Hierarchical alignment and syntactic ergativity in Yakkha (Kiranti)

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Introduction

- **Yakkha language**:
  Sino-Tibetan > Tibeto-Burman > Kiranti > Eastern Kiranti. Spoken in Eastern Nepal, in Sankhuwasabha and Dhankuta districts. 14000 speakers (population: 17000), abandoned by younger generation.

Figure 1: Yakkha speaking area (www.mapsofworld.com)

- **Basic profile**:
  - Complex verbal morphology (agreement with S, A and P, i.e. intransitive and transitive paradigms; negation, tense, aspect, mood expressed synthetically). Complex morphophonology.
  - Case: NOM/ABS (zero), ERG/INS *-ŋa*, LOC *-pe*, GEN *-ka*, ABL *-bhaŋ* and COM *-nuŋ*.
    Mainly head-final. Arguments are easily dropped.
  - NMLZ: clause-final clitic *=na* (sg) and *=ha ~ =ya* (ns, uncountables), with two main functions: creates referential phrases (NPs) and attributes (e.g. RCs, adjectives, demonstratives) out of any word class or phrase type, showing number agreement with the head noun. At the end of independent clauses, it seems to have declarative function, but it is also obligatory in questions. In the second function, the agreement pattern also changes to agreement with the number of S/P (cf. Bickel (1999) for closely related Belhare).

1 Theoretical preliminaries

- **Long-Distance-Agreement (LDA)**: an embedded **lower** argument triggers agreement in the matrix verb. Common in Kiranti, e.g. Belhare (Bickel and Nichols, 2001), Chintang (Bickel et al., 2010; Paudyal, to appear), Puma (Schackow, 2008).

- **Syntactic ergativity in infinitive complements** (identical treatment of S and P), also found in other Kiranti languages cf. Bickel and Nichols (2001) for a case in Belhare, where the matrix verbs *nus* 'may' and *khes* 'must' have only one agreement slot that is constrained to agreement with embedded S or P, cf. (1), from Bickel (2004, 156). This unusual pattern is taken further by Chintang, where the matrix verb *kond* 'should' only agrees with object arguments (i.e., no syntactic ergativity, but very unusual according to the general opinions about raising).

  (1) Belhare (Bickel (2004)):
  lu-ma *nui-***ka**
  tell-INF may:NPST-2
  '[They] may tell **you**./ **You** may be told'.

- In Yakkha, the ergative alignment interacts with another factor:
  Hierarchical alignment is the 'morphological and syntactic treatment of arguments according to their relative ranking on the referential (...) hierarchies' (Siewierska, 1998, 10). With reference to agreement, this means that 'access to inflectional slots for subject and/or object is based on person, number, and/or animacy rather than (or no less than) on syntactic relations' (Nichols, 1992, 66). Algonquian languages (Zúñiga, 2007) and Tibeto-Burman languages, e.g. rGyalrong (Nagano, 1984), Rawang (LaPolla, 2007) Hayu (Michailovsky, 2003) and Dumi (Driem, 1993) show hierarchical alignment in their verbal paradigms.

- Yakkha: no hierarchical agreement in the regular transitive verbal paradigm (at least not in monotransitive verbs), but found in the obligative construction.

2 The obligative construction in Yakkha

- Constructed with (a) an embedded infinitive and the identificational copula as matrix verb, or (b) only with the infinitive (not possible for all scenarios). Additionally, the infinitive can be focussed by attaching a nominalizer to it (cf. Section 2.2).

	1st.excl	**1st.incl**	**2nd**
singular	ŋan		gan
dual	nciŋan	ncin	ncigan
plural	siŋan	sin	sigan

Figure 2: The identificational copula

- The copula consists of suppletive forms and does not have a stem on its own. The forms resemble the verbal agreement morphology, e.g. *ŋa* for first person/exclusive and *ga* for

second person. Differences to the 'usual' agreement are however the dual *nci* where the agreement marker is *-ci*, and plural *si* where the agreement marker would be *-i* (cf. table in appendix).

- No forms for the third person, and obligation for third person is expressed just by the nominalized infinitive in the end.
- Example (2) and (3) illustrate the use of the copula in identificational and in obligative use, and (3b) shows the infinitive without copula for third person.

(2) *ka* *mistri* *ŋan*
1S[NOM] carpenter[NOM] COP.1S
'I am a carpenter.'

(3) a. *ka* *khep-ma* *ŋan*
1S[NOM] GO-INF COP.1S
'I have to go.'
b. *uŋ* *khep-ma*
3S[NOM] GO-INF
'He has to go.'

2.1 The alignment of the copula

- As this copula has only one agreement slot, the question arises, which arguments of transitive (and ditransitive) verbs will trigger agreement in the matrix verb. This choice depends on the referential properties of the actor and the undergoer, with the **speech-act participant ruling out third person**, instantiating hierarchical agreement:

(4) a. SAP>3: A
ka *uŋci* *sop-ma* **ŋan**
1S[NOM] 3NS[NOM] watch-INF COP.1S
'I have to watch them.'
b. 3>SAP: P
uŋ-ŋa **nda** *sop-ma* **gan**
3S-ERG 2S[NOM] watch-INF COP.2S
'He has to watch you.'

- In competing scenarios (1>2 or 2>1), the copula always agrees with the **P argument**. Thus, the P argument is aligned with the S argument (cf. example (3)) in this construction, a case of syntactic ergativity, illustrated by example (5).

(5) a. SAP>SAP: P
ka **nda** *sop-ma* **gan**
1S[NOM] 2S[NOM] watch-INF COP.2S
'I have to watch you.'
b. SAP>SAP: P
nda **ka** *sop-ma* **ŋan**
2S[NOM] 1S[NOM] watch-INF COP.1S

'You have to watch me.'

- **Case assigment**: Third person A arguments are marked with an ergative (as generally in Yakkha). If the construction is still to be perceived as a complement construction, where one argument is deleted under coreference, the deleted argument here must come from the matrix clause, as the ergative-marked A can only come from the 'embedded' transitive verb ('backward-control').

(6) *uŋ-***ŋa** *nda* *sop-ma* *gan*
3S-ERG 2S[NOM] watch-INF COP.2S
'He has to watch you.'

- Diagram:

A>P	**1/2**	**3**
1/2	P/G	A
3-ERG	P/G	[zero]

- Alternations between speakers: For one speaker (out of four), not the whole paradigm was possible (forms in brackets were rejected, and replaced by the construction without copula).

<table>
<tr><th>A>P/G</th><th>1s</th><th>1d</th><th>1p</th><th>2s</th><th>2d</th><th>2p</th><th>3</th></tr>
<tr><td>1s</td><td rowspan="5" colspan="3"></td><td rowspan="3">gan</td><td rowspan="3">ncigan</td><td rowspan="3">sigan</td><td>ŋan</td></tr>
<tr><td>1de</td><td>nciŋan</td></tr>
<tr><td>1pe</td><td>siŋan</td></tr>
<tr><td>1di</td><td colspan="3">REFL</td><td>ncin</td></tr>
<tr><td>1pi</td><td colspan="3"></td><td>sin</td></tr>
<tr><td>2s</td><td>ŋan</td><td rowspan="2">(nciŋan)</td><td rowspan="2">(siŋan)</td><td rowspan="2" colspan="3">REFL</td><td>(gan)</td></tr>
<tr><td>2d</td><td>(ŋan)</td><td>(ncigan)</td></tr>
<tr><td>2p</td><td>(ŋan)</td><td colspan="3"></td><td>(sigan)</td></tr>
<tr><td>3s</td><td>ŋan</td><td rowspan="2">(nciŋan/ ncin)</td><td rowspan="2">(siŋan/ sin)</td><td rowspan="2">gan</td><td rowspan="2">ncigan</td><td rowspan="2">sigan</td><td>-</td></tr>
<tr><td>3ns</td><td>(ŋan)</td><td>-</td></tr>
</table>

Figure 3: Alignment of the copula in obligative function

- Possible explanation: Face-preserving strategy. Explicit reference to 2A or 1P is avoided in contexts of deontic modality (with the exception of both actants having singular number). The avoidance of explicit reference to 1nsP as face-preserving strategy is also known from the regular verb paradigms in Yakkha, and also from other Kiranti languages, and could have been an import from the Indo-Aryan southern neighbour language Maithili (Bickel and Gaenszle, 2005).

- **Ditransitives** (Double-Object class), it is the G that triggers the agreement, as shown in example (7) (primary object alignment).

(7) *ka* **njiŋda** *cuwa* *pip-ma* **ncigan**
1S[NOM] 2D[NOM] beer[NOM] give-INF COP.2D

'I have to give (dual) you beer.'

- **Inversion of T and G**: In the Yakkha verbal inflection, ditransitive objects (T and G) show hierarchial alignment of agreement, when the T is a SAP and the G is third person. In such scenarios, the agreement trigger switches from G to T (alongside with changes in case marking and an increase of complexity of the lexical verb). The same holds for the obligative construction:

(8) a. T-SAP>G-3: T

ka	**nda**	**uŋci**-*be*	*pin-nhaŋ-ma*	**gan**
1S[NOM]	2S[NOM]	3NS-LOC	give-send-INF	COP.2S

'I have to give you away to them (in marriage).'

b. T-SAP>G-SAP: G

m-ba-ŋa	**nda**	**kaniŋ**-*be*	*pin-nhaŋ-ma*	**siŋan**
2S.POSS-father-ERG	2S[NOM]	1P-LOC	give-send-INF	COP.1P

'Your father has to give you to us (in marriage).'

2.2 Alignment of the nominalized infinitive and the nonsingular marker

- **Focus via nominalization**: To focus the embedded infinitive, the nominalizer *=na* (singular) or *=ha* (nonsingular, uncountables) can be attached (it can also attach to finite verbs with the same function).

- First and second person S arguments always trigger the nonsingular nominalizer *=ha*, and *=na* is only found with 3s S. Intransitive examples are provided in (9).

(9) a.

ka	*hoŋkoŋ*	*khep-m*=**ha**	*ŋan*
1S[NOM]	H.[NOM]	GO-INF=NMLZ.NS	COP.1S

'I have to go to Hong Kong.'

b.

uŋ	*khep-ma*=**na**
3S[NOM]	GO-INF=NMLZ.S

'He has to go.'

c.

uŋci	*khep-m*=**ha**
3NS[NOM]	GO-INF=NMLZ.NS

'They have to go.'

- **Transitives complements**: *=na* is only found with 3s P, and only if both A and P are singular (1s/2s/3s>3s). As soon as one participant, no matter which one, is nonsingular, the nominalizer will be *=ha* for nonsingular, illustrated here with 1sA>3P in (10) and with 1pA>3P in (11).

(10) a.

ka	**na**	*sambakhi*	*ca-ma*=**na**	*ŋan*
1S[NOM]	this	potato[NOM]	eat-INF=NMLZ.S	COP.1S

'I have to eat this potato.'

b.

ka	**kha**	*sambakhi(-ci)*	*ca-m*=**ha**	*ŋan*
1S[NOM]	these	potato-NS[NOM]	eat-INF=NMLZ.NS	COP.1S

'I have to eat these potatoes.'

(11) a. *kaniŋ* **na** *phʌrsi* *ca-m*=**ha** *siŋan*
1P[NOM] this pumpkin[NOM] eat-INF=NMLZ.NS COP.1P.EXCL
'We have to eat this pumpkin.'
b. *kaniŋ* **kha** *sambakhi(-ci)* *ca-m*=**ha** *siŋan*
1P[NOM] these potato-NS[NOM] eat-INF=NMLZ.NS COP.1P.EXCL
'We have to eat these potatoes.'

- Table 4 summarizes this pattern, which is also kind of hierarchical for third person, as agreement is determined by number and not by syntactic role.

A>P/G	1	2	3s	3ns	S
1s			=na		=ha
1ns.e		=ha			=ha
1ns.i	REFL		=ha		=ha
2s			=na		=ha
2ns	=ha	REFL	=ha		=ha
3s	=ha	=ha	=na		=na
3ns			=ha		=ha

Figure 4: Alignment of the nominalizer in the obligative WITH copula

- **Alternating construction without copula**:
For transitive scenarios with third person P, an alternative construction without the copula is available (cf. example (12)). If the infinitive is focussed by the nominalizer, it is again aligned with the number of P, as it is with 3S in intransitives (ergative pattern). Impressionistically, the choice of constructions depends on information structure; if the A is focused, the construction with the copula is used. This alternative construction was rejected with SAP objects.

(12) a. *kaniŋ* **na** *sop-ma*=**na**
1P[NOM] this[NOM] watch-INF=NMLZ.S
'We have to watch this (thing).' (P=S)
b. *kaniŋ* **kha** *sop-m*=**ha**
1P[NOM] these[NOM] watch-INF=NMLZ.NS
'We have to watch these (things).' (P=ns)
c. **na khibum** *imin* *kaŋ-nhaŋ-ma*=**na**...
this cotton.ball how drop-send-INF=NMLZ.S
'As for how this cotton ball has to be thrown down…' (P=S) [22_kth_05.092]

- **Nonsingular object marking on the infinitive**: In the construction without copula, the nonsingular marker *-ci* for third person P arguments can be attached to the construction without copula, but in contrast to the nominalizer, which aligns P with S, this nonsingular marker only appears with third person P and G arguments, not with S:

A>P(=S)	3s	3ns
1	=na	=ha
2	=na	=ha
3	=na	=ha

Figure 5: Alignment of the nominalizer in the obligative WITHOUT copula

(13) a. *uŋci* *khep-m*=**ha**
3NS[NOM] go-INF=NMLZ.NS
'They have to go.' (S)
b. *uŋci* *sop-m*=**ha-ci**
3NS[NOM] watch-INF=NMLZ.NS-NS
'(Any A) has to watch them.' (P)
c. *uŋci* *camyoŋba* *pip-m*=**ha-ci**
3NS[NOM] food[NOM] give-INF=NMLZ.NS-NS
'(Any A) has to give food to them.' (G)

- This is not a passive construction, as one might suspect. An overt A in the standard case (NOM/ERG) is possible, as (14) illustrates (albeit here with the Nepali deontic complement verb *pʌrchʌ* added to the infinitive).

(14) *kahile* *kahile* *mamu-ŋa=ca* *ta?-ma-ci* *pʌrchʌ*
when when girl-ERG=ADD bring-INF-NS HAS.TO
'Sometimes, even the girl has to bring them.' [006_gph_01.044]

2.3 Summary of the data

- In one single construction, each morpheme contributing to it shows a different alignment pattern. This is summarized in Table 6 below.

Construction	**Agreement triggers**	**Alignment**
COPULA	1/2<>3: 1/2	hierarchical
	1/2<>1/2: S=P/G	ergative and primary object
	ditrans:	
	1/2-T>3-G: T	hierarchical
INF-NMLZ (+ COP)	with 3P: s<>ns: ns	hierarchical
	with 3sS: s	-
	others: ns	-
INF-NMLZ	with 3P: S=P	ergative
3ns-marker *-ci*	P=G	primary object

Figure 6: Alignment patterns of the obligative construction

3 Discussion

- The syntactic ergativity demonstrates that matrix verbs like 'must' and their embedded complements do not always treat their S and A arguments alike, which was stated as a universal by (Dixon, 1994, 135).

- Interestingly, also in the neighbouring languages we have data about, Belhare and Chintang, it is also the deontic semantics that license the agreement of a morphologically monovalent verb with a P argument (Paudyal, to appear; Bickel, 2004), and this is hardly a coincidence. The semantics in obligatives are very much oriented towards a result, and this seems to be the reason why the verb can agree with a P rather than with an S or A. Chintang supports this reasoning, as the matrix verb *kond* may have two meanings 'should' and 'want', and the deontic reading of *kond* is restricted to the agreement with P, while 'want' can agree with A and P. Comparison with other Kiranti languages difficult, as most grammars on Kiranti languages do not focus on syntax, e.g. Doornenbal (2009); Rutgers (1998) are silent about the various patterns one can find in complement constructions.

- Raising and the animacy hierarchy:
  Even if the regular agreement of a given language is not organized according to a referential hierarchy, the syntactic constraints may very well access this hierarchy. The Nakh-Daghestanian language Dargwa exhibits the same alignment-mix (ergative and hierarchical) in verbal agreement (Zúñiga, 2007, 208), but in Yakkha (monotransitives), only this particular complement construction shows hierarchical alignment.

- The referential properties of arguments are a factor for the question which arguments can trigger agreement in the matrix verb. Furthermore, scenarios with SAP-objects have no choice but to occur in the 'raising'-construction (which it was at least diachronically), in contrast to scenarios with third person objects, that license two options. According to Serdobolskaya (2009), referential properties plays a role also in raising constructions in some Uralic and some Turkic languages, and she tentatively suggests this to be an areal feature. More data on other languages could help to answer the question if this feature really has an areal distribution.

- Clause/lexical union: 'Modal predicates are excellent candidates for clause or lexical union' (Noonan, 2007, 138). Considering case and agreement, it is not possible to separate both clauses in a linear way:

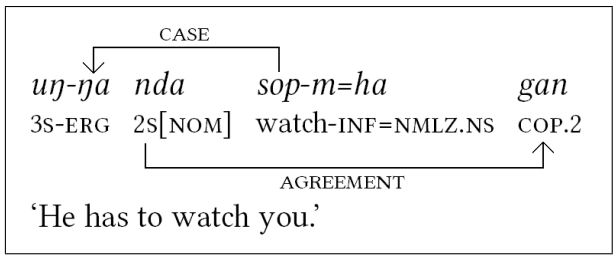

Figure 7: Case and agreement in the obligative construction

- Nothing except for the nominalizer can stand between infinitive and copula, e.g. other focus or topic particles can only come at the end of the whole phrase, and question words and other constituents can only come before the verb phrase.
- SAP is also treated differently from third person participants by other constructions as well: ERG/NOM case alignment split (NOM with 1/2 pronouns); underspecified SAP agreement morphemes such as *-m* (1/2A), *-i* (1/2.S/P); hierarchical alignment of T and G in ditransitives; other peculiar alternations and agreement patterns (e.g. in other complement clauses and in experiencer verbs).
- Final note: As in many other domains, the national language Nepali is replacing native Yakkha words and structures. The copula construction with this peculiar alignment pattern seems to be replaced increasingly with the Nepali auxiliary *pʌrnu* (cf. example (14)).

<table>
<tr><th></th><th>intransitive</th><th colspan="6">transitive</th></tr>
<tr><th></th><th></th><th colspan="2">1s</th><th>2s</th><th>2d</th><th>2p</th><th>3s</th><th>3ns</th></tr>
<tr><td>1s</td><td>-ŋ=na</td><td colspan="2" rowspan="5">reflexive</td><td>-nen=na</td><td rowspan="2">-nen-cin=ha</td><td rowspan="3">-nen-in=ha</td><td>-u-ŋ=na</td><td>-u-ŋ-ci-ŋ=ha</td></tr>
<tr><td>1de</td><td>-ŋ-ci-ŋ=ha</td><td>-u-ŋ-c-u-ŋ=na</td><td>-u-ŋ-c-u-ŋ-ci-ŋ=ha</td></tr>
<tr><td>1pe</td><td>-i-ŋ=ha</td><td>-u-m-ŋa=na</td><td>-u-m-ci-m-ŋ=ha</td></tr>
<tr><td>1di</td><td>-ci=ha</td><td rowspan="2">reflexive</td><td>-u-c-u=na</td><td>-u-c-u-ci=ha</td></tr>
<tr><td>1pi</td><td>-i</td><td>-u-m=na</td><td>-u-m-ci-m=ha</td></tr>
<tr><td>2s</td><td>-ka=na</td><td>-ŋ-ka=na</td><td rowspan="3">-ka=ha</td><td rowspan="3">reflexive</td><td rowspan="3"></td><td rowspan="3"></td><td>-u-ka=na</td><td>-u-ci-ka=ha</td></tr>
<tr><td>2d</td><td>-ci-ka</td><td>-u-c-u-ka=na</td><td>-u-c-u-ci-ka=ha</td></tr>
<tr><td>2p</td><td>-i-ka</td><td>-u-m-ka=na</td><td>-u-m-ci-m-ka=ha</td></tr>
<tr><td>3s</td><td>=na</td><td>-ŋ=na</td><td rowspan="3">=ha</td><td rowspan="2">-ka=na</td><td rowspan="3">-ci-ka=ha</td><td rowspan="3">-i-ka=ha</td><td>-u=na</td><td>-u-ci=ha</td></tr>
<tr><td>3d</td><td>-ci=ha</td><td colspan="2"></td><td>-u-c-u=na</td><td>-u-c-u-ci=ha</td></tr>
<tr><td>3p</td><td>N- =ha-ci</td><td colspan="2"></td><td>N- -ka=na</td><td>N- -u=na</td><td>N- -u-ci=ha</td></tr>
</table>

Figure 8: Person and number agreement (indicative)

Abbreviations

1,2,3	person (1>3: first acting on third person, etc.)
S/D/P/NS	numerus: singular, dual, plural, nonsingular (when dual and plural are not distinguished)
A	most agent-like argument of a transitive verb
COP	copula
E	exclusive
ERG	ergative
G	most goal-like argument of a transitive verb
GEN	genitive
I	inclusive
INF	infinitive
LOC	locative
NMLZ	nominalizer
NOM	nominative
P	most patient-like argument of a transitive verb
POSS	possessive
S	most subject-like argument of a transitive verb
SAP	speech-act-participant

T most theme-like argument of a ditransitive verb (e.g. the thing given)

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