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Grammatical Relations and Information Structure in Eibela: A typological perspective

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Introduction

Eibela, also referred to as Aimele (Ethnologue code: AIL), has approximately 300 speakers living primarily in Lake Campbell, Western Province, Papua New Guinea. The genetic affiliation of Eibela has not been thoroughly investigated, but it is likely that it belongs to the putative Trans-New Guinea Phylum, of the central and South New Guinea stock. The expression of grammatical relations in Eibela emerges largely as a combination of case-marking, which is largely optional, and constraints based on information structure. Additionally, oblique case markers may function to append clausal constituents to a clause as well as nominal arguments.

Many properties which typically define grammatical relations are peripheral or absent in Eibela. Arguments are often elided if the referent can be recovered from context, and agreement morphology is only rarely present in verbs. An ergative-absolutive case-marking system is present, but core case affixes are not obligatory. Constituent order is similar to case marking in being a non-obligatory indicator of grammatical relations. The use of case-markers is governed in large part by constituent order, which is in turn largely determined by information structure considerations such as definiteness and topicality. Grammatical roles must therefore be defined by a cluster of structural tendencies, none of which are obligatory.

1 Eibela people and language overview

While the main Eibela-speaking population is in Lake Campbell, some speakers have migrated south to the nearby village of Wawoi Falls, and a handful of speakers reside in communities north of Lake Campbell. These communities are situated south-west of Mount Bosavi along the border between Western Province and Southern Highlands Province in Papua New Guinea. In Lake Campbell, Eibela is the dominant language of the community, and is the language of day-to-day life. English and Tok Pisin are becoming more prominent as languages of commerce, and are preferred for written communication. Most members of Lake Campbell are also adept at speaking the languages of the surrounding communities.

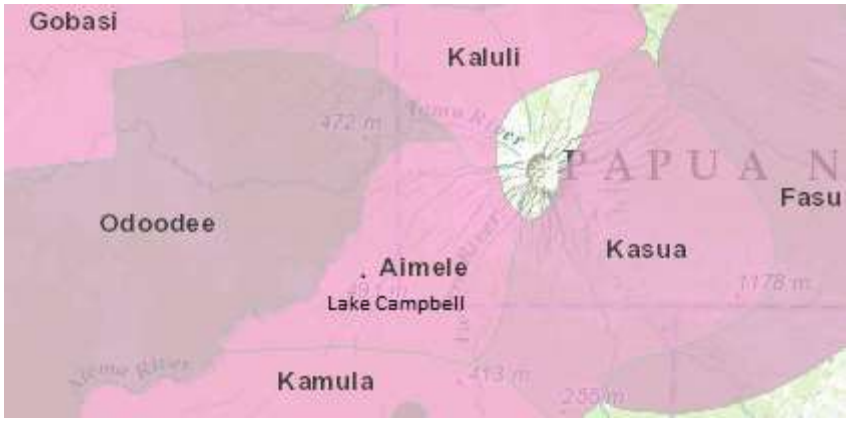

Figure 1: Lake Campbell and the surrounding region (Maryland Language Science Center 2014)

1.1 Typological Profile

The most common constituent order in Eibela is SV/AOV with an Ergative-Absolutive case-marking system. Case is marked by case suffixes on the final element of a noun phrase or by the use of case-specific demonstratives. Eibela features open classes of nouns, verbs, and adverbs, and closed classes of adjectives, demonstratives, postpositions, verbal particles, and quantifiers. The consonant inventory is relatively small, with 13 phonemes, but this is offset by a more complex system of vowels. Contrastive length is present in the 6 simple vowels, forming 12 distinct simple-vowel phonemes. Finally, four diphthongs are present, resulting in a total of 17 phonemic vowel segments.

Table 1: Eibela Phoneme Inventory

Consonants

	Bilabial	Alveolar	Palatal	Velar	Glottal
Stop	(p), b	t, d		k, g	
Nasal	m	n			
Flap		(r)			
Affricate		(tʃ), (dʒ)	(dj)		
Fricative	ɸ, (β)	s, (ʃ)		(x), (ɣ)	h
Approximate	w		j		
Lateral Approximate		l			

Vowels

i, iː	u, uː
ɪ, ɪː	
ɛ, ɛː	o, oː
a, aː	

*Parentheses denote phones that may be realized as an allophone of a phoneme.

1.2 Complex Predicates

Lexical roots of nearly any word class may form a predicate. However, only verbs may be inflected with tense, aspect, mood and evidentiality (TAME). In addition to simple single-verb predicates, complex predicates can be formed by serial verb constructions or auxiliary constructions. In complex predicates, such as the examples shown in bold in (1) and (2), the final verb is inflected for TAME, while the preceding verb is uninflected. Subscripts are used in examples to label the syntactic role of argument phrases and complex predicates.

(1) [a:gɪ ɸɛɸɛ-ja]$_S$ [ɛna:]$_x$ [dobosu:wɛ]$_x$ **[tɪ a:nɪ]$_{PRED}$**
dog skinny-ABS DEM underneath go.down go:PST
'The skinny dog went down underneath there.'

Auxiliaries may also be used as an aspect marking strategy, and are often derived from postural or existential verbs, such as *do* in (2) which is derived from a verb meaning 'to stand'. Tense marking is quite irregular and may be expressed by suffixation, as in (2), or by suppletion, as in (1).

(2) [sobo:lo-wa]$_S$ **[tɪbɪ do:-wa]$_{PRED}$**
plane-ABS to.land PERF-PST
'A plane landed.'

2 Grammatical Relations

Grammatical relations as presented here should simply be understood as the way different arguments of a predicate are mapped onto various semantic roles. Every argument is identified as bearing some semantic relationship to the predicate through various methods of changing the structural expression of the argument, e.g. through case marking or constituent order. First there will be a distinction made between core and oblique arguments. Core arguments are those which must be identifiable due to the semantic representation of the predicate. Oblique arguments, on the other hand, may be optionally expressed or omitted.

Argument structure can be quite difficult to ascertain in Eibela due to the wide spread ellipsis of arguments, and the resulting ambiguity concerning the valency of a given predicate. In any discourse context where an argument can be understood due to common knowledge or previous discourse reference, the argument may be elided. This is true for every type of argument, and the factors governing the expression of elision of a core argument are driven by pragmatic and discourse variables rather than syntactic constraints. Additionally, case-marking suffixes are often omitted where the semantic roles of the arguments are clear based on previous discourse or constituent order. This makes a syntactic or morphological basis for grammatical relations and transitivity poorly defined and not universally applicable.

For the current discussion, the main focus will be on the structural characteristics of overt, fully realized noun phrases within a single clause, and how these formal characteristics signify the semantic role of the argument.

2.1 Transitivity

Transitivity is the property of a predicate which describes how many core arguments the predicate must have. In Eibela this value is limited to intransitive predicates, which require one core argument, and transitive predicates, which require two core arguments. In Eibela, there are no ditransitive predicates attested which would require three core arguments.

2.1.1 Intransitive Clauses

An intransitive clause requires only one core argument, which will be abbreviated as S. S will refer to the single core argument of an intransitive clause regardless of the semantic role of the argument. This argument can be an animate agent, as seen in (3), a non-animate quasi-agent as in (4), or a patient, as in (5).

(3) [aːgɪ]$_S$ djɛ-la kɛi
dog come-IPFV ASSER
'A dog is coming.'

(4) [soboːlo-wa]$_S$ [tɪbɪ doː-wa]$_{PRED}$
plane-ABS to.land PERF-PST
'A plane landed.'

(5) [ɪ-ja]$_S$ maː gudu
3:SG-ABS NEG die
'It didn't die.'

In each of these examples, the argument appears before the predicate. Additionally, S arguments may bear the absolutive case suffix *–ja* (or the allomorph *-wa* after back vowels), as seen in (4) and (5). Despite the varied semantic roles, S arguments are represented by the same formal markers, i.e. pre-verbal position and absolutive case-marking. This does not introduce any ambiguity since only one core argument may occur with an intransitive predicate, and the semantic role is lexically determined by the predicate of the clause. For example, the verb *jɛsi* 'come' requires only one argument, which must be an agent. Similarly, the verb *hiːli* 'to feel cold' requires one argument which must be an experiencer.

2.1.2 Transitive Clauses

Transitive predicates require two arguments, which are prototypically an agent and a patient. In clauses headed by a transitive predicate, both arguments typically precede the predicate, with the agent or experiencer argument first, followed by the patient or stimulus, and then the predicate in the

final position. This can be seen in (6) and (7), where the initial constituent of the clause represents the agent controlling and initiating the event. The second argument in these clauses represents the patient of the event.

(6) [nɪ]$_A$ [da]$_O$ kona
1:SG sago cut:PST
'I was cutting a sago tree.'

(7) [nɪ do bubusuwo-wɛ]$_A$ [oga]$_O$ gıla
1:SG father NAME-ERG pandanus plant
'My father Bubusuwo planted pandanus.'

In referring to the arguments of transitive verbs, it will be useful to use shorthand labels. A will be used for the argument which typically has a more active or volitional semantic role, including agents, experiencers, and causers, and O will be used for the argument which is being manipulated, or is a non-volitional argument, including patients and stimuli. Case is an optional feature of these arguments, and is discussed further in §2.6.1 Core Arguments.

2.2 Oblique Arguments

While core arguments are required for a verb, (i.e. S in intransitive clauses, and A and O in transitive clauses), other arguments may be optionally included in a clause. These oblique arguments denote roles such as location, source, destination, time, beneficiary, etc. In (8) the optional argument *dogɛ* expresses a location where the event is occurring and is inflected in the locative case (more is said on oblique case-marking in §2.6.2 Oblique Argument Case-marking). The same verb is shown in (9) with no optional oblique arguments, and only the agent of the predicate appearing as an S argument.

(8) [ɪ]$_S$ [**dogɛ**]$_x$ saː-lɪ
3:SG house:LOC sit-SIM
'(While) she was sitting in the house.'

(9) [nɪ]$_S$ ɪːna ka saː-bɪ
1:SG still CON sit-S/R
'I was still sitting.'

2.2.1 Postpositional Phrases

In addition to the oblique cases, there are two postpositions that may be used to introduce oblique arguments into a clause. Postpositions optionally occur with a nominal complement which is not inflected for case.

wɛlɛ

The first of these is *wɛlɛ* 'on top of', seen in (10).

(10) [nojɛ ɸa **wɛlɛ**]$_X$ ɛna: dɪo=ta=sɪ
tree.type leaf on.top DEM put=IPFV=LINK
'(We) put it there on top of black palm leaves.'

The postposition wɛlɛ also functions as an argument without a nominal complement as in (11), where the argument consists solely of *wɛlɛ*.

(11) [**wɛlɛ**]$_X$ holo [hɪna: dɪnɪ]$_{PRED}$ kɛi
on.top up.there went stay ASSER
'I went up there and stayed.'

su:wɛ

The second postposition is *su*:*wɛ* 'inside', shown in (12).

(12) [dogo **su**:**wɛ**]$_X$ dijo-ɸo-obo
house inside put-COMP-INF
'He put me inside the house.'

Another form, *dobosu*:*wɛ*, may be used as an argument, and appears to be derived from an unknown element and *su*:*wɛ*. This form is not transparent in that the meaning of *dobo* in (13) is not clear.

(13) [**dobosuwɛ**]$_X$ wɪna-lɪ mɪ-ja-ja
underneath hide-SIM come-PST-TOP
'He came and was hiding underneath.'

The postposition *su*:*wɛ* may also be used as the head of an argument, as seen in (14).

(14) [muɸa-ja tobo]$_X$ dɪjo-ɸo [**su**:**wɛ**]$_X$ hɪnɪ=si
head-ABS entire put-COMP inside went=LINK
'(It) put (its) entire head inside.'

2.2.2 Pseudo-postpositions

It addition to these postpostitions, some adverbs show a similar function and may co-occur with oblique noun phrases. In (15), the locative adverb *hogɛ* 'down there' co-occurs with the oblique noun phrase *ɛlɛwɛlɛ*.

(15) [kawo-wɛ sobu no-wa]$_S$ [**ɛlɛwɛlɛ**]$_X$ [**hogɛ**]$_X$ dɪna=si
NAME-LOC hut another-ABS/TOP PLACE.NAME down.there be.at=LINK
'Kaawo's hut is down there at Elewele.'

This example is distinct from the postpositions *wɛlɛ* and *su*:*wɛ* in that both the noun phrase *ɛlɛwɛlɛ* and the adverb *hogɛ* could function in the syntactic role independently. That is to say that there is no dependency relationship between these constituents and it is instead an example of two separate

constituents with a similar semantic roles. Similarly, the arguments *dogɛ* and *su*:*wɛ* in (16) can be shown to be separate constituents as opposed to a single postpositional constituent through the presence of the case inflection of *dogɛ*.

(16) [nɪ]$_S$ [**dogɛ**]$_X$ [**su**:**wɛ**]$_X$ a:nɪ
1:SG house:LOC inside go:PST
'I went inside the house.' (lit. "I went inside to the house.")

2.3 Topic Arguments

A further syntactic role serves the pragmatic function of marking topical arguments. These arguments may be co-referential with a core argument of a predicate, or they may denote oblique notions such as place, purpose, or cause. These topic arguments may also optionally be followed by a pause before the rest of the clause. This syntactic role is characterized by clause-initial position, and the topic enclitic =*ja* (or the allomorph =*wa* after back vowels), as in (17).

(17) [doɸa=**ja**]$_{TOP/X}$ [kosuwa-ja]$_O$ [ami]$_X$ [sa:ni di-ja-gɪnɛ]$_{PRED}$
snare=TOP cassowary-ABS PRO.ASS kill take-PST-LINK
'At the snare, (I) killed the cassowary there.'

This topic enclitic is homophonous with the absolutive suffix *–ja*, and generally does not show case distinctions. Example (18), however, shows that case may be expressed by the suppletive case forms of the demonstrative *ɛna*:. The form *ɛmɛ* is the ergative form of this demonstrative, and occurs in the topic position below.

(18) [ɛmɛ=**ja**]$_{TOP/A}$ [kosuwa ɸogono ka]$_O$ [bulu di-ɛli]$_{PRED}$
DEM:ERG=TOP cassowary crest CON cut PERF-ITER
'That (dog) cut off the cassowarys' crests.'

Some nouns express case through a vowel change rather than concatenative suffixation. Unlike the suppletive demonstratives, these stem-changing nouns behave like normal suffixing nouns and are not inflected for case in topic positions. This is illustrated in the contrast between (19), where stem-changing noun *usu 'middle'* appears as a fronted oblique argument inflected for the locative case, and (19), where the root *usu* is uninflected for case, and shows the topic enclitic =*ja*.

(19) a. [**usɛ**]$_X$ [isa]$_O$ [dɪ hɛ-ja]$_{PRED}$
middle:LOC bag:ABS take hang-PST
'I hung the bag in the middle.'

b. [usu=**wa**]$_{TOP/X}$ [isa]$_O$ wa dɪ hɛ-ja
middle=TOP bag:ABS DIR take hang-PST
'I hung that bag in the middle.'

While (17) and (19) feature topical locations, and (18) demonstrates a topical core argument, the semantic relationship between a topic and the event can be quite varied. In (20) for example, the topic *oja* 'grave' is the reason for the action, as they are splitting trees for the purpose of building a grave.

(20) [oja=**ja**]$_{TOP/X}$ [jɛba batı ɛna: kobıdanı]$_{O}$ ba:tı-jɛ hına:-nıgɛ
grave=ABS tree:ABS split that tree:type split-LOC go-LINK
'For the grave, they went to split kobidani trees.'

Similarly, this topic argument may be a clause which signifies the cause or reason for the main clause, as in (21) and (22).

(21) **[[sijabulu-wa]$_{O}$ dımi=ja]$_{TOP}$** mɛdɛwam
sweet.potato-ABS give=TOP thank.you
'Thank you for giving (me) sweet potato.'

(22) **[jasi-mɛna=ja]$_{TOP}$** ɛmɛlɛ [nı]$_{S}$ ına dɛɸı-mɛna
kill:N.SG.O-FUT=TOP again 1:SG still try-FUT
'I will try to kill them again.'

2.4 Constituent Order

In addition to the topic argument slot discussed above, constituent order may also be indicative of the discourse status of a given argument. While the "basic", or pragmatically neutral, constituent order of a clause is S(X)V or AO(X)S, variations of this order are attested, and signify such properties as givenness, contrast, and emphasis.

2.4.1 Fronting

The fronting of arguments is associated with givenness or topicality, whereas arguments occurring closer to the predicate or on the right edge of a clause are more likely to be emphasized as new or unexpected information. In (23) the O argument *na ɛna*: occurs at the beginning of the clause, but is not topicalized with the topic enclitic =*ja*.

(23) **[na ɛna:]$_{O}$** [kolu ka] [ka=kali do:-wa]$_{PRED}$
meat DEM:ABS man CON CON=share PERF-PST
'Those animals, the men shared them.'

This occurs in a textual context where the O argument, the meat, is known and definite from the preceding discourse, but is non-animate and therefore less inclined to be topical. Fronting therefore associates with definite arguments, but not necessarily topics. Additionally, the A argument *kolu ka* occurs with the contrast marker *ka* which accompanies an unknown, unexpected, or contrastive argument. Similarly, in (24) the argument *bagı ɛna*: is definite and fronted.

(24) **[bagɪ** **ɛna:]$_O$** [kolu-wɛ]$_A$ ka di-jo-labi
kina.shell that man-ERG CON take-COMP-REP
'So the man took that kina shell, so they say.'

2.4.2 Right Dislocation

In contrast to fronted arguments, those found on the rightmost edge are characterized as unknown or uncertain arguments. An argument occurring after the predicate of a clause is generally additional clarifying information which is added to the clause, perhaps as an afterthought, rather than a known or topical argument. For example, the clause in (25) is functional and grammatical without the final argument *ɸosɛ kijɛ*, but the addition of the oblique argument offers new and more explicit information.

(25) mogagɪ-ɛli sɛdɪ=sɪ **[ɸosɛ** **ki-jɛ]$_X$**
bad-ADV hit=LINK back bone-LOC
'(We) hit (it) badly on the backbone.'

(26) [ha:nɪ sa:gu badɛ]$_X$ hɪnɪ-sa:-bɪ **[kosuwa** **ɛna:]$_S$**
[water waterfall side:LOC go-VIS-S/R [cassuwary DEM:ABS]
'It went to that side of the waterfall, that cassowary.'

Similarly, in (26) the constituent *kosuwa ɛna:* is not syntactically required, but serves to clarify an otherwise ambiguous S argument. Like topic arguments, right dislocated arguments may optionally be separated from the rest of the clause by a pause or prosodic break.

2.5 Subjecthood Criteria

Intransitive S arguments and transitive A arguments share a small number of syntactic properties which allows them to be collectively referred to as subjects. These subjecthood criteria appear in limited person agreement in the future tense, co-referential argument gapping in serial verb constructions, and switch reference marking in consecutive clauses. While number agreement is present to a limited extent in Eibela, it does not clearly contribute to the notion of subject.

2.5.1 Number and Person Agreement

2.5.1.1 Number Agreement

A limited number of verbs agree in number with the referent of one of their core arguments. This number marking is formally irregular and limited to a small number of verbs.

Number Agreement in Intransitive Clauses

The plurality of the S argument may be cross referenced on the verb, even if no noun is overtly realized. Some verbs, such as *jɛ* (27) are inflected for number by concatenative suffixation. Other verbs, however, express number agreement through irregular suppletion such as the form *ɸaja* in (28)

or *dali* in (29), which may be compared to the singular forms *adi* 'sleep:SG.S:PST' and *naːgɪ* 'run:SG.S', respectively.

(27) [i-ja]$_S$ [amɪ]$_X$ [**jɛ-sɪ** dɪn-obo]$_{PRED}$
3:PL-ABS PRO:LOC come-N.SG.S IPFV-INF
'They were arriving there.'

(28) **ɸa**-ja
sleep:N.SG.S-PST
'(They) slept.'

(29) [nɛna]$_S$ [**dali** aːnɪ]$_{PRED}$
1:DU run:N.SG.S go:PST
'We both ran away.'

Only four pairs of intransitive suppletive verb forms have been identified with a clear and consistent number contrast, and are given in Table 2: Intransitive Suppletive Verb Pairs.

Table 2: Intransitive Suppletive Verb Pairs

	Singular S	**Non-Singular S**
'run'	naːgɪ	dali
'sleep'	aːdi	ɸa
'go'	hɪnaː	tulu
'walk around'	sija	daːsi

Number Agreement in Transitive Clauses

In transitive clauses with two core arguments, three verb forms meaning 'to hit/kill' specify the number of one of the two core arguments. This number agreement falls into three general categories regarding the argument that is indexed for number agreement.

Non-Singular A Agreement

First, the verb may specify that the A argument is non-singular, as the form *sɛdɪ* in (30) which agrees with the elided A argument.

(30) [kalija no-wa]$_O$ [ɛnaː]$_X$ **sɛdɪ**-saː-bɪ
wallaby another-ABS DEM kill:N.SG.A-VIS-S/R
'(The dogs) killed another wallaby.'

Non-Singular O Agreement

Second, the verb form may specify that the O argument is non-singular, as the form *jasi* in (31) which agrees in number with the O argument *iso aːnɪ*.

(31) [iso a:nɪ]$_O$ ka **[jasi** di]$_{PRED}$
small two CON kill:N.SG.O PFV
'(I) killed and took two small (piglets).'

Table 3: Transitive Suppletive Verb Pair Examples

	Singular A and O	**Non-singular A**	**Non-singular A**
'Hit/kill'	sina	sɛdɪ	jasi

Flexible Agreement

Finally, some verbs have a form which is ambiguous as to which argument is non-singular. These verb forms may be used when a non-singular A or a non-singular O is present. The most prominent verb forms in this category express plurality by means of reduplication, as seen in (32) and (33).

Reduplication

(32) [ɸuʃa]$_O$ [hɪnɪɸa] $_O$ **[gɪgɪ** dɪ-mɛɪ]$_{PRED}$
bamboo:ABS bamboo.type:ABS cut:N.SG PFV-3.FUT
'One should cut up many pieces of strong bamboo.'

(33) sɛlɪ **butabuta**
properly chop:N.SG
'He/she/they chopped it/them.'

This may indicate that reduplication signifies a plurality of action (pluractionality) rather than cross-referencing the number value of an argument. This would explain the use of reduplication in all instances where multiple participants are involved, regardless of the semantic role of the participants. For example, in (32) multiple agents or multiple patients would both result in multiple instances of chopping. A circumstance where a single event involved several participants in a given semantic roles would clarify this. For example, if one man were to cut several pieces of bamboo with a single chop, would this allow reduplication? Unfortunately, such a sentence does not appear in the corpus collected.

2.5.1.2 Person Agreement

In the future tense, the tense suffix has a distinct form for third and non-third person S and A arguments. In example (34) the suffix *-jɛna* is used with a first person S argument, which contrasts with the form *-jɛi* in (35), which agrees with a third-person S argument.

(34) olo-sa:lija di-ja:=si [dogɛ]$_X$ mi-**jɛna**
shoot-COND take-PST=LINK house:LOC come-N.3:FUT
'If (I) shoot one (hornbill), (I) will take it and come to the house.'

(35) [ɪ]$_S$ [dudu-wɛ]$_X$ aːnɪ [galo]$_X$ mi-**jɛi**
3:SG bush-LOC go:PST afternoon come-3:FUT
'He went to the bush. (He) will come back in the afternoon.'

Both of these contrasts lead to a formal contrast between third and non-third person arguments in S positions. In example (36) and (37), this person contrast is shown between A arguments in a transitive clause.

(36) butɪ-**mɛna**
cut-**FUT:N.3**
'(I) will cut it.'

(37) ta-lɪ=ta [mɪːga la]$_O$ ˈsɛlɪ butɪ-**mɛɪ**
finish-SIM=IPFV tree.bark:ABS DEF properly cut-**FUT.3**
'When that's finished, he will finish cutting the tree bark properly.'

Additionally, at least one verb, 'go', has suppletive future forms for first, second and third persons.

(38) a. mɛnɛna
go:1:FUT
'I/We will go.'
b. mɛna
go:2:FUT
'You (sg./pl) will go.'
c. mɛnɛɪ
go:3:FUT
'He/She/They will go.'

2.5.2 Co-referential Arguments in Serial Verb Constructions

In serial verb constructions with one transitive and one intransitive verb, the co-referential argument always corresponds to the S argument of the intransitive verb, and the A argument of the transitive verb as in (39).

(39) [kosuwa-ja]$_O$ [di aːnɪ]$_{PRED}$
cassowary-ABS take go:PST
'(I) went and (I) put the cassowary on the veranda.'
*'(I) took the cassowary and it (the cassowary) went.'

2.5.3 Switch Reference

A final syntactic indicator of subjecthood is switch reference marking in sequences of clauses. When sequential clauses contain a differing S/A argument, a switch reference suffix signals the shift. This is most often present in a special topicalized subordinate clause construction which is used as a

clause linking device. For example, in (40) topical subordinate clause reiterates the previous clause, and the suffix *–bi* expresses that the A of the following clause is not co-referential with the S arguments of the subordinate clause.

(40) a. [ɪ]$_S$ ka la mi-ja
3:SG FOC DEF come-PST
'That one came.'

b. ɛ-ta-**bi**=ja [ni-ja]$_A$ sugulu hongoja di-ja
do-IPFV-**S/R**=TOP 1PL-ABS school big get-PST
'When he did that, we got the big school.'

Compare this to (41) where the subordinate topic clause *ɛbija* at the beginning of the clause is affixed by –bi to signal that the preceding S argument in (41), *hɛlɛnɛ,* is not co-referential with the A argument of the following clause, *no ɛmɛ.* The switch subject marker appears even though the S although the argument in (41), is co-referential with the O argument of (41); both arguments refer to the *hɛlɛna* fish. This shows that the switch reference marking is specifically sensitive to S and A arguments. Finally, one more example of this switch reference marking is shown is in the final element *dijabija* of the clause in (41), which signals that the A argument *ɛja* from the following clause in (41) is not co-referential with *no ɛmɛ,* the A argument of the predicate *dijabija*.

(41) a. [hɛlɛnɛ bɪba bɪba=ta ɛna:]$_S$ nɛnɛ
fish.sp scale:ABS remove=IPFV That:ABS become.intoxicated
'The helena fish with the scale removed got drunk/poisoned.'

b. ɛ-**bi**=ja [no ɛmɛ]$_A$ di-ja-**bɪ**=ja
do-**S/R**=TOP other DEM:ERG take-PST-**S/R**=TOP
'It did that and when someone else got (that fish)…'

c. [ɛja]$_A$ [hɛlɛna ɛna: nɪ-mo di=ja jɛ-bɪ kɛi]$_O$ la
father fish.sp DEM:ABS 1:SG-DAT take=TOP come-FUT:IMP ASSERT QUOT
'Father said "Bring that helena fish to me!"'

2.6 Case-Marking

2.6.1 Core Arguments

When an argument is suffixed for case, the suffix attached either to the final element of the noun phrase, as exemplified in (42), or to all elements of a noun phrase as in (43). Examples like (43) where multiple co-referential noun phrases are each individually case-marked, are best viewed as multiple arguments placed in apposition, as represented by the subscript argument labels in (43).

(42) [a:gɪ ɸɛɸɛ-**ja**]$_A$ [ɛna:]$_x$ [dobosu:wɛ]$_x$ [tɪ a:nɪ]$_{PRED}$
dog skinny-ABS DEM underneath go.down go:PST
'The skinny dog went down underneath there.'

(43) [**ɸuʃa**]$_{O}$ [**hınıɸa**] $_{O}$ gıgı [dı-mɛı]$_{PRED}$
bamboo:**ABS** bamboo.type:**ABS** cut:N.SG PFV-3.FUT
'One should cut up many pieces of strong bamboo.'

In addition to concatenative suffixation, case may also be expressed through suppletion or stem changes. The anaphoric demonstrative *ɛna*ː has two distinct forms for the core cases absolutive and ergative: *ɛna*ː 'Absolutive' and *ɛmɛ* 'Ergative'. Additionally, a sub-class of nouns shows case by shifting the final vowel of the root form to the vowel corresponding to the appropriate case form, as illustrated in (44). Note that the case forms for the ergative and locative cases are homophonous.

(44) a. dogo 'house'
b. doga 'house:ABS'
c. dogɛ 'house:ERG/LOC'

A final consideration to consider in Eibela case-marking is that nominal determiners do not co-occur with concatenative case marking. Where a determiner appears modifying a noun, case-marking may not be expressed through case suffixes or stem changes on the noun, as illustrated in (45).

(45) [dɛdaːnı ɛnaː(***-ja**)]$_{O}$ soɸu
prawns DEM:ABS(*-ABS) cook:PST
'We cooked those prawns on the coals.'

S arguments are often not inflected for case when the role of the argument is clear. In (46) and (47) below, the S argument is expressed as a noun phrase which does not display a case suffix, but still occurs pre-verbally.

(46) **[a**ː**gı]$_{S}$** djɛ-la kɛi
dog come-IPFV ASSER
'A dog is coming.'

(47) **[habajı]$_{S}$** ka naglı
NAME CON be.sick
'Habaji was sick.'

The presence of case inflection does not seem to be determined by the semantic role of the argument in question, since in (46) an agent argument is realized without case marking, whereas in (47) the S argument is a non-volitional experiencer. In both cases, the argument is the only noun phrase in the clause, and may be unambiguously identified as the S argument of the predicate without case inflection.

Transitive clauses in Eibela rarely show two overt arguments. Instead the more topical argument, typically the A argument, will be elided. When both arguments are overt noun phrases, O

arguments may bear the absolutive suffix, as in (48), and A arguments may be suffixed by the ergative case, as in (49); however, it is very rare for both A and O arguments to include case-marking suffixes in the same clause.

(48) [nɪ]$_A$ tɪɸɛ [oga ɛ-**ja**]$_O$ [ogɛ di a:nɪ]$_{PRED}$
1:SG after pandanus seed-ABS pick.up take go:PST
'I went after him, taking the pandanus seeds in a bilum.'

(49) [nɪ]$_O$ [sɪgai-**jɛ**]$_A$ sɪna ma: kɛɪ
1:SG Sigai-ERG hit NEG ASSER
'Sigai did NOT hit me.'

A sentence such as (50) below, where both A and O arguments are suffixed with case markers is not attested in the corpus, though Eibela consultants find it to be acceptable when asked.

(50) ? [kolu-**wɛ**]$_A$ [kɛ-ja]$_O$ ola
man-ERG pig-ABS shoot:PST
'The man shot the pig.'

This seems to indicate that the case-marking of multiple core arguments in a single clause is uncommon, or at worst awkward or stilted. Finally, clauses appearing as an O argument of a clause may also be suffixed by the absolutive case, as in (51).

(51) [nɪ]$_A$ [mɛna-**ja**]$_O$ ɸodu
1:SG eat:FUT-ABS not.want
'I don't want to eat.'

2.6.2 Oblique Argument Case-marking

Oblique arguments may be formally marked by one of four cases: instrumental, dative, locative, and associative.

2.6.2.1 Instrumental Case

The first of these, the instrumental suffix *–kɛɪ or -ka*, signifies an inanimate artefact or tool which is used as an instrument. In (52), the argument *bɪnɪ kɛ* refers to the tool used by the agent to accomplish the action.

(52) [bɪnɪ-**kɛɪ**]$_X$ [ɛna: ɸi-ja]$_O$ ola ka la
arrow-INST DEM:ABS thigh:ABS shoot:PST CON DEF
'I had shot it in the thigh with an arrow.'

(53) [nɪ ɛja wɪbɛna=ja]$_O$ [dano **ka**]$_X$ bola kɛɪ
1:SG father this.one=TOP bow INST hit:PST ASSER
'He hit my father with his bow.'

Additionally, this case may denote non-animate objects that cause an effect without being controlled by an agent, as in (54) and (55). The status of these arguments as a subject remains indeterminate, and further investigation is needed to define their exact syntactic role in the clause.

(54) [djɛ masɪ-**kɛɪ**]$_X$ [ɸosu ja:bɪ]$_O$ bola
tree branch -INST back here hit:PST
'A tree branch hit me here in the back.'

(55) [si=ja]$_O$ [jɛto-**kɛɪ**]$_X$ gadala
eye=TOP branch.stub-INST impact:PST
'That branch stub hit my eye.'

2.6.2.2 Locative and Associative Case

There are two cases which overlap semantically with regard to locative functions. The more specific of the two is formed with the suffix *–jɛ*, and is homophonous with the ergative case suffix. This case is limited to either static locations where an event occurs, such as *kɪsɪgijɛ* in (56), or allative arguments, such as *ɪsajɛ* in (57).

(56) [kɪsɪgi-**jɛ**]$_X$ *sugulu*-la lɛ-ki
NAME-LOC school-IPFV be.at-CONT
'I was still at school in Wawoi Falls/Kesigi.'

(57) [nɪ]$_S$ [ɪsa-**jɛ**]$_X$ hologo=ta
1:SG ground-LOC jump=IPFV
'I had jumped back to the ground.'

Locative case may also be used within a noun phrase to mark possession, as in (58).

(58) *pasta* ɪwalu-**wɛ** ɪlɪ
pastor NAME-LOC daughter
'Pastor Iwalu's daughter.'

Another case may be used for static locations as well, but extends to more general meanings such as temporal setting or association. Due to these varied roles, it will simply be referred to as the associative case, and is formally expressed by the suffix *–mi*. In (59) *–mi* is used for a function similar to the argument marking by the locative case in (57), although the location specified is more diffuse, denoting a larger and more general area rather than a specific point.

(59) [nɪ]$_S$ [uludija ɪsa-**mɪ** la]$_X$ wɪ la:
1:SG NAME place-ASS DEF here be
'I am here in the area around Uludija.'

(60) [ɛnaː-**mi**]$_X$ [ɛsidi konu]$_O$ sulɛ-laː-bi
then-ASS plant.type shoots eat-IPFV-S/R
'Then it (a pig) was pulling up esidi shoots to eat.'

In (60) however, the argument refers to the temporal rather than locative setting. As shown in (61) the two cases even co-occur on oblique arguments with varied semantic roles such as location, causer, or theme.

(61) [na-wɛ-**mi**]$_X$ [goloɸo tɪ-lɪ=si]$_{PRED}$
mother-LOC-ASS push go.down-SIM=LINK
'(I) was pushed down by my mother (unintentionally).'

Finally, clauses referring to a location may similarly appear with the locative case suffix, as in (62).

(62) [nɪ jɛbɪ la mɛnɛna-**jɛ**]$_X$ [naːgɪ aːnɪ]$_{PRED}$
1:SG tree DEF go:FUT-LOC run go:PST
'I ran to where the tree was going.'

Similarly, clauses may appear with the associative case, and generally specify temporal reference as in (63).

(63) [sɪnɪ kɛi-**mi**]$_X$ [ami]$_X$ [nɪ ɛja-ja]$_S$ wɛlɛ-saː-bɪ
sit:PST ASSER-ASS PRO:LOC 1:SG father-ABS call-VIS-S/R
'**As I sat there**, my father called.'

2.6.2.3 Dative

The dative case is marked by the suffix *–mo*, and is used for prototypical dative arguments such as recipients (64) and addressees (65), as well as other oblique arguments such as beneficiaries (66).

(64) [tɪbɛsɪ mo soso ko]$_O$ [nɪ-**mo**]$_X$ dɪmɪ-no
orchid bottom root CON 1:SG-**DAT** give-IMP
'Give me the bottom of that orchid vine!'

(65) [woko-**mo**]$_X$ sɛ=ja [ɪsa aːnɪ]$_O$ dɪ-mɛni-ogu kɛi [ɛ sɛ-ja]$_{PRED}$
NAME-**DAT** say=TOP bag:ABS two take-N.3:FUT-INT ASSER do say-PST
'(I) told Woko, I said, "I will take two bags."'

(66) [gɪ kɛsaːlɪ-**mo**]$_X$ [aːbo]$_O$ o-mɛna
2:SG woman-**DAT** bird shoot-N.3:FUT
'You will shoot birds for your wife.'

3 Case and Information Structure

The optionality of case in core arguments raises the question of what conditions the use of these case suffixes. In various other languages in Papua New Guinea and Australia, studies have found optional case forms to be conditioned by various semantic and pragmatic conditions (see Dixon (2002), McGregor (2010), Rumsey (2010), and Verstraete (2010)). In Eibela, core case marking is primarily determined by discriminative and pragmatic factors.

3.1 Asymmetrical Case-marking

McGregor (2010) presents a typology of four different asymmetrical case-marking systems based on conditioning factors and formal representation: Syncretism split case-marking, differential case-marking, and optional case-marking.

Syncretism and split case-marking are defined as types of grammatically conditioned variations of a case-marking system within a language. Syncretism is defined by McGregor as *"…(a) circumstance in which the marking of two separate cases that are normally accorded different markings in a language is the same, and when this is not grammatically conditioned."* This is essentially a lexically determined neutralization of two or more cases. Split case marking is defined as when *"grammatical roles in a language are marked according to different case systems in different lexico-grammatical environments"* (McGregor 2010, pp. 1613-1614). This is when the factors determining the case-marking of arguments are conditioned by grammatical categories such as tense, aspect, negation, etc. One common example seen in many languages is the different types of split-ergative case-marking systems described in various languages.

Figure 2

A typology of asymmetries in case marking systems.

	Lexically or grammatically conditioned	Not lexically or grammatically conditioned: "free" variation
Accidental identity	Syncretism	
Different case systems	Split Case Marking (SCM)	
Different marking of same grammatical relation		Differential Case Marking (DCM)
		Optional Case Marking (OCM)

(McGregor 2010, pp. 1613-1614)

In contrast to syncretism and split case-marking, which are grammatically or lexically conditioned, differential case-marking and optional case-marking are both characterized by different formal representations of a single grammatical relation. That is to say that a single grammatical relation may be represented by more than one form, and this choice is "free", or not grammatically determined by syntactic or phonological criteria. In the case of differential case-marking this takes place through the use of two or more overt case-marking morphemes, while in optional case-marking this is represented by the use or non-use of a case-marking morpheme. For some examples of differential case-marking, see discussions of differential case marking in Dimmendaal (2010) and Bossong (1991). Optional case-marking is also described in languages in Australia, Papua New Guinea, and the Himalayas (McGregor 2010, Rumsey 2010, Verstraete 2010).

In this typology of asymmetrical case-marking systems, McGregor (2010) offers several possible motivations for determining which forms are used in differential and optional case-marking systems. Three of these functions will be described here as having relevance to case-marking in Eibela: Discriminative, pragmatic, and semantic functions.

Case-marking patterns can be called discriminative when the function determining the case-marking is the cross-referencing of grammatical relations and semantic roles. If a differential/optional case-marking system serves a discriminative function, then the presence of one case-form over another will be determined by the necessity of disambiguating the grammatical relations of the arguments of the clause. For example, if grammatical relations are clear due to other semantic or syntactic criteria, grammatical relations might not be overtly marked by case, but in a context where the grammatical relations might be ambiguous, case-marking may be utilized for disambiguation.

Pragmatically conditioned case marking is motivated by information structure, such as the definiteness, topicality, or focus of an argument. For example, in a pragmatically motivated case-marking system, an argument in a certain syntactic role might only be case-marked if it is topical or definite. The basic meaning of the case-marking itself is to mark the grammatical relation of the argument, but the specific *form* of the case-marking (or the presence versus absence of a case-marker) is conditioned by pragmatic factors.

Lastly, semantic factors may condition case-marking. The case form used provides additional information about the argument such as whether it is animate, how affected or volitional the argument is, or how individuated an argument is. Similarly to pragmatically conditioned case-marking, the basic meaning of the case-marking itself is to mark the grammatical relation of the argument, but the specific form of the case-marking (or the presence versus absence of a case-marker) conveys some additional semantic feature of the argument.

In Eibela, optional case-marking is conditioned primarily by discriminative factors, although in several instances, this may be difficult to distinguish from pragmatic and semantic factors.

3.2 Differential and Optional Case-marking in Eibela

In Eibela, the two core cases, ergative and absolutive, are optionally expressed, and conditioned by the ambiguity of grammatical roles in a clause. The ambiguity of the grammatical roles of a clause is in turn conditioned in large part by the pragmatic and semantic features of an argument. Pragmatically motivated fronting or elision of an argument, along with questions of animacy and agency all serve to affect the clarity of grammatical roles within a clause.

3.2.1 Ergative Case-marking

Ergative case-marking in particular is conditioned by discriminative and pragmatic functions. In clauses with a non-canonical constituent order or disambiguating contrastive focus ergative case is overtly marked in order to clearly identify the A argument of the clause.

3.2.1.1 Non-Canonical Constituent Order

In pragmatically marked clauses, an argument may be presented as particularly given, new, or topical through fronting or right dislocation (see §2.4 Constituent Order). These pragmatically marked clauses do not effectively encode grammatical relations through constituent order, and case-marking may then be used to eliminate any possible ambiguity which may result.

In (67) a given and topical O argument is fronted in the clause, and appears in the initial location which is more typically the position of the A argument. The A argument is in the second position, and appears with the ergative case-marker *–jɛ*, which removes any ambiguity regarding which argument is functioning in which grammatical relation.

(67) [bagɪ ɛnaː]$_O$ [kolu-**wɛ**]$_A$ ka=di-o-la-bi
kina.shell that man-**ERG** CON=take-COMP-REP-S/R
'So the man took that kina shell, so they say.'

3.2.1.2 Contrastive Focus

Contrastive focus occurs when one argument is presented in opposition to another actor in the narrative. When multiple actors are present in a discourse, contrastive focus is a means to show contrast and disambiguate different referents within a discourse. This is related to the discriminative functions of case-marking in that the status on a particular argument in a grammatical role must be made more explicit due to the alternative possible actors in the pragmatic context. For example, in (68) the identity of the argument as the agent of the clause is contrastively focalized. Since this is a negative clause, the proposition presented is that the argument is *not* the A argument of the clause, though the event did occur, and another a referent in the discourse is the appropriate agent for this event.

(68) aː sɪgai-**jɛ** sɪna maː kɛi
Ah! NAME-**ERG** attack:PST NEG ASSER
'Oh! It wasn't *Sigai* who hit (me).'

Additional ambiguity results from the elision of the O argument of the clause. Elision is very common, but elided arguments are much more often discourse topics functioning as the A argument of a clause, and the elision of an O argument is therefore a less expected situation which warrants more overt specification.

3.2.2 Absolutive Case-marking

Like the ergative case, absolutive case-marking is conditioned by semantic and pragmatic functions; however, addition considerations of animacy and topicality must be mentioned with regard to absolutive case-marking. In intransitive clauses, animate arguments are less likely to be overtly marked by the absolutive case-marker *–ja*. Additionally, the form of the absolutive case-marker is homophonous with the topic-marking enclitic *=ja*, but has different syntactic and semantic properties. This means that in intransitive clauses the discriminative function of case-marking is less likely to arise from non-canonical word order, and is more likely to arise from a semantic feature of the S argument itself.

3.2.2.1 Absolutive Case and Topicality

At first glance, the absolutive case suffix appears to be tied to topical arguments; however, morphosyntactic and semantic criteria show two distinct sets of properties which differentiate a topic-marking enclitic from a homophonous case-marking suffix.

Topics form a distinct syntactic role apart from verbal arguments. Topics always precede the main clause, and may or may not be co-referential with one of the core arguments of the verb. Additionally, topics generally do not show case distinctions. For example, in (69) the topic *doɸaja* is not a core argument of the predicate, and serves as the location of the event. This contrasts with the absolutive O argument *kosuwaja* which serves as the patient of the predicate and occurs in the position immediately preceding any oblique arguments and the predicate.

(69) [doɸa**=ja**]$_{TOP}$ [kosuwa**-ja**]$_{O}$ [ami]$_{X}$ [saːni di-ja-gɪnɛ]$_{PRED}$
snare**=TOP** cassowary**-ABS** ASS kill take-PST-LINK
'At the snare, (I) killed the cassowary there.'

Semantic criteria may also be used to differentiate topics and absolutive-marked O arguments. Topics are considered topical because they represent definite, given referents within a discourse which are presented as being a prominent focus of attention. For example, in (70) the common element between two clauses is a common location which is the center of the events described. This location is presented in the first clause (70), and once it has been introduced as a given argument in the discourse, this referent may be used as a topical reference to situate the events of the discourse, as in the following clause (70).

(70) a. [wawija-jɛ]$_A$ [oga]$_O$ la gɪ-la ɛna: mɪ-jɛni-ki
NAME-ERG pandanus DEF plant-PST DEM:ABS come-FUT:N.3-CONT
'I was coming near where Wawija had planted pandanus.'

b. [**uʃu=wa]$_{TOP}$** [isa]$_O$ wa dɪ hɛ-ja
middle=TOP bilum:ABS thither take hang-PST
'I hung that bag in the middle there.'

In contrast, absolutive-suffixed objects are not tied to this discourse function, and often denote new information and may or may not be a prominent discourse element. Absolutive S or O arguments which refer to given referents are often elided, and overt, absolutive-marked are pragmatically unmarked. For example, in (71) the S argument *sugulu wija* is a new introduction to the discourse and is not treated as a prominent discourse element to situate other events.

(71) [gi=ja]$_{TOP}$ ka [sugu:lu wi-ja]$_S$ da: kɛɪ
2:PL=TOP FOC school name-ABS be.at ASSER
'The name of YOUR school is there.'
(lit. 'Regarding you in particular, the school name is there.')

This illustrates that absolutive case-marking is not related to topicality, and along with the morphosyntactic differences between absolutive and topic arguments, shows that there are two distinct syntactic roles at issue. Although it may be plausible that the homophonous forms of the two morphemes originate from some common historical origin, they are clearly distinct in their current functions.

3.2.2.2 Animacy of Intransitive Subjects

The case-marking of subjects in intransitive clauses is often conditioned by the animacy of the referent of the argument, with inanimate subjects being more often suffixed with the absolutive case suffix *-ja*. This may be attributed to the overall discriminative function of argument marking. Since intransitive clauses have only one core argument, fronting and other issues of constituent order which create ambiguity in transitive clauses do not play a role in discriminative case-marking of intransitive subjects. Instead, the animacy of the S argument is the primary determinant of case-marking due to the prototypically or expectedness of an animate or inanimate argument functioning within a particular role. Animacy has often been shown to be relevant to morpho-syntactic properties, and Dixon (1994) in particular discusses the relationship between an animacy hierarchy and prototypical syntactic functions. In Figure 2, reproduced from Dixon (1994:85), the left-most elements are more animate and more likely to be in agentive roles.

Figure 2: Animacy Hierarchy

Pronouns < Demonstratives < Proper Nouns < Human < Animate < Inanimate

As in examples (72) to (74), S arguments are prototypically agents or experiencers, which are semantic roles associated with animate referents. An inanimate referent is therefore a less prototypical subject argument. Prototypical animate subjects often appear with no case marking, even in clauses where they are non-volitional experiencers, like in (72) and (73).

(72) tuwɛ gudu
NAME die:PST
'Tuwe died.'

(73) kolu na:gla
man sick:PST
'The men were sick.'

In contrast, an inanimate referent appearing as an active agent is non-prototypical, and more likely to be suffixed by the absolutive case to strengthen the representation of the argument as a subject, as in (74).

(74) ɸuɸɛsi-**ja** ja kɛi
Wind/storm-**ABS** come ASSER
'A windstorm is coming.'

However, the case-marking of inanimate intransitive subjects is also prevalent in equative clauses like (75) with no pragmatic expectation of animacy or volitionality.

(75) nɪ wi-**ja** ugɛi
1:SG name-**ABS** NAME
'My name is Ugei.'

As shown with ergative case-marking, the role of animacy in the case-marking of intransitive subjects may therefore be predominantly explained by discriminative motivations. It is only in equative clauses that no particular expectation of animacy is expected, and case-marking might be oriented around animacy through an analogy to active clauses with an agentive subject.

Conclusions

Grammatical relations in Eibela are closely related to information structure, with constituent order, case-marking, and topicalization all being strongly related to both syntactic and pragmatic criteria. Core cases are optionally expressed and follow an ergative-absolutive alignment, while oblique

arguments are obligatorily marked by case suffixes. Subjecthood as described in Eibela results from a small, but significant, number of syntactic properties.

The expression of core cases is most common in certain pragmatic contexts which create more ambiguity regarding the grammatical relations through the presence of alternate constituent orders or the presence of an argument with atypical semantic features. In transitive clauses where an argument is fronted to express the givenness or topicality of an argument, case-marking may serve a discriminative role that is not necessary in pragmatically neutral clauses. In intransitive clauses, or transitive clauses with a pragmatically neutral *basic* constituent order, the expectedness or prototypicality of a referent within a specific argument role will condition case-marking. For example, a pragmatic context with many possible agents for an event results in any single actor being an obvious choice for the agent of a clause. This results in case-marking as a type of contrastive focus to strengthen the identification of a referent as bearing a particular grammatical relation. Similarly, an argument which is semantically non-prototypical in a particular grammatical relation may require more overt specification to avoid ambiguity.

Abbreviations

Abbreviations	
1	First person
2	Second person
3	Third person
A	Transitive Subject
ABS	Absolutive
ACCOMP	Accompaniment
ASS	Associative
ASSER	Assertive
CAUSE	Causation
COMP	Completive
COND	Conditional
CON	Contrast
CONT	Continuous
COORD	Coordinator
DAT	Dative
DEF	Definite
DIR	Directional
DU	Dual
ERG	Ergative
FUT	Future
IMP	Imperative
INF	Inferred
INST	Instrumental

INT	Intentional
IPFV	Imperfective
ITER	Iterative
LINK	Clause chain linker
LOC	Locative
NEG	Negator
NOM	Nominalizer
N.3	Non-third person
N.SG	Non-singular
N.SG.A	Non-singular A argument
N.SG.O	Non-singular O argument
N.SG.S	Non-singular S argument
O	Direct Object
PST	Past
PERF	Perfect
PFV	Perfective
PL	Plural
PRED	Complex predicate
PRO	Pronoun
QUOT	Quotative
REP	Reported
S	Intransitive Subject
SG	Singular
SIM	Simultaneous
TOP	Topic
VIS	Visual/Direct experience evidential
X	Oblique object

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