coordination reduction, relative clause accessibility, and case-marking patterns—to provide a comprehensive account of how Lohorung encodes core and peripheral grammatical relations.

FINDINGS AND DISCUSSION

This section discusses the grammatical relations in Lohorung, focusing on overt-coding properties, nominal morphology, causativization, and case marking. Under overt-coding properties, the grammatical aspects such as verb agreement and under nominal morphology, the grammatical aspects such as behavior-and control properties, Equi-NP deletion and grammatical relations, reflective and grammatical relations, zero anaphora in Chained and grammatical relation, relativizing and grammatical relations, co-reference in imperatives are discussed with examples.

Overt Coding Properties

The properties that are discernible and audible markers in the structure of the syntax as word order, case, agreement, or prepositions that show grammatical relations like subject and object are overt coding properties. (Givón, 2001a, p. 175). Cross-linguistically, such properties vary across languages. However, on the universal level, overt coding properties are basically associated with word order, verb agreement and nominal morphology. Such properties are found in the Lohorung Language, as illustrated and discussed below.

Word order

Lohorung is characterized by an SOV (Subject-Object-Verb) word order (Eppele et al., 2012, p. 63) and exhibits ergative-absolutive case marking (Rai, 2021, p. 40). According to Rai (2015, pp. 245-246), all Kirati languages spoken in Nepal exhibit an SOV word order. However not only Kirati languages but most of the languages spoken in Nepal follow SOV word order. Bhujel, a Tibeto-Burman language also follows SOV pattern (Regmi, 2014,). The Lohorung language is analyzed here on the basis of its word order, as discussed in (1a-d).

(1)

a. *aːpaɛ nusa seːru.*
   aːpa-ɛ nusa-Ø seː-ru.
   Father-ERG brother -Ø call-3SG.PST
   'Father called brother.'

b. *araʔwaɛ waːpasa sikpʰɛʈu.*
   araʔwa-ɛ waːpasa - Ø sik-pʰɛ-ʈ-u
   Crow-ERG chicker- Ø take-raise-INS-3SG.PAST
   'Crow took chicken.'

c. *aːmaɛ ʈsam peːruku*
   aːma-ɛ ʈsam pe-r-u-k-u
   mother-ERG rice cook-INS-3SG-NPST-3SG
   'Mother cooks rice.'

d. *maŋmani Simlɛbi penuk*
   maŋ-ma-ni Simlɛ-bi pen-u-k
   witch doctor-mother-F Simlɛ-LOC live-3SG-NPST
   'The witch doctor (female) lives in Simlɛ.'

In the examples (1a-d), the subjects *aːpa* 'father', *araʔwa* 'crow', *aːma* 'mother', and *maŋmani* 'femal witch doctor' occur in the clause-initial position. Similarly, objects *nusa* 'younger sibling', *waːpasa* 'chick', *ʈsam* 'rice' and *Simlɛ* 'name of place' appear between subjects and the verbs, and the verbs *seːru* 'called' *sikppʰɛʈu* 'took' *peruku* 'cooks,' and *penuk* 'lives' occur in the finale position. This distribution of constituents demonstrates that the Lohorung language exhibits an SOV (Subject-Object-Verb) word order. Thus, all the examples (1a-d) follow an SOV pattern. Although Lohorung is fundamentally an SOV language, its word order is not rigid and allows considerable flexibility. The subject, object, and verb can be understood regardless of their linear order.

Verb Agreement

Lohorung displays a relatively complex system of verbal agreement, marking a number of distinctions such as singular, dual, and plural categories (Rai 2021, p. 41). However, the system is not uniformly complex across all contexts. In certain forms, phonemes assimilation (of vowel and consonant sounds) results in portmanteau morphemes, where a single morphological unit simultaneously encodes multiple grammatical categories, thereby reducing the transparency of individual agreement markers. Lohorung verbs exhibit agreement for number (singular, dual, plural), person (first, second, third), Clusivity (exclusive, inclusive) (Rai, 2080 BS, p. 99)

Verb agreement with person

Lohorung verbs simultaneously agree with both the subject and the object in terms of person (first, second, and third) (Rai, 2080, p. 99), as illustrated in example (2a-c).

(2)

a. *kaŋa ʈsam ʈsa:kŋa*

kɑŋɑ	ʈsɑm	ʈsɑ:-k-ŋɑ
1SG	rice	eat-NPST-1SG.

'I eat rice.'

b. *kʰo: kʰim kʰɛ:k.*

kʰo:	ʈsɑm	ʈsɑ:-k.
3SG	rice	eat-NPST.3SG

'He goes home.'

c. *ana sam i:kna*

ɑnɑ	ʈsɑm	ʈsɑ:-k-nɑ
2SG	rice	eat-NPST-2SG

'You sing song.'

In examples (2a–c), the verb ʈsɑ: takes <-*k*-> for a non-past marker and <-*ŋ*> for first-person singular; <-*k*> for non-past and third-person singular' <-*k*-> for non-past; and <-*na*> for second-person singular, respectively. This demonstrates the agreement between the verb and first, third and second person, respectively. In the example (2b), the marker <-*k*> encodes two grammatical categories—non-past and third person — which is realized as a portmanteau morpheme.

Verb agreement with number

Number systems vary cross-linguistically. In most Kirati languages, they exhibit a three-way number distinction: singular, dual, and plural numbers. Consequently, Lohorung verbs agree overtly with the subject and/or object according to these three number distinctions (Rai, 2021, p. 41).

(3)

a. *kaŋa lɛ:ksi ʈsa:kŋa*

kɑŋɑ	lɛ:ksi	ʈsɑ:-k-ŋɑ
1SG	mango	eat-NPST-1SG

'I eat mango.'

b. *kaʈsi lɛ:ksi ʈsa:kʈsi*

kɑʈsi	lɛ:ksi	ʈsɑ:-k-ʈsi
2DL	mango	eat-NPST-2DL

'We (two) eat mango.'

c. *kani lɛ:ksi ʈsa:ki*

kɑni	lɛ:ksi	ʈsɑ:-k-i
1PL	mango	eat-NPST-1PL

'We eat mango.'

In example (3a), the verb *ʈsa:* 'eat' agrees with the singular subject *kaŋa* 'I' and takes the non-past tense marker <-*k*-> as well as the first-person singular suffix <-*ŋa*>**.** In example (3b), *ʈsa:* 'eat' agrees with the dual subject *kaʈsi* 'we (two)' and appears with the same non-past marker <-*k*-> followed by the first-person dual suffix <-*ʈsi*>**.** Similarly, in example (3c), the verb agrees with the plural subject *kani* 'we (plural)' and takes the non-past marker <-*k*-> together with the first-person plural suffix <-*i*>**.** These examples establish that person and number agreement are systematically marked on the verb and that the non-past tense marker <-*k*-> occurs consistently across all forms.

In examples (3a–c), the subjects are unmarked for ergative case. Thus, the verb demonstrates the agreement with the subject only. If the subject is marked for the ergative case, the verb agrees simultaneously with both the subject and the object, as can be seen in (4a-b).

(4)

a.	*anaɛ jompɔk lɛ:kuna*		
	ɑnɑ-ɛ	jompɔk	lɛ:-k-u-nɑ
	2SG	work	do-NPST-3SG-2SG
	'You do work.'		
b.	*kʰo:sɛ pubaŋ seru*		
	kʰo:-s-ɛ	pubɑŋ	se-r-u
	3SG-INS-ERG	monkey	kill-PST-3SG.3SG
	'He killed monkey.'		

For examples(4a–b), the second-person singular subject *ana* 'you' and third-person singular subject *kʰo:* 'he' are marked with the ergative case marker <-ɛ>. Consequently, the verbs *lɛ:* 'do' and *se:* 'kill' agree simultaneously with both the subject and the object. In Lohorung, the past tense is generally marked by the morpheme <*a*>, which undergoes vowel assimilation and surfaces as <u> in certain phonological environments (Rai 2021). However, in example (4b), the past tense is instead indicated by the marker <*r*>.

Pronominal relation with verbal morphology

Most of the Kirati Rai languages exhibit the pronominal feature, including Koyee (Rai, 2017). In the Lohorung language, certain elements of pronouns appear identically in verbs. Therefore, Lohorung can also be categorized as a pronominal language (Rai, 2021, p. 43; Rai 2025, p. 107).

The first-person singular marker <*ŋa*> occurs in *kaŋa* 'I'; the first-person dual inclusive marker **<***ʈsi***>** occurs in *kaʈsi* 'we two [inclusive]'; the first-person dual exclusive marker **<-***ga***>** occurs in *kaʈsiga* 'we two [exclusive]'; the first-person plural inclusive marker **<-***ni***>** occurs in *kani* 'we [inclusive]'; and the first-person plural exclusive marker **<***ŋka***>** occurs in *kaŋka* 'we [exclusive]'. Collectively, **(***-ŋa, -ʈsi, -ga, -ni, and -ŋka)* function as pronominal markers that are consistently incorporated into verb forms (Rai 2080, p. 107).

In Lohorung, the first-person pronominal marker <-*ŋa*> is recognized when the subject of a present-tense clause is unmarked for case, whereas <-*ŋ*> acts as the pronominal marker when the subject bears case marking in the present tense or when the clause occurs in the past tense, as illustrated in example (5a-d).

(5)

a. *kaŋa huʔwa kuːkŋa*
kaŋa huʔwa kuː-k-ŋa
1SG dog look after-NPST-1SG
'I take care of dog.'

b. *kaŋaɛ huʔwa kuːkuŋ*
kaŋa-ɛ huʔwa kuː-k-u-ŋ
1SG-ERG dog take care-NPST-3SG-1SG
'I take care of dog.'

c. *kaŋa huʔwa kuːsiŋ*
kaŋa huʔwa kuː-s-i-ŋ
1SG dog take care-INS-PST-1SG
'I took care of god.'

d. *kaŋaɛ huʔwa kuːsuŋ*
kaŋa-ɛ huʔwa kuː-s-u-ŋ
1SG-ERG dog take care-INS-3SG.PST-1SG
'I took care of dog.'

In example (5a), the first person singular subject kaŋa 'I' is not marked for ergative case. Consequently, the pronominal element in the verb kuːk-ŋa 'take care' appears as <*ŋa*>. Whereas in example (5b), the same subject kaŋa 'I' of example (5a) is marked for ergative case. Consequently, the pronominal element in the same verb appears as <-*ŋ*>. Furthermore, in examples (5c–d), both the ergatively marked and unmarked subjects in the past tense behave in the same way. As a result, the first-person pronominal marker <-*ŋ*> in Lohorung is identified based on its consistent frequency and distribution across the data.

In the Lohorung, the following seven pronouns are morphological, combined into the verb complex, and realized as pronominal elements in their original forms as given in example (6a-g).

(6)

a. *kaŋaɛ roːpa ʈserukuŋ*
kaŋa-ɛ roːpa ʈse-r-u-k-u-ŋ
1SG-ERG paddy field plough-EPEN-INS-NPST-3SG-1SG
'I plough paddy field.'

b. *kaʈsiɛ ro:pa ʈserukʈsu*
kaʈsi-ɛ ro:pa ʈse-r-u-k-ʈsu
1DL-ERG paddy field plough-EPEN-INS-NPST-1DL
'we (two) plough paddy field.'

c. *kaʈsigaɛ ro:pa ʈserukʈsuga*
kaʈsi-ga-ɛ ro:pa ʈse-r-u-k-ʈsu-ga
1DL-EXCL-ERG paddy field plough-EPEN-INS-NPST-1DL-EXCL
'We (two exclusive) plough paddy field.'

d. *kaŋkaɛ ro:pa ʈserukuŋka*
kaŋ-ka-ɛ ro:pa ʈse-r-u-k-u-ŋ-ka
1PL-EXCL-ɛ paddy field plough-EPEN-INS-NPST-3SG-1PL-EXCL
'We (exclusive) plough paddy field.'

e. *anaɛ ro:pa ʈserukuna*
ana-ɛ ro:pa ʈse-r-u-k-u-na
2SG-ERG paddy field plough-EPEN-INS-NPST-3SG-2SG
'You plough paddy field.'

f. *anʈsinaɛ ro:pa ʈserukʈsuna*
an-ʈsi-na-ɛ ro:pa ʈse-r-u-k-ʈsu-na
2-DL-STEM-ERG paddy field plough-EPEN-INS-NPST.3SG-2DL
'You (two) plogugh paddy field.'

g. *kʰo:ʈsi ro:pa ʈserukʈsi*
kʰo:-ʈsi-ɛ ro:pa ʈse-r-u-k-ʈsu
3-DL-ERG paddy field plough-EPEN-INS-NPST-3DL.3SG
'They (two) plough paddy field.'

In examples (6a-g), all seven pronouns—*kaŋa* 'I' (first-person singular), *kaʈsi* 'we two' (first-person dual inclusive), *kaʈsiga* 'we two' (first-person dual exclusive), *kaŋka* 'we' (first-person plural exclu0sive), *ana* 'you' (second-person singular), *anʈsina* 'you two' (second-person dual), and *kʰo:ʈsi* 'they two' (third-person dual)—are morphologically incorporated into the verb complex, *ʈse* 'plough' and are realized as pronominal elements.

The expression of clusivity in verb morphology

In Lohorung, the pronouns distinguish between two types of clusivity (inclusive and exclusive) (Rai, 2021, p. 45). This distinction is morphologically realized in the first-person dual and plural forms (Rai, 2015, p. 95; Regmi, 2015 [2072 BS], p. 63; Rai, 2025 [2081-2082 BS], p. 105) as can be realized in Chamling, Bantawa, Bayung, and Puma (Rai, 2024). In the Lohorung language, clusivity functions as a crucial morphosyntactic mechanism for encoding pronominal distinctions within the verbal system.

Inclusive

In Lohorung, the inclusive meaning is inherently encoded, and there is no

morphologically distinct form that marks inclusivity. This is illustrated with the examples (7a-d),

(7)

a. *kaʈsi ʈsarepa lebukʈsi*
kaʈsi ʈsarepa leb-u-k-ʈsi
2DL sel-roti cook-INS-NPST-1DL
'We (two) prepare Sel-Roti.'

b. *kaʈsiɛ ʈsarepa lebukʈsu*
kaʈsi-ɛ ʈsarepa leb-u-k-ʈsu
2DL-ERG sel-roti cook-INS-NPST-1DL.3SG
'We (two) prepare Sel-Roti.'

c. *kani ʈsarepa lebuki*
kɑni ʈsarepɑ lebuki
1PL sel-roti cook-INS-NPST-1PL
'We prepare Sel-Roti.'

d. *kaniɛ ʈsarepa lebuk*
kɑni-ɛ ʈsarepɑ leb-u-k
1PL-ERG sel-roti cook-3SG-NPST.1PL
'We prepare Sel-Roti.'

In examples (8a–d), the first-person dual pronoun *kaʈsi* 'we two' and the first-person plural pronoun *kani* 'we' lack any overt morphological marker of inclusivity. Nevertheless, both forms encode an inclusive interpretation through their inherent semantic properties.

Exclusive

The Lohorung language exhibits an overt morphological marker of exclusivity (Rai, 2025, p. 106), which is encoded through pronominal forms and systematically incorporated into the verb. This morphological interplay between pronouns and verbs demonstrates that exclusivity is not simply semantic but is structurally embedded within the language's morphosyntactic system, as illustrated in (8a-d).

(8)

a. *kaʈsiga ʈsarepa lebukʈsiga*
kaʈsi-gɑ ʈsarepɑ leb-u-k-ʈsi-gɑ
1DL-EXCL sel-roti cook-INS-NPST-1DL-EXCL
'We (two [exclusive]) prepare Sel-Roti.'

b. *kaʈsigaɛ ʈsarepa lebukʈsuga*
kaʈsi-gɑ-ɛ ʈsarepɑ leb-u-k-ʈsu-gɑ
1DL-EXCL-ERG sel-roti cook-3SG-NPST-1DL-EXCL
'We (two [exclusive]) prepare Sel-Roti.'

c. *kaŋka ʈsarepa lebukiŋka*
kaŋ-ka ʈsarepa leb-u-k-iŋ-ka
1PL-EXCL sel-roti cook-INS-NPST-1PL-EXCL
'We [exclusive] prepare Sel-Roti.'

d. *kaŋkaɛ ʈsarepa lebukuŋka*
kaŋ-ka-ɛ ʈsarepa leb-u-k-u-ŋ-ka
1PL-EXCL-ERG sel-roti cook-INS-NPST-3SG-1PL-EXCL
'We [exclusive] prepare Sel-Roti.'

In examples (8a-d), the first-person dual subject kaʈsi 'we two' and the first person plural subject kaŋ 'we' are marked by morphemes <-*ga*> and <*ka*> respectively. These arrangements provide strong evidence that Lohorung employs an overt morphological marker to encode exclusivity. According to Rai (2025, p. 107), the morphemes <-*ga*>, <-*ŋka*> function as exclusive markers in Lohorung. Contrary to the previous descriptions, the first person plural exclusive marker is <-*ka*> rather than <-*ŋka*>. The morpheme <-*ga*> designates first person dual exclusivity, whereas<-*ka*> designates first-person plural exclusivity. These forms demonstrate the language's overt morphological marking of exclusive reference and highlight the systematic interaction between pronominal a verbal morphology.

Nominal morphology

According to Givón (2001a), ergative–absolutive case alignment operates on the basis of transitivity, such that case morphology systematically differentiates between arguments of transitive and intransitive predicates. Lohorung exhibits a clear ergative–absolutive alignment in its case-marking system (Rai, 2021, p. 46). Within transitive clauses, the agent is marked with an overt ergative morpheme, thereby distinguishing it from other core arguments. Conversely, the object of transitive clauses and the subject of intransitive clauses both occur with zero marking, forming a unified absolutive category. This structural contrast between the overtly marked transitive agent and the unmarked absolutive arguments provides compelling evidence that Lohorung organizes its core grammatical relations according to an ergative–absolutive pattern.

(9)

a. *kaʈsi jiːʈsakʈsi*
kaʈsi- Ø jiːʈsa-k-ʈsi
1DL- Ø laugh-NPST-1DL
'We (two) laugh.'

b. *kani lamɖuki*
kani- Ø lamɖu-k-i
1PL- Ø walk--NPST-1PL
'We walk.'

c. *kaʈsi-ɛ baːri ɖɔːgukʈsu*

kaʈsi-ɛ baːri-Ø ɖɔːg-u-k-ʈsu
1DL-ERG field-Ø dig-INS-NPST-1DL.3SG
'We (two) dig field.'

d. *kaniɛ sibriŋ jobuk*
kɑni-ɛ *sibriŋ-Ø* *job-u-k*
1PL-ERG Sibring-Ø break-3SG-NPSY.1PL
'We break Sibring.'

e. *kaŋa ʈsam ʈsaːkŋa*
kɑŋɑ ʈsɑm ʈsɑː-k-ŋɑ
1SG rice eaT-NPST-1SG
'I eat rice.'

In examples (9a–b), the intransitive verbs *jiːʈsakʈsi* 'laugh' and *lamɖuki* 'walk' have subjects *kaʈsi* 'we two' and *kani* 'we' that occur with zero morphological case marking. By contrast, in examples (9b–c), the transitive verbs *ɖɔːgukʈsu* 'dig' and *jobuki* 'break' exhibit overt ergative case marking on the subject, whereas their objects, *baːri* 'field' and *Sibring*, remain morphologically unmarked, as in the subjects of intransitive verbs. These patterns indicate that Lohorung exhibits an ergative–absolutive alignment. However, example (9c) demonstrates that the subject of the transitive verb *ʈsaː* 'eat is not marked with an ergative case. This designates that Lohorung exhibits a pattern of split ergativity.

Behavior-and-control properties

Behavior-and-control properties of grammatical relations (GRs) refer to the set of syntactic constructions or processes whose behavior can be influenced, at least potentially, by the subject and/or direct object of a predicate. In other words, these properties describe how the semantic and pragmatic characteristics of arguments affect their syntactic realization and interaction with various constructions (Givón 2001a, p. 177). In Lohorung, this is reflected in the differential marking of transitive and intransitive subjects: transitive agents receive overt ergative marking, while transitive objects and intransitive subjects share zero absolutive marking. This pattern, as illustrated in the examples below, demonstrates how the syntactic behavior of core arguments in Lohorung is systematically governed by their role, control, and participation in the event, consistent with Givón's framework.

Equi-NP deletion and grammatical relation

Equi-NP deletion refers to a syntactic process in which an NP in a complement clause is omitted because it is co-referential with an argument in the main clause. As described by Brainard (1997, as cited in Givón, p. 122), this phenomenon occurs when an argument in the matrix clause and an argument in the embedded clause share the same referent, resulting in the deletion of the complement-clause NP. Similarly, Craig (1977, p. 112) characterizes Equi-NP deletion as an operation that removes the subject NP of an embedded clause when it is non-distinct in reference from either the subject or the object of the main clause. Relevant

examples from Lohorung are presented as (10a-e).

(10)

a. *maʔma baːmik ʈsaːma minuk.*
[maʔma] [Ø baːmik ʈsaː-ma] min-u-k.
[grandmother] [Ø bamboo shoot eat-INF] want-3SG-NPST
'Grandmother wasts to eat bamboo shoot.'

b. *jaŋmin sam iːma minuk.*
[jaŋmin][Ø sam iː-ma] min-u-k.
grandson [Ø song sing-INF]want-3SG-NPST
'Grandsonn wasts to sing a song.'

c. *kʰoːsɛ ana wanam baːma loːsa.*
kʰoːs-ɛ ana wanam baː-ma loː-s-a.
3SG-ERG 2SF carring strap knit-INF say-INS-PST.3SG.2SG
'He told you to weave a namlo (carrying strap).'

d. *aːpaɛ buːbu jompɔk jikmiʈu.*
aːpa-ɛ buːbu-Ø jompɔk jik-mi-ʈ-u.
father-ERG elder brother-Ø work do-CAUS-PERF-PST.3SG.3SG
'Father made elder brother do the wrok.'

e. *amaɛ apa kaŋami kiʈapa immiʈu.*
ama-ɛ apa-Ø kaŋa-mi kiʈapa im-mi-ʈ-u.
mother-ERG father-Ø 1SG-GEN book buy-CAUS-PERF-3SG.3SG
'Mother asked father to buy my book. '

Examples (10a-b) illustrate a direct-object co-referentiality condition. Specifically, the NPs maʔma '*grandmother*' and *jaŋmin* 'grandchild' of the complement clause are coreferential to the NPs in their respective matrix clauses. According to the rule of Equi-NP deletion, the subjects of the embedded clause, maʔma '*grandmother*' and *jaŋmin* 'grandchild', are deleted and understood from context. As a result, the NPs of the matrix and embedded clauses are co-referential, fulfilling the condition of Equi-NP. Examples (10c-e) illustrate the zero condition of Equi-NP deletion in Lohorung.

Reflective and grammatical relation

Givón (1997) observes that subject gelatinization constitutes another behavior-and-control property that is broadly associated with a single grammatical relation. He further notes that "the 'true' reflexive is invariably regulated by the subject, even though the co-referentially deleted argument may function either as a direct or an indirect object."

In Lohorung, the lexical form */ʈaŋpa/* ('self') functions as a reflexive pronoun, serving to refer back to the initiator of the action (Regmi, 2075 p.59; Rai, 2021, p. 49). The variant form */ʈaŋpe/* combines with other personal pronouns such as */kʰo/*, */kaŋa/*, */ana/*, and so forth, forming expressions like */kʰomʈaŋpe/*, */amʈaŋpe/*, and */kamʈaŋpe/*. These reflexive constructions

are syntactically governed by the subject noun phrase of the clause (Rai, p. 49), as illustrated in (11a-c).

(11)

a. *kaŋaɛ kamʈaŋpe/ uŋʈaŋpe uŋ laŋ ɖupp^{h}ɛʈuŋ*

kaŋa-ɛ$_{j}$	ka-m-ʈaŋpe	uŋ$_{j}$	laŋ	ɖup-p^{h}ɛ-ʈ-u-ŋ
1SG-ERG	1SG-GEN- REFL	1SG.GEN	leg	crush-operate-PFV-3SG.PST-1SG

'I crushed my leg myself.'

b. *k^{h}osɛ k^{h}omʈaŋpe / umʈaŋpe um laŋ ɖupp^{h}ɛʈu*

k^{h}os-ɛ$_{j}$	k^{h}o-m-ʈaŋpe$_{j}$	um$_{j}$	laŋ	ɖup-p^{h}ɛ-ʈu
3SG-ERG	3SG-GEN-REFL	3SG.GEN	leg	crush-operate-PFV-3SG.PST-3SG

'S/he crushed her/his own leg.'

c. *anaɛ amʈaŋpe am laŋ ɖupp^{h}ɛtuna*

ana-ɛ$_{j}$	a-m-ʈaŋpe$_{j}$	a-m$_{j}$	laŋ	ɖup-p^{h}ɛ-t-u-na
2SG-ERG	2SG-GEN-REFL	3SG.GEN	leg	crush-operate-PFV-3SG.PST-2SG

'You crushed your own leg'

Examples (10a–c) provide clear evidence of reflexive constructions in Lohorung, highlighting the systematic behavior of the reflexive pronoun <*ʈaŋpe*> ('self'). In each clause, <*ʈaŋpe*> is suffixed to the subject noun phrase (NP) along with the genitive marker within the clause, forming a morphosyntactic unit that signals reflexivity. Importantly, the pronoun consistently refers back to the subject, regardless of the person or number marking of the subject or the presence of other genitive elements. For instance, in (10a) the first-person singular subject *kaŋaɛ* governs *kamʈaŋpe*, indicating that the action is performed on the speaker's own leg. Similarly, in (10b), the third-person singular subject *k^{h}osɛ* governs *k^{h}omʈaŋpe*, marking that the subject performs the action on their own body part, while in (10c), the second-person singular subject *anaɛ* governs *amʈaŋpe*, again showing the reflexive relationship. These patterns demonstrate that reflexivity in Lohorung is tightly bound to the subject NP, independent of other nominal elements in the clause. Consistent with Givón's (1997) characterization of 'true' reflexives, <*ʈaŋpe*> is always syntactically controlled by the subject, illustrating a clear case of subject-governed reflexive marking in the language. This systematic attachment of the reflexive pronoun to the subject NP and genitive marker underscores the interaction of morphology and syntax in encoding reflexive semantics in Lohorung.

Zero anaphora in Chained and grammatical relations

Anaphora contains the repeated use of the same noun phrase at the start of a clause. In contrast, zero anaphora- or ellipsis-occurs when no overt linguistic form is present, and the listener must conclude the missing element from context. Zero anaphora functions as a pronominal strategy for indicating co-reference within clause-chaining structures. In such conjoined clause, the omitted argument is controlled by the subject of the preceding clause, rather than by its object (Givón, 2001a, p. 182). But Lohorung alters as given examples (12a-

d).

(12)

a. *bʰunɛmpaɛ kaŋa ʈsubiŋ haŋ loːsiŋ.*

bʰunɛ-m-pɑ-ɛ kaŋɑ ʈsub-i-ŋ hɑŋ Ø loː-s-i-ŋ.

Bhunɛ-GEN-father-ERG 1SG meet-3SG.PST-1SG and say-INS-3SG.PST-1SG

'Bhune's father met me and spoke me.'

b. *bʰunɛpaɛ kaŋa ʈsubŋ haŋ loːsuŋ*

bʰunɛ-m-pɑ-ɛ kaŋɑ ʈsub-i-ŋ hɑŋ Ø loː-s-u-ŋ

Bhunɛ-GEN-father-ERG 1SG meet-3SG.PST-1SG and say-INS-3SG.PST-1SG

'Bhune's father met me and spoke him.'

c. *nampaɛ re ʈsupʈikʰɛʈiŋ*

nɑmpɑ-ɛ re ʈsup-ʈi-kʰɛ-ʈ-i-ŋ-ɛ .

Father in law-ERG PRT meet-keep-go-PERF-PST-1SG-INS

haŋ sjamitiŋɛ remɔ.

hɑŋ Ø sjɑmi-t-i-ŋ-ɛ remɔ

and greet-PERFF-PST.3SG-1SG-INS DISC

'Father-in-law met me and greeted me.'

d. *nampaɛ re ʈsupʈikʰɛʈiŋ haŋ sjamtuŋɛ remɔ.*

nɑmpɑ-ɛ re ʈsup-ʈi-kʰɛ-ʈ-i-ŋ

father in law-ERG PART meet-KEEP-GO-PERF-PST.3SG

hɑŋ Ø sjɑmi-t-u-ŋ-ɛ remɔ.

and greet-PERF-PST.3SG-INS DISC

'Father-in-law met me, and I greeted him.'

In examples (11a) and (11c), the null pronoun (Ø) in the adjoined clause is co-referential with the subjects' *bʰunɛmpa* 'Bhune's father' and *nampa* 'father-in-law' in the preceding clause. That is, omitted subject (Ø) refers back to the preceding subjects *bʰunɛmpa* and *nampa*. In contrast, in examples (11b) and (11d), the null pronoun (Ø) in the adjoined clause is co-referential with the objet kaŋɑ 'I' of the preceding clause. Here the missing subject (Ø) refers back to object *kaŋa* 'I' rather than the subject. These data demonstrate that, in Lohorung, zero anaphora is discourse-driven and may be controlled by either the subject or the object of the preceding clause, depending on topicality and discourse prominence.

Relativizing and grammatical relations

Givón (1997) observes that in certain languages relativization does not interact with grammatical relations, as all semantic case roles are relativized through a single uniform strategy. Similar patterns have been documented or Japanese (Givón, 1997, p. 14; 2001a, p. 183) and Dhimal (Khatiwada, 2016, p. 88), where the relativization mechanism applies equally across core and non-core argument. In contrast, Ute exhibits a dissimilar typological profile,

employing two distinct relativization strategies-one dedicated to subjects and another to objects (Givón, 2001a, p. 183).

Lohorung appears to align more closely with the former type. Relevant examples from Lohorung are presented as (13a-d).

(13)

a. *jaʈaŋpaɛ pappami dzɔkʰana kʰaŋu* (Main clause)

jaʈaŋpa-ɛ	pappa-mi	dzɔkʰana	kʰaŋ-u
priest-ERG	grandfather-GEN	divination	look-PST.3SG.3SG

'The priest divined for grandfather.'

b. *pappami dzɔkʰana kʰaŋkʰuwa jaʈaŋpa* . (Subject relative clause)

pappa-mi	dzɔkʰana	kʰaŋ-kʰuwa	jaʈaŋpa
grandfather-GEN	divination	look-NMLZ	priest

'The priest who divined for the grandfather.'

c. *jaʈaŋpaɛ pappami kʰaŋʈʰam dzɔkʰana*. (Direct object relative clause)

jaʈaŋpa-ɛ	pappa-mi	kʰaŋ-ʈʰam	dzɔkʰana
priest -ERG	grandfather-GEN	look -NMLZ	DIVINATION

'The divination that the priest performed for the grandfather.'

d. *pappaɛ dzɔkʰana kʰaŋmikʰuwa jaʈaŋpa* . (Ergative [indirect object relative clause)

pappa-ɛ	dzɔkʰana	kʰaŋ-mi-kʰuwa	jaʈaŋpa
grandfather-GEN	divination	see-CAUS-NMLZ	priest

'The priest who is made to divine by the grandfather.'

Example (13a) illustrates the man clause in which the NP jaʈaŋpa 'priest' is obligator whereas examples (13b–c), the nominalizer markers <-*kʰuwa*> and <*ʈʰam*> attached to verb encode relativization in Lohorung. In the example (13d), the nominalizer marker <*kjʰuwa*> suffixed to the causative marker <-*mi*->. According to Rai (2021), nominalizer morpheme in Lohorung is identified as <-*kʰuwa*>. However, the nominalizer is not limited to <-*kʰuwa*> *the morpheme* <ʈʰa*m*> also functions as a nominalizer.

In Lohorung, these nominalizer morphemes are systematically employed to form relative clauses.

Co-reference in imperatives

In imperative constructions, one of the clause's arguments is interpreted as sharing reference with the addressee, and this argument therefore functions as the controller of con-reference (Brainard, 1997, p. 131). In imperatives constructions, the subject argument is always second person, which is covert and understood. The argument that refers to the same person as the subject can sometimes appear in the sentence, usually as a second-person pronoun, but in some languages, it may not be shown at all (Brainard, 1997, pp. 131–132).

(14)

a. *akkɔ jompɔk jigɛ*
ɑkkɔ jompɔk jig-ɛ
that work do-IMP.2SG
'Do that work!'

b. ɑnɑ *akkɔ jompɔk jigɛ*
ɑkkɔ jompɔk jig-ɛ
that work do-IMP.2SG
'Do that work!'

c. *amʈape akkɔ jompɔk jigɛ*
ɑ-m-ʈape ɑkkɔ jompɔk jig-ɛ
2SG-GEN-REFL that work do-IMP
'Do that work yourself.'

d. *anaɛ amʈape akkɔ jompɔk jigɛ*
ana-ɛ ɑ-m-ʈape ɑkkɔ jompɔk jig-ɛ
2SG-ERG 2SG-GEN-REFL that work do-IMP
'Do that work yourself.'

In examples (14a) and (14c), the subject of the imperative structure is covert only understood, whereas examples (14b) and (14d) display an overt subject. This indicates that in Lohorung, arguments in imperative constructions may be either absent or present, depending on the morphological or discourse context. In all cases, whether covert or overt, the subject corresponds to the second person singular (you).

Co-reference arises when another element in the sentence such as a reflexive pronoun refers back to this implied or overt subject. Consequently, imperatives without reflexive or other co-referential elements, as in examples (14a) and (14c), do not include co-reference, since there is no component in the sentence referring back to the subject. In contrast, examples (14b) and (14d) include a reflexive argument that refers back to the subject, resulting in co-reference.

Causativization

Causativization adds a new causer subject and demotes the subject of corresponding non-causative sentence into an object of a causativized verb. In Lohorung, causativization is realized morphologically, as illustrated in (15a-d).

(15)

a. *kaŋaɛ nusa ʈsam ʈsaːmiʈuŋ*
kɑŋɑ-ɛ nusɑ ʈsɑm ʈsɑː-mi-ʈ-u-ŋ
1SG-ERG sibling rie feed-CAUS-PERF-PST.3SG-1SG
'I made my sibling eat rice.'

b. *aamaɛ naːna jompɔk lɛːmiʈu*
ɑɑmɑ-ɛ nɑːnɑ jompɔk lɛː-mi-ʈ-u

mother-ERG sister work do-CAUS-PERF-PST.3SG.3SG
'Mother made sister do the work.'

c. *a:paɛ bu:bu lo:miʈu.*
ɑ:pɑ-ɛ bu:bu lo:-mi-ʈ-u.
father-ERG brother say-CAUS-PERF-PST.3SG.3SG
'Father made my brother say."

d. *babbaŋɛ ʈsa:ʈsa lamɖumiʔmesisu*
bɑbbɑŋ-ɛ ʈsɑ:ʈsɑ lɑmɖu-mi-ʔmesis-u
uncle-ERG baby walk-CAUS-IMPERF-PST.3SG.3SG
'Uncle was making baby walk."

In examples (15a–d), the morpheme <-*mi*-> functions as a causative marker, indicating that the subject causes or compels another participant to perform an action.

Case marking

Givón (2001a) identifies three principal types of case-marking systems: ergative-absolutive, which marks transitivity; nominative-accusative, which reflects pragmatic functions' and active-stative, which encodes semantic roles. Lohorung exemplifies an ergative-absolutive system, utilizing case marking primarily to indicate transitivity (Rai 2021, p. 53). Representative examples from Lohorung are presented as (16a-g).

(16)

a. *kaŋae huʔwa ʈsam pi:kuŋ*
kɑŋɑ-ɛ huʔwɑ-Ø ʈsɑm pi:-k-u-ŋ
1SG-ERG dog-Ø rice give-NPST-3SG.3SG.1SG
"I give rice to the dog.'

b. *kaŋa ji:ʈsa:kŋa*
kɑŋɑ ji:ʈsɑ:-k-ŋɑ
1SG laugh-NPST-1SG
'I laugh.'

c. *kɔjɛŋ ha:ʈabaŋ ʈa:ɖa*
kɔjɛŋ hɑ:ʈɑ-bɑŋ ʈɑ:-ɖ-ɑ
uncle bazzar-ABL come-PERF-NPST.3SG
'Maternal uncle has come from the bazaar.'

d. *aŋŋimi ʈse hiʔjapaɛ mippʰɛʈu*
ɑŋŋi-mi ʈse hiʔjɑpɑ-ɛ mip-lɛ̤-ʈ-u
aunt-GEN clothe air-ERG blow-take-INS-PST.3SG.3SG
'The air blew aunt's clothe.'

f. *uŋna haŋʈenbi penuk*
uŋ-nɑ hɑŋʈen-bi pen-u-k

1SG.GEN-sister Kathmandu-LOC live-3SG-NPST

'My sister lives in Kathmandu.'

g. *nusa umnanuŋ penuk*

nusɑ	u-m-nɑ-nuŋ	pen-u-k
sibling	3SG-GEN-elder sister-COM	live-3SG-NPST

'Younger brother lives with his elder sister.'

In examples (16a-b), the object of the transitive verb *pi:* 'give' and the subject of the intransitive verb *ji:ʈsa:* 'laugh' exhibit identical morphosyntactic behavior. This pattern provides evidence that Lohorung follows an ergative-absolutive alignment, in which the absolutive argument—comprising the object of a transitive verb and the subject of an intransitive verb—is marked similarly. Examples (16b-f) illustrate the case system in Lohorung. Lohorung employs ergative, genitive, ablative, locative and comitative case markers; however, it doesn't mark an absolutive case as shown in example (16b). However, in Bhujel a human, object/ patient is marked with the dative case (Regmi, 2014, p. 146)

Table 1

Case markers in Lohorung

Cases	Gloss	Case markers
Ergative	*ERG*	*-ɛ*
Absolutive	*ABS*	ϕ
Genitive	*GEN*	*-mi*
Ablative	*ABL*	*-ba/-baŋk/-baŋ*
Locative	*LOC*	*-bi/-b/-pi*
Comitative	*COM*	*-nuŋ*

Note. This table adapted from *Lohorung Morphosyntax* (Rai, 2021, p. 54) with minor modification.

CONCLUSION AND IMPLICATIONS

This study has examined the grammatical relations and case-marking system of Lohorung, an ergative–absolutive, SOV language. In transitive clauses, the subject is marked by the ergative <-ɛ>, whereas the object of transitive verbs and the subject of intransitive verbs remain unmarked. Lohorung exhibits a semi-complex agreement system: both subject and object agree with the verb in transitive clauses, while only the subject agrees in intransitive clauses, with many markers displaying portmanteau characteristics.

The language distinguishes singular, dual, and plural numbers. First-person forms are *kaŋa* 'I', *katsi* 'we two', and *kani* 'we'; second-person forms are *ana* 'you', *antsina* 'you two', and *anna* 'you'; third-person forms are *kʰo:* 'he', *kʰo:tsi* 'they two', and *kʰo:tsi* 'they'. These

distinctions are reflected in verbal agreement, with markers such as <-*ŋa*> *or* <-*ŋ*>, <-*ʈsi*>, <-*ni*>, <-*na*>, and <-*tsina*> overtly realized. Clusivity is overtly marked in first-person dual and plural forms. In Lohorung, causativization is realize morphologically through the affix <-*mi*>.

Equi-NP constructions are controlled by the matrix subject, with the embedded clause subject co-referential with the preceding clause's subject. The suffix <-*ʈaŋpe*> 'self' functions as a reflexive pronoun. Zero anaphora is similarly governed by the preceding subject. Overall, Lohorung demonstrates a rich set of morphosyntactic features, reflecting its internal complexity.

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