LANGUAGE AND LINGUISTICS 13.3:471-498, 2012
2012-0-013-003-000004-1

Complementation in Caodeng rGyalrong*

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This work aims at systematically exploring the intricate system of verbal complementation in a major dialect of the rGyalrong language of northwestern Sichuan. Both sentence-like and reduced clauses in bi-clausal as well as mono-clausal patterns are employed by the language to implement its repertoire of complementation syntax, comprising a total of four true complement-clause types and four complementation strategies. The distribution of these abundant grammatical devices depends very much on the semantic types of predicates they are associated with, and accords to a large extent with the typologically expected correlations between semantic integration and the likelihood for clausal reduction.

Key words: Sino-Tibetan, rGyalrong, complement clauses, complementation strategies

1. Background

In the typological literature, the term '(verbal) complementation' commonly refers to 'the syntactic situation that arises when a notional sentence or predication is an

* The research reported here has been funded by a project grant (NSC 97-2410-H-001-072-MY3) from the National Science Council of Taiwan. This paper is an enlarged and thoroughly revised version of an earlier draft presented at the Workshop on Tibeto-Burman Languages of Sichuan held at Academia Sinica in November 2008. I wish to thank that audience for their input and discussions. This enlarged version has benefited greatly from very helpful comments from Rik De Busser, You-Jing Lin, Jonathan Evans, the Executive Editor of *Language & Linguistics* and, in particular, the two anonymous reviewers. As always, I owe a debt of gratitude to my untiring Caodeng consultant *Bstan.'dzin Blo.gros*. Where possible, the illustrative examples are taken from recorded spoken texts. Transcription of the data is phonemic, using symbols roughly in their usual IPA values. Suprasegmental notations are ˊ (pitch accent) and ˆ (falling tone). The following abbreviations occur in the interlinear morpheme glosses:

1	first person	2	second person	ABS	absolutive
ADV	adverbial marker	ANA	anaphoric pronoun	AND	andative
CAUS	causative	COMP	complementizer	CONT	continuous
CONV	converb	DAT	dative	DET	determiner
DL	dual	DM	discourse marker	EMPH	emphatic
ERG	ergative	GP	generic person	HTR	high transitivity

argument of a predicate' (Noonan 2007:52-150). This sense of the term is also embodied in Horie and Comrie's definition of complementation as 'predication manifested in argument slots' (Horie & Comrie 2000:1). As pointed out by Cristofaro (1998:18), the limit of such definitions is that 'they relate complement constructions to the notion of syntactic embedding, and not all languages code complement relations by means of embedded structures'.[1] She therefore offers a broadened definition of a *complement relation* as one that 'links two states of affairs one of which, namely the main, or pivotal one, entails that another one, the dependent one, is referred to' (1998:17). In a similar vein, Dixon (2006a:1-48) defines complementation as involving 'grammatical processes for relating the action or state described by one verb from an unrestricted set (U) to an argument of another verb from a restricted set (R)'.

In Dixon's framework, the two verbs can be linked by means of a true *complement clause*, characterized in the main[2] by its *internal clausal structure* and its function as a *core argument* of the higher clause, as seen in the following. (True complement clauses are hereafter enclosed within angular brackets):

(1) Dolakha Newar (Tibeto-Burman, Nepal, Genetti 2007:410)

jin$_A$	< *āmun*$_A$	*pujā*$_O$	*yeŋ-a*> $_O$	*sor-agi*
1SG:ERG	3SG:ERG	ceremony	do-NR2	watch-1SG: PRES

'I watch him worship (sb or sth).'

The Dolakha Newar 'simple nominalized clause' in (1), which is one of four complement clause types in that language, plays an O function in the transitive clause headed by the complement-taking predicate 'watch'. Notice that (a) the matrix clause is

IMP	imperative	IMPFV	imperfective	INF	infinitive
INST	instrumental	INV	inverse	IRR	irrealis
LOC	locative	LTR	low transitivity	MASC	masculine
MED	mediative	NEG	negator	NMLZ/NR	nominalizer
OBJ	object	PFV	perfective	PL	plural
POSS	possessive	PROS	prospective	PRES	present
P(A)ST	past	PUR	purposive	REFL	reflexive
SBJ	subject	SEQ	sequentializer	SG	singular
SUB	subordinator	TR	transitive		

[1] However, Noonan (2007:75) still includes within his complement types paratactic, participial, and other structures serving no argument function in the matrix clause, despite his 'argument-of-a-predicate' definition of verbal complementation.

[2] Two other criteria are invoked by Dixon for recognizing a structure as a complement clause—that it must refer to a proposition, and that it must function as a core argument for certain cross-linguistically typical complement-taking predicates (CTPS) such as 'see', 'hear', 'know', 'believe', and 'like' (Dixon 2006a:15-20).

overtly transitive with an ergative-marked A argument, and (b) the nominalized object complement clause displays its normal argument structure and case assignment—evidence that we are dealing with a true complement clause.

Alternatively, the two linked verbs may be related to each other via a *complementation strategy*, a non-embedding structure serving a comparable semantic function, as exemplified by the *paratactic structure* in Lango (2a) and the *serial verb* construction in Dyirbal (2b):

(2) a. Lango (Western Nilotic, Noonan 2007:65)
Dákô *òkkòbì* *ìcɔ̂* *òkwɔ̀rɔ̀* *kál*
woman told.3SG:DAT man sifted.3SG millet
'The woman told the man to sift millet (and he did) (lit. The woman said it to the man, he sifted millet).'

b. Dyirbal (Pama-Nyungan, Australia, Dixon 2006b:277)
bayi$_s$ *gajilmbarri-nyu* *yanu*
there:ABS:MASC pretend-PAST go:PAST
'He pretended to go (lit. He pretended-went).'

The distinction drawn here is significant for the cross-linguistic applicability of the term 'complementation' in linguistic typology,[3] especially in view of languages like Dyirbal which fall back entirely on complementation strategies to encode complementation (Dixon 2006b). Maintaining the distinction is also important for a full understanding of complementation morphosyntax in languages that make use of both structural types, a case in point being rGyalrong, a morphologically complex Tibeto-Burman language of northwestern Sichuan.[4]

This paper aims to provide a comprehensive study of the rich array of both complement clauses and complementation strategies in the Caodeng dialect[5] of rGyalrong

[3] Cristofaro (2003:95-98)'s functional definition of complement relations also encompasses both embedded and non-embedded structures, roughly paralleling Dixon's complement clauses and complementation strategies.

[4] rGyalrong is composed of at least four language-like 'dialects': Situ, Chabao (Written Tibetan <ja.phug>), Showu, and Caodeng (Written Tibetan <tsho.bdun>). rGyalrong coheres with two closely related languages Horpa and Lavrung to form a distinct rGyalrongic cluster under the Qiangic branch in Tibeto-Burman, as proposed in Sun (2000a, 2000b). Caodeng rGyalrong is spoken by around 3,000 agriculturalist Tibetans residing in seven villages within Caodeng Township, Ma'erkang County, Aba Prefecture, Sichuan Province. The Caodeng data in this paper, representing the speech of Gaqiuli (*qɐc^{h}weri?*) village, are based on my extended fieldwork in Sichuan.

[5] See also Genetti et al. (2008) and Jacques (2008:§10) for more restricted treatments of the

(hereafter Caodeng).[6] Noonan's elaborate semantic classification of complement-taking predicates will be followed in this paper (Noonan 2007:§3.2).

The paper is organized as follows. Section 2 gives a typological profile of Caodeng morphosyntax, highlighting the various nominalization patterns that play an important role in the expression of complementation. In the main body of this paper, I analyze in turn the structures and meanings of the eight complementation structures attested in the language, including four true complement clause types (§3), and four complementation strategies (§4). The typological implications of our findings are highlighted in the concluding section.

2. Typological profile

Caodeng morphosyntax is characterized by strong head-marking tendencies, agglutination with some degree of fusion, preference for prefixes over suffixes, and a largely head-final word order with pragmatically determined variations.

The major word classes are nouns, verbs, ideophones, and particles. Adjectives do not form a distinct lexical category, but are a subclass of stative verbs. Many (but not all) nouns take an 'absolutive'[7] nominal prefix *tə-*/*tɐ-*, which is dropped when the noun occurs in (inalienably) possessed or derived forms. Nominal inflectional categories are number, case, and (head-marked) possession. Dependent case marking is not well developed. The two basic cases, the ergative-instrumental and the locational cases,[8] are subject to ellipsis when their absence does not cause ambiguity. Verbs undergo abundant derivational processes via prefixal morphology to alter lexical categories or manipulate argument structure. With the exception of a small number of labile verbs, verbs are rigidly subclassified as either transitive or intransitive. Transitivity adjustment proceeds via productive valence-changing derivation. Verb structure is highly synthetic. The inflectional categories coded on the verb include person-number, polarity, direction (direct vs. inverse), topography-based spatial orientation, transitivity, tense-aspect, and

topic in the Situ and Chabao dialects, respectively.

[6] Certain concepts frequently expressed via syntactic complementation are coded by derivational morphology in Caodeng. A prime example is causation, which is mainly expressed by valence-increasing morphology. However, certain causative meanings are coded by syntactic means, see §3.2 and §4.2.

[7] This term is borrowed from Uto-Aztecan linguistics where it denotes a nominal suffix with a morphological function of indicating a noun's 'independent' status when it is un-possessed and un-pluralized.

[8] This is a generalized case form which, depending on context, may be construed as referring to location, source, or destination.

evidentiality. Person marking follows an empathy-based hierarchical system. Non-finite verb forms are common in dependent clauses.

Despite its weakly ergative case marking, Caodeng exhibits a predominantly accusative alignment of grammatical relations, with an S/A subject and a *primitive object* (Haspelmath 2005), the latter uniting the patient of mono-transitive verbs and the recipient of ditransitive verbs. The subject relation receives particularly salient representation in the morphosyntax, exhibiting a number of special coding and behavioral properties.

Caodeng is a rather consistent verb-final language. Recipients normally precede patients, and both follow actors barring object topicalization or inverse scenarios. Temporal adverbials precede locational ones. At the clausal level, sequences of finite clauses are connected loosely by sequential particles. Events in immediate temporal sequence may be denoted by verb sequences without any connective morphology. Clause combining involves mono-clausal as well as bi-clausal (both coordinating and subordinating) types.

As elsewhere in the Tibeto-Burman family (cf. Matisoff 1972, Noonan 1997, Genetti et al. 2008), deverbal nominalization occupies a central space in Caodeng syntax. Many distinct types of nominalization exist, differing in scope (lexical vs. clausal) and extent of deverbalization. With the exception of non-productive verbal nouns in *tə-*/*tɐ-* (e.g. *tə-mərkət* 'theft', from verb root *mərku*), all nominalizing processes in the language have a clausal scope, with varying degrees of retention of clausal structure. Clausal nominalization may take either a non-finite or (partly) finite form. Included in the first type are purposives in *kə-*, participant nominals in *kə-* (targeting S/A subjects), *kɐ-* (targeting objects) and *sɐ-* (targeting oblique roles) (e.g. *ⁿbri o-kə-mərku* 'thief of horses'), action/state nominalization in *kɐ-* [+HUMAN] and *kə-* [–HUMAN] (e.g. *ⁿbri kɐ-mərku* 'stealing horses'),[9] and infinitival nominalization in *kɐ-* (with neutralization of the distinction [±HUMAN]). The participant and purposive types display a more advanced degree of nominalization in that they require the representation of the clausal subject (or object, in the absence of an overt subject) as a possessive attribute (e.g. *ⁿbri o-sɐ-mərku?* 'place at which one steals/stole horses', *ⁿbri o-kə-mərku kɐ-wi* 'come in order to steal horses'). The finite nominalization type involves a single (partly) finite verb form nominalized uniformly by *kə-* (e.g. *ʃor? sonɐm ⁿbri tə-kə-mərku?=nə?* 'that Sonam stole horses yesterday'). Clausal subordination makes extensive use of purposive, participant, infinitive, and finite nominalizations in the formation of relative, adverbial, as well as complement clauses. The characteristics of these different nominalization types are summarized in Table 1:

[9] Action/state, or gerund, nominals are the citation forms of verbs in rGyalrong, e.g. *kɐ-pe* 'do', *kə-malⁿbjəm?* 'fly'.

Table 1: Caodeng nominalization types and nominalizing prefixes

NMLZ TYPE	SCOPE	FINITENESS	ARG CODING	NMLZ PREFIXES
DEVERBAL NOUN	lexical	non-finite	none	*tə-*/*tɐ-*
PURPOSIVE	clausal	non-finite	possessor	*kə-*
PARTICIPANT	clausal	non-finite	possessor	(subject) *kə-*; (object) *kɐ-*; (oblique) *sɐ-*
INFINITIVE	clausal	non-finite	normal[10]	*kɐ-*
ACTION/STATE	clausal	non-finite	normal	[+Human] *kɐ-* [–Human] *kə-*
FINITE	clausal	finite	normal	*kə-*

3. Complement clause types

A proper complement clause must retain crucial internal characteristics of a clause, and must serve an argument function inside a higher clause. Four structures meeting these two fundamental criteria are found in Caodeng: a) sentence-like (S-like) clauses, b) finite nominalized clauses, c) irrealis clauses, and d) infinitival clauses.

Evidence that these are all true complement clauses includes: a) intact internal clausal structure despite diminished inflectional categories in the nominalized types,[11] b) ergative case marking on the clauses when in A function, and c) transitive marking on the matrix verb[12] when in O function. The first two complement clause types occur in all core argument roles, the infinitival type is attested with S and O functions, while the irrealis type only fills the O slot of transitive matrix verbs.

3.1 S-like clauses

S-like clauses are identical to independent declarative clauses in argument structure and verb inflection. They can optionally take an enclitic complementizer *=nəʔ* or *=tsəʔ*.[13]

[10] 'Normal' here means 'as in an independent declarative sentence'.

[11] They thus differ from what Noonan (2007:70) calls 'nominalized complements', which have the internal structure of noun phrases.

[12] This is shown most clearly in the continuative aspects where the *high-transitivity* prefix *ɐsɐ-* occurs instead of the *low-transitivity* $t^{h}ɐ$-, and in the perfective and past imperfective where the respective aspectual prefixes must undergo shift to the transitivity-marking vocalism *-e-* when the matrix subject is third person.

[13] These complementizers never occur with utterance predicates, and seldom do with complement clauses in O function. They actually have a more general function as *clausal subordinators*.

Among other things, the S-like clause type occurs in the subject complements to many impersonal verbs, including modal (e.g. *kə-reʔ* 'be necessary', *kə-tʃêt ~ kə-lɔʔ* 'be obligatory', *joʔ* 'be allowed'), propositional attitude (e.g. *kə-taʔ* 'be certain', *kə-fsât* 'be as if'), and commentative (e.g. *kə-vde* 'be good', *kə-tʃ^{h}ozʔ* 'be the rule or accepted way or belief') predicates. Some examples are:

(3) *q^{h}oʔ* *< ó-ste-z* *nɐ-səntɐv>$_S$*
SEQ 3SG:POSS-where.sth.is=LOC PFV:TR-lay.down$_2$[14]
nɐ-rɐ *ŋoʔ=cə*
IMPFV:PST-be.necessary$_2$ be=MED
'And he had to lay it down where he was (lit. It was necessary that he laid it down where it was).'

(4) *ʃormɛ* *tənp^{h}aoʔ* *nə-^{n}baʔ=kə*
last.night light.bulb PFV-explode$_2$=INST
< some *tə-χtuʔ-aŋ>$_S$* *nɐ-tʃet*
be.new PFV-buy$_2$-1SG IMPFV:PST-be.obligatory$_2$
'As the light bulb exploded last night, I had to buy a new one.'

(5) *q^{h}oʔ* *<ʃərɐvʔ* *o-ʁúri* *nə-kə-wɛʔ=nəʔ*
SEQ Shesrab 3SG:POSS-front PFV:WEST-NMLZ:SBJ-come$_2$=DET
tɐ̂ɟo=nəʔ *nɐ-ŋo>$_S$* *nɐ-ta=cə*
ghost=DET IMPFV:PST-be$_2$ IMPFV:PST-be.certain$_2$=MED
'And surely, the thing which came up before Shesrab was the ghost.'

(6) *q^{h}oʔ* *vlɐme=kə*
SEQ lama=ERG
< k^{h}ə́k^{h}oz *kɐ-zɣot* *nɐ-tə-c^{h}ɐʔ=nəʔ>$_S$* *vde=cə*
here INF-arrive IMPFV:PST-2-be.able$_2$=COMP be.good=MED
And the lama (said), 'It is good that you were able to get here.'

(7) *< líli* *^{n}ge-ráχtʃi=nəʔ* *^{n}dzo̧we* *wi>$_S$* *tʃ^{h}ozʔ*
cat IMPFV-wash=SUB guest come be.the.rule
'It is believed that when cats wash (their faces) guests will come.'

The multi-functional enclitic *=nəʔ* (originally a distal demonstrative; cf. (*nə-*)*nəʔ* 'that') also serves as a determiner, an anaphoric pronoun, and a topicalizer. The alternative subordinator *=tsəʔ* also has a topicalizing function.

[14] Caodeng verbs distinguish up to three stems. The first stem, or verb base, is unmarked. The second (past) and third (singular transitive non-past) stems are indicated with subscript numerals.

As the examples above show, the complement and matrix clauses may be specified for independent tense-aspect-mood markings. This turns out to correlate with crucial semantic differences when a past-imperfective matrix predicate takes a complement clause with a present, perfective, non-past imperfective, or irrealis verb form:

(8) a. *<jɐsŋi?* *krɛ́ʃi* *lɐse* *ʃɐ>$_S$* *nɐ-rɐ*
the.other.day Krashi Lhasa go IMPFV:PST-be.necessary$_2$
'The other day Krashi had to go to Lhasa.'

b. *<jɐsŋi?* *krɛ́ʃi* *lɐse* *tə-ʁrɐ>$_S$* *nɐ-rɐ*
the.other.day Krashi Lhasa PFV:UP-go$_2$ IMPFV:PST-be.necessary$_2$
'The other day Krashi had to go to Lhasa (and he did).'

c. *<jɐsŋi?* *krɛ́ʃi* *lɐse* *tɐ-ʃɐ>$_S$* *nɐ-rɐ*
the.other.day Krashi Lhasa IMPFV:UP-go IMPFV:PST-be.necessary$_2$
'The other day Krashi had to go to Lhasa (but he did not go).'

d. *<jɐsŋi?* *krɛ́ʃi* *lɐse* *ɐ-tə-ʃɐ>$_S$* *nɐ-rɐ*
the.other.day Krashi Lhasa IRR-PFV:UP-go IMPFV:PST-be.necessary$_2$
'The other day Krashi had to go to Lhasa (but he did not, against my wish).'

Example (8a), with a present-tense verb in the complement clause, means that it was necessary for Krashi to visit Lhasa, but does not specify whether he actually went or not. In (8b), the complement verb in the perfective denotes that Krashi had to go to Lhasa, and that he did make the trip. These stand in sharp contrast to the next two examples, where a non-past imperfective verb (8c) and irrealis verb (8d) in the complement clause convey counterfactuality—Krashi did not go to Lhasa although it was his obligation (8c) or the speaker's desire (8d) that he did.

The predicate *kə-rɐ?* 'be necessary' may even take a subject complement in the *delayed imperative* (formally expressed by the irrealis):

(9) *<ʃɐto* *tɛ́ŋɐ* *le-nlɔ* *orjaŋz?*
up.there sun IMPFV-come.out when
jə́-k^{h}ɐ *te-kə-saʁjɐvʔ* *rɐrɐvʔ=nəʔ*
1P:POSS-house UP-NMLZ:SBJ-hide.from.view mountain=DET
ɐ-tə-tə-lwɐʔ>$_S$ *rɐʔ* *ŋoʔ*
IRR-PFV:UP-2-dig$_3$ be.necessary be
'The mountain up there that covers our house when the sun rises, you must go and raze it.'

Unlike *kə-rɐʔ* 'be necessary', the commentative verbs *kə-tʂjaŋʔ* 'be fair' and *kə-zgɐt* 'be justified' always select temporally predetermined complement clause in the *non-past imperfective*, even when past events are predicated:

(10) *<ʃormɛ tɐwaʔ né-tʰɛ-aŋ>$_S$ nɐ-tʂʰjaŋ=kə*
last.night booze IMPFV-drink$_3$-1SG IMPFV:PST-be.fair$_2$=INST
nə-tʰi-aŋ ʃteʔ
PFV-drink$_2$-1SG be:EMPH
'As it was fair for me to drink the booze last night, I drank it.'

(11) *<tʃone=nəʔ ɐɟiʔ ʃə-te-némŋi-aŋ>$_S$ nɐ-zgêt*
show=DET 1SG AND-IMPFV-watch-1SG IMPFV:PST-be.justified$_2$
ʃənəʔ mə-ʃə-tə-o-snɐmŋi-aŋ
but NEG-AND-PFV-INV-cause.to.watch$_2$-1SG
'I deserved to go and watch the show, but s/he did not let me go watch it.'

Complement clauses assuming an A-role in the matrix clause may also take this clause type. In (12) below, the complement clause 'that I was disobedient to you in the past' has the semantic role of a *causer*, marked with the ergative *=kə*, in the event denoted by the verb *kɐ-səzdəɣʔ* 'cause to be painful':

(12) *<cʰɐʔ ɐɟiʔ=kə nɐɟiʔ mə-nɐ-tɐ-sɐŋiʔ=nəʔ>$_A$=kə*
formerly 1SG=ERG 2SG NEG-IMPFV:PST-1>2-obey$_2$=COMP=ERG
nɐ-sni nə-səzdəɣ-aŋ ntor
2SG:POSS-heart PFV-2-cause.to.be.painful$_2$-1SG DM
'That I was disobedient to you in the past must have hurt your heart.'

The human subject 'I' in the A-role complement clause above appears to be 'raised' (i.e. moved from a lower to a higher clause)[15] to serve as controller of person agreement in the matrix verb, despite the complement clause being the notional subject in the sentence. However, the apparent 'SBJ-SBJ raising' may rather be due to the matrix verb undergoing 'associative agreement' with a high-ranking human argument[16] in the lower clause—perhaps a manifestation of the 'associative grammar' design of Sino-Tibetan languages that tends to separate the nominal and the verbal domains (Bickel 2000).

[15] Argument raising occurs if 'the putatively raised form is semantically an argument of the complement clause but syntactically a part of the matrix clause' (Noonan 2007:79).

[16] See Sun & Shi (2002) for a fuller treatment of the salience of human arguments in rGyalrong grammar.

An S-like complement clause can also fill an O slot of *knowledge* (e.g. *kɐ́-siz* 'know', *kɐ-sərtɔ?* 'realize') as well as *perception* (e.g. *kɐ-fsɛ?* 'hear', *kɐ-mti?* 'see', *kɐ-(nɐrtɔ)χpjet* 'observe') predicates:

(13) *< təmdánə? ne-ntʃʰe? qértsɛ=nə? ʃɐworɐtʃəɣⁿbom tʰɐ-ŋo>* $_O$
in.truth PFV:TR-kill$_2$ deer=DET single.antler.deer CONT:LTR-be$_2$
mə-ne-sərtɔ=nəŋo
NEG-PFV:TR-realize$_2$=MED
'He did not realize that the deer he killed was actually just a single-antler deer.'

(14) *tɐlŋa?=kə < ɐɟi? tʰaŋsku ɐsɐ-ɾet-aŋ>* $_O$
child=ERG 1SG *thangka* CONT:HTR-draw-1SG
tʰɐ-o-nɐrtɔχpjêt-aŋ
CONT:LTR-INV-observe$_2$-1SG
'The child is observing me drawing a *thangka*.'

A raising effect is again observed in (14), where the human complement subject *ɐɟi?* 'I' in the complement clause <I am drawing a *thangka*> appears to serve an object function in the matrix clause, triggering inverse morphology (3>1) on the verb 'is observing'.[17]

Direct-quote complements to *utterance* predicates (e.g. *kɐ́-tsə* 'tell', *kɐ-səmtsi?* 'inform') are also true O-role complement clauses. This is evidenced by the overtly transitive verb and ergative-marked subject in the matrix clause exemplified below:

(15) *vlɐme=kə o-krəpɐ ná-pʰa*
lama=ERG 3SG:POSS-disciple 3PL:POSS-direction
<ⁿbəlve ʁdɐnbe mə-nə-tə-mɟe-nə káma mɐ-vde ŋo?> $_O$
offering at.all NEG-IMP-2-take-2PL otherwise NEG-be.good be
tɐ-tsə? ŋo?=cə
PFV:TR-say$_2$ be=MED
'The lama said to his disciples, "Do not take any offering (from the woman) at all. Otherwise, it will be inauspicious."'

The *propositional attitude* predicate *kɐ-səsi?* 'think' conveys the speaker's evaluation about the propositional content of the complement clause as if in a direct quote, and behaves just like an utterance predicate:[18]

[17] Genetti (2007:409-410, 419-420) discusses a similar 'subject-to-object raising' phenomenon in Dolakha Newar. See also van Valin & LaPolla (1997:561-575) for discussions of 'matrix-coding' constructions.

(16) *qʰoʔ* *rɟɐ́lpo=kə*
SEQ chieftain=ERG
<fsiʔ=nəʔ *koʔ* *təciʔ=kə* *ɐ-rɟɐlsɛ=ntʃʰon* *nətsomʔ=cə>* $_O$
future=ADV this river=ERG 1SG:POSS-palace=also wash.away=MED
nɐ-səsi
PFV:TR-think$_2$
'And the chieftain thought, "This flood will one day wash away my palace also."'

3.2 Finite nominalized clauses

This clause type is marked by a nominalizing prefix *kə-* and an (optional) complementizer *=nəʔ* or *=tsəʔ*. The nominalized verb is inflectionally reduced. Polarity, spatial orientation, and tense-aspect distinctions are retained whereas person-number, direction (direct vs. inverse), and evidentiality[19] markings are dropped.

The main function of the finite nominalized clause type is to provide a syntactic alternative to the afore-mentioned S-like structure in all contexts except a) with utterance predicates, which only permit S-like complements and b) with predicates which invariably take finite nominalized complements, namely the impersonal predicate *kə-pe* '(as of an event) cause (sth)' and the *pretence* predicate *kɐ-nəʃpəz* 'pretend (to do sth)'. Examples illustrating these two exceptional predicates are:

(17) *qʰoʔ* *nə-rɟɐre* *te-sroŋ*
SEQ 3PL:POSS-sheepfold IMPFV-guard
<kəmərku=scʰənəʔ *spjaŋku* *qɐperʔ=rɐʔ* *mɐ-kə-wi>* $_O$
thief=CONj wolf dhole=PL NEG-NMLZ-come
te-poj *ŋoʔ*
IMPFV-cause$_3$ be
'And (the dogs) guard their sheepfolds, and this prevents thieves, wolves, and dholes from coming.'

---

[18] Propositional attitude (or cognition) predicates are often metaphoric extensions of utterance verbs (Givón 2001:53). Examples of the same markers shared between utterance and cognition predicates include the Taiwanese Mandarin complementizer *shuō* (literally 'say'), Newar *haŋ-a kʰã* (Genetti 2007:415-417), the Kobon quotative particle *a* (Cristofaro 2003:98), and the Chemehuevi quotative (*m*)*aykani* (Aikhenvald 2004:51). For other clause types taken by propositional-attitude predicates, see further on.

[19] The dependent states of affairs in subordinate clauses are non-asserted (Cristofaro 2003:§2.4.1). This is why evidential distinctions tend to be obliterated in true complement clauses.

(18) *rɐwaŋ=kə* *<ó-mŋa* *kərdɔʔ* *nə-kə-tʃɐt>* $_{O}$ *tɐ-nəʃpəzʔ=cə*
rabbit=ERG 3SG:POSS-eye one PFV-NMLZ-take.out$_2$ PFV:TR-pretend$_2$=MED
'The rabbit pretended to gouge out one of its eyes.'

Consider the following nominalized clauses in S (19a), A (20a), and O (21a) roles in contrast with their S-like counterparts, repeated as (19b) through (21b). Notice in particular the lack of person markings in the nominalized versions:

(19) a. *<kətɛ́la* *jəɟərɐʔ* *lɐsɐ* *mə-tə-kə-ɐrɐ=nəʔ>* $_{S}$
this.time 1PL Tibet NEG-PFV:UP-NMLZ-go$_2$=COMP
jəɣu *nɐ-vdeʔ* *ʃteʔ=cə*
1PL:POSS IMPFV:PST-be.good$_2$ be:EMPH=MED

b. *<kətɛ́la* *jəɟərɐʔ* *lɐsɐ* *mə-tə-ɐrɐ-jə=nəʔ>* $_{S}$
this.time 1PL Tibet NEG-PFV:UP-go$_2$-1PL=COMP
jəɣu *nɐ-vdeʔ* *ʃteʔ=cə*
1PL:POSS IMPFV:PST-be.good$_2$ be:EMPH=MED
'It was indeed good for us not to have gone to Tibet this time.'

(20) a. *<c^{h}eʔ* *ɐɟiʔ=kə* *nɐɟiʔ* *mə-nɐ-kə-sɐŋiʔ=nəʔ>* $_{A}$ *=kə*
formerly 1SG=ERG 2SG NEG-IMPFV:PST-NMLZ-obey$_2$=COMP=ERG
nɐ-sni *nə-səzdəɣ-aŋ* *ntor*
2SG:POSS-heart PFV-cause.to.be.painful$_2$-1SG DM

b. *<c^{h}eʔ* *ɐɟiʔ=kə* *nɐɟiʔ* *mə-nɐ-tɐ-sɐŋiʔ=nəʔ>* $_{A}$ *=kə*
formerly 1SG=ERG 2SG NEG-IMPFV:PST-1>2-obey$_2$=COMP=ERG
nɐ-sni *nə-səzdəɣ-aŋ* *ntor*
2SG:POSS-heart PFV-cause.to.be.painful$_2$-1SG DM
'My being disobedient to you in the past must have hurt your feelings!'

(21) a. *tɐlŋaʔ=kə* *<ɐɟiʔ* *t^{h}aŋsku* *kə-ɐsɐ-rɐt=nəʔ>* $_{O}$
child=ERG 1SG *thangka* NMLZ-CONT:HTR-draw=COMP
t^{h}ɐ-o-nɐrtɔχpjêt-aŋ
CONT:LTR-INV-observe$_2$-1SG

b. *tɐlŋaʔ=kə* *<ɐɟiʔ* *t^{h}aŋsku* *ɐsɐ-rɐt-aŋ=nəʔ>* $_{O}$
child=ERG 1SG *thangka* CONT:HTR-draw-1SG=COMP
t^{h}ɐ-o-nɐrtɔχpjêt-aŋ
CONT:LTR-INV-observe$_2$-1SG
'The child is observing me drawing a *thangka*.'

3.3 Irrealis clauses

Reality status is a full-fledged inflectional category in rGyalrong (Sun 2007). The irrealis clause is a non-indicative S-like clause containing a special irrealis verb form composed of a non-past stem doubly marked by a dedicated irrealis prefix *ɐ-* plus a perfectivity-marking prefix. The irrealis verb form can take person-number, polarity, spatial orientation, and perfectivity inflections, but other verbal categories are suppressed. This verb form occurs in a number of cross-linguistically typical irrealis contexts, including predictive and imaginative conditionals, optatives, jussives, and postponed imperatives. The irrealis is also the requisite verb from in O-role complement clauses to *desiderative* predicates denoting desires, wishes, and intentions,[20] such as *kɐ-səsi?* 'want (sb to do sth)' and *kɐ-ⁿdzẹwe* 'hope (for sb to do sth)':

(22) *jəɟərɐ?=kə*
1PL=ERG
<lɐmu=nə? *ⁿdzẹowe* *nə-rtʃone* *ɐ-nɐ-poj>$_O$* *ne-səsi-jə*
Lamu=DET guest 3PL:POSS-dance IRR-PFV-make$_3$ IMPFV-want$_2$-1PL
'We wanted Lamu to dance for the guests.'

(23) *krɐ́ʃi=kə* *<ɐɟi?* *ɐ-mə-jɐ-wi-aŋ>$_O$* *ne-ⁿdzẹwe?=cə*
Krashi=ERG 1SG IRR-NEG-PFV-come-1SG IMPFV:TR-hope$_2$=MED
'Krashi hoped that I wouldn't come.'

As evidenced in the examples, the matrix and complement subjects in this construction must be different. Co-reference between the higher and lower subjects would result in equi-deletion and a distinct infinitival complement. This will be the topic of the following section.

3.4 Infinitival clauses

The highly productive infinitival verb form is composed of the verb base (STEM 1) nominalized by an invariant prefix *kɐ-*.[21] This particular verb form is termed an *infinitive*, in order to set it apart from the other nominalization types.[22] The infinitive needs to be

[20] Such predicates are *non-implicative* in that neither the truth nor the falsity of the complement clause is implied (Givón 1980:334).

[21] Infinitives cannot be marked for any verbal categories, save for the negative (*mɐ-*), andative (*ʃə-*), and ventive (*o-*) prefixes.

[22] The infinitive verb form is also used in construction with an auxiliary verb in a mono-clausal structure (§4.3), as well as a converb (see examples (47)-(48)).

kept distinct from the formally identical patientive participant nominalization, which is a deverbal noun.[23] Unlike patientive participant nouns, infinitives do not allow their object arguments to be represented as possessive modifiers, a fact that reveals their *verbal* properties. The example below contrasts an infinitive (24a) with a participant deverbal noun (24b):

(24) a. *ɐɟi?* *<sonɐm* *(*o-)kɐ-sámtsi>* $_O$ *ɾge-aŋ*
1SG Sonam (*3SG:POSS:OBJ-)INF-teach like-1SG
'I like to teach Sonam.'

b. *sonɐm* *o-kɐ-sámtsi* *slome=ɾɐ?* *ɐɟi?* *nəfsɐ-aŋ*
Sonam 3SG:POSS-NMLZ:OBJ-teach student=PL 1SG know-1SG
'I know the students whom Sonam teaches.'

The infinitival clause qualifies as a true complement clause in the language. In the following example, the O-function complement clause displays a normal *clausal* structure, with the core object argument 'new chair' and the adjunct 'very much' deployed and marked in the same way as in a main clause. The infinitival clause 'go and sit on the new chair' here fills an O argument position in the matrix clause where the verb 'want' is overtly *transitive*, despite the intransitive complement-clause verb 'sit':

(25) *lɐmu* *<péntjaŋ* *some=ta* *χʃíkə* *ʃə-kɐ-mdzu>* $_O$ *ne-səsi=cə*
Lamu chair be.new=top very AND-INF-sit PFV:TR-want$_2$=MED
'Lamu wanted to go and sit on the new chair very much.'

The infinitival clause occurs as O-function complements to a broad range of transitive predicates belonging to various semantic types, including modal (*kɐ́-spe* 'know how (to do sth)'), phasal (e.g. *kɐ-(sɐ)ɟe?* 'begin', *kɐ-səɣjoɣ?* 'finish', *kɐ-səznəne* 'stop'), manipulative (*kɐ-nmɐfts^{h}e* 'force'), desiderative (e.g. *kɐ-səsi?* 'want (to do sth)'[24]), liking (e.g. *kɐ-ɾge* 'like (to do sth)', *kɐ-q^{h}ɐ?* 'dislike (doing sth)'), knowledge (*kɐ-jmət* 'forget (to do sth)'), and achievement (e.g. *kɐ́-noz* 'dare (do sth)', *kɐ-^{n}bəm* 'do sth in a flustered manner', *kɐ-wɐtʃ^{h}ɐm* 'do sth to excess', *kɐ-nɾərez?* 'take turns (doing sth)') verbs, as well as such miscellaneous verbs as *kɐ-qor* 'help (so to do sth)' and *kɐ-səɣɾi* 'put off (doing sth)'. Argument sharing is an essential feature of this usage of the infinitive clause, of both the subject control type, where main-clause and complement-

[23] Thus, *kɐ-^{n}dze* can be either an infinitive meaning 'eat' or a patientive participant verbal noun meaning 'food (that which is eaten)'.

[24] The verb also means 'think'.

clause subjects are co-referent, and object control type, where main-clause subject and complement-clause object are co-referent. Following are some examples:

(26) *krɐ̨ʃi* *<kɐ-námtʃuɣ>$_O$* *ne-q^{h}ɐ*
Krashi INF-get.up.early IMPFV:PST:TR-dislike$_2$
'Krashi used to hate to get up early.'

(27) *ʁdórʒe* *<oɟi?* *ɟɐste* *kɐ-ɪ^{n}gu>$_O$* *te-ɟe=cə*
Dorje 3SG alone INF-sleep PFV:TR-begin$_2$=MED
'Dorje has started to sleep by himself.'

(28) *ko?=ni?* *<kɐ^{n}dze* *kɐ-sɐpəpe>$_O$* *te-ɪrərez-^{n}dzə* *ŋo?*
this=DL food INF-prepare PFV:TR-take.turns$_2$-3DL be
'The two of them took turns cooking meals.'

As evidenced in the sentences below, verbal categories that belong semantically to the infinitive complement verb, such as orientation marking (29) and person marking (30), are *transposed* onto the matrix verb:

(29) *q^{h}o?* *ɐra?* *<kɐ-nlɔ?>$_O$* *t^{h}e-ɟɐ?* *ʃte?*
SEQ liquor INF-exit IMPFV:OUT-begin$_3$ be: EMPH
'And liquor begins to come out.'

(30) *<kɐ-ɪge>$_O$* *tə-tɐ-ɟe-^{n}dzə*
INF-like PFV-1>2-begin$_2$-2DL
'I have begun to like you two.'

The phenomenon effectively constitutes a remedial strategy to ensure that the information loss incurred by the use of the infinitival verb form in the lower clause can be recovered on the matrix verb. This is a clear indication that the reduced complement is undergoing incorporation into the matrix clause (cf. Noonan 2007:§2.3).[25]

The infinitival clause is also attested in S function with intransitive impersonal predicates, such as *kə-^{n}bêt* 'be easy (to do sth)', *kə́-mda* 'be time (for doing sth)' and *kə-^{n}grəv?* 'be successful (in doing sth)':

[25] However, the infinitive complement clause here still functions syntactically as the O argument of the *transitive* matrix verb. A further step in clausal incorporation would obliterate the clausal boundary, resulting in the mono-clausal infinitive-auxiliary construction, to be discussed in §4.3.

(31) *naŋʁu?* *tɐ-kɐ-^{n}ge=nə?* *təmkescɔ?* *kə-to?=nə?*
shirt IMPFV-GP-wear=SUB collar NMLZ:SBJ-exist=DET
kɐ-naʁrə́lɔ *^{n}bêt*
INF-be.dirty be.easy
'When one wears shirts, it is easy for them to get dirty where the collars are.'

(32) *tərmók^{h}e=nə?* *<kɐ-nárme>$_{S}$* *jə́-mda* *ŋo?=cə*
dusk=DET INF-rest.for.the.day PROS-be.time be=MED
'At dusk, it was soon about time to rest for the day.'

Notably, a *human* complement-clause subject may be treated as an experiencer and coded with a *possessor* form in the matrix clause:

(33) *<krɐ́ʃi lɐse* *kə-mdʒɐl* *kɐ-ʃɐ>$_{S}$* *óɣu* *nə-^{n}grəv*
Krashi Lhasa NMLZ:PUR-go.on.pilgrimage INF-go 3SG:POSS PFV-succeed$_2$
'Krashi succeeded in going on a pilgrimage to Lhasa (lit. It was successful *of Krashi* to go on a pilgrimage to Lhasa).'

3.5 Interim summary

The foregoing descriptions of the structure and applications of the four attested complement clause types are summarized in the table below:

Table 2: Form and function of Caodeng complement clause types

	S-LIKE CLAUSE	FINITE NOMINALIZED CLAUSE	IRREALIS CLAUSE	INFINITIVE CLAUSE
FORMAL PROPERTIES OF CTP	fully finite; predetermination of tense-aspect for certain predicates	partly finite verb plus nominalizer *kə-*; inflecting only for polarity, orientation, and tense-aspect	non-past verb stem with irrealis *ɐ-* and perfectivity prefix; inflecting only for person-number, polarity, orientation, perfectivity	non-finite; verb base plus nominalizer *kɐ-*
COMPLEMENTIZER	*=nə?* or *=tsə* (optional)	*=nə?* or *=tsə* (optional)	none	none
ARGUMENT CODING	'raising' effect owing to associative agreement	'raising' effect owing to associative agreement	normal	equi-deletion of co-referent arguments

	S-LIKE CLAUSE	FINITE NOMINALIZED CLAUSE	IRREALIS CLAUSE	INFINITIVE CLAUSE
ARGUMENT POSITIONS	S, A, O	S, A, O	O	S, O
SEMANTIC TYPES OF CTPS	Modal (impersonal), Perception, Commentative, Knowledge, Propositional attitude, Utterance	Modal (impersonal), Perception, Commentative, Knowledge, Propositional attitude, *kə-pe* 'cause'; *kɐ-nəʃpəz* 'pretend'	Desiderative (object control)	Modal (impersonal), Phasal, Manipulative, Desiderative, Knowledge, Achievement (all control predicates)

4. Complementation strategies

Complementation strategies are *non-embedding* syntactic devices for linking the meanings of a primary and a secondary verb without producing a subordinate clause occupying a matrix-clause argument position. Presented below are four such structures that are identified in the language: a) coordination, b) purposive linking, c) auxiliary verb construction, and d) serial verb construction.

4.1 Coordination

Depending on their semantics and argument structures, propositional attitude predicates in Caodeng implement complementation by different morphosyntactic devices. In the foregoing sections, we have seen impersonal propositional attitude verbs like *kə-taʔ* 'be certain' taking an S-like complement clause (example (5)), and another propositional attitude verb *kɐ-səsiʔ* 'think' taking an S-like direct-quote complement like an utterance verb (example (16)). The propositional-attitude verb *kɐ-səsiʔ* 'think' with an overt experiencer subject can also enter into a distinct *coordinating* construction featuring an emphatic copula *ʃteʔ* and the contrastive coordinate linker *ʃənəʔ* 'but'. The following example literally means something like 'It is (just) my thinking, but it will rain':

(34) *ɐɟiʔ ne-səsiʔ-aŋ ʃteʔ ʃənəʔ káde tə́mu wi*
1SG IMPFV-think-1SG be:EMPH but in.a.moment rain come
'I think it is going to rain in a moment.'

Other propositional attitude predicates of this type, such as *kɐ-naʁjəvts^{h}ɐt* 'guess, surmise', *kɐ-nsemŋɐn* 'suspect', and *mne kɐ-lɐt* 'bet' obligatorily select this complementation strategy to link to their proposition-content clauses:

(35) *ɐɟiʔ te-naʁjəvts^{h}ɐt-aŋ ʃteʔ ʃənəʔ koʔ kəpɐʔ ŋoʔ=cə*
1SG IMPFV-guess-1SG be:EMPH but 3SG Chinese be=MED
'I guess s/he is Chinese.'

(36) *ʃoχkor tə-kə-mərkuʔ=nəʔ*
money PFV-NMLZ:SBJ-steal$_2$=DET
ne-nsemŋɐn-aŋ ʃteʔ ʃənəʔ krɛ́ʃi ŋoʔ taʔ
IMPFV-suspect-1SG be:EMPH but Krashi be DM
'I suspect that the one who stole the money must be Krashi.'

4.2 Purposive linking

In Caodeng, as in many languages, a special verb form occurs in a *purposive* clause with verbs of motion to indicate purpose. This purposive, or *supine*, form is composed of a verb base plus a uniform nominalizing prefix *kə-*:

(37) *mk^{h}ɛ́rgu tɐroʔ=kə*
Ka'ergu chieftain=ERG
nɐ-kə-ntʃ^{h}e t^{h}ɐ-o-səwɛʔ-jə ŋoʔ
2SG:POSS-NMLZ:PUR-kill PFV:DOWNSTREAM-INV-cause.to.come$_2$-1PL be
'It was the Ka'ergu Chieftain who sent us downriver to kill you.'

The foregoing sentence is not an instance of complementation, since the dependent clause 'kill you' is semantically an *adverbial clause of purpose* rather than a notional argument in the matrix clause. Notice that in this adverbial clause, the O argument of the verb 'kill' is marked as a possessor on the nominalized verb.

The purposive clause type is pressed into service as a complementation strategy in combination with certain intransitive non-motion predicates to express meanings cross-linguistically often conveyed by complement clauses. Two such predicates are attested: *kɐ-tʃ^{h}ɐt* 'be absent (from doing sth)' and *kɐ-rɛ́nts^{h}a* 'make preparations (to do sth)'. Examples are:

(38) *ʃoɾʔ ^{n}dʐomɐ kə-^{n}dʐɛ́sqɐ nɐ-tʃ^{h}ɛ̂t=cə*
yesterday Droma NMLZ:PUR-hold.potluck.party IMPFV:PST-be.absent$_2$=MED
'Droma was absent from the potluck party yesterday.'

(39) *nəʔ* *kəmərku* *ʁnɛ=niʔ* *ⁿdzə-kə-mɟe* *tə-rɐntsʰa*
ANA thief two=DL 3DL:OBJ-NMLZ:PUR-catch PFV-try$_2$
ʃənəʔ *mə-nɐ-cʰɐʔ*
but NEG-IMPFV:PST-be.able$_2$
'He tried to catch the two thieves, but failed.'

A number of observations are in order about these unusual predicates. First, they are overtly *intransitive*. This is conclusive evidence that the linked clauses do not take an argument position inside the higher clauses. Second, a transitive O argument in a linked clause is invariably represented on the nominalized verb as a *possessive* prefix, exactly as in the prototypical purposive example in (37). Third, given the basic meaning of the verb *kɐ-rɐ́ntsʰa* 'set off, depart', it is possible to construe its complement-taking usage in a *motion* sense, meaning 'set out (to do sth)'. But it is hard to conceive of any motion senses in *kɐ-tʃʰɐt* 'be absent', nor any plausible purposive readings in the sentences in which it occurs. Therefore, clause linkage in non-finite *kə-* must be regarded as a non-purposive bi-clausal strategy utilized by certain non-motion predicates to connect to other predicates for the purpose of complementation.

4.3 Auxiliary verb construction

As observed in §3.1, modal predicates in Caodeng often expect S-role complement clauses. In lieu of this bi-clausal complementation structure, certain modal predicates also link with another verb via auxiliary verb construction, in which the modal verb has grammaticalized into an auxiliary head in combination with an infinitival lexical verb (Anderson 2006:§2.2). This *mono-clausal* complementation strategy is illustrated below with the modal predicate *kɐ-cʰɐ* 'be able':[26]

(40) *qʰoʔ* *ser* *ʃóχtenə*
SEQ louse than
ʃla *kʰɛ́naŋ* *kɐ-o-ɟɐ-sɐ-zɣot* *mə-nɐ-cʰɐʔ=cə*
right.away home INF-INV-REFL-CAUS-arrive NEG-PFV-be.able$_2$=MED
'So (the flea) failed to make itself get home sooner than the louse.'

The complex verb here does not instantiate a bi-clausal structure as the verb *mə-nɐ-cʰɐʔ* is *intransitive* in form, which means that the infinitive verb phrase cannot be an O-function complement to the main verb *mə-nɐ-cʰɐʔ*.

[26] For parallel cases of infinitive lexical verbs in construction with auxiliary verb heads in other Tibeto-Burman languages, see Anderson (2006:47-49).

The following sentences are additional examples of the auxiliary verb construction. In (41), the same auxiliary *kɐ-cʰɐ* 'be able' is shown to combine with two serialized[27] infinitive lexical verbs. Examples (42)-(43) exemplify the auxiliary usage of the impersonal modal verbs *kə-tʃêt* 'be obligatory' and *kə-rɐʔ* 'be necessary':[28]

(41) *qʰoʔ rⁿgu kɐ-χtor kɐ-wɐmɐ mə-nɐ-cʰɐʔ=cə*
SEQ boulder INF-break.apart INF-remove NEG-IMPFV:PST-be.able$_2$=MED
'He was unable to break the boulder apart and clear it away.'

(42) *qʰoʔ təʃɔʔ=rɐʔ=kə kʰɐ-pɐ=nəʔ ɪɟélpo o-kɐ́ju=nəʔ*
SEQ serf=PL=ERG each-year=TOP chieftain 3SG:POSS-firewood=DET
kɐ-nrərɐzʔ kɐ-wot ⁿgɐ-rɐʔ ŋoʔ=cə
INF-take.turns INF-bring IMPFV-be.necessary be=MED
'And in each year, the serfs must take turns bringing in firewood for the chieftain.'

(43) *ʃormɛ tənpʰaoʔ nə-ⁿbaʔ=kə*
last.night light.bulb PFV-explode$_2$=INST
some ka-χtu nɐ-tʃet
be.new INF-buy IMPFV:PST-be.obligatory$_2$
'As the light bulb exploded last night, it was necessary to buy a new one.'

4.4 Serial verb construction

Two fully inflected verbs in close juncture may form a *serial verb construction*, that is, a complex predicate expressing various aspects of a single event without intervening markings of clausal coordination or subordination (Aikhenvald 2006:1). Verb serialization of the *symmetrical* type[29] is also employed as a mono-clausal complementation strategy to produce complex verb forms whose meanings are often translatable in other languages by complement clauses, illustrated below with the achievement verb *kɐ-wɐtʃʰɐm* 'overdo, do sth to excess':

[27] See further section on the serial verb construction strategy.

[28] Contrast this with the alternative bi-clausal expression of the same meaning shown earlier in §3.1, where the modal verb *kə-tʃêt* 'be obligatory' takes a sentential complement in S-function.

[29] All the participating verbs in this major type of serial verb constructions come from unrestricted classes (Aikhenvald 2006:§3.1).

(44) *ʃqʰɐʔ* *cot* *kɐ-fʃɐt* *orjáŋnə*
just.now settlement INF-talk when
skɐtʃe *tə-tə-fʃêt* *tə-tə-wɐtʃʰemʔ*
talking PFV-2-say PFV-2-overdo$_2$
'You overdid talking at the dispute settlement just now.'

In (44), the verbal categories of tense-aspect and person are *concordantly marked* on both verbs in series (cf. Aikhenvald 2006:§4.4), which share the O argument *skɐtʃe* 'talking'.

The function of the verb serialization strategy in this language is to impart meanings related to the *manner* of realization with *achievement* and *manipulation* predicates, the verb *kɐ-wɐtʃʰɐm* 'overdo, do sth to excess' being a case in point. In the following examples, a manipulation verb *kɐ-nmɐftsʰɐ*[30] 'force (sb to do sth)' and an achievement predicate *kɐ-nɐʃɐʃɐt* 'exert oneself' are shown to serialize with action verbs to describe the manner in which the predicated actions are performed:

(45) *krɐ́ʃi* *smɐn* *tə-nmɐftsʰɐʔ-aŋ* *nə-ʃtʰi-aŋ*
Krashi medicine PFV-force$_2$-1SG PFV-cause.to.drink$_2$-1SG
'I forced Krashi to drink medicine.'

(46) *tʰove* *nɐ-nɐʃəʃɐt* *nɐ-lɐt*
sledge.hammer IMP:DOWN-exert.oneself IMP:DOWN-do
'Swing the sledge hammer down hard!'

Encoding secondary meanings of verbal manner as finite, serialized manner verbs constitutes a syntactic alternative to expressing verbal manner via infinitival *converbs*. Examples (47)-(48) below are structures with converbs that are equivalent to (45)-(46):

(47) *krɐ́ʃi* *smɐn* *ké-ʃtʰi* *tə-nmɐftsʰɐʔ-aŋ*
Krashi medicine CONV-cause.to.drink PFV-force$_2$-1SG
'I forced Krashi to drink medicine (lit. I forced Krashi, making him drink the medicine).'

[30] Derived from the adverbial *mɐftsʰe* 'by force' via prefixation of the verbalizing prefix *n*(*ə*)-. This adverbial can occur in combination with a causative verb as a *lexical* way of expressing comparable meanings:
smɐn *mɐftsʰe* *mə-nə-kó-ʃtʰi-aŋ*
medicine by.force NEG-IMP-2>1-cause.to.drink-1SG
'Don't force me to drink medicine!'

(48) *tʰove* *kɐ-nɐʃəʃet* *nɐ-lɐt*
sledge.hammer INF-exert.oneself IMP:DOWN-do
'Swing the sledge hammer down hard (lit. Swing the sledge hammer down, exerting yourself)!'

4.5 Interim summary

Of the four complementation strategies presented in this section, coordination and purposive linking are types of clause combinations, while auxiliary verb and serial verb constructions are mono-clausal structures. The following table provides a summary comparison of the properties of these non-embedding structures:

Table 3: Properties of Caodeng complementation strategies

	COORDINATION	PURPOSIVE LINKING	AUX VERB CONSTRUCTION	SERIAL VERB CONSTRUCTION
CLAUSE TYPE	bi-clausal	bi-clausal	mono-clausal	mono-clausal
FORMAL PROPERTIES	full clause containing emphatic copula linked to a proposition-content clause by contrastive coordinator	minor clause taking non-finite verb composed of verb base plus NMLZ *kə-*	auxiliary head combining with infinitival lexical verb	two or more linked finite verbs with concordant marking of verbal categories
ARGUMENT CODING	normal	object coded as possessor prefix on dependent verb	normal	shared
SEMANTIC TYPES OF MAIN PREDICATES	Propositional attitude	*kɐ-tʃʰɐt* 'be absent'; *kɐ-rɐ́ntsʰa* 'make preparations'	Modal	Achievement and Manipulation predicates denoting manner

5. General discussion and conclusion

rGyalrong is long noted in Sino-Tibetan for its unusual morphosyntactic complexity, with a high level of divergence across its language-like 'dialects'.[31] Its rich potential for enhancing our understanding of the encoding of complementation in human language

[31] We have identified significant differences in relative clauses across the major dialects of rGyalrong (Sun & Lin, forthcoming).

remains to be fully tapped. This paper is a first attempt to adopt Dixon's distinction between true complement clauses and other semantically equivalent grammatical devices, i.e. complementation strategies, to describe and analyze a broad range of structures for the purpose of realizing complementation in the Caodeng dialect of rGyalrong.

Clausal nominalization, in particular the (partly) finite, infinitival, and purposive types, plays a major role in the four complement clause types and four complementation strategies identified in this study, but the language also employs other grammatical means to enrich its repertoire of complementation syntax. Both mono-clausal and bi-clausal grammatical patterns occur, the latter comprising both full and reduced clause types. The Caodeng data thus offer fertile ground for testing an important set of generalizations proposed in the recent typological literature on complementation, namely the *Complement-Deranking Argument Hierarchy* (Cristofaro 2003:131):

(49) Modals, Phasals > Desideratives, Manipulatives > Perception
> Knowledge, Propositional Attitudes, Utterance

This hierarchy is meant to account for the ordered variation in the distribution of morphosyntactic devices used to code various dependent states of affairs in complement relations. Two cross-linguistic parameters are used to gauge the extent of structural deviation of a dependent clause from an independent declarative clause: verb form and participant coding. The central idea is that the more semantically integrated[32] the subordinate state of affairs is, the more likely it will manifest a 'deranked',[33] or explicitly marked dependent verb form and special coding of its participants.[34] The hierarchy that emerges from her cross-linguistic study predicts the likelihood for clausal reduction among the major types of CTPS, such that if deranking or special participant realization occurs at any point on the hierarchy, then it also occurs at all points to the left in the hierarchy. The CTPS near the top of the hierarchy are more likely to take a structurally reduced clause because they involve a greater degree of semantic integration (see also Noonan 2007:101).

[32] The notion of semantic integration refers to the degree to which the boundaries between two linked states of affairs are eroded. Based on this feature, the following ranking is obtained: Modals > Phasals > direct-causation Manipulatives ('make') > Manipulatives ('order') > Desideratives, Perception > (no semantic integration) Knowledge, Propositional Attitudes, Utterance (Crisotofaro 2003:122).

[33] For Cristofaro, the distinctive feature of deranking is whether a particular verb form can occur in an independent declarative clause (balanced) or not (deranked).

[34] E.g. unusual alignment patterns, non-expression of arguments, or coding of arguments as possessors or obliques.

To test these cross-linguistic generalizations against the Caodeng data, the distribution of the three main complement types[35] in the language across their predicate types are reproduced in the table below:

Table 4: Distribution of Caodeng complement types across CTP classes

	S-LIKE CLAUSE	FINITE NOMINALIZED CLAUSE	INFINITIVE CLAUSE
MODALS	✓	✓	✓
PHASALS			✓
DESIDERATIVES (SAME SBJ)			✓
MANIPULATIVES			✓
PERCEPTION	✓	✓	
KNOWLEDGE	✓	✓	
PROPOSITIONAL ATTITUDE	✓	✓	
UTTERANCE	✓		

Several observations can be made about Table 4. The Caodeng complement-clause types display *degrees of deranking*—the finite nominalized verb form is still marked for certain major verbal categories and is therefore deranked to a less extent than the infinitive, the verb form with minimal inflectional possibilities. Seen in this light, the predictions made in the Complement Deranking Hierarchy are nicely supported by the Caodeng data. Utterance predicates require the fully balanced clause type only; Knowledge, Propositional-Attitude, and Perception predicates take either a balanced or a partly deranked clause type; the predicate types further left on the hierarchy, those that entail tighter degrees of semantic integration between the linked states of affairs and sharing of participants, generally combine with the more fully deranked infinitival form. Our findings also lend confirmation to the proposed hierarchy with regard to the participant-coding parameter. Lack of participant sharing in the Knowledge, Propositional-Attitude, and Utterance predicates precludes these CTP types from accessing the infinitival complement type. Interestingly, Perception predicates, which occupy the middle position in the hierarchy, are disallowed from taking infinitival complements despite participant sharing and omission. This can be accounted for by the weaker degree of semantic integration entailed by the perception relation since perceived states of affairs take place independently of the act of perception (Cristofaro 2003:121). Modals appear to constitute a counterexample to the hierarchy, as they can apparently co-occur with all three

[35] Leaving aside the highly restricted irrealis clause type, which complements only different-SBJ desiderative CTPS.

complement types, including S-like clauses. Cristofaro's class of Modals, inherited directly from Noonan (2007:137-139), is actually a rather mixed group subsuming ability and deontic predicates, the latter including uses both impersonal (holding for the relevant state of affairs as a whole) and personal (holding for an entity that must or may bring about the relevant state of affairs). The discordant data in Caodeng modal CTPS stem from the fact that all predicates of ability in this language are of the personal type, and the deontic modals belong exclusively to the impersonal type, which is prone to involving complementation in an S-like structure.

With due attention paid to both proper complement clauses and complementation strategies, our investigation is able to encompass a broader range of structural variation in the expression of complementation in the target language. We can see that the linking of states of affairs for the purpose of complementation is implemented not only by syntactic hypotaxis through the four complement-clause types and an adverbial purposive strategy, but also by coordination as well as two co-lexicalization strategies (Givón 1980:338): auxiliary-verb and serial-verb constructions. As expected, the semantically defined CTP classes play an important role in determining the selection of their complementation devices. We have seen that truth-value-dependent predicates involving overt experiencer subjects (e.g. 'believe') and different-subject desiderative predicates (e.g. 'hope (for sb to do sth)') require a distinct complementation structure each, respectively the coordinate and irrealis structures. On the other hand, achievement and manipulation predicates denoting manner of verbal actions prefer the serialization complementation strategy.

However, certain CTPS appear to display idiosyncratic behavior. It is not clear why predicates like *kɐ-tʃʰɐt* 'be absent' obligatorily select the purposive-clause linkage, or why *kə-pe* '(for an event) to cause (sth)' and *kɐ-nəʃpəz* 'pretend' only allow complements in nominalized finite form. Nor can we explain why complements to the commentative predicates *kə-tʂjaŋʔ* 'be fair' and *kə-zgɐt* 'be justified' (but not the other predicates in this class, such as *kə-vde* 'be good') invariably take the non-past imperfective. These elusive form-function connections must therefore be registered as part of the peculiar grammatical properties of the given predicates.

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[Received 27 December 2010; revised 27 October 2011; accepted 10 November 2011]

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草登嘉戎語的補語句

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本文首度針對川西北嘉戎語草登方言錯綜複雜之動詞補語句進行系統探究。草登話補語句體系多樣性高，兼具完整與縮減子句類型以及單、雙子句模式，總共包括四類真正補語句及四類語意功能類似之補語化策略。這些語法構造之分布大致取決於與其搭配謂語之語意類型，且頗吻合於類型語法學所期待之語意整合度與子句縮減度間之相互關連。

關鍵詞：漢藏語系，嘉戎語，動詞補語句，補語化策略