Clause linking in Japhug*

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This paper presents a detailed description of clause linking in Japhug, based on a corpus of traditional narratives and conversations. It follows the methodology used in Dixon and Aikhenvald's (2009) collective book on this topic, to ease crosslinguistic comparisons. Although Japhug has a very rich system of converbs, there is not a single meaning that requires a non-finite form: all subtypes of clause linking can be expressed exclusively with finite verb forms, and these indeed predominate in our corpus.

Keywords: clause linking, conditional, counterfactual, purposive, tense, relative time

1. Introduction

This paper deals with clause linking in Japhug Rgyalrong. Although this topic has been summarily treated in previous publications (Jacques 2008:317–325), the present work is based on a considerably larger corpus, which comprises about 50 hours of narratives and one hour of conversations. Elicited examples are only used when no attestation of a particular construction can be found in the texts.

In addition to richer data, this paper benefits from the descriptive framework and terminology provided by Dixon and Aikhenvald (2009). Their classification of clause linking subtypes is semantically based, and allows a detailed description

* The glosses follow the Leipzig glossing rules. Other abbreviations used here are: AUTO auto-benefactive-spontaneous, ANTICAUS anticausative, ANTIPASS antipassive, APPL applicative, DEM demonstrative, DIST distal, EMPH emphatic, FACT factual, GENR generic, INDEF indefinite, INV inverse, LNK linker, MC main clause, PFV perfective, POSS possessor, SC subordinate clause, SFP sentence final particle, TESTIM testimonial. I would like to thank Alec Coupe, Scott DeLancey, Graham Thurgood and two anonymous reviewers for valuable comments and suggestions on previous versions of this article. This research has been funded by the ANR 12-CORP-0006 Himalco project.

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of all competing constructions available for expressing a particular meaning in the target language, and the semantic differences between them.[1]

Dixon and Aikhenvald's approach to clause linking is all the more relevant to the present work in that two out of the 15 languages in their sample, Galo and Kham (Post 2009 and Watters 2009), belong to the Sino-Tibetan family, and thus allow family-internal typological comparisons.

In this paper, we first present background information on Japhug Rgyalrong verbal morphology, as well as on other elements involved in clause linking, such as postpositions, relator nouns and linkers. Then, we devote a section on each of the five major categories of clause linkings distinguished by Dixon (2009): Temporal (including Conditional), Consequence, Addition, Alternative and Manner linking.

2. Background information

In this section, we present general information on TAM marking in Japhug, linkers, relator nouns and postpositions which are necessary to understand the data presented in the body of the paper, as coordination and subordination are marked by specific verb forms and / or by independent subordinating or coordinating markers.

2.1 TAM marking in Japhug

Since subordinating and coordinating constructions in Japhug often select specific TAM categories, a detailed list of all TAM categories is a necessary preliminary to the description of clause linkings.

In this section, we first describe the building blocks of TAM marking (directional prefixes and stem alternation) and then present an inventory of the available TAM categories (both finite and non finite).

1. However, following the suggestion of an anonymous reviewer, we avoid Dixon's *supporting* vs *focal* clause whose definition is not entirely explicit (Dixon 2009: 2–5) and keep the more common terms 'subordinate clause' and 'main clause' instead, except for the constructions where there is no syntactic or morphological evidence for postulating a subordinating relationship. In the examples, the subordinate clause is indicated between square brackets, without including the postposition, relator noun or linker.

2.1.1 *Directional prefixes*

Most verbal forms in Japhug have a directional prefix that contains information on TAM, transitivity and (in the case of motion and concrete action verbs) the direction of the action.

With the exception of contracting verbs whose stem starts in *a-* and which present special alternations (see Jacques and Chen 2007 for more information), Japhug intransitive verbs have three series of prefixes (A, B and D) and transitive ones four series, as shown in Table 1. The distribution of these four series will be explained in more detail in Section 2.1.3.

Table 1. Directional prefixes in Japhug Rgyalrong

	perfective (A)	**imperfective (B)**	**perfective 3 →3′ (C)**	**evidential (D)**
up	*tɤ-*	*tɯ-*	*ta-*	*to-*
down	*pɯ-*	*pjɯ-*	*pa-*	*pjɤ-*
upstream	*lɤ-*	*lu-*	*la-*	*lo-*
downstream	*tʰɯ-*	*cʰɯ-*	*tʰa-*	*cʰɤ-*
east	*kɤ-*	*ku-*	*ka-*	*ko-*
west	*nɯ-*	*ɲɯ-*	*na-*	*ɲɤ-*
no direction	*jɤ-*	*ju-*	*ja-*	*jo-*

Most verbs have one intrinsic direction which is lexically determined. For instance, the verb *sat* 'kill' selects the direction 'down' for all its forms: **perfective** 1SG→3SG *pɯ-sat-a*, **imperfective** *pjɯ-sat*, **perfective** 3SG→3' *pa-sat* and **evidential** *pjɤ-sat*.

Some verbs may allow several directions with slightly different semantics. Thus, *ndza* 'eat' normally selects the 'up' direction (**perfective** 3SG→3' *ta-ndza* 'he ate it'), but when applied to carnivorous animals we also find the 'downstream' direction. This can lead to further aspectual distinctions. For instance, the direction 'downstream', when used with stative verbs, indicates a progressive development. Footnote (10) discusses the use of different directional prefixes with the existential copula *me*.

Verbs of motion and some verbs of concrete action can be associated with all seven series of prefixes to indicate the direction of the motion. The 'no direction' series of prefixes only occurs with motion verbs.

Only three verbs have defective paradigms and never occur with directional prefixes: the sensory existential copulas *ɣɤʑu* 'exist' and *maŋe* 'not exist' and the verb *kɤtɯpa* 'speak' (see the paradigm of the latter in Jacques 2012: 1215).

2.1.2 *Stem alternation*

The existence of stem alternations in Rgyalrong was first reported by Sun (2000), who proposes to distinguish three stems: the base stem (stem 1), the perfective stem (stem 2) and the non stem (stem 3). Some varieties of Zbu Rgyalrong appear to have an additional progressive stem distinct from stem 2 in the progressive form (Jacques 2004: 352).

In Kamnyu Japhug, only four verbs have a perfective stem distinct from the base stem; the list is provided in Table 2.

Stem 3 on the other hand is fully productive. The rules of vowel alternation in Table 3 apply to all finite transitive verbs in the forms 1SG→3, 2SG→3 and 3SG→3'; stem 3 does not appear in verb forms with the inverse marker (see Gong 2014). Jacques (2004: 351–7) provides a historical analysis of these alternations, and shows that they result from the fusion of the verb stem with two suffixes.

Table 2. Stem 2 alternation in Japhug Rgyalrong

Stem 1	meaning	Stem 2
ɕe	to go (vi)	*ari*
suɯxɕe	to sent (vt)	*sɤɣri*
ɣi	to come (vi)	*ɣe*
ti	to say (vt)	*tɯt*

Table 3. Stem 3 alternation in Japhug Rgyalrong

Stem 1	Stem 3
-a	*-e*
-u	*-e*
-ɯ	*-i*
-o	*-ɣm*

Following the Leipzig glossing rules, we indicate stem 2 as [II] and stem 3 as [III] in the glosses in this paper.

2.1.3 *Finite TAM categories*

There are nine basic finite TAM categories in Japhug, as represented in Table 4. All finite forms except the factual require one and only one directional prefix. All forms can be correctly produced by combining the appropriate derivational prefixes and stems.[2]

2. For the TAM categories requiring stem 3, it is restricted to 1SG→3, 2SG→3 and 3SG→3' forms; all other forms take the base stem. The person affixes and the past transitive *-t* suffix are not

In the case of past imperfective *puɯ-*, evidential imperfective *pjɤ-*, testimonial *ɲuɯ-* and present *ku-*, the direction that is lexically selected by the verb is neutralized. Note that the past imperfective marker *puɯ-* is formally identical to the perfective *puɯ-* 'down' prefix, a feature found in all Rgyalrong languages (see Lin 2011).

The evidential and evidential imperfective forms are used with the circumfix *k-…-ci* in the case of verb forms whose stem begins in *a-* (including verbs with the progressive *asuɯ-*).

In addition to the basic forms, there are periphrastic TAM categories combining one of the nine categories with the copulas (*ŋu* 'be' and *maʁ* 'not be').

Table 4. Finite verb categories in Japhug Rgyalrong

		stem	prefixes
factual	FACT	1 or 3	no prefix
imperfective	IPFV	1 or 3	B
perfective	PFV	2	A or C
past imperfective	PST.IPFV	2	*puɯ-*
evidential	EVD	1	D
evidential imperfective	EVD.IPFV	1	*pjɤ-*
testimonial	TESTIM	1 or 3	*ɲuɯ-*
present	PRES	1 or 3	*ku-*
irrealis	IRR	1 or 3	*a-* + A
imperative	IMP	1 or 3	A

The past imperfective and evidential imperfective forms cannot be used with most dynamic verbs,[3] except in several types of conditionals, in particular counterfactuals (see (3.3.2) and (3.3.5)) and in combination with the progressive *asuɯ-*. Periphrastic past imperfective and evidential imperfective (combining a verb in the imperfective form with the copula *ŋu* 'be' in the past imperfective *puɯ-ŋu* or evidential *pjɤ-ŋu*) are used in all other contexts with dynamic verbs. Example (1) illustrates the use of the non-periphrastic past imperfective with the stative verb *xtɕi* 'be small' constrating with the periphrastic form of the dynamic verbs *sqa* 'cook' and *lɤt* 'throw, pour'.[4]

discussed here; for more information on this topic, see Jacques (2010).

3. See Lin (2011) for a study of the past imperfective in Rgyalrong languages.

4. Note also that the auxiliary only appears after the last verb in the past imperfective, see Section 3.1.

(1) *pɯ-kɯ-xtɕi ri tɕe, **ku-sqa-nɯ** tɕe*
PST.IPFV-GENR:S/P-be.small LOC LNK IPFV-cook-PL LNK
ɯ-ci nɯnɯ tuji ɯ-ŋgɯ tʏrʏku ɯ-taʁ
3SG.POSS-water DEM field 3SG-inside crops 3SG-on
***cʰɯ-lʁt-nɯ** **pɯ-ŋu** tɕe,*
IPFV:DOWNSTREAM-throw-PL PST.IPFV-be LNK
When we were small, (people) used to cook (Rhododendron leaves) and pour the juice on the crops (to kill bugs). (Rhododendron2 83)

Japhug, as other Rgyalrong languages, has a clear tense distinction between past and factual in the imperfective (see Sun 2000, Lin 2003 and Jacques 2004: 371–392), but no grammaticalized future.

Some clause linking constructions require a specific finite TAM form, in particular the imperfective (with the postpostion *ɕɯŋgu*, see (3.2.3)), the past imperfective (in one of the counterfactual constructions, (3.3.5)) and the perfective (in the iterative coincidence linking, (3.3.1)).

2.1.4 *Converbs*

There are three converbs in Japhug (perfective, gerund and purposive), which combine the base stem of the verb with a prefix *tɯ-* or *sɤ-* (etymologically probably nominalizing prefixes) and with person prefixes or directional markers in some cases. The converbs are non-finite in the sense that they cannot appear as an isolated sentence without clause chaining, and can only index one argument with possessive prefixes (see for instance Jacques 2014: 4 for the paradigms), whereas finite verbs index up to two arguments with a combination of prefixes and suffixes distinct from the possessive prefixes (see for instance Jacques 2010: 134). In addition, non-finite verb forms lack transitivity marking and are not compatible with some TAM markers.

The infinitive in *kɤ-* or *kɯ-* also has converbial uses (especially in the Manner linking, cf Section 7).

The **perfective** converb *tɯ-* expresses an immediate succession between two events ('as soon as'); its use is described in Section 3.2.4. It is formed by combining the imperfective form of the intrinsic prefix, the *tɯ-* prefix and the stem 1 of the verb. Since there is a homophonous prefix *tɯ-* for second person, the perfective converb is formally identical to the second person singular imperfective form[5] for all verbs whose stem 1 and stem 3 are identical (which includes all intransitive verbs and some transitive ones); these quasi-homophonous forms are however easily distinguished for transitive verbs with stem 3 alternation, as illustrated by Table 5.

5. More precisely, the 2SG form of intransitive verbs and the 2SG→3SG form of transitive ones.

Table 5. Examples of the perfective converb *tɯ-*

	stem	**meaning**	**imperfective (2SG)**	**perfective converb**
intransitive	*sci*	to be born (vi)	*cʰɯ-tɯ-sci*	*cʰɯ-tɯ-sci*
	ɕe	to go (vi)	*ju-tɯ-ɕe*	*ju-tɯ-ɕe*
transitive	*tsʰi*	to drink (vt)	*ku-tɯ-tsʰi*	*ku-tɯ-tsʰi*
	ndza	to eat (vt)	*tu-tɯ-ndze*	*tu-tɯ-ndza*
	mto	to see (vt)	*pjɯ-tɯ-mtʏm*	*pjɯ-tɯ-mto*

It is a paradox that a *perfective* converb is not marked by the perfective stem (stem 2) or by perfective directional prefixes, but receives imperfective markers. This complex question, which probably can only receive a historical answer, will not be discussed in this paper.

The **gerund** expresses that the event in the subordinate clause occurs at the same time as that of the main clause (3.2.3). It is formed by combining a prefix *sʏ-* with the partially reduplicated verb stem (only the last syllable is reduplicated), as the verb *mtsur* 'be hungry' in example (2).

(2) *kutɕu sʏ-mtsɯ~mtsur ku-rʏʑit-a tɕe, jisŋi ndʏ*
here GERUND-be.hungry IPFV-remain-1SG LNK today however
tɯmɯkumpɕi kɯ pú-wɣ-nɯ-mbi-a ɕti
heavens ERG PFV:DOWN-INV-AUTO-give-1SG be.AFFIRM:FACT
I am very hungry here, but heavens have sent it (down) for me (to eat).
(Slobdpon 253)

The prefix *sʏ-* has an allomorph *sʏz-* before sonorant derivation prefixes. In the case of verbs that already have a reduplicated stem, such as *nɯqambɯmbjom* 'to fly',[6] no further reduplication occurs in the gerund formation. Reduplication of the last syllable of the verb stem is not sensitive to morpheme boundaries. Thus, the verb *nɯɣ-mu* 'to be afraid of' has the applicative prefix *nɯɣ-*, but the *ɣ* part of the prefix participates in the reduplicated form *sʏz-nɯɣmɯ~ɣmu* 'while being afraid of it'.

6. The root *mbjom*, which cannot occur independently with the meaning 'fly', is partially reduplicated as *mbɯ~mbjom* with additional prefixes.

Table 6. Examples of the gerund *sɤ-*

stem	meaning	gerund
ɣɤwu	cry (vi)	*sɤz-ɣɤwɯ~wu*
		GERUND-cry
nɯndzulŋɯz	be sleepy (vi)	*sɤ-nɯndzulŋɯ~lŋɯz*
		GERUND-be.sleepy
nɯɣmu	be afraid of (vt)	*sɤz-nɯɣmɯ~ɣmu*
		GERUND-be.afraid.of
nɯqambɯmbjom	fly (vi)	*sɤ-nɯqambɯmbjom*
		GERUND-fly

The **purposive** converb, like the gerund, is formed by combining a *sɤ-* prefix with the reduplicated stem of the verb; it differs from it in that it also requires a possessive prefix and the imperfective directional prefix. The possessive prefix can be coreferent to either S, P or A: in the case of transitive verbs this form is ambiguous. The purposive converb most commonly occurs in the negative, meaning 'in order not to X', and for this reason it is this form which is chosen as representative in Table 7.

Table 7. Examples of the purposive converb *sɤ-*

stem	meaning	purposive converb (3SG negative form)	meaning
jmɯt	to forget (vt)	*ɯ-mɤ-ɲɯ-sɤ-jmɯ~jmɯt*	in order not to forget
		3SG-NEG-IPFV-PURP-forget	
ʁndɯ	to hit (vt)	*ɯ-mɤ-tu-sɤ-ʁndɯ~ʁndɯ*	in order not to be beaten / not to beat
		3SG-NEG-IPFV-PURP-hit	
aɕqʰe	to cough (vi)	*ɯ-mɤ-tu-sɤ-ɤɕqʰɯ~ɕqʰe*	in order not to cough
		3SG-NEG-IPFV-PURP-cough	

Other forms of the purposive converb are presented in Section 4.2, including affirmative forms and forms with other personal prefixes.

The **infinitive** form is the base stem of the verb prefixed with the *kɤ-* (for dynamic verbs) or *ku-* (for stative and non-animate intransitives). This form can be prefixed with the negative *mɤ-* and in the case of transitive verbs with a possessive prefix coreferent with the P. The infinitive mainly occurs in complement clauses and in citation form, but it can also be used as a converb for the Manner (Section 7) and Purposive (Section 4.2) linkings.

All converbial prefixes are historically probably derived from nominalizations. As described in Jacques (2014, under review), we find a series of four prefixes for nominalizations in Japhug: *kɯ-* for S/A argument, *kɤ-* for P argument, *sɤ-* for oblique arguments (including instrument, place and time) and *tɯ-* for action nominalization. The infinitive is likely to originate from core argument nominalization prefixes *kɯ-* and *kɤ-*, the immediate precedence converb from the action nominalization prefix and the purposive and gerund from the oblique nominalization prefix.

The details of the grammaticalization pathway from nominalization to converb cannot be fully analyzed by investigating only Japhug data, and require a comparative study that goes beyond the scope of this paper. Nevertheless, we do find ambiguous sentences where a particular form could be either analyzed as the infinitive or as a nominalization, such as (165) or (166) in Section 7.

Example (3) shows an oblique instrument nominalization *sɤ-χtɕi* 'cleaner' inside of a relative clause. The direct object of the main verb *ɲú-wɣ-nɯ-pʰɯt* is *ɣzɯtʰɯz* 'Selaginella', and the nominalized relative clause *tɯtʰɯ sɤ-χtɕi* is an adjunct (without case marking) that should be understood as '(as) a pan cleaner'. This type of relative clause used as adjunct could easily be reanalyzed as a purposive converb 'people would unroot it in order to clean pans'.

(3) *ɣzɯtʰɯz nɯ kɯɕɯŋgɯ tɕe* [*tɯtʰɯ sɤ-χtɕi*]
Selaginella DEM in.the.past LNK pan NMZL:OBLIQUE-wash
ɲú-wɣ-nɯ-pʰɯt pɯ-ŋgrɣl
IPFV-INV-AUTO-unroot PST.IPFV-be.usually.the.case
In the past, people would unroot *Selaginella* (to use as) a pan cleaner.
(Selaginella, 106)

This type of ambiguous constructions are perhaps the pivot forms which allowed reanalysis from nominalized verb to converb. This type of reanalysis following the pathway in (4) has been described in several Sino-Tibetan languages (see for instance Coupe 2007) and is widely attested in various language families (Epps 2009).

(4) NMLZ ⇒ RELATIVIZATION ⇒ CONVERB

A trace of the nominal origin of converb is the fact that they can be used with the ergative *kɯ* in some contexts, as in example 75 below.

2.2 Postpositions

Apart from specific verbal forms, the markers of clause linking include post-position, relator nouns and linkers.

Postpositions are a closed class of markers that appear after a noun phrase or a clause. The noun phrase/clause and the postposition constitute a postpositional phrase, of which the postposition is the head. They differ from relator nouns, which must bear a possessive prefix and are treated in Section 2.3.

The postpositional phrases headed by the ergative/instrumental *kɯ*, comitative *cʰo*, genitive *ɣɯ* and locatives[7] *zɯ*, *ri* and *tɕu* can be relativized (Jacques under review). In the following these postpositions will be referred to as *core postpositions*.

Relativization of these phrases involves a nominalized verb in the relative with the prefixes *kɯ-* (for the A marked with the ergative) or *sɤ-* (for all the other ones, including the instrumental). Some verbs such as *amɯmi* 'be on good terms' or *naχtɕɯɣ* 'be similar' select a postpositional phrase with *cʰo*.

Example (5) illustrates this use of *cʰo* as well as a relativized postpositional phrase in *cʰo*.

(5) *tɕe* [*ɯʑo ɯ-sɤ-ɤmɯmi*] *nɯ*
LNK it 3SG-NMLZ:OBLIQUE-be.on.good.terms DEM
dɤn ma ca kɯ-fse qaʑo
be.many:FACT because water.deer NMLZ:S-be.like sheep
kɯ-fse, tsʰɤt kɯ-fse, ɯʑo cʰo
NMLZ:S-be.like goat NMLZ:S-be.like it COMIT
kɯ-naχtɕɯɣ swjno, xɕɤj ma mɤ-kɯ-ndza nɯ
NMLZ:S-be.identical herbs grass apart.from NEG-NMLZ:A-eat DEM
ra cʰo nɯ amɯmi-nɯ tɕe,
PL with DEM be.on.good.terms:FACT-PL LNK
The (animals) that are on good terms with the rabbit are many, it is in good terms with those that only eat grass, like water deer, sheep or goats. (Rabbit, 33–4)

Of the core postpositions enumerated above, only the genitive *ɣɯ* is never used in clause linking.

Temporal postpositions are only found after noun phrases (6), pronouns (7) or temporal relator nouns (example (8)). They include *ɕaŋpɕi* 'since', *mɤɕtʂa* 'until', *ɕɯŋgɯ* 'before', *jɤznɤ* 'at the time when', *ɕɯmɯma* 'immediately after' and *kóʁmɯz* 'only then, only after'.

(6) *tɕe saχsɯ **ɕɯŋgɯ** pɯ-nɯ-rɤʑi-j, tʂʰa kɤ-tsʰi-j*
LNK lunch before PST.IPFV-AUTO-stay-1PL tea PFV-drink-1PL
We stayed there before lunchtime, and we had breakfast. (Dpalcan story 1, 15)

7. The locative *tɕu* is not restricted to spatial reference, but can also be used for temporal reference.

(7) *aʑo* ***ɕɯŋgɯ*** *a-pi* *ra atu* *rʏʑi-nɯ* *tɕe,*
1SG before 1SG.POSS-elder.sibling PL up.there stay:FACT-PL LNK
nɯnɯ ra ɣɯ nɯ-rmi *tʏ-z-mʏke* *qʰe,*
DEM PL GEN 3PL.POSS-name IMP-CAUS-be.first[III] LNK
Before me, (choose) first names for my elder brothers, who are stay-ing up there. (Gesar, 123)

(8) *nɯ ɯ-qʰu* ***ɕaŋpɕi*** *zo* *ɯ-ŋgu*
DEM 3SG-after from EMPH 3SG.POSS-well.off.family
pɯ-tʰon *kʏ-ti* *ɲɯ-ŋu* *ja*
PST.IPFV-have.a.well.off.family NMLZ:P-say TESTIM-be SFP
From that time on, their family was prosperous. (Divination3, 66)

Apart from the core postposition and the temporal postpositions, we find the postposition *ma* (or *muma*) 'apart from' whose postpositional phrases cannot be relativized. It can also appear after pronouns (9), noun phrases and clauses.

(9) *ɯ-ɣe* *ɯ-rɯz* *ɣʏʑu*
3SG.POSS-grandson 3SG.POSS-supernatural.ability exist:SENSORY
ɯ-kɯ-ti *nʏʑo* ***ma*** *me* *tɕe*
3SG-NMLZ:S/A-say 2SG apart.from exist:FACT LNK
Nobody says that his grandson has supernatural abilities apart from you. (Nyima Wodzer2011, 144)

2.3 Relator nouns

Relator nouns are an open class of possessed nouns which, like postpositions, occur as the head of a postpositional phrase.

Relator nouns differ from postpositions and linkers in that they bear a obligatory possessive prefix coreferent with the preceding noun phrase (10).

In this section, we mark all examples of relator nouns with a preceding hyphen (as in *-ŋgɯ* 'inside' or *-qʰu* 'after') to indicate the presence of a possessive prefix.

(10) *tɕe* *tɯrgi kɯ-wxti* *nɯ ra nɯ-ŋgɯ* *tu*
LNK fir NMLZ:S/A-be.big DEM PL 3PL-inside exist:FACT
ma *kɯ-xtɕi* *nɯ ra nɯ-ŋgɯ* *me.*
apart.from NMLZ:S/A-be.small DEM PL 3PL-inside not.exist:FACT
There are (fir mushrooms) among big firs, but there none among little ones. (Fir mushroom, 63)

Unlike postpositions, which require a preceding constituent (whether noun phrase or clause), relator nouns can stand on their own as in (11).

(11) *a-qʰu nʏʑo stɯsti nɯ kɯ-fse kʏ-rʏʑi mʏ-tɯ-cʰa*
1SG-after 2SG alone DEM INF:STAT-be.like INF-stay NEG-2-can:FACT
After I (die), you will not be able to stay like that. (The mute girl, 4)

When relator nouns take a clause rather than a noun phrase as their modifier, the possessive prefix is invariably the third singular *ɯ-*. This is the situation observed in all instances of clause linking based on relator nouns in this paper.

Some relator nouns encode basic syntactic functions, e.g. the dative *-ɕki* and *-pʰe*[8] and *-tsʰʏt* 'instead of'. Relator noun phrases with the dative as their head can be relativized, but the other ones cannot (Jacques under review).

(12) *qusput tʏ-mbri ɯ-qʰu ri tɕe, tɕe tɯʏ ɲɯ-βze*
cuckoo PFV-sing 3sg-after LOC LNK LNK poison IPFV-make[III]
ŋu tɕe nɯ tɕu tɕe kʏ-ndza mʏ-sna
be:FACT LNK DEM LOC LNK INF-eat NEG-be.worthy:FACT
tu-ti-nɯ ɲɯ-ŋu.
IPFV-say-PL TESTIM-be
After the cuckoo has sung (after the period when cuckoo sing has started), it becomes poisonous and cannot be eaten, people say. (nettle, 33)

Most relator nouns have either a spatial or temporal meaning, as *-qʰu* 'after (temporal or spatial)', *-taʁ* 'on', *-pa* 'under', *-ŋgɯ* 'inside, in, among', *-kʰɯkʰa* 'while', *-jɯja* 'while, along with' and *-raŋ* 'while'. The development of relators from concrete nouns is a very common grammaticalization pathway, especially in the Sino-Tibetan family (see for instance DeLancey 1997, Coupe 2007: 184).

The locative postpositions *ri* or *zɯ* can follow these relator nouns as in (12) or (13), without a testable semantic difference. With *-ŋgɯ* the locative merges with the relator noun to become *-ŋguz* (see an example in (17)).

(13) *tsʰʏt ɯ-ʁrɯ ɣɯ ɯ-ci nɯnɯ*
goat 3SG.POSS-horn GEN 3SG.POSS-water DEM
ʑ-lu-murki-a ri a-qʰu zɯ
TRANSLOC-IPFV:UPSTREAM-steal[III]-1SG LNK 1SG-after LOC
lʏ-ɣe-nɯ tɕe a-tʏ-tɯ-ru tɕe,
PFV:UPSTREAM-come[II]-PL LNK IRR-PFV:UP-2-look LNK
I will go to steal the water from the goat's horn, but when they come after me look up, (Stealing the water2, 30)

8. These two dative markers are semantically equivalent, but some speakers, within Kamnyu village, prefer one or the other.

Some markers such as *ɯtɕʰɯβ* 'in order to', while having the trace of a possessive prefix *ɯ-* suggesting that they were relator nouns at an earlier stage, cannot be analyzed as such anymore as they only appear after clauses, not after noun phrases.

2.4 Linkers

Linkers are a diverse class of markers which cannot be classified as either postpositions or relator nouns. Some linkers are homophonous with postpositions, for instance the concessive *ri* with the locative *ri* and the causal *ma* 'because' with *ma* 'apart from'.

Some linkers, such as *tɕe* 'then', *qʰe* 'then', *ndɤre* 'adversative', *ri* 'but', *ma* 'because' can be phonologically anchored on either the preceding (example (14)) or the following phrase (15). The first option is the most common.

(14) *ndʑi-tɕɯ ci tu ri,* PAUSE *ndʑi-tɕɯ nɯ*
3DU.POSS-son INDEF exist:FACT LNK 3DU.POSS-son DEM
kɯnɤ ɯ-rʑaβ na-nɯ-ɕar qʰe,
also 3SG.POSS-wife PFV:3→3′-AUTO-search LNK
They have a son, but their son found himself a wife and… (Relatives, 286–7)

(15) *ɕkrɤz ɯ-ŋgɯ kɯnɤ tu-kɯ-łoʁ tu.* PAUSE
oak 3SG-inside also IPFV-NMLZ:S/A-come.out exist:FACT
ri *ɕkrɤz ɯ-ŋgɯ nɯ mɤ-dɤn.*
LNK oak 3SG-inside DEM NEG-be.many:FACT
Some also grow among the oaks. However, those among the oaks are not many. (*ʑmbuluum* 38–39)

Others such as *ʁo* 'adversative', *tɤkʰa* 'at the moment when', *nɤ* 'conditional', *ʐo* 'emphatic' form a phonological constituent with the preceding group.

The linkers *tɕe* and *qʰe* 'then' can appear directly after a noun phrase or a relative clause, in which case they are topicalizers as in (16) and (17).

(16) *ma nɯnɯ paʁɕɤɣ tɕe ʁnɯ-tɯpʰu tu.*
LNK DEM ephedra LNK:TOP two-sorts exist:FACT
There are two species (of plants) called *paʁɕɤɣ*. (Ephedra, 93)

(17) *nɯ qaɟy, aʐo a-kɤ-sɯz nɯ tɕe, qaɟy nɯ*
DEM fish 1SG 1SG-NMLZ:P-know DEM LNK:TOP fish DEM
ɯ-ŋgɯ-z tɕe qandʑi kɤ-ti ci tu,
3SG-inside-LOC LNK:TOP trout NMLZ:P-say INDEF exist:FACT
<shibazi> *kɤ-ti ci tu,* <shigangqiar>
name NMLZ:P-say INDEF exist:FACT name

kɤ-ti ci tu,
NMLZ:P-say INDEF exist:FACT
The fishes, the ones that I know about, among the fishes, there is the trout, the shibazi, the shigangqiar… (Fishes, 160–3)

The linker *nɤ* is mostly restricted to conditionals (3.3) and to alternating or repeated action linkings (5.3). It also occurs with nouns and ideophones with a semantics very close to that of the repeated action linking.

The structure noun+*nɤ*+noun expresses an action which is repeated many times, or which presents a continuous progression or increase (example (18)). This construction is restricted to locative and temporal nouns.

(18) *taʁ nɤ taʁ, taʁ nɤ taʁ tó-wɣ-tsum*
up LNK up up LNK up EVD:UP-INV-take.away
He was taken away, up and up. (Flood3, 21)

With ideophones, the same structure is also found and expresses a rhythmic atelic action as in (19) (see Jacques 2013b).

(19) *tɤ-ŋke tɕe dʑaŋ nɤ dʑaŋ ʑo*
PFV-walk LNK IDEO:long.and.thin LNK IDEO:long.and.thin EMPH
tu-ŋke ɲu-ŋu
IPFV-walk TESTIM-be
When it walks, it walks with (its neck) erected and moving up and down, long and thin. (Peacock, 56)

The semantics of the constructions found in examples (18) and (19) as well as the repeated action linking (5.3) present some of the the iconic functions of reduplication mentioned by Sapir (1921:76): repeated occurrence, increase in size and added intensity.

The emphatic linker *ʑo* occurs after stative verbs (in finite or non-finite forms), adverbs (expressing degree such as *wuma* 'really, very', quantity such as *tʰamtɕɤt* 'all' or place and time such as *aʁɤndundɤt* 'everywhere'), ideophones and some clause linking types (especially Temporal and Manner linkings). It also occurs with any element followed by the verb *fse* 'be like'.

The linker *ʑo* indicates a higher degree, greater intensity, frequency or quantity depending on the semantic nature of the preceding element. It cannot stand on its own and it marks the element preceding it as an adverbial modifier as an adverbial modifier of the following verb, except in the case of ideophones (which can appear, followed by *ʑo*, after the verb that they modify, see Jacques 2013b).

Finally, we find correlative linkers *tɕi* and *ri* 'also' in the Elaboration linking (5.2), which are repeated after noun phrases in successive clauses; these noun phrases necessarily have the same syntactic function in each clause.

2.5 Other linking strategies

In addition to clause linking markers (postpositions, relators and linkers) and dedicated verbal morphology, several strategies are used to express linkage between clauses, and occur in various clause linking constructions.

2.5.1 *Long-distance ergative*

As a general rule, the converbial clauses are not only subordinate to the main clause, but are even embedded within it. When the verb of the main clause is transitive and requires an A marked with the ergative *kɯ*, this ergative postpositional phrase appears before the converbial clause, as in (20) and (115) (the A is indicated in bold to ease parsing of the sentence).

(20) ***tʏɕime nɯnɯ kɯ*** [*ɯ-qom sʏ-ɬɯ~ɬoʁ*] *kɯ nɯ*
young.lady DEM ERG 3SG.POSS-tear GERUND-come.out ERG DEM
ra tʰɯtʰʏci pɯ-kɯ-fse ra lonba ʑo pjʏ-fɕʏt
PL something PST.IPFV-NMLZ:S/A-be.like PL all EMPH EVD-tell
ɲɯ-ŋu.
TESTIM-be
The young lady told everything that had happened, while her tears were flowing. (Die Gänsemagd, adaptation, 202)

However, this type of embedding is not not restricted to converbial forms, and also commonly appears with various constructions, including even the temporal succession linking as in (21) and (160). This phenomenon is unexpected, as in such constructions the two clauses do not normally present evidence of a subordinating relationship

(21) *tɕendʏre* ***tʏɕime nɯ kɯ,*** [*nɯ ma ɯ-kʏpa*
LNK young.lady DEM ERG DEM apart.from 3SG.POSS-method
pjʏ-me] *qʰe ʻjʏɣ jʏɣ*
IPFV.EVD-not.exist LNK be.possible:FACT be.possible:FACT
jʏɣʼ to-ti ɲɯ-ŋu.
be.possible:FACT EVD-say TESTIM-be
The young lady had no other way (but to) say "yes, yes, yes". (Die Gänsemagd, adaptation, 88)

There are several ways of analysing examples such as (21). One could argue that the first clause is really embedded within the main clause as in the case of converbial clauses. However, given the fact that in such constructions, a pause (together with fillers such as *nʏkinɯ* 'this one' used when the speaker hesitates) often occurs after

the ergative postpositional phrase, an alternative option would be to consider that the postposition phrase here is topicalized and extracted from the main clause.

Similar phenomena have been reported in other Sino-Tibetan languages, such as Newar (Genetti 1988). We defer the precise syntactic analysis of such constructions, which may require a monograph-size work, to future research.

2.5.2 *Tail-head linkage and related phenomena*

Tail-head linkage is a type of linking strategy whereby an element (generally the verb) of one clause is repeated in the following clause (see de Vries 2005 for a typological overview). Such constructions are massively attested in languages of Western Sichuan (see for instance Zhang 2013: 688–693). In Japhug, they occur predominantly with parataxis and loose temporal succession linking with finite clauses separated by linkers such as *tɕe* or *qʰe*. No examples of tail-head linkage involving a converbial subordinate clause have been found.

Tail-head linkage can affect an entire clause without any effect on the verb or on the arguments, as in (22).

(22) *nɯ-me stu kɯ-xtɕi nɯ jʏ-mbi-nɯ,*
3PL.POSS-daughter most NMLZ:S/A-be.small DEM EVD-give-PL
tɕe nɯ-me stu kɯ-xtɕi nɯ
LNK 3PL.POSS-daughter most NMLZ:S/A-be.small DEM
jʏ-mbi-nɯ tɕe, tɕe tɕʰeme nɯ to-nɯmbrʏpɯ, ɯʑo kɯ mbro
EVD-give-PL LNK LNK girl DEM EVD-ride he ERG horse
to-mtsʰi tɕe lo-ɕe-ndʑi.
EVD-lead LNK EVD:UPSTREAM-GO-DU
They gave (him) their daughter (in marriage), and as they gave (him) their daughter (in marriage), the girl rode, he lead the horse and they went upstream. (The frog 64)

However, the repeated element in the second sentence generally only includes a fragment of the first clause, removing for instance one of the arguments or an adjunct as in (23).

(23) *nɯ tʏpʏtso nɯnɯ li sɯŋgɯ zɯ jo-ɕe. sɯŋgɯ zɯ jo-ɕe*
DEM boy DEM again forest LOC EVD-go forest LOC EVD-go
tɕe tɕendʏre, pʰaʁrgot nɯ kɯ tʏpʏtso nɯ pa-mto tɕe,
LNK LNK boar DEM ERG boy DEM PFV:3→3-see LNK
The boy went again to the forest, and as he went to the forest, the boar saw the boy. (Das tapfere Schneiderlein, adaptation, 220)

Sometimes the second clause is an elaboration on the first, and contains more element and additional verbal morphology as in (24) where in the second clause

the verb *lu-z-naʁje* IPFV-CAUS-probe[III] 'he probes into it' contains the causative prefix *z-* because of the added instrument *ɯ-jaʁ ku* 'with its paw'.

(24) *lulu nɯ nɯtɕu lu-ɕe múj-xtɕʰɯt ma*
CAT DEM THERE IPFV:UPSTREAM-go NEG:TESTIM-fit.in because
ɲɯ-wxti qʰe, tɕendɤre lu-naʁje qʰe, tɕe
TESTIM-be.big LNK LNK IPFV-probe[III] LNK LNK
ɯ-jaʁ kɯ ki tu-ste
3SG.POSS-hand ERG DEM:PROX IPFV-do.like[III]
lu-z-naʁje ɲɯ-ŋu ri,
IPFV-CAUS-probe[III] TESTIM-be LNK
The cat does not fit in to go inside, because it is (too) big, and it probes (into the hole), it probes with its paw like that. (Weasel, 47)

Cases where nouns are repeated between two clauses, but the verb is changed as in (25) can also be viewed as instance of tail-head linkage.

(25) *ɯ-ku kɯra tu-ste tɕe zruɣ ra*
3SG.POSS-head PROX.DEM:PL IPFV-do.this.way[III] LNK louse PL
pjɯ-re ɲɯ-ŋu. tɕe zruɣ nɯra tu-ndze ɲɯ-ŋu.
IPFV-remove.lice TESTIM-be LNK louse DEM:PL IPFV-eat[III] TESTIM-be
He does like this with his head and removes lice, and eats lice. (Monkey, 36)

Another construction that can be viewed as a type of tail-head linkage in Japhug is a paratactic construction where one argument is marked by a demonstrative cataphorically referring to a noun phrase in the next sentence with repetition of the verb, as in (26). These sentences have a specific intonation and a pause, and the second clause is a type of afterthought.

(26) *nɤki tu-ndze ŋu, sɯjno tu-ndze ɲɯ-ŋu*
PROX.DEM IPFV-eat[III] be:FACT plant IPFV-eat[III] TESTIM-be
It eats that, it eats plants. (Cricket, 51)

Topicalization by verb fronting as in (27) is similar to tail-head linkage in that the verb of the first clause is repeated in the next one. This type of construction, common in the Sino-Tibetan family (for instance in Sinitic languages, Paris 1981, Matthews and Yip 1994: 76), is well-attested in the Japhug corpus. The topicalized verb is either in the infinitive or in the perfective.

(27) *tɕʰi tɤ-mbro, ʁnɯ-rtsɣ ɕoŋtaʁ tu-mbro múj-cʰa.*
what PFV-be.high two-stairs up.to IPFV-be.high NEG:TESTIM-can
As far as its size is concerned, it cannot grow higher than two stairs. (Apple, 26)

3. Temporal

Japhug presents a considerable variety of temporal and conditional clause linking constructions, summarized in Table 8.[9]

Table 8. Temporal linking constructions

Clause linking type	Construction	
Temporal succession		Parataxis
		Coordination with *tɕe* or *qʰe*
Relative time	Length	clause with *tsu* 'spend (a certain time)'
	Succession	SC with the relator nouns *ɯ-qʰu*, *ɯ-mpʰru* 'after' or *ɯ-ndo* 'in the end'
		SC with the postposition *jɤznɤ* 'at the time when' or *ɕaŋpɕi* 'henceforth'
	Precedence	SC with the postposition *ɕɯŋgɯ* 'before' (requires imperfective in the SC) or with *mɤɕtʂa* 'until'
	Immediate succession	SC with the **perfective converb** *tɯ-*
		SC with the postpositions *ɕɯmɯma* 'immediately' and *kóʁmɯz* 'just after'
	Immediate precedence	SC with the linker *tɤkʰa* 'about to'
		verb in factual form + *pɯ-ŋu* in the SC
		prospective/conative *jɯ-* in the SC
	Simultaneity	SC with the relator nouns *ɯ-raŋ* 'time', *ɯ-kʰɯkʰa* 'while' or *ɯ-juja* 'along with'
		SC with the **gerund** *sɤ-*
Conditional	Iterative coincidence	Reduplicated perfective verb in the SC
	Real	Verb with interrogative *ɯ-* in the SC + linker *nɤ*
		Verb with reduplicated first syllable in the SC + linker *nɤ*
	Alternative	Verb in past imperfective with the autobenefactive in the SC + linker *nɤ*
	concessive	Polar interrogative *ɕi*
	Scalar	Verb in past imperfective with the autobenefactive in the SC + *kɯnɤ* 'also'
	concessive	Polar interrogative *ɕi*

9. In this table, and all the following charts, converbial forms are indicated in bold.

Table 8. (*continued*)

Clause linking type	Construction	
	Counterfactual	Verb with reduplicated first syllable in the protasis + linker *nɤ*
		Verb in past imperfective in the apodosis
	Hypothetical	Verb in irrealis in the apodosis

3.1 Temporal succession

Temporal succession is a type of clause linking where the temporal sequence in which the events took place is directly reflected by the order of the clauses describing them.

This meaning can be expressed by simple parataxis as in (28). This construction is rare, and also attested with the Elaboration linking (5.2). It is formally similar to a serial verb construction (such constructions occur in Manner linkings, see (7)).

(28) *tɕe nɯ tu-tɯ-łoʁ ʑo qʰe cʰɯ-pʰɯt-nɯ*
LNK DEM IPFV-CONV:IMM-come.out EMPH LNK IPFV-take.out-PL
cʰɯ-βde-nɯ ɕti.
IPFV-throw.away-PL be.AFFIRMATIVE:FACT
As soon as it has grown, people unroot it and throw it away. (*ɕurNGo*, 34)

With parataxis, when the two clauses share the same verb, the first can be elided as in (29).

(29) *tɕe mɤ-kɤ-pʰaʁ nɯ ɕurdɯm,*
LNK NEG-NMLZ:P-hack DEM non-hacked.firewood
nɯ-kɤ-pʰaʁ nɯ sɯpa rmi tɕe,
PFV-NMLZ:P-hack DEM hacked.firewood be.called:FACT LNK
The firewood that is not hacked is called 'non-hacked firewood', and the one that has been hacked is called 'hacked firewood'. (Burden10–1)

The most common way to express temporal succession is the linkers *tɕe* and *qʰe* 'then' (and their variants *tɕendɤre* and *qʰendɤre*). *tɕe* and *tɕendɤre* are by far the most common words in Japhug narratives and conversations, and are often repeated between clauses, as in (30).

(30) *ʑuruʑɤri tɕe tɕe tu-zbaʁ tɕe ɯ-ci*
progressively LNK LNK IPFV-be.dry LNK 3SG.POSS-water
ɲɯ-me ɲɯ-ŋu tɕe ɯ-ci nɯ-me ʑo
IPFV-not.exist TESTIM-be LNK 3SG.POSS-water PFV-not.exist EMPH

tɕe, tɕendʏre ku-mar-nɯ
LNK LNK IPFV-smear-PL
Progressively, it becomes dry, its moisture disappears, and when there is no moisture any more, they smear it (with butter). (Red leather, 8–9)

There is some evidence of a subordinating relation between the first and the last clause in this construction. When several clauses are in a periphrastic tense (see Section 2.1.3) combining the imperfective form of the verb with the auxiliary *puŋu* PST.IPFV-*be*, only the last one (*tu-ti-nɯ* IPFV-say-PL 'they say') receives the auxiliary, as in (31). In view of such data, it is legitimate to consider the last clause (the only one with full TAM marking) to be the main clause, and all previous ones to be subordinate. Notice that there is no constraint in this construction on coreference between the core arguments of the final clause and those of the previous clauses.

(31) *kɯɕɯŋgɯ tɕe [βlama kɯ-fse nɯ kɯ nɯnɯ*
in.former.times LNK lama NMLZ:S/A-be.like DEM ERG DEM
*kʏ-kʏ-mtsuɣ ɯ-stu nɯ tɕu **tu-tɕʏt**,]*
PFV-NMLZ:P-bite 3SG.POSS-place DEM LOC IPFV-take.out
*[tɯ-ci ɯ-ŋgɯ **pjɯ-ɣʏle**] tɕe, kʰɯzʏpɯ*
INDEF.POSS-water 3SG-inside IPFV-soak LNK puppy
*kɯ-fsɯ~fse ʐo **tu-ti-nɯ** pɯ-ŋu*
NMLZ:S/A-be.like EMPH IPFV-say-PL PAST.IPFV-be
In former times, lamas would take out (the rabies) from the place that had been bitten, soak it in water, and it looked like a little puppy, people used to say. (Rabies, 13)

The linker *qʰe* is ten times rarer than *tɕe* in our corpus. It is never repeated, but the combination *qʰe tɕe* is also attested (32).

(32) *ɯʐo pjɯ-sat-nɯ qʰe tɕe ɯ-ndʐi nɯ pjɯ-qaʁ-nɯ*
3SG IPFV-kill-PL LNK LNK 3SG.POSS-skin DEM IPFV-skin-PL
People kill it and then skin it. (*spoŋsrʏm*, 107)

The linker *tɕe*, unlike *qʰe*, does not necessarily imply that the events of the two clauses are in succession: it can be used in Unordered Addition linking (5.1). Moreover, *tɕe* appears in sentences like (33) whose meaning is intermediate between a pure temporal and a conditional construction.[10]

10. Note that the verb *me* 'not exist' has two perfective forms, *nɯ-me* 'it does not exist anymore' as in (30) and the form *tʏ-me* 'in cases when there is no' illustrated by example (33) that only appears in clause linkings.

(33) *sumpʰɯ ɯ-pʏl, ɕkrʏz tʏ-me*
tool.for.breaking.earth.clods 3SG.POSS-handle oak PFV-not.exist
tɕe nɯnɯ xɕʏj ɲɯ-βzu-nɯ sna.
LNK DEM tree.species IPFV-make-PL be.appriopriate:FACT
The handle of the earth clod breaker, when/if there is no oak wood, people can also make it using the *xɕʏj* wood (*xɕʏj*, 44).

The linker *tɕe*, while etymologically related to the locative *tɕu* (with a fossilized locative **-j* suffix lost in Japhug, proto-Rgyalrong **tɕo-j*), is commonly used as a topicalizer. A similar polyfunctionality between linker and topic marker has been reported in various languages, in particular Oceanic (see Bril 2010b).

3.2 Relative time

Relative time in Japhug is expressed by means of postpositions, relator nouns (which can also serve to mark noun phrases) on the subordinate clause, which is always placed before the main clause. There are also a few constructions of this type where the subordinate clause has a verb in converbial form.

3.2.1 *Length of time*

With the verb *tsu* 'to pass, to spend (a certain amount of time)' in the perfective, simple succession of clauses can be used to indicate the length of a period of time during which the state resulting from the event depicted by the preceding perfective sentence has lasted. The first sentence can be either topicalized with the distal demonstrative *nɯ* as in (34), left unmarked as in (35) or separated by a linker like *tɕe*. The clause containing *tsu* includes a nominal indicating the time period.

(34) *nɯnɯ tʏ-wɣrum nɯ tɯ-sŋi ʁnɯ-sŋi jamar tʏ-tsu tɕe,* […]
DEM PFV-be.white DEM one-day two-day about PFV-pass LNK …
tɕe nɯnɯ tu-zga ɲɯ-ŋu.
LNK DEM IPFV-be.ripe TESTIM-be
Once one or two days have passed after it turned white, it ripens. (Pimples, 124)

(35) *iʑo kʏ-amɯfse-j kɯmŋu-xpa tʏ-tsu*
we PFV-know.each.other-1PL five-year PFV-pass
We have known each other for five years. (elicitation)

The clause containing *tsu* normally occurs after the one depicting the event indicating the starting point of the period, but it is possible to reverse the order using the focal clause linker *ma*.

The auxiliary verb *pa* 'do' can also be used instead of *tsu* 'to pass', as in example (36).

(36) *sʏndzunɬamu cʰondʏre tɕiʑo ni kʏ-amɯfse-tɕi nʏ*
Sangndzin.Lhamo COMIT 1DU DU PFV-know.each.other-1DU LNK
jinde kɯβdʏsqi ɯ-ro to-pa
now forty 3SG.POSS-excess EVD-do
Sangndzin Lhamo and I have known each other for more than forty years. (Friends, 2–3)

3.2.2 *Succession*

There are three ways of expressing succession in Japhug, either by using possessed relator nouns, a postposition or by means of the converb of immediate succession.

The possessed relator noun *ɯ-qʰu* 'after' can be postposed to the subordinate clause to express succession between the event depicted in the subordinate clause and that of the main clause. The verb in the subordinate clause has to be in a finite form. In most examples it is in the perfective of evidential forms, but there are no restrictions on its TAM marking and examples in the imperfective are also found (sentence (37)). The locative marker *ri* can optionally be added after these nouns as in example (38). The noun *ɯ-qʰu* also has a locative meaning 'behind' when used preverbally or following a noun phrase relating to a place.

(37) [*cʰɯ́-wʏ-taʁ* ***ɯ-qʰu*** *tɕe, kʏ-taʁ tʰɯ-jʏɣ tɕe*
IPFV-INV-weave 3SG.POSS-after LNK INF-weave PFV-finish LNK
tɕendʏre li ɲɯ́-wʏ-χtɕi tɕe li pjɯ́-wʏ-xtsɯ ra.
LNK again IPFV-INV-wash LNK again IPFV-INV-thrush need:FACT
After one has woven it, when the weaving is finished, one has to wash it and thrush it again. (Gunny bag, 10)

(38) [*smɯntʂɯʏ nɯnɯ tʏ-łoʁ*] ***ɯ-qʰu*** *tsa ri tɕe*
Pleiades DEM PFV-come.out 3SG.POSS-after a.little LOC LNK
tɕe, qandʑe tu-łoʁ ŋu.
LNK earthworm IPFV-come.out be:FACT
The (constellation of the) earthworm appears a little after the Pleiades have come out. (Pleiades, 23)

Second, the possessed noun *ɯ-mpʰru* 'after', like *ɯ-qʰu*, can express succession between two clauses. The verb of the subordinate clause is in the perfective (39) or in the evidential.

(39) [*tɯmɯ ka-lʏt*] ***ɯ-mpʰru*** *nɯ tu.*
sky PFV:3→3-auxiliary 3SG.POSS-after DEM exist:FACT
It is found after it has rained. (*zdɯmqe*, 73)

Third, *ɯ-ndo* 'internal side of a field (the one towards the river)' can also express succession and has a temporal meaning 'in the end' in sentences like (40).

(40) *ɯʑo ɯŋgu jʏznʏ taʁndo kɯ-tso*
3SG in.the.beginning while instruction NMLZ:S/A-understand
ci pjʏ-ŋu ri, ***ɯ-ndo*** *tɕe taʁndo mɯ-jʏ-tso*
INDEF EVD.IPFV-be LNK 3SG.POSS-side LNK instruction NEG-EVD-understand
In the beginning, he was an obedient (child), but in the end he became naughty. (elicitation)

An alternative construction used to express succession is the postposition *jʏznʏ* 'at the time when' which indicates a bounded period of time after the reference point corresponding to the event described in the subordinate clause, as in (41).

(41) [*tʏ-ɬoʁ*] ***jʏznʏ*** *ɲɯ-xtɕi laʁma nɯ*
PFV-come.out while TESTIM-be.small apart.from.the.fact.that DEM
kɯ-fse ɲɯ-nɯ-ŋɯ~ŋu qʰe
NMLZ:S/A-be.like TESTIM-AUTO-be LNK
Apart from the fact that it is small (during the period after) it has come out, it is (already) like that (it has a round shape). (*zwʏrqʰʏjmʏɣ*, 19)

To express an unbounded length of time following the reference point (valid up to the present time, unlike in the case of *jʏznʏ*), the postposition *ɕaŋpɕi* 'since, henceforth'[11] can be used instead, and optionally followed by the emphatic linker *ʑo* and the linkers *tɕe* or *qʰe*. This usage, although possible, is not attested in our corpus.[12]

(42) [*ɯʑo jʏ-ari*] ***ɕaŋpɕi*** *ʑo tɕe tɕe kʏ-mtsʰʏm pɯ-me.*
3SG PFV-go[II] since EMPH LNK LNK INF-hear PST.IPFV-not.exist
We haven't heard of him since he left. (elicited)

3.2.3 *Precedence*

The only way to express neutral temporal precedence in Japhug is a construction with the postposition *ɕɯŋgɯ* 'before'.[13] The verb of the subordinate clause must be in the imperfective, regardless of whether the verb of the main clause is in the imperfective (43 and 44) or in the perfective (45).

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11. This postposition must be borrowed from Tibetan, since the rhyme *-aŋ* does not occur in the native non-ideophonic vocabulary, but its exact source is unclear; the second syllable is probably related to the first syllable of Tibetan *pʰjin.tɕʰad* 'from … on'.

12. All examples of *ɕaŋpɕi* 'since' in our corpus occur after noun phrases.

13. This postposition, used with a noun phrase, only has a temporal meaning unlike *ɯ-qʰu* 'after'

(43) [*pʏjkʰu pjɯ-si*] ***ɕɯŋgɯ*** *ʑo ɯ-ɕa ɯ-ndza*
already IPFV-die before EMPH 3SG.POSS-flesh 3SG-BARE.INF:eat
tu-ʑa-nɯ ɕti.
IPFV-start-PL be:ASSERTIVE:FACT
They start eating its flesh before it dies. (Lion, 44)

(44) [*lʏβzaŋ ju-nɯɣi*] ***ɕɯŋgɯ*** *stɯnmɯ βzu-j ra*
Lobzang IPFV-come.home before marriage make:FACT-1PL need:FACT
We have to organize the marriage before Lobzang comes back. (Lobzang, 32)

(45) [*ɲɯ-si*] ***ɕɯŋgɯ*** *pɯ-nɯ-NGʏt-ndʑi*
IPFV-die before PFV-AUTO-ANTICAUS:separate-DU
They had divorced before she died. (Siblings, 325)

The postposition *ɕɯŋgɯ* 'before' can be combined with *jʏznʏ* to express a time period ending with the point of reference in the subordinate clause.

(46) *tɯ-kɯ-mŋʏm tu-ʑe* ***ɕɯŋgɯ jʏznʏ***
GENR.POSS-NMLZ.S/A-hurt IPFV-start[III] before while
tú-wɣ-z-nɯsmʏn ra
IPFV-INV-CAUS-treat have.to:FACT
It is necessary to have someone treat it before one's disease starts. (elicited)

For expressing an event occurring during a period of time with no explicit beginning until the point of reference, the postposition *mʏɕtʂa* 'until' is employed, as in (47) and (48). The subordinate clause is almost always in the perfective.

(47) *βʑɯ nɯ kɯ a-mʏ-kʏ-kɯ-mtsɯɣ ra ma*
mouse DEM ERG IRR-NEG-PFV-GENR:S/P-bite need:FACT LNK
ŋotɕu ka-ndo qʰe, [*mɯ-nɯ-spʏt*] ***mʏɕtʂa***
where PFV:3→3-grab LNK NEG-PFV-be.torn.apart until
ɲɯ-te mʏ-ŋgrʏl.
IPFV:put[III] NEG:be.usually.the.case:FACT
One should not be bitten by a mouse, because it does not let go of the place that it has bitten until (the flesh) has been torn apart. (Mouse, 182)

(48) [*kurcʏsqi ɯ-ro tɯka mɯ-tʰɯ-azɣɯt-ndʑi*] ***mʏɕtʂa***
eighty 3SG.POSS-leftover each NEG-PFV-reach-DU until
mɯ-nɯ-si-ndʑi nʏ
NEG-PFV-die-DU SFP
They did not die before they had reached eighty (years old). (Siblings, 38)

In most examples, *mʏɕtʂa* 'until' is used with the subordinate clause and the main clause in a negative form as in (47) and (48). We do find examples of *mʏɕtʂa* with

non-negative subordinate clauses (49) or non-negative main clauses (50 and 51), but one of the two has to be with a verb in the negative form.

(49) [*ɯ-mat* *tɯ-lʏt* *ta-ʐa*] ***mʏɕtʂa***
3SG.POSS-fruit NMLZ:ACTION-throw PFV:3→3-begin until
mʏ-suχsʏl-nɯ
NEG-recognize:FACT-PL
They are not able to recognize it before it has born fruit. (Oat, 19)

(50) [*mɯ-lʏ-fsoʁ*] ***mʏɕtʂa*** *pɯ-rŋgɯ-a* *pɯ-ra*
NEG-PFV-be.clear until PST.IPFV-lie-1SG PST.IPFV-need
I had to (remain) lying until the day broke. (Lhazgron, 37)

(51) [*mɯ-tʰɯ-wxti*] ***mʏɕtʂa*** *tʏ-mu* *nɯ* *kɯ* *ɯ-pɯ*
NEG-PFV-big until INDEF.POSS-mother DEM ERG 3SG.POSS-litter
ra, ɯ-pʰu *nɯ* *ɯ-sʏ-me* *ri*
PL 3SG.POSS-male DEM 3SG-NMLZ:OBLIQUE-not.exist LOC
ju-tsɯm *tɕe,*
IPFV-take.away LNK
Until they grow big, the mother takes her litter away to a place where the male is not found. (Lion, 75)

In the subordinate clause, the polarity is actually semantically neutralized; it is possible to add or remove the negative prefix without influencing the truth value. For instance, the sentence (52) is equivalent to (50).

(52) [*lʏ-fsoʁ*] ***mʏɕtʂa*** *pɯ-rŋgɯ-a* *pɯ-ra*
PFV-be.clear until PST.IPFV-lie-1SG PST.IPFV-need
I had to (remain) lying until the day broke. (elicited)

It is possible that pragmatic differences exist between the two constructions, but we defer this topic to future studies.

3.2.4 *Immediate succession*

The perfective converb *tɯ-*, whose morphology is described in Section 2.1.4, is the main way to express immediate temporal succession ('as soon as', 'just after') in Japhug. The verb of the focal clause is either in the factual (example (53, 54)) or imperfective forms (55, 56); other TAM categories in the focal clause (in particular perfective or imperative) are not accepted by native speakers.

This non-finite verb form is devoid of person or transitivity marking, but the subordinate clause can include overt arguments, including A (marked with the ergative as in (53)) or S/P (example (54)).

There is often coreference between the arguments of the subordinate clause and those of the main one: A and P in (53), S in (54) and A of the subordinate clause to the S of the main clause in (55). This is however not an absolute syntactic constraint, as we also find examples where no coreference occurs (56).

The subordinate clause in this construction is marked by either linkers such as *nɤ* (54), *tɕe* or *qʰe* (55 and 56) or the marker *ʑo* (53 and 56) which emphasizes the meaning of immediate temporal succession between the events described by the subordinate and the main clauses.

(53) [*tuɤme ra kɯ* ***pjɯ-tɯ-mto***] *ʑo sat-nɯ ɕti.*
people PL ERG IPFV-CONV:IMM-see EMPH kill:FACT-PL be.ASSERTIVE:FACT
People kill it as soon as they see it. (Dhole, 15)

(54) [*ɯ-pɯ* ***ɲɯ-tɯ-ʁaʁ***] *nɤ kumpɣɤtɕɯ jamar*
3SG.POSS-child IPFV-CONV:IMM-hatch.out LNK sparrow about
ma me.
apart.from not.exist:FACT
Just after its chick has hatched out, it is just (as big as) a sparrow. (Tetras, 87)

(55) [***pjɯ-tɯ-qlɯt***] *qʰe, mdoʁ qʰe, cʰɯβ ʑo*
IPFV-CONV:IMM-break LNK brittle LNK IDEO:I:in.pieces EMPH
pjɯ-ɴGlɯt
IPFV-ANTICAUS:break
When one breaks (its stalk), as it is very brittle, it breaks at once into two pieces. (*mɤdɤmɲɤm*, 37)

(56) [***lɯ-tɯ-fsoʁ***] *ʑo qʰe tɯ-rɤma*
IPFV-CONV:IMM-be.clear EMPH LNK NMLZ:ACTION-work
tu-ʑe ɲɯ-ŋu.
IPFV-begin[III] TESTIM-be
It starts working as soon as the day breaks. (Bee, 65)

This construction can also be used with first or second person referents as in (57).

(57) [*tʰamakʰa* ***pjɯ-tɯ-sko***] *tɕe tu-oɕqʰe-a ŋu*
tobacco IPFV-CONV:IMM-smoke LNK IPFV-cough-1SG be:FACT
I cough as soon as I smoke tobacco. (elicited)

Another way to express the same meaning is to use the postposition *ɕumuuma* 'just after' (optionally followed by the locative *ri* or the emphatic linker *ʑo*) after the subordinate clause with the verb in the perfective, as in (58).

(58) *nɯnɯ ɯ-χti nɯ pjɯ-sat-nɯ q^he* [*pɯ-si*]
DEM 3SG.POSS-mate DEM IPFV-kill-PL LNK PFV-die
ɕɯmɯma *nɯ ra wuma ʐo c^hɯ-ɣʏwu aʁʏndundʏt*
immediately.after DEM PL really EMPH IPFV-weep everywhere
ju-nʏɕɯɕe ɲɯ-ŋu ri, χsɯ-sŋi
IPFV-go.in.all.directions TESTIM-be LNK three-day
mʏ-kɯ-tsu q^he li kɯmaʁ ci ju-ɣɯt q^he,
NEG-INF:NON.HUMAN-pass LNK again other INDEF IPFV-bring LNK
When people kill its mate, just after it has died, it weeps a lot and goes everywhere (to look for it), but before three days have passed, it has already found another one. (Chough, 79–81)

The semantic proximity between the two constructions can be illustrated by the fact that in some cases when speakers hesitate as in (59), they can switch between the two.

(59) [*tɯrgipaʁtsa nɯ tʏ-sci*] ***ɕɯmɯma,*** *nɯ paʁtsa*
squirrel DEM PFV-be.born immediately.after DEM piglet
ra ***c^hɯ-tɯ-sci*** *tɕe, tɕe nɯ nɯnɯ*
IPFV-CONV:IMM-be.born LNK LNK LNK DEM DEM
kɯ-ɲaʁ ʁja tu, kɯ-wɣrum
NMLZ:S/A-be.black completely exist:FACT NMLZ:S/A-be.white
ʁja tu,
completely exist:FACT
When a squirrel has just been born… when piglets have just been born, some are completely black, others are completely white. (Black and white fur, 216–7)

The postposition *kóʁmɯz* 'only then, only after' also expresses immediate succession, but its meaning is intermediate between a purely temporal and a condition linking. It implies that the event of the focal clause not only occurs immediately after that of the subordinate clause, but also that the latter is a condition for it to happen, as in example (60).[14]

(60) *tɕeri ku-βraʁ-nɯ,* [*ɯ-mi ra ku-xtɕʏr-nɯ*] *kóʁmɯz*
LNK IPFV-tie.up-pl 3SG.POSS-foot PL IPFV-attach-PL only.after
tʏ-lu pjɯ-tɕʏt ɲɯ-ra
INDEF.POSS-milk IPFV-take.out TESTIM-have.to
It is necessary to milk (the female yak) only after people have tied it up and attached its feet. (Yak, 19)

14. As a postposition, *kóʁmɯz*also occurs after noun phrases expressing a temporal duration.

More commonly, the phrase *nɯ kóʁmɯz nɤ* 'and only after that' is used in texts for expressing this meaning as in (61).

(61) *nɯ ɯ-mɯntoʁ nɯ pɯ-ŋgra kóʁmɯz nɤ*
DEM 3SG.POSS-flower DEM PFV-ANTICAUS:make.fall only.after LNK
*ɯ-jwaʁ ɲɯ-lɤt tɕe **nɯ kóʁmɯz nɤ***
3SG.POSS-leaf IPFV-throw LNK DEM only.after 3SG.POSS-fruit
ɯ-mat ku-tsʰoʁ ŋu.
IPFV-bear be:FACT
It grows leaves only after its flower has fallen, and only then does it bear fruits. (Apricot, 9–10)

3.2.5 *Immediate precedence*

There are four constructions expressing immediate precedence between two events in Japhug.

First, the linker *tɤkʰa* 'about to' is used in combination with a verb in the factual form in the subordinate clause, as in (62) and (63). It is generally followed by the linkers *tɕe* and *qʰe*.

(62) *ɬamu kɯ* [*ɣi-ndʑi*] ***tɤkʰa*** *tɕe pɯwɯ ɯ-ɕki ɯʑo*
Lhamo ERG come:FACT-DU about.to LNK donkey 3SG-DAT 3SG
kɯ ta-tɯt nɯ to-sɯʁjɯt tɕe,
ERG PFV:3→3-say[II] DEM EVD-remember LNK
Lhamo remembered what she had said to her donkey as they were about to depart (to come here). (Raven1, 64–5)

(63) [*amboʁ*] ***tɤkʰa*** *tɕe tɕe ɲɯ-mu-a tɕe, tɕe*
burst:FACT about.to LNK LNK TESTIM-be.afraid-1SG LNK LNK
a-jaʁ ɲɯ-mɯnmu ɲɯ-ɕti qʰe,
1SG.POSS-hand IPFV-move TESTIM-be:ASSERTIVE LNK
(When I was aiming), as (the gun) was about to burst, I was afraid and my hand moved. (Guns, 135)

Second, a verb in factual form combined with the copula in the past imperfective or evidential imperfective, as in (64), also expresses the meaning 'about to'.

(64) [*ʑatsa tɯmɯ qanɯ*] ***pjɤ-ŋu,*** *tɕeri nɯ tɕu tɕe pɯwɯ*
soon sky be.dark:FACT EVD.IPFV-be but DEM LOC LNK donkey
nɯ tɯ-tɯpɯ kʰa ɯ-pʰaʁ ntsi
DEM one-family house 3SG.POSS-side one.of.a.pair
pɯ-kɯ-mbɯt ɯ-pʰaʁ ntsi
PFV-NMLZ:S/A-collapse 3SG.POSS-side one.of.a.pair

kɯ-pe ci ɣɯ ɯ-ʁɤri zɯ ko-rɤʑi
NMLZ:S/A-be.good INDEF GEN 3SG-before LOC EVD-stay
It was about to be dark, but the donkey stayed in front of a house, one half of which had collapsed and the other half was good. (Raven1, 52–3)

This construction, unlike the two previous ones, can have a frustrative meaning, expressing an action in its initial stage that eventually fails (65).

(65) [*tɕe ɣɯ-tɕʰɯ*] ***pɯ-ŋu*** *ri, ci nɯ*
LNK INV-gore:FACT PST.IPFV-be LNK INDEF DEM
mɤ́-wɣ-suɣ-cʰa pɯ-ŋu jamar ʑo qartsʰaz nɯ
NEG-INV-CAUS-can PST.IPFV-be about EMPH deer DEM
jɤ-nɯ-łoʁ ndɤre,
PFV-AUTO-come.out LNK
As the (muntjac) was about to gore him, as he was about to fail, the deer appeared and… (Lobzang1.70)

Third, the conative prefix *ju-*, combined with a finite verb in perfective or evidential form, also expresses conative and frustrative meaning as the factual+past imperfective construction, as in (66).

(66) *χsɯ-tɤxɯr zɯmi,* [*χsɯ-tɤxɯr* ***jɯ-ko-ɕe***] *ʑo tɕe, nɯ*
three-turn almost three-turn CONATIVE-EVD-go EMPH LNK DEM
ma mɯ-ɲɤ-cʰa tɕe,
apart.from NEG-EVD:PERM-can LNK
As he was about to finish the third turn, he could not (run) anymore. (The prince, 109–110)

Fourth, the locative *tɕu* following a verb in the perfective indicates almost exact simultaneity, as in (67).

(67) [*pri nɯ kɯ nɯnɯ qrormbɯ nɯ ɯ-loʁ nɯ*
bear DEM ERG DEM anthill DEM 3SG.POSS-nest DEM
tʰa-sloʁ] *nɯ* ***tɕu*** *tɕe, ɯ-mɲaʁ ɯ-ŋgɯ ku-ɕe,*
PFV:3→3'-root.out DEM LOC LNK 3SG.POSS-eye 3SG-inside IPFV-go
ɯ-mɲaʁ ɯ-ŋgɯ ɯ-rmbi ku-lɤt tɕe
3SG.POSS-eye 3SG-inside 3SG.POSS-urine IPFV-throw LNK
When bears$_i$ root out ant$_j$ hills, they$_j$ go inside their$_i$ eyes$_k$ and urinate in them$_k$. (Bear, 26)

3.2.6 *Simultaneity*

There are four main constructions expressing simultaneity between the events of two clauses. First, we find cases whereby the subordinate clause is a relative clause with the possessed noun *ɯ-raŋ* 'time' in a locative form as its head noun. Second,

the subordinate clause is marked with the relator nouns *ɯ-kʰɯkʰa* 'while' and *ɯ-juja* 'while, along with'. Third, the verb of the subordinate clause is in a converbial form. Fourth, to indicate an exact moment, one can combine the perfective with the locative *tɕu*.

The construction involving *ɯ-raŋ* 'time' is formally a non-nominalized prenominal relative clause. The noun *ɯ-raŋ* 'time' is the head noun, and bears a locative marker (*ri*, *zɯ* or *nɯ tɕu*). This construction corresponds to English 'In the time when…'. It is generally used to indicate a long time period.

(68) [*nɤ-ɕɣa xtɕi*] ***ɯ-raŋ*** ***ri*** *nɯ*
2SG.POSS-tooth small:FACT 3SG.POSS-time LOC DEM
tú-wɣ-nɤzda ŋu ri
2-INV-accompany be.with:FACT but
While you are young, she will be with you. (Slobdpon2, 60)

Like *ɯ-raŋ* in the previous construction, the marker *ɯ-kʰɯkʰa* 'while' is used to express that the event of the focal clause occurs during (or that its entire duration is embedded within) that of the subordinate clause. This construction is much more common that the previous one, and does not imply a long time period. The verbs of both clauses are finite, and need to be in the imperfective, as in (69) and (70). There are no coreference restrictions on the arguments of the clauses.

(69) *tɕendɤre* [*tu-nɯsmɤn*] ***ɯ-kʰɯkʰa*** *tu-rɤma-nɯ.*
LNK IPFV-treat 3SG-the.same.time IPFV-work-PL
(The lepers) worked (there) while he treated them. (Leprosy, 61)

(70) *nɯnɯ* [*ju-rɟɯɣ*] ***ɯ-kʰɯkʰa*** *ɯ-se* *ku-tsʰi*
DEM IPFV-run 3SG-the.same.time 3SG.POSS-blood IPFV-drink
ɲɯ-ɕti.
TESTIM-be:ASSERTION
It drinks its blood while (its prey is still) running. (Lion, 50)

The marker *ɯ-juja* 'while, along' differs from *ɯ-kʰɯkʰa* in that it implies a gradual change of state in both events occurring simultaneously and progressively. The verb of the subordinate clause is generally in the perfective (though examples with imperfective forms are also attested), while that of the focal clause can be in any TAM form:

(71) [*ɯʑo tɤ-wxti*] ***ɯ-juja*** *tɕe ɯ-jwaʁ* *nɯnɯ*
3SG PFV-be.big 3SG-along LNK 3SG.POSS-leaf DEM
ɲɯ~ɲɯ-ndɯβ ʑo ɲɯ-ŋu.
INCREASE~IPFV-be.tiny EMPH TESTIM-be
As it grows big, its leaves become more and more tiny. (Poplar, 18)

(72) [*lʏ-fsoʁ*] ***ɯ-jɯja*** *nɯ pjɯ-ru* *tɕe*
PFV-be.clear 3SG-along DEM IPFV:DOWN-look LNK
ɯ-kʏ-nɯmbrʏpɯ nɯ *kʰu* *pɯ-ɕti* *ɲɯ-ŋu,*
3SG-NMLZ:P-ride DEM tiger PST.IPFV-be.ASSERT TESTIM-be
As the day was breaking, looking down, he (progressively realized that) what he was riding was a tiger. (Tiger, 20)

The gerund converb *sʏ-*, generally followed by the marker *ʐo* (see (2.1.4) for the morphological structure of this non-finite form) semantically overlaps with the *ɯ-kʰɯkʰa* 'while' construction, as illustrated by this pair of sentences which follow each other within the same text:

(73) [*ɲɯ-nɯqambɯmbjom*] ***ɯ-kʰɯkʰa*** *ri* *ju-βʄi* *tɕe*
IPFV-fly 3SG-the.same.time LOC IPFV-catch LNK
tu-ndze *ŋgrʏl.* [***sʏ-nɯqambɯmbjom***] *ʐo,*
IPFV-eat[III] be.usually.the.case:FACT GERUND-fly EMPH
ku-ndʏm *tɕe, pjɯ-sat* *ŋgrʏl*
IPFV-take LNK IPFV-kill be.usually.the.case:FACT
It catches them while it flies and eats them, it catches them while flying and kills them. (The buzzard1, 6–7)

It differs syntactically in that the gerund converb requires identity between the S/A of the subordinate and the main clause. (74) is an example where the A and P of the SC are coreferent with those of the FC.

(74) *nɯnɯ ɲɯ-nɯɣ-me* *ri* *tɕe* *nɯ* *kɯnʏ ku-χse*
DEM IPFV-APPL-fear[III] LNK LNK DEM also IPFV-feed[III]
ɲɯ-ra, *tɕe* [***sʏz-nɯɣmɯ~ɣmɯ***] *ʐo* *ku-χse* *ɲɯ-ra*
TESTIM-have.to LNK GERUND-APPL-fear EMPH IPFV-feed[III] TESTIM-have.to
Although (the 'stupid bird') fears (the little buzzard), it still has to feed it, and has to feed it while being afraid of it. (The buzzard2, 104)

The gerund can be optionally followed by the ergative marker *kɯ* as in (75).

(75) *tʏʐi* *nɯnɯ kɯ* [*ɯ-qom* *sʏ-ɬɯ~ɬoʁ*] *kɯ* *ɲʏ-mɟa* *tɕe,*
young.lady DEM ERG 3SG.POSS-tear GERUND-come.out ERG EVD-take LNK
The young lady took it, while her tears were flowing. (Die Gänsemagd, adaptation, 29)

Apart from these four constructions, simultaneity can be expressed by simple parataxis (with optional addition of the marker *ʐo*) of two clauses in the imperfective, as in the first clause indicated between square brackets in (76). This example is useful for the parallelism it offers with the *ɯ-kʰɯkʰa* 'while' construction.

(76) *βɣɤno ɣɯ ɯ-pɕi ri pjɯ-rmbi ŋu*
lower.millstone GEN 3SG-outside LOC IPFV-pile.up[III] be:FACT
tɕe, [ku-sɯ-fskɤr] ʑo pjɯ-rmbi ŋu matɕi
LNK IPFV-CAUS-go.around EMPH IPFV-pile.up[III] be:FACT because
[ku-mtɕɯr] ɯ-kʰɯkʰa pjɯ-tɕɤt
IPFV-turn 3SG-the.same.time IPFV-take.out
(The mill)$_i$ accumulates (the flour)$_j$ outside of the lower millstone$_k$, it$_i$ makes it$_j$ revolve around it$_k$ while it$_i$ accumulates it$_j$, because it$_i$ turns around while it$_i$ takes it$_j$ out. (The mill, 210)

3.3 Conditional

Conditional constructions indicate that the event in the main clause (apodosis) takes place if the condition depicted in the subordinate clause (protasis) is fulfilled. Depending on whether the protasis is a fact or a hypothetical situation, several types of conditionals can be distinguished.

We distinguish in this work four main types of conditional constructions: recurrent implication, real, counterfactual and hypothetical. As in many languages (Dixon 2009: 14), there is some degree of overlap between temporal and conditional clause linking in Japhug in the case of the first two subtypes.

3.3.1 *Iterative coincidence*

The construction expressing iterative coincidence or recurrent implication is semantically intermediate between temporal and conditional clause linking.[15] It describes that whenever the event depicted in the protasis is fulfilled, the one of the apodosis necessarily always occurs, and that this has taken place several times in the past. It can be generally translated as 'each time A then B'.

In this construction, we find a reduplicated verb in the perfective in the protasis, and a verb in the imperfective followed by the auxiliary *ŋu* 'be' in the apodosis. The protasis generally ends with the emphatic linker *ʑo* or the conditional linker *nɤ*, but parataxis is also possible.

(77) [*cʰa* ***ɕɯ~ɕ-kɤ-tsʰi-t-a***] (*ʑo*)
alcohol COND~TRANSLOC-PFV-drink-PST:TR-1SG EMPH
lu-βzi-a ŋu
IPFV-be.drunk-1SG be:FACT
Each time I drink alcohol, I get intoxicated. (elicited)

15. A semantically similar construction was described by Valentine (2009: 204)

(78) [*tɯmɯ* ***kɯ~ka-lʏt***] (*ʑo*) *zdɯmlaʁrɯʁrɯ*
sky COND~PFV-throw EMPH snail
ju-nɯ-ɬoʁ *ŋu*
IPFV-AUTO-come.out be:FACT
Each time it rains, snails come out. (elicited)

A similar meaning can be expressed with non-reduplicated perfective in the protasis, as in (79).

(79) *tɕe* [*lʏ-zo-nɯ*] *kɯnʏ tɯtɯrca*
LNK PFV:UPSTREAM-land-PL also together
lu-zo-nɯ, [*tʰɯ-nɯqambɯmbjom-nɯ*] *kɯnʏ tɯtɯrca*
IPFV:UPSTREAM-land-PL PFV:DOWNSTREAM-fly-PL also together
cʰɯ-nɯqambɯmbjom-nɯ
IPFV:DOWNSTREAM-fly-PL
Whenever they perch (on something) they perch together, whenever they fly down, they fly together. (Pigeon, 9)

3.3.2 *Real*

Real conditionals express that the event described in the apodosis occurs whenever the condition expressed in the protasis is fulfilled, but unlike the recurrent implication type described above, it does not imply that the events in question have already taken place several times in the past.

For this type of conditionals, the protasis can be either in the irrealis (80), in any other TAM form but the interrogative prefix *ɯ-* (83) or with reduplication of the first syllable (81).

The linker *nʏ* is more generally used in such type of conditionals (81, 85, 83), though *tɕe* is also found.

Some real conditionals (implicative conditionals) are used to express general truths, as in (80), (81) or (82); these constructions, as with the recurrent implication conditionals presented above, are semantically very close to temporal clause chaining.

(80) [***a-nɯ-ɲat-nɯ***] *tɕe tɯ-tɕʰa nʏ tɯ-tɕʰa nɯ,* <dianxian>
IRR-PFV-be.tired-PL LNK one-pair LNK one-pair DEM electric.wire
ɯ-taʁ, qʰe suku ɯ-taʁ nɯ tɕu tu-nɯna-nɯ tɕe,
3SG.POSS-on LNK treetop 3SG.POSS-on DEM LOC IPFV-rest-PL LNK
If/Whenever (the swallows) are tired, they rest in pairs on electric wires or on trees. (Swallows 55)

(81) *mʏ-nɯɣɯ-mto* *tɕe* [*wuma ʑo*
NEG-FACILITATIVE-see:FACT LNK very EMPH

mɯ~mɤ-pɯ-kɯ-tso] *nɤ mɤ́-wɣ-mto*
COND~NEG-PST.IPFV-GENR:S/P-understand LNK NEG-INV-see:FACT
It is not easy to spot, and unless one is not very knowledgeable already, one will not see it. (Onions, 7)

(82) [*tɕe nɯnɯ* ***mɯ~mɤ-tɤ́-wɣ-nɤmɤle***] *tɕe nureri ku-rɤʐi tɕe*
LNK DEM.PROX COND~NEG-PFV-INV-touch LNK there IPFV-remain LNK
As long as one has not touched it, it remains there. (Wasps, 44)

In another type of real conditional (predictive conditionals), the apodosis expresses the probable future outcome if the condition in the protasis is fulfilled, for instance the action that a particular person intends to realize. The most common marking on the verb for predictive conditionals is reduplication of the first syllable of the verb form (85, 86).

An interrogative imperfective form in the protasis followed by an imperfective one in the apodosis can also be used to express a mild order or suggestion (83, 84).

(83) [***ɯ-ɲú-tɯ-mbɣom***] *nɤ tu-kɯ-nɯmɢla-a*
INTERROG-IPFV-2-be.in.a.hurry LNK IPFV-2→1-step.over-1SG
If you are in a hurry, (you may) step over me. (The three sisters, 14)

(84) [***ɯ-ɲú-nɯkɯmaʁ-***]***a*** *nɤ ɲɯ-kɯ-sɯ-βzɟɯr-a*
INTERROG-IPFV-make.a.mistake-1SG LNK IPFV-2→1-CAUS-change-1SG
If I make a mistake, please correct me. (elicited)

(85) [***mɯ~mɤ-kɯ-tsɯm-a-nɯ***] *nɤ mɤ-kʰam-a*
COND~NEG-2→1-take.away:FACT-1SG-PL LNK NEG-give[III]:FACT-1SG
Unless you take me (with you), I won't give it to you. (Flood1, 62)

(86) [*ɕɯ-kɤ-ru* ***mɯ~mɤ-pɯ-tɯ-cʰa*** *ŋu*] *nɤ*
TRANSLOC-INF-bring COND~NEG-PST.IPFV-2-can be:FACT LNK
nɤ-srɤm nɤ-sroʁ lɤt-i
2SG.POSS-root 2SG.POSS-life throw:FACT-1PL
If you are not able to bring (the treasure) here, we will kill you. (Slobdpon1, 9)

This conditional construction is used to build linker-like phrases such as *nɯ maʁ nɤ* 'otherwise' (see Section 4.3) and *tɕʰi maʁ nɤ* 'at least' which can be analyzed as in (87).

(87) *nɯ maʁ nɤ / tɕʰi maʁ nɤ*
DEM not.be:FACT LNK what not.be:FACT LNK

The clause *tɕʰi maʁ nɤ* commonly occurs before another clause ending with the linker *tsaʁ* 'at least', as in (88).

(88) *wortɕʰiwojʏr ʑo, tɕʰi maʁ nʏ, [a-ɣi ra*
please EMPH what not.be:FACT LNK 1SG.POSS-relative PL
nɯ-pʰe ɕɯ-rʏ-fɕʏt-tɕi] tsaʁ ma,
3PL-DAT TRANSLOC-ANTIPASS-tell:FACT-DU at.least apart.from
ɣɯ-nɯzdɯɣ-a-nɯ
INV-worry.about:FACT-1SG-PL
Please, at least let us go to tell my parents, otherwise they would be worried about me. (The fox, 70–1)

3.3.3 *Alternative concessive conditional*

To express the meaning that an outcome will occur whether or not the condition in the protasis is fulfilled, there is a specific construction in Japhug, in which we find a pair of conditional clauses. In the first pair, the protasis is in an affirmative form, while in the second it is in a negative form. The verb (or more generally, the copula) in the protasis is in the past imperfective with the autobenefactive/spontaneous prefix *nɯ-*, which is often geminated. Unlike other conditionals, the verb of the protasis is not reduplicated. It receives past imperfective 'down' marking *pɯ-* regardless of whether it is stative or dynamic, as shown by the examples (89) and (90).

(89) *tɕe [tɯ-sɯm **pɯ-a<nɯ>ri**] nʏ ju-kɯ-ɕe,*
LNK INDEF.POSS-mind PFV-<AUTO>go[II] LNK IPFV-GENR:S/P-go
*[**mɯ-pɯ-a<nɯ>ri**] nʏ ju-kɯ-ɕe pɯ-ra*
NEG-PFV-<AUTO>go[II] LNK IPFV-GENR:S/P-go PST.IPFV-have.to
Whether one liked it or not, one had to go. (Relatives, 212)

The verb *nʏla* 'agree' normally receives the prefix *tʏ-* 'up', but when used in the protasis of such constructions, it is marked with the *pɯ-* 'down' prefix of past imperfective (in (90) in the direct 3→3 form *pa-*).

(90) *[pa-n-nʏla] nʏ ɕe-a,*
PST.IPFV:3→3-AUTO-agree LNK IPFV:go-1SG
[mɯ-pa-n-nʏla] nʏ ɕe-a ra
NEG-PST.IPFV:3→3-AUTO-agree LNK IPFV:go-1SG have.to:FACT
I will go whether he agrees or not. (elicited)

An alternative construction is to have a complex predicate in the protasis with the main verb in a finite form followed by the copula in the past imperfective with the *nɯ-* prefix (*pɯ-nnɯ-ŋu* with the affirmative copula and *pɯ-nnɯ-maʁ* with the negative one). For instance, (90) can be reformulated as (91) with the main verb *ta-nʏla* in the perfective without autobenefactive-spontaneous prefix.

(91) *ta-nʏla pɯ-nɯ-ŋu pɯ-nɯ-maʁ*
PFV:3→3-agree PST.IPFV-AUTO-be PST.IPFV-AUTO-not.be

ɕe-a ra
IPFV:go-1SG have.to:FACT
I will go whether he agrees or not. (elicited)

It is possible to have several protases followed by a single apodosis, as in (92).

(92) [*tɯ-ɕɣa pɯ-kɯ-ɴgrɯ*
INDEF.POSS-tooth PFV-NMLZ:S/A-ANTICAUS:break
pɯ-nnɯ-ŋu,] [*pɯ-kɯ-ɣɤtsɯr* ***pɯ-nnɯ-ŋu,***] *qʰe,*
PST.IPFV-AUTO-be PFV-NMLZ:S/A-crack PST.IPFV-AUTO-be LNK
[*qajɯ kɯ tu-ndze* ***pɯ-nnɯ-ŋu,***] [*nɯ fse*
bug ERG IPFV-eat[III] PST.IPFV-AUTO-be DEM be.like:FACT
tu-kɯ-mŋɤm ***pɯ-nnɯ-ŋu,***] *nɯnɯ kɯ wuma ʑo nɯsmɤn.*
IPFV-NMLZ:S/A-hurt PST.IPFV-AUTO-be DEM ERG very EMPH heal:FACT
Whether one's tooth is broken, cracked, whether one has a decayed tooth or whether it simply hurts, he (a particular dentist) treats it very well. (Toothache, 133)

This type of construction is related to, but different from, the complement clauses expressing an alternative between two possibilities, as in (93).

Here there is no apodosis, and the first two clauses are treated as the P argument of the verb *mɤxsi*.

(93) [[*nɯ ra pɯ-nnɯ-ŋu*] [*pɯ-nnɯ-maʁ*]] *mɤxsi ri*
DEM PL PST.IPFV-AUTO-be PST.IPFV-AUTO-not.be GENR:A:NEG:know LNK
I don't know whether this is true or not, (*kʰɯli*, 60)

Another way of forming alternative concessive conditionals in Japhug is to use the polar interrogative sentence-final particle *ɕi*, as in (94) and (95).

(94) [*nɯŋa ŋu*] *ɕi, mbro ŋu ma, pjɯ-nɤndɤɣ*
cow be:FACT INTRG horse be:FACT LNK IPFV-be.poisoned
ɲɯ-ŋgrɤl
TESTIM-be.usually.the.case
Whether it is a cow or a horse, they get poisoned. (bat, 19)

(95) [*tɕʰorzi kɯ-wxti ra*] *ɕi,*
alcohol.jar NMLZ:S/A-be.big have.to:FACT INTERRG
kɯ-xtɕi ra ɕi tɕʰi ɣɯ
NMLZ:S/A-be.small have.to:FACT INTERRG what GEN
kɯ-fse, nɤki, ɯ-tsʰɯɣa nɯ tu-βze
NMLZ:S/A-be.like this 3SG.POSS-shape DEM IPFV-make[III]
ra nɤ nɯnɯ ʁjɯtpa ɣɤʑu
have.to:FACT LNK DEM idea exist:SENSORY

ʗti *tɕe, tɕe* *nɯ* *tu-βze* *qʰe,*
be.AFFIRMATIVE:FACT LNK LNK DEM IPFV-make[III] LNK
Whether one needs a big jar or a small one, whatever the shape he needs to make, he has a clear idea in his heart and makes it. (Potter, 14)

3.3.4 *Scalar concessive conditional*

Scalar concessive conditionals express that regardless of whether or not the condition in the protasis is fulfilled, the event/situation in the apodosis will be true, as in English 'even if' or ' even when'.

In Japhug, to express this meaning, it is possible to use the past imperfective in combination with the autobenefactive in the protasis as in alternative concessive conditionals, but followed by *kɯnɤ* 'also, too', as in (96).

(96) *nɯ* *li* *ɯ-qa* *ɲɯ-βze* *ɲɯ-ʗti* *ma*
DEM again 3SG.POSS-foot IPFV-do[III] TESTIM-be:AFFIRM LNK
[*ɯ-mɯntoʁ* *pɯ-nnɯ-tu*] *kɯnɤ, ɯ-rɣi* *ra*
3SG.POSS-flower PST.IPFV-AUTO-exist also 3SG.POSS-seed PL
kɤ-mto *maŋe.*
INF-see not.exist:SENSORY
This one also grows by its root, as even if it has flowers, (I) have never seen its seeds. (*paʁtsa rna*, 155)

Multiple protases are also attested for this construction, as in example (97).

(97) [*tɯ-ci* *pɯ-nnɯ-dɤn,*] [*zɯm*
INDEF.POSS-water PST.IPFV-AUTO-be.many bucket
pɯ-nnɯ-rʑi] *kɯnɤ, tɯ-mtʰɤɣ*
PST.IPFV-AUTO-heavy also INDEF.POSS-waist
mɯ-pa-ɕɯ-mŋɤm
NEG-PST.IPFV:3→3-CAUS-hurt
(this way), even when there was a lot of water, even when the bucket was very heavy, it would not hurt one's waist. (*zgri*, 188)

Alternatively, we also find cases where the verb in the protasis does not receive any special morphological marking, as in (98).

(98) [*cʰú-wɣ-nɯβlɯ*] *kɯnɤ, tu-nɯt* *ʁo* *ŋu*
IPFV-INV-burn also IPFV-be.ignited CONTRAST:FOC be:FACT
ri, *ɯ-ʁrɤt* *nɯ* *ɲaʁ* *ʑo* *qʰe, maka*
LNK 3SG.POSS-charcoal DEM be.black:FACT EMPH LNK at.all
ɲɯ-ɣɤ-mpje *mɤ-cʰa.*
IPFV-CAUS-be.warm[III] NEG-can:FACT
Even when one burns it, although it does ignite, its charcoal is black and it does not warm anything. (*tʰɤwum*, 8–10)

3.3.5 *Counterfactual*

Counterfactuals express the meaning that, had the condition in the protasis been verified (which it has not), the event in the apodosis would have occurred.

There are several constructions in Japhug to express counterfactual meaning. It is possible to use the same construction as that of real conditionals, as in (99).

(99) [*kɯ-ngo nɯ smɤmba kɯ*
NMLZ:S/A-be.sick DEM doctor ERG
mɯ~mɤ-ɕ-ta-nɯsmɤn] *nɤ, si ɕti.*
COND~NEG-TRANSLOC-PFV:3→3'-treat LNK die:FACT be.AFFIRMATIVE:FACT
If the doctor had not gone to treat the patient, he would have died (elicitation).

Alternatively, there is another construction with the verb in the apodosis in the past imperfective with the prefix *pɯ-*, as in (100).

(100) [*smɤn ʑa tsa tu-ndze-a* ***a-pɯ-ŋɯ***] *tɕe*
medicine early a.little IPFV-eat[III]-1SG IRR-IPFV-be LNK
mɯ-pɯ-ngo-a
NEG-PST.IPFV-be.sick-1SG
If I had taken my medicine earlier, I would not have gotten sick. (elicited)

While dynamic verbs do not appear in the past imperfective in independent clauses, they do in the apodosis of this counterfactual construction. This phenomenon is detectable only for verbs whose intrinsic directional prefix is not the 'down' direction (see Section 2.1.1). For instance, the verb *rpu* 'bump into' receives the *kɤ-* 'toward east' direction marker when used in meaning 'bump one' head'.

(101) *nɤ-kʰa lɤ-ɣe-a ri, a-ku*
2SG.POSS-house PFV:UPSTREAM-come[II]-1SG LNK 1SG.POSS-head
kɤ-nɯ-rpu-t-a
PFV-AUTO-bump.into-PST:TR-1SG
When I came to your house, I bumped my head. (elicitation based on real events)

Used in the apodosis of the counterfactual as in (102) however, we find the 'down' prefix *pɯ-* instead of *kɤ-*, indicating that this is a past imperfective, not a perfective form.

(102) *nɤ-kʰa lɤ-ɣe-a ri, [a-ku*
2SG.POSS-house PFV:UPSTREAM-come[II]-1SG LNK 1SG.POSS-head
pjɯ-pʰaβ-a ***a-pɯ-ŋɯ***] *tɕe*
IPFV-lower-1SG IRR-PST.IPFV-be LNK

mɯ-pɯ-nɯ-rpu-t-a.
NEG-PST.IPFV-AUTO-bump.into-PST:TR-1SG
When I came to your house, if I had lowered my head, I would not have bumped it. (elicitation)

3.3.6 *Hypothetical*

Hypothetical conditionals refer to a future hypothetical situation, unlike counterfactuals which refer to a potential situation in the past which did not occur. It can also express the hypothetical nature of the causal relation between the two events. This construction differs from all other conditionals in that the verb of the apodosis is in the irrealis as in (103).

(103) *aʑo a-sɯm tɕe, nɯ-ʁrɯ ʑo ɣʏʑu*
1SG 1SG.POSS-thought LNK 3SG.POSS-horn EMPH exist:SENSORY
ɕti tɕe [kɯ-dɯ~dʏn kɯ
be.AFFIRMATIVE:FACT LNK NMLZ:S/A-EMPH~be.many ERG
a-kʏ-nɯtsʰɣβ-nɯ] tɕe [a-tʏ-tɕʰɯ-nɯ] tɕe,
IRR-PFV-attack.together-PL LNK IRR-PFV-gore-PL LNK
a-pɯ-sat-nɯ kɯ ɲɯ-sɯsam-a ri nɯ ra
IRR-PFV-kill-PL HYPOTHETICAL IPFV-think[III]-1SG LNK DEM PL
múj-stu-nɯ
NEG:TESTIM-do.like-PL
In my opinion, they have horns, I think that if they attacked together and gored the leopards, they would kill them, but they don't do that. Instead… (Wild yak, 60–3)

Example (104) illustrates a hypothetical conditional (with both the verb in the protasis and the apodosis in the irrealis) followed by a predictive conditional.

(104) [***a-pɯ-tɯ-cʰa***] *nʏ, nɯ*
IRR-PST.IPFV-2-can LNK DEM
a-tʰɯ-tɯ-sɯ-jɣʏt ra ma
IRR-PFV:DOWNSTR-2-CAUS-turn.around have.to:FACT otherwise
[*nɯ* ***ɯ-mʏ-pɯ-tɯ-cʰa***] *qʰe tɕe aʑo*
DEM INTERROG-NEG-PST.IPFV-2-can LNK LNK 1SG
mɤ́-wɣ-sɯɣ-cʰa-a
NEG-INV-CAUS-can:FACT-1SG
If you are strong enough, you will have to cause him to go back, otherwise if you are not able to do that, I will be unable (to retrieve the water). (Stealing the water1, 40)

It is also possible to have a non-irrealis verb in the protasis, with a reduplicated first syllable as in (105), even in the case of very speculative conjectures.

(105) [*nɤʑo ʐɯʁndza kɤ-lɤt* ***pɯ~pɯ-tɯ-βʑɤt***] *nɤ,*
2SG banquet INF-throw COND~PFV-2-obtain LNK
nɤ-ʐɯʁndza ɣɯ ɯ-smɤt ɯ-rkɯ tɕu
2SG.POSS-banquet GEN 3SG.POSS-lower.side 3SG.POSS-side LOC
aʑo a-jɤ-zɣɯt-a smulɤm
1SG IRR-PFV-reach-1SG prayer
If you succeed (in becoming rich and) organizing a banquet, may it be that I will arrive there at the rear of your banquet. (Raven4, 114)

4. Consequence

In Consequence clause linkings, one clause expresses the cause and the other one its effect. However, while in some constructions the subordinate clause corresponds to the cause and the main clause to the effect, the opposite situation is also attested.

Dixon (2009: 17, 44) distinguishes three subtypes (Cause, Result and Purpose), but we collapse here the first two categories for ease of presentation. Table 9 summarizes the attested constructions.

Table 9. Consequence linking constructions

Clause linking type	Construction
Cause / result	SC with linker *matɕi* or *ma* 'because' MC with linker *núndʐa* 'for this reason'
Purpose	**Purposive converb** in the SC linker *ɯtɕʰɯβ* 'in order to' in the SC
Possible consequence	linker *ma* + verb in factual form in the MC subordinate clause with the verb *suso* 'think' expressing the consequence

4.1 Cause-Result

There are two main constructions in Japhug explicitly expressing a causal relationship between two clauses.

The most common construction involves the linker *matɕi* 'because', which is prosodically associated with the clause expressing the cause. The placement of the

linker is the evidence for considering this clause to be subordinate and the clause expressing the result to be the main clause.[16]

This construction can be used to express strong causality as in (106) or (107).

(106) *tɕe nɯnɯ tú-wɣ-ɣɯɕkat tɕe* [*ɯ-sno ɣú-ta*
LNK DEM IPFV-INV-pack.on LNK 3SG.POSS-saddle INV-put:FACT
múj-ra] ***matɕi,*** *ɯ-βri nɯ tɕu*
NEG:TESTIM:have.to because 3SG.POSS-body DEM LOC
tɤ-sno ku-fse ɣɤ<nɯ>ʑu
INDEF.POSS-body NMLZ:S/A-be.like <AUTO>exist:SENSORY
ɕti tɕe,
be.ASSERTIVE:FACT LNK
When one puts packs on (camels), there is no need to put a saddle, because they already have something like a saddle on their body. (Camel, 210)

(107) [*paʁ ɣɯ ɯ-ɣli dɤn*] ***matɕi,***
pig GEN 3SG.POSS-manure be.many:FACT because
mɤ-ndze ʑo me qʰe ɯ-ɣli dɤn
NEG-eat[III]:FACT EMPH not.exist:FACT LNK 3SG.POSS-manure be.many:FACT
Pigs have a lot of manure, because they eat anything, so they have a lot of manure. (Pig, 101)

One finds it also in examples such as (108) or (109), where there is no necessary causal implication between the event/situation of the subordinate clause and that of the main clause.

(108) [*mɯ-to-kʰɯ*] *qʰe* ***matɕi,*** *tɯmɯ kɯ-ɤrŋi*
NEG-EVD-agree LNK because sky NMLZ:S/A-blue
ɯ-me pjɤ-ɕti-nɯ tɕe
3SG.POSS-daughter EVD.IPFV-be:ASSERTIVE-PL LNK
She did not agree, as they were daughters of the heavens, (Flood3, 60)

(109) [*wuma ʑo pjɤ-sɤscit*] ***matɕi*** *kɤndzɤtsʰi ri*
very EMPH EVD.IPFV-nice because food also
pjɤ-dɤn, tɕe kɤ-nɤʁaʁ ri ʁɲa ʑo
EVD.IPFV-many LNK INF-have.a.good.time also entirely EMPH
pjɤ-ɕti
EVD.IPFV-be:ASSERTIVE
It was very nice, as there was a lot of food and they were having a good time all the time. (Flood3, 87)

16. This is a case where Dixon's terms 'supporting' vs 'focal' clause may be more appropriate, but we keep the traditional terminology for consistency.

A variant of this construction with the linker *ma* is also attested as in (110). Unlike *matɕi*, this linker presents many other uses (in particular, possible consequence (4.3)).

(110) *tɕendɤre aʁɤnduɯndɤt ʐo ɕ-tu-nɤrɣama-nɯ ri*
LNK everywhere EMPH TRANSLOC-IPFV-pray.for.rain-PL LNK
[*kɯ-pʰɤn pjɤ-me*] ***ma*** *ʐuβdaʁ nɯ*
NMLZ:S/A-efficient EVD.IPFV-not.exist because mountain.god DEM
ra tɯ-ci ɯ-kɯ-ɤro pjɤ-me
PL INDEF.POSS-water 3SG-NMLZ:S/A-possess EVD.IPFV-not.exist
People went everywhere to pray for water, but it was for nothing, because none of the mountain gods had water. (Kamnyu mountains1, 17)

An alternative construction expressing a causal relationship between two clauses is built by using the noun *ndʐa* 'reason' or its derived form *núndʐa* 'for this reason' in the main clause. The adverb *núndʐa*can appear either between the subordinate and the main clause (as in (111)) or after it (as in (112)). It is used to focalize the causal relationship between the events/ situations of the two clauses.

(111) [*tɕe ɯ-mtɯ ɣɤʐu*] *tɕe, tɕe* ***núndʐa***
LNK 3SG.POSS-crest SENSORY:exist LNK LNK for.this.reason
qapɣɤmtɯmtɯ tu-ti-nɯ ɲɯ-ŋu
hoopoe IPFV-say-PL TESTIM-be
It has a crest, and this is the reason why it is called 'hoopoe'. (Hoopoe, 20)

(112) *kʰu nɯ sqamnɯ-xpa mɯ-tɤ-tsu mɤɕtʂa mɤ-rɤpɯ*
tiger DEM fifteen-year NEG-PFV-reach until NEG-bear.young:FACT
tu-ti-nɯ ɲɯ-ŋu tɕe, tɕe ***núndʐa*** *nɯ, kʰu nɯ*
IPFV-say-PL TESTIM-be LNK LNK for.this.reason DEM tiger DEM
ɲɯ-rkɯn. kʰu nɯ ɲɯ-rkɯn tɕe ***núndʐa***
TESTIM-be.rare tiger DEM TESTIM-be.rare LNK for.this.reason
ɲɯ-ŋu tu-ti-nɯ ɲɯ-ŋu
TESTIM-be IPFV-say-PL TESTIM-be
They say that the tiger does not bear young until it has reached fifteen years, and for this reason tigers are rare. Tigers are rare for this reason, they say. (Mule 46)

In answer to questions, it is common for the main clause to be elided and to only have the subordinate clause with the markers *ndʐa* or *núndʐa*, as in (113).[17]

(113) *maʁ ɲɯ-ɣɤkʰɯ ndʐa ɕti*

17. This is the response to the question *a-tɤ-ɕime, tɕʰi ku-tɯ-ɣɤwu? mɤ-kɯ-pe ɣɤʐu uβrɤŋu?* 'My lady, why are you crying? Are you feeling unwell?'

not.be:FACT TESTIM-be.smoky reason be:ASSERTIVE:FACT
No, (I am crying) because there is smoke. (The three sisters, 222)

4.2 Purpose

Purposive clause linking, unlike the previous constructions, indicates that the causal relationship between the two clauses is intentional. There are two main constructions in Japhug expressing this meaning: the purposive converb and the linker *ɯtɕʰɯβ* 'in order to'.[18] In Japhug, as in most languages, the semantic relationship between the main and the subordinate clause is the opposite of that of other consequence linkings: the cause is expressed in the main clause (which corresponds to Dixon's 'supporting clause' in this case) and the effect in the subordinate clause (the 'focal clause').

The purposive converb marking the verb of the subordinate clause (the purpose of the action described in the subordinate clause), is formed by combining a possessive prefix, an imperfective prefix, the prefix *sɤ-*/*sɤz-*/*z-* and a reduplicated form of the verb. The imperfective prefix is sometimes elided (114), and there are examples of the purposive converb without reduplication (115).

When the arguments of the subordinate and the main clause are coreferent, the subordinate clause with purposive converb can be embedded within the main clause as an adjunct as in (115).

(114) [*kɯ-lɤɣ acɤβ nɯ kɯ* ***ɯ-mɤ-sɤ-jmɯ~jmɯt***,]
NMLZ:S/A-herd Askyabs DEM ERG 3SG-NEG-PURP:CONV-forget
ɯ-pʰɯŋgɯ nɯ tɕu rdɤstaʁ-puɯpɯ tɕʰɯrdu ci
3SG.POSS-inside.clothes DEM LOC stone-little pebble INDEF
ɲɤ-rku,
EVD-put.in
The cowboy Askyabs put a little pebble inside his clothes so that he would not forget it. (Frogs, 166)

Alternatively, it can occur before the main clause as in (115) or after it (120b).

(115) *tɕe nɯ ɯ-pa nɯnɯ li kʰɤxtu nɯnɯ,*
LNK DEM 3SG.POSS-under DEM again platform DEM
tɯ-ci, tuftsaʁ kɯ pjɯ-sɯ-spoʁ
INDEF.POSS-water leaking.water ERG IPFV-CAUS-have.a.hole
ŋgrɤl tɕe, tɕe
be.usually.the.case:FACT LNK LNK

18. The purposive clause of motion verbs will not be treated here (see Jacques (2013a) for more details).

[***ɯ-mɤ-pjɯ-sɤ-sɯ-spoʁ,***] *nɯnɯ tɕu* […]
3SG-NEG-IPFV-CONV:PURP-CAUS-have.a.hole DEM LOC […]
cɯpa ku-fse ɲuí-wɣ-ta tɕe,
flat.stone NMLZ:S/A-be.like IPFV-INV-put LNK
Under the top platform, the water, the leaking water can leak through (the roof), and in order to prevent it from leaking through, people put flat stones there. (Water jar, 11)

In the case of transitive verbs, the possessive prefix can refer either to the agent (as in 116) or the patient (117).

(116) *maʁ ma* [***a-mɤ-ɲɯ-sɤ-jmɯ~jmɯt***]
not.be:FACT because 1SG-NEG-IPFV-CONV:PURP-forget
nɯ-rku-t-a ɕti ma
PFV-put.in-PST:TR-1SG be:AFFIRMATIVE:FACT because
No, I put it there so that I would not forget (to tell you). (Frogs, 172)

In (117), it would alternatively be possible to use the first singular form of the purposive converb *a-mɤ-tu-sɤ-rpɯ-rpu* without changing the meaning.

(117) *kɯm ɲɯ-mbɤr tɕe,* [*a-ku*
door TESTIM-low LNK 1SG.POSS-head
ɯ-mɤ-tu-sɤ-rpɯ~rpu] *pɯ-pʰaβ-a*
3SG-NEG-IPFV-CONV:PURP-bump PFV-lower-1SG
As the door is low, I lowered my head so as not to bump it.

Although all examples of the converb in our corpus are negative, it is possible to elicit affirmative forms as in (118) without restriction.

(118) *fso tɕe* [***a-tu-sɤ-nɯmtɕɯ~mtɕi,***] *ʑa*
tomorrow LNK 1SG-IPFV-CONV:PURP-get.up.early early
ku-nɯ-rŋgɯ-a ra
IPFV-AUTO-lie.down-1SG have.to:FACT
In order to get up early tomorrow, I have to go to bed soon. (elicited)

An alternative way of expressing purposive meaning is to use the linker *ɯtɕʰɯβ* 'in order to' after the purposive clause. The verb can be either in a finite form or in the infinitive. Thus, the main clause in (119d) can be preceded by any of (a)–(c). This construction is extremely rare in the corpus (only one example was found).

(119) a. *mɤ-kɤ-nɤndʑo ɯtɕʰɯβ, /*
IRR-NEG-PFV-2-feel.cold in.order.to
b. *a-mɤ-nɯ-tɯ-nɤndʑo ɯtɕʰɯβ, /*
IRR-NEG-PFV-2-feel.cold in.order.to

c. *nɤ-mɤ-ɲɯ-sɤ-nɤndʑɯ~ndʑo,* /
2SG-NEG-IPFV-CONV:PURP-feel.cold

d. *tɯ-ŋga* *kɯ-jaʁ* *tsa* *tɤ-ŋge*
INDEF.POSS-clothes NMLZ:S/A-thick A.little IMP-wear[III]
Wear thick clothes, so that you don't get cold. (elicitation)

The reverse order between main and subordinate clauses is also attested, as illustrated by (120b) and (120c), which follow the same main clause (120a).

(120) a. *tɯ-ŋga* *kɯ-jaʁ* *tsa* *tɤ-ŋge* *tɕe*
INDEF.POSS-clothes NMLZ:S/A-thick A.little IMP-wear[III] LNK

b. *a-mɤ-nɯ-tɯ-nɤndʑo* ***ɯtɕʰɯβ*** *a-pɯ-ŋu*
IRR-NEG-PFV-2-feel.cold in.order.to IRR-IPFV-be

c. ***nɤ-mɤ-ɲɯ-sɤ-nɤndʑɯ~ndʑo*** *a-pɯ-ŋu*
2SG-NEG-IPFV-CONV:PURP-feel.cold IRR-IPFV-be
Wear thick clothes, so that you don't get cold. (elicitation)

This construction is used in particular for expressing contrastive focus in the purposive clause.

4.3 Possible consequence

Possible consequence is a type of clause linking expressing that the event in one clause should be undertaken in order to prevent that of the other clause to take place, as the latter is viewed as an unfavourable result.

There is no dedicated construction expressing possible consequence in Japhug. The linker *ma* is used with a verb in the irrealis (121), imperative (122, 124) or other TAM categories (123) in the subordinate clause and a verb in the factual in the main clause (expressing the unfavourable result). The adverb *tʰa* or its variant *tɕetʰa* 'later, in a moment' often appear in the main clause of possible consequence linking (123, 124, 128).

(121) [*tuɤrme ra kɯ a-mɤ-tɤ-ndo-nɯ]* ***ma***
people PL ERG IRR-NEG-PFV-take-PL LNK
ɣɯ-z-nɤndɤɣ-nɯ
INV-CAUS-be.poisoned:FACT-PL
People should not touch it, otherwise they would get poisoned. (False matsutake, 26)

(122) [*tɤ-ruɤndzaŋspa*] ***ma*** *tɯ-atɤr*
IMP-be.careful LNK 2-fall.down:FACT
Be careful not to fall down. (conversation, 2010)

(123) [*tɕʰi cʰɯ-tɯ-nɤŋkɯŋke ŋu*] ***ma*** *tʰa*
what IPFV:DOWNSTREAM-2-walk.around be:FACT LNK in.a.moment
βdɯt kɯ tú-wɣ-ndza
demon ERG 2-INV-eat:FACT
Why are you walking around (you should not be walking around), the demon will eat you. (The demon, 92–3)

(124) [*nɯ kʰramba ma-tɤ-βze-a ra*] ***ma*** *tɕe*
DEM lie NEG-IMP-make[III]-1SG have.to:FACT LNK LNK
<lishi> <jizai> *pjɯ-tɯ-βze ɕti* ***tɕetʰa***
history record IPFV-2-make[III] be:AFFIRMATIVE:FACT later
<zuzubeibei> *kɯ ɣɯ-nɤmqe-a-nɯ.*
generations ERG INV-scold:FACT-1SG-PL
I cannot tell lies, as you are making a historical record, and previous and future generations would scold me. (*kikakɕi*, 217)

The phrase *ma mɤ-jɤɣ* 'otherwise it is not possible', although syntactically a particular case of this construction, has a specific modal meaning 'must', as in example (125).

(125) [*nɤʑo pɯ-łoʁ*] *ma mɤ-jɤɣ,*
you PFV:DOWN-come.out LNK NEG-be.possible:FACT
[*a-kʰa ma-tɯ-rɤʑi*] *ma mɤ-jɤɣ*
2SG.POSS-house NEG:IMP-2-stay LNK NEG-be.possible:FACT
You have to leave, you cannot stay in my house. (Raven4, 21–2)

The phrases *nɯ mɤɕtʂa* 'until that' (= 'otherwise') or *nɯ ma* 'apart from that' or *nɯ maʁ nɤ* 'otherwise' can also appear in addition to the linker *ma* in possible consequence linking (examples (126), (127), (128)). The form *nɯ maʁ nɤ* (DEM not.be:FACT LNK), which is originally the protasis of conditional linking meaning 'if it is not that', is very similar to an equivalent structure in Kham (Watters 2009: 112)

(126) [*koŋla ʑo tɯ-jaʁ tɯ-xɕɤt tsa*
really EMPH INDEF.POSS-hand INDEF.POSS-strength a.little
ɣú-lɤt ra] ***ma nɯ mɤɕtʂa*** *kɤ-pʰɯt*
INV-throw:FACT have.to:FACT LNK DEM until INF-take.out
mɤ-sɤ-cʰa
NEG-DEEXPERIENCER-can:FACT
One has to exert all of one's strength with one's hand, otherwise it is not possible to pull it out. (*stoʁtsa*, 150)

(127) *kʰa tɕe lulu kɯ tu-ndze ŋu tɕe,* [*nɯ kɯ*
house LNK cat ERG IPFV-eat[II] be:FACT LNK DEM ERG

ɲɯ-ɣʏme ʗti] ***ma nɯ maʁ nʏ***
IPFV-destroy be.AFFIRMATIVE:FACT LNK DEM not.be:FACT LNK
βʐɯ rcanɯ tɯrme ɯ-taʁ mʏʐɯ ʁnʏt,
mouse TOP:EMPH people 3SG-on more be.harmful:FACT
In the house, the cats eat them, they destroy them, otherwise the mice are harmful to people. (The mice, 165)

(128) *kʏ-rʏrɟit ʐatsa mda tʏ-ŋu tɕe, tɕʰeme nɯ*
INF-have.a.child soon be.the.time:FACT PFV-be LNK woman DEM
kʰro tu-kɯ-rʏrma tɕe [<huodong> *tú-wɣ-βzu*
a.lot IPFV-GENR:S/P-work LNK activity IPFV-INV-make
ra] ***ma nɯ maʁ nʏ tɕetʰa*** *tʏpʏtso*
have.to:FACT LNK textscdem not.be:FACT LNK later child
kʏ-sci ɴqa tu-ti-nɯ ŋgrʏl.
INF-be.born be.difficult:FACT IPFV-say-PL be.usually.the.case:FACT
When they are about to have a child, women have to work a lot and be active, otherwise childbirth is difficult, they say. (Conversation, Chenzhen.)

Another construction attested for possible consequence involves a clause with ergative (similar to the Manner linking) of the verb *suso* 'to think'. It can be a finite verb as (129) or the infinitive *kʏ-suso* as in (130) and (131), but in both cases it takes a finite complement clause. In this case the subordinate clause expresses the unfavourable result.

There is necessary coreference between the A of the infinitival clause and the S/A of the main clause, but not with the complement clause of the *kʏ-suso*.

Constructions involving reported speech are also attested in the possible consequence clause linking of Galo and Kham (Post 2009: 86, 88 and Watters 2009: 110), but their semantics are quite different from this construction.

(129) [*a-mi nɯnɯ a-tʏ-mna ɲɯ-susam-a*] *tɕe,*
1SG.POSS-foot DEM IRR-PFV-feel.better IPFV-think[III]-1SG LNK
nɯ ra ku-z-nusman-a ŋu.
DEM PL PRES-CAUS-treat-1SG be:FACT
I would like my feet to feel better, and so I treat them with (these medicine). (conversation, 2013)

(130) [*nɯɕe*] *kʏ-suso kɯ, ɯ-mbro nɯnɯ taqaβ*
go.back:FACT INF-think ERG 3SG.POSS-horse DEM needle
cʰʏ-z-nutɕʰaʁ-nɯ, ɯ-kʰuna nɯ rkorsa ɯ-pa
EVD-CAUS-eat-PL 3SG.POSS-dog DEM toilet 3SG.POSS-down
lo-ja-nɯ
EVD-pen-PL

Thinking that he (was about to) go back, they fed his horse with needles and penned his dog in the toilets. (Gesar 250–1)

An interesting aspect of the complement clause embedded within the infinitival clause is the fact that, it reflects in some cases hybrid reported speech (on this concept see Tournadre 2008 and Aikhenvald 2008).

(131) *nɤ-wa ku [nʑo nuɣi] kɤ-suso ku kʰa*
2SG.POSS-father ERG 2SG come.back:FACT INF-think ERG house
ɯ-rkɯ ʁmaʁ χsɯ-tɤxɯr pa-sɯ-lɤt
3SG.POSS-side soldier three-circle PFV:3→3′-CAUS-throw
ʨti tɕe
be.AFFIRMATIVE:FACT LNK
Your father, thinking that you would come back, put three circles of soldiers around the house. (The fox, 154)

In (131), there are three referents involved, the father (A), the addressee (B) and the speaker (C). We see that the verb *nuɣi* 'he will come back' is in third person singular form and reflects the point of view of referent A, while the overt pronoun *nʑo* '2sg' reflects the addressee. This mismatch could be paraphrased in English as 'thinking of you 'he will come back'…'. Despite the agreement mismatch, [*nʑo nuɣi*] can be assumed to be monoclausal and to form a single constituent for two reasons. First, in this example as well as all examples exhibiting hybrid reported speech in the corpus, there is no pause between the noun phrase or pronoun and the verb form. Second, the noun phrase / pronoun can only appear in the same position as it would have in an independent clause, and no extraposition is possible.

Although Japhug does have an apprehensive marker (see example (154)), unlike Aguaruna this form is not used in Possible Conquence linkings (compare with Overall 2009: 187).

5. Addition

The Addition clause linkings are defined negatively in Dixon (2009: 26) as all those which cannot be included in the other categories that he distinguishes. In Japhug, there are specific constructions expressing the meanings associated with several categories of addition clause linkings, in particular Elaboration and Contrast. Moreover, as in Kham (Watters 2009: 113), we find an 'alternating actions' clause linking.

As shown in Table 10, no addition clause linking construction involves converbs.

Table 10. Addition linking constructions

Clause linking type	**Construction**
Unordered addition	Parataxis
	Coordination with *tɕe*
Elaboration	Parataxis
	Comitative postposition *cʰo*
	Correlative linkers *tɕi* or *ri* in both clauses
Alternating actions	verb + *nɤ* + verb
Contrast	Parataxis
	Contrastive linker *ri*
	Contrastive focalizers *ʁo* and *ndɤre*
	Adversative linker *mɤ́ɣrɤz*'instead'
	Linker *laʁma* 'only, just' at the end of the MC
	Linker *jinbala* 'altough'

5.1 Unordered addition

The Unordered Addition linkings describe two distinct events that are related but for which neither a temporal sequence nor a causal relationship can be assumed.

In Japhug, this type of minimal semantic link between two clauses is expressed by using two finite clauses with the linkers *tɕe* and *tɕendɤre* as in (132). Unlike the temporal succession linking (3.1), unordered addition is not expressed by the linker *qʰe*, which always implies a temporal order between two events.

(132) *ʑara χsum ma pjɤ-me-nɯ tɕe tɕendɤre*
they three apart.from EVD.IPFV-not.exist-PL LNK LNK
nɯ-nɯŋa ci pjɤ-tu.
3PL.POSS-COW INDEF EVD.IPFV-exist
They were only three (brothers), and had a cow. (The flood3, 3)

5.2 Elaboration

In the Elaboration clause linking, the second clause provides addition information on the event or situation described in the first clause. In Japhug, we observe two distinct constructions depending on the locus of the additional information (predicate vs arguments).

When the additional information is on the predicate, the Elaboration linking is expressed by two constructions. First, simple parataxis, with optional pause between the two predicates, can convey this meaning as in (133).

(133) *ɯ-pʰoŋbu ra ɲɯ-wxti, ɲɯ-tsʰu ʑo.*
3SG.POSS-body PL TESTIM-big TESTIM-fat EMPH
Its body is big and fat. (Bees, 12)

Second, the comitative postposition *cʰo* or its compound form *cʰondɤre* can be used to link the two clauses. The syntactic structure of this clause linking, despite superficial resemblance to the Unordered Addition, is quite different: whereas the linkers *tɕe* and *qʰe* are not syntactically anchored either in the clause preceding or following it (see (2.4)), *cʰo* is actually the syntactic head of the clause preceding it. The elaboration linking is thus not a flat syntactic structure.

Example (134) illustrates the use of *cʰo* in elaboration clause linking, connecting two finite clauses with stative verbs sharing the same S without any overt noun phrase.

(134) *qambrɯ ɯ-rme ɲɯ-fse qʰe, ɲɯ-dɤn*
yak 3SG.POSS-hair TESTIM-be.like LNK TESTIM-be.many
cʰo *ɲɯ-rɲɟi.*
COMIT TESTIM-be.long
(The camel's hairs) are like that of the yak, there are many and they are long. (Camel, 77)

(135) *nɯnɯ ɯ-mdzu rcanɯ, wuma ʑo mtɕoʁ*
DEM 3SG.POSS-thorn TOP.EMPH really EMPH be.sharp:FACT
cʰondɤre *χɕu*
COMIT be.hard:FACT
As for its thorns, they are very sharp and hard. (NGolo, 2)

Although in most examples one of the clauses is limited to a verb, this is not necessarily the case, as shown by examples (136) and (137).

(136) *nɯ ma tɕʰi sna* ***cʰo*** *tɕʰi cʰa ra mɤxsi*
DEM apart.from what be.good:FACT COMIT what can:FACT PL NEG:GENR:know
Apart from that, I don't know what it is good for and what it can do. (little leech, 153)

Clause linkings in *cʰo* can occur as protasis of a conditional linking. In this case, each of the conditions expressed by a distinct clause in the protasis must be fulfilled for the event in the apodosis to take place, as in (137).

(137) *tɕe nɯ ɯ-rɣi a-mɤ-pɯ-ɕe ra*
LNK DEM 3SG.POSS-grain IRR-NEG-PFV:down-go have.to:FACT
ma pjɯ-tsɣi mɤ-cʰa tɕe tɕendʐre [*a-nɯ-ʐci*
LNK IPFV-be.rotten NEG-can:FACT LNK LNK IRR-PFV-get.wet
ʑo qʰe ***cʰo*** *ftɕar a-kɤ-ndzoʁ ʑo qʰe*] *li*
EMPH LNK COMIT summer IRR-PFV-be.attached EMPH LNK again
tu-ɬoʁ ɕti
IPFV-come.out be.AFFIRMATIVE:FACT
One should not let its grains go into (the ground), because they cannot rot, and when they get wet and spring comes, they grow again. (Rye, 46–7)

On the other hand, when the additional information is on the arguments, the correlative linkers *tɕi* and *ri* 'also' are used. This construction is used either when the predicates are identical in all clauses in the linking (139) or belong to the same semantic field (138, 140).

(138) *ɕa tɕi ɲɯ-ndze, ɕʐci* ***tɕi*** *ɲɯ-tsʰi*
meat also TESTIM-eat[III] meat.stew also TESTIM-drink
tɤ-lu ta-mar ***tɕi*** *ɲɯ-ndze*
INDEF.POSS-milk INDEF.POSS-butter also TESTIM-eat[III]
(Pigs) eat meat, drink meat stew, and also eat butter. (Pigs, 29–30)

(139) *cʏmɯ nɯnɯ ɯ-ʁrɯ* ***tɕi*** *me,*
female.muskdeer DEM 3SG.POSS-horn also not.exist:FACT
ɯ-ndzɣi ***tɕi*** *me.*
3SG.POSS-tusk also not.exist:FACT
The female musk deer has neither horns nor tusks. (muskdeer, 34)

(140) *nɯnɯ ɯ-pʰɯ* ***ri*** *kɯ-wxti ɯʑo* ***ri***
DEM 3SG.POSS-price also NMLZ:S/A-be.big 3SG also
kɯ-sna ŋu.
NMLZ:S/A-be.worthy be:FACT
That one (silver) is expensive and precious. (Metals, 191)

The correlative linker *ri* found in (140) must be distinguished from the phrasal adversative linker *ri* used in Contrast linking (Section 5.4).

5.3 Alternating or repeated actions

In order to express two actions occurring one after the other repeatedly, we find finite verb forms with the linker *nɤ*, as in (141).

(141) *tɕʰeme nɯnɯ tɕe kʰʏxtu nɯ tɕe,* [*ku-ɕe*] ***nɤ***
girl DEM LNK platform DEM LNK IPFV:east-go LNK

ɲɯ-ɣi tɕe ɲɯ-nɤrɯra ma nɯ ma
IPFV:west-come LNK IPFV-look.around because DEM apart.from
rɤma mɯ-pjɤ-ra.
work:FACT NEG-EVD:IPFV-have.to
The girl would come and go on the platform and look around, as she did not have any work to do. (Raven4, 134)

The linker *nɤ*, used with the same verb, indicates an action that either takes a long period of time or occurs repeatedly (142).

(142) *kʰa ɣɯ ɯ-pɕi ri tu-nɯrʁɯrʁa* [*tu-ɕe*] ***nɤ***
house GEN 3SG-outside LOC IPFV-climb IPFV:UP-go LNK
tu-ɕe tɕe, nɯnɯ <wulou> <liulou> *jamar tu-zɣɯt*
IPFV:UP-go LNK DEM fifth.floor sixth.floor about IPFV:UP-reach
ɲɯ-cʰa.
TESTIM-can
It climbs on the (wall) outside of the house all the way up and can reach the fifth or sixth floors. (Slugs, 134)

Constructions with similar semantics involving nouns or ideophones are also attested (see Section 2.4).

5.4 Contrast

The Contrast linking expresses that the information contained in one clause strongly contrasts with or is unexpected in view of the other clause. Japhug has seven distinct constructions for expressing this meaning, some of which are shared with the rejection linking (6.2).

First, we find paratactic clause linkings with predicates of opposite meaning (such as *dɤn* 'many, a lot' and *rkɯn* 'few'[19] in example (143) without any overt linker, adverb or postposition marking contrast.

(143) *sɯŋgɯ tɕe dɤn tsa, kɯmaʁ nɯ ra rkɯn*
forest LNK be.many:FACT a.little other DEM PL be.few:FACT
There are a lot in the forest, fewer in other places. (*paʁtsa rna*, 133)

Second, the contrastive linkers *ri* 'but' and its compound form *tɕeri* can be used between two finite clauses. This is the most common construction used to express contrast.

19. The stative verb *rkɯn* 'be few' is often used as a euphemism for 'non-existent' in Japhug.

(144) [*tɕe kɤ-nɤre pjɤ-tɕɤt*] ***ri*** *ɯ-mqɣj* *pjɤ-tu*
LNK INF-laugh EVD-take.out LNK 3SG.POSS-scolding EVD.IPFV-exist
He made a joke, but he was scolded. (The naughty boy, 22)

(145) [*ɯʑo si wxti*] ***ri,*** *ɯ-muntoʁ* *kɯ-ndɯ~ndɯβ*
3SG tree be.big:FACT LNK 3SG.POSS-flower NMLZ:S/A-EMPH~small
ʑo ɲɯ-lɣt *ŋu*
EMPH IPFV-throw N.PST:be
It is a big tree, but it grows very small flowers. (*tʰɤwum*, 29)

Third, the contrastive focalizers *ndɤre* and *ʁo* 'on the other hand' can appear after a noun phrase or an infinitival clause to insist on a difference with a previously mentioned referent.

(146) *ʑara kɯ pɯ-kɤ-nɯ-ji* *ci* *ɣɤʑu* *tɕe, nɯ*
they ERG PFV-NMLZ:P-AUTO-plant INDEF exist:SENSORY LNK DEM
ndɤre *mújʲ-mum.*
CONTRAST:FOC NEG:TESTIM-be.tasty
There is one which is grown by people, but that one is not tasty (unlike the previous one). (Edible black mushroom 17–8)

(147) *paʁ kɯ tɕi ndze,* *nɯŋa kɯ tɕi ndze.* *tɕe* [*tɯrme*
pig ERG too eat[III]:FACT cow ERG too eat[III]:FACT LNK people
kɤ-ndza] ***ndɤre*** *mɤ-sna.*
INF-eat CONTRAST:FOC NEG-be.good:FACT
Pigs eat it, cows eat it, but it is not good for people to eat. (*tɕʰemekɤtsa* 120)

The focalizer *ʁo* differs from *ndɤre* in that it implies that the content of the sentence is self-evident (like Chinese *dào* 倒); it is often used together with the adverb *lɯski* 'of course'.

(148) *xɕiri kɤ-ti* *ci* *tu* *tɕe, nɯ* ***ʁo***
weasel NMLZ:P-say INDEF exist:FACT LNK DEM CONTRAST:FOC
kɯ-xtɕɯ~xtɕi *ci* *ɕti,* […] *βʑɯ*
NMLZ:S/A-EMPH~small INDEF be.AFFIRMATIVE:FACT […] mouse
ndɤre *mɤ-ʑɯ.* *βʑɯ sɤz ndɤre*
CONTRAST:FOC NEG-be.just:FACT mouse COMP CONTRAST:FOC
wxti *ŋu,*
be.big:FACT be:FACT
There is (an animal) called the weasel, this one on the other hand (by contrast with the wolf, which was discussed before) is small, though not as small as a mouse. It is bigger than a mouse. (Weasel, 1)

Fourth, the adversative adverb *mɤ́ɣrɤz* 'instead' (Chinese *fǎn'ér* 反而) is used to express a result contrary to expectations, as in (149).

(149) *mɤ-kɯ-mda tú-wɣ-tɕɣaʁ q^he, **mɤ́ɣrɤz***
NEG-NMLZ:S/A-be.time IPFV-INV-squeeze.out LNK instead
tɤ-se tu-łoʁ ɲɯ-ŋu.
INDEF.POSS-blood IPFV:UP-come.out TESTIM-be
If one squeezes (the pimple) too early, blood comes out instead (not pus). (Pimples, 133)

Fifth, the postposition *ma* 'apart from' between two clauses of opposite polarity is used to insist on the semantic opposition between them. It is superficially similar to the causal linker *ma* 'because', but examples such as (150) show no causal relationship between the two clauses. This construction also occurs with the Rejection linking (6.2).

(150) *tɕe [kɯ-χɕu ra ɲɯ-c^ha-nɯ] ma*
LNK NMLZ:S/A-be.strong PL TESTIM-can-PL apart.from
mɤ-kɯ-χɕu ra mújˀ-c^ha-nɯ.
NEG-NMLZ:S/A-be.strong PL NEG:TESTIM-can-PL
Those who are strong are able to do it, and those who aren't can't do it. (Parasitic larva, 22)

The linker *laʁma* 'apart from the fact that, only, just' is placed at the end of the main clause. Its meaning is slightly similar to *ma* 'apart from', but differs from it in that it adds the additional meaning that of two related events/situations, only that of the main clause is fulfilled (as in (152)). It can also indicate that the event/situation of the subordinate clause is basically true except for the minor counter evidence in the main clause (as in (151)). The main clause can either follow (151) or precede (152) the subordinate clause in this construction.

(151) *[ɯ-ku nɯ ra iɕq^ha qarts^{h}az ɯ-ku*
3SG.POSS-head DEM PL the.aforementioned deer 3SG.POSS-head
*wuma ʑo fse,] ɯ-ʁrɯ maŋe **laʁma**.*
really EMPH be.like:FACT 3SG.POSS-horn not.exist:SENSORY apart.from
Its head is like that of a deer, apart from the fact that it has no horns. (Water deer, 24)

(152) *tɕe ŋotɕu kɯ-tu nɯ ra suɪz-a **laʁma,***
LNK where NMLZ:S/A-exist DEM PL know:FACT-1SG apart.from
ju-ɕe-a muújˀ-c^ha-a.
IPFV-go-1SG NEG:TESTIM-can-1SG
I only know where they are, I cannot go there. (*ʑmbulum*, 63)

Sixth, the negative copula *maʁ* 'not be' followed by the ergative *kɯ* can be used to focus on the opposition between two predicates as in (153). The same construction also appears as a type of Rejection linking (6.2).

(153) [*kɯ-mpɕu*] ***maʁ*** ***kɯ*** *nɯ-kɯ-rʁom*
NMLZ:S/A-be.smooth not.be:FACT ERG PFV-NMLZ:S/A-be.rough
kɯ-fse *brʏbrʏβ* *ŋu* *tɕe,*
NMLZ:S/A-be.like IDEO:II:coarse.and.irregular be:FACT LNK
It is not smooth, it is rough, coarse and irregular. (Mill, 172)

Finally, there is a complex linker *jinbala zɯ* 'although' comprising the locative *zɯ* and the form *jinbala* borrowed from Tibetan *jin.pa.la* (be-NMLZ-all). This form is not used in colloquial Japhug, and appears only in a few stories told by elders as in (154).

(154) *tɕe* [*rŋʏlpu nɯ* *nɯ-rga*] *jinbala* *zɯ,* *ʻe,* *a-tɕɯ*
LNK king DEM PFV-be.happy although LOC INTERJ 1SG.POSS-son
ki *stʏβtsʰʏt* *mɯ-ɕɯ-cʰa* *kɯ* *ɲʏ-suso*
DEM:PROX contest NEG-APPREHENSIVE-can:FACT POSSIBILITY EVD-think
Although the king was pleased, he thought 'Ah, I fear that my son will not succeed in this contest.' (The prince, 91–92)

6. Alternatives

Alternative linkings are used when the situation/event in both clauses are mutually exclusive. They include two subcategories, Disjunction and Rejection linking.

Table 11. Alternative linking constructions

Clause linking type	Construction
Disjunction	*nɯ maʁ nʏ* 'otherwise'
	polar interrogative *ɕi*
Rejection	postposition *ma* 'apart from'
	negative copula *maʁ* 'not be' in the SC

6.1 Disjunction

There is no linker specialized for expressing disjunction in Japhug like English *either … or*. We find two distinct strategies for disjunction linking.

First, in the case of affirmative sentences, the phrase *nɯ maʁ nʏ* 'otherwise (literally 'if it is not')', which is also used in Possible Consequence linking (4.3) is

repeated in both alternative clauses as in (155). Ellipsis of the verb in the second clause is not possible.

(155) *nɯ maʁ nɤ tɤtʰu tu-kɯ-ti, nɯ*
DEM not.be:FACT LNK woollen.clothes IPFV-GENR-say DEM
maʁ nɤ tɯŋgar tu-kɯ-ti.
not.be:FACT LNK woollen.clothes IPFV-GENR-say
(Woollen clothes) are either called *tɤtʰu* or *tɯŋgar* (mbo, 40)

Second, in the case of interrogative sentences, the polar interrogative sentence final particle *ɕi* is employed (example (156)).

(156) [*χsɤr tʰɤjco ɯ-taʁ tɯ-nɯ-ɕe*] *ɕi, rŋɯl*
gold palanquin 3SG-on 2-AUTO-go:FACT INTRG:POLAR silver
tʰɤjco ɯ-taʁ tɯ-nɯɕe?
palanquin 3SG-on 2-AUTO-go:FACT
Will you go on the gold palanquin or on the silver one? (The three sisters, 198)

6.2 Rejection

The rejection linking indicates that the event/situation in the two clauses are competing alternatives, and only one of them takes place, while the other one does not. This linking is not well represented in Japhug, and the constructions attested in this meaning are also used for the Contrast linking (5.4). We find two possibilities to express the rejection meaning.

First, the postposition *ma* 'apart from' can be used to express a contrast between two radically opposed alternatives. As in the case of the Contrast linking, it is not the causal linker *ma*: example (157) shows that there is no causal relationship between the two clauses. In this construction, the main clause (preceding *ma* 'apart from') and the subordinate clause are of opposite polarity; in general, the main clause is positive and the subordinate clause negative.

(157) *nɯ-kɯ-ɤtɯɣ tɕe,* [*tu-kɯ-nɤlielie*
PFV-GENR:S/P-meet lnk IPFV-GENR:S/P-be.frolicsome
ɕti] *ma tu-kɯ-nɯ-ɤndzɯt*
be.AFFIRMATIVE:FACT apart.from IPFV-GENR:S/P-APPL-bark
mújŋgrɤl
NEG:TESTIM-be.usually.the.case
When it meets you (again, after several years), it jumps at you wagging its tail instead of barking at you. (Dogs, 17)

Second, semantic opposition can be expressed by using the negative copula *maʁ* 'not to be' in one clause, and one of the affirmative copulas *ŋu* or *ɕti* 'to be' in the other one. The verbs in the clauses can either be finite or non-finite. The negative copula can be sufficient to express this meaning, as in example (158).

(158) [*ɯ-ɕki kɤ-ɕe*] *maʁ kɯ, kɯmaʁ ɯ-pɕoʁ jo-pʰɣo.*
3sg-DAT INF-go not.be:FACT ERG other 3SG.POSS-direction EVD-flee
He did not go towards him, but ran in the opposite direction instead.
(Tshobdun and Kamnyu, 14)

7. Manner

Manner linking in Japhug can be expressed by parataxis as temporal succession, addition or alternative linkings, but also allows specific constructions such as infinitival clauses or manner deixis verbs, as shown in Table 12.

Table 12. Manner linking constructions

Clause linking type	Construction
Real manner	Parataxis
	Infinitival SC (optionally with ergative)
	manner deixis verb *fse* 'be like' and *stu* 'do like'
	degree nominalization + ergative
Hypothetical manner	manner deixis verb *fse* 'be like'

7.1 Real manner

In this type of clause linking, one clause describes the manner in which the action/situation of another clause takes place. There are four basic ways to express this meaning in Japhug.

First, the simplest construction to express manner is parataxis, with two verbs in the same TAM category and sharing the same arguments, as in (159)

(159) *ju-mtsaʁ ʁɲa ʑo ma nɯ ma* [*ɯ-mi*
IPFV-jump completely EMPH LNK DEM apart.from 3SG.POSS-foot
pjɯ-sɯ-ɤtse] *tu-ŋke mújˀ-cʰa,*
IPFV-CAUS-be.inserted[III] IPFV-walk NEG:TESTIM-can
It only jumps, as it is not able to walk by treading with its feet. (Frogs, 4)

This construction is particularly common with the transitive verb of manner deixis *stu* 'do like this' as in (160). Note that in this example the subordinate clause in embedded within the main clause.

(160) *tɕe uɯ-jaʁ kuɯ* [*ki tu-ste*]
LNK 3SG.POSS-hand ERG DEM:PROX IPFV-do.like[III]
lu-z-naʁje ɲɯ-ŋu ri,
IPFV-CAUS-probe TESTIM-be LNK
(The cat) probes with its paw like that (into the hole). (Weasel, 47)

A formally similar construction appears with deideophonic verbs, as in example (161) which illustrates a verb derived from the ideophone *ɕpʏr* 'loud noise' (see Jacques 2013b).

(161) [*ɲɯ-ɣʏ-ɕpʏrlʏr*] *ɲɯ-ruɕmi*
TESTIM-DERIVATION-IDEO:DISORDERLY:loud.noise TESTIM-speak
She speaks loudly (without paying attention to the situation). (elicited)

It also occurs with a specific set of verbs such as *tɕʰom* 'be in excess' for instance, as an alternative to complement clauses (162).

(162) [*nɯŋa ra nɯ-taʁ tu-dʏn*] *tu-tɕʰom*
cow pl 3PL-on IPFV-be.many IPFV-be.in.excess
mújpe ma
NEG:TESTIM-be.good LNK
It is not good when there are too many of them (ticks) on the cows, because… (Ticks, 30)

Sun (2012) analyzes the Tshobdun constructions corresponding to that of (161) and (162) as monoclausal serial verb constructions, since in that language no linker can be inserted between the two verbs. In Japhug, adding the linker *tɕe* between the two verbs is possible in the case of (160) and (161), but not in (162), which suggest that we have here several distinct underlying constructions: genuine serial verb constructions when adding a linker is not possible, and biclausal parataxis in the other cases.

Second, it is possible to use the infinitive *kʏ-* (for dynamic verbs) or *kɯ-* (for stative verbs or dynamic verbs with non-animate arguments) in the subordinate clause, to express manner as in (163) and (164).

(163) [***kʏ-ŋke***] *jʏ-ari puɯ-ra*
INF-walk PFV-go[II] PST.IPFV-have.to
He had to go on foot. (elicited)

(164) [*ɯ-ɣi ra* ***nɯ-mɤ-kɤ-suz***] *nɯ rŋul nɯ ɲɤ-mbi.*
3SG.POSS-relative PL 3PL-NEG-INF-know DEM silver DEM EVD-give
She gave him silver without her relatives knowing. (Raven4, 161)

In the case of stative verbs, whose infinitive is in *kɯ-* instead of *kɤ-*, there is some surface ambiguity between infinitive and S-nominalization serving as a nominal attribute. In (165) this ambiguity is resolved by the presence of the emphatic linker *ʑo* which rules out the alternative parsing of *kɯ-dɯ-dɤn* 'numerous' as the S of the sentence (in which case we would have glossed it as NMLZ:S/A-be.many).

(165) [*kɯ-dɯ~dɤn*] *ʑo tɯturca tu-ŋke-nɯ*
INF:STAT-EMPH~be.many EMPH together IPFV-walk-PL
mɤ-ŋgrɤl.
NEG-be.usually.the.case:FACT
They don't usually walk together in big groups. (*ɕɤɣpɣa* 40)

In (166), apart from *ʑo*, the presence of the demonstrative *nɯ* between the noun and the stative verb *kɯ-qarŋurŋe* 'yellow' indicates that they do not form a constituent, and that *kɯ-qarŋurŋe* cannot therefore be analyzed as the attribute of *nɯ-qe* 'their excrement'.

(166) *nɯ-qe nɯ* [*kɯ-qarŋu~rŋe*] *ʑo*
3PL.POSS-excrement DEM INF:STAT-EMPH~be.yellow EMPH
cʰɯ-lɤt-nɯ tɕe,
IPFV-throw-PL LNK
They shit yellow. (*kʰɯdi*, 112)

Apart from stative verbs of quantity and quality (as in (165) and (166)), many other types of verbs appear in this construction, for instance verbs expressing spatial relations and distances as in (167).

(167) *lu-olɣɯ ɲɯ-ɕti qʰe, kɯ-ɤrqʰi*
IPFV-be.connected TESTIM-be:AFFIRM LNK INF:STAT-be.far
ju-kɯ-ru qʰe ɯ-ʁar ɲɯ-fse.
IPFV-GENR:S/P-look LNK 3SG.POSS-wing TESTIM-be.like
(The skin between its limb) is connected, and when one looks from afar, it looks like wings. (Flying fox, 134)

Third, it is possible to use the infinitive *kɯ-fse* of the manner deixis stative verb *fse* 'be like' to mark the subordinate clause, as in (168) and (169). The verb marked by *kɯ-fse* can itself be in the infinitive (170).

(168) *mɯrmɯmbju nɯ* [*ɲɯ-ʑɣɤ-sɯ-ɣjɤr*] ***kɯ-fse***
swallow DEM IPFV-REFL-CAUS-be.slanted INF:STAT-be.like

tɕe nɤmkʰa zɯ ku-ɕe nɤ ɲɯ-ɣi tɕe
LNK sky LOC IPFV:EAST-go LNK IPFV:WEST-come LNK
The swallow comes and goes flying in a slanted way in the sky. (Swallow, 38)

(169) *βɣaza tu-ndze ŋu tɕeri* [*ɕ-tu-mtsaʁ*]
fly IPFV-eat[III] be:FACT LNK TRANSLOC-IPFV-jump
kɯ-fse *ɕ-ku-ndɤm muíj-cʰa tɕe,*
INF:STAT-be.like TRANSLOC-IPFV-catch[III] NEG:TESTIM-can LNK
It eats flies, but it cannot catch them by jumping. (Frogs, 6)

The semantic scope of the verbal negative prefix can be on the manner rather than on the verbal action as in (170). In this construction, both the disjunct and the conjunct interpretation of negative scope are possible (unlike some languages that restrict one interpretation in some or in all constructions, see Bickel 2010: 61).

(170) *nɯnɯ wuma ʑo qomdroŋ kɯ-fse*
DEM really EMPH white.goose INF:STAT-be.like
[*kɯ-ɣʑurja kɯ-βdi*] ***kɯ-fse***
INF:STAT-be.lined.up INF:STAT-be.well INF:STAT-be.like
muíj-nɯqambɯmbjom-nɯ ri tuturca ʁɲa ʑo
NEG:TESTIM-fly-PL LNK together completely EMPH
ɲɯ-nɯqambɯmbjom-nɯ ŋu tɕe,
TESTIM-fly-PL be:FACT LNK
Although they do not fly in nice lines like the geese, they always fly (in groups) together. (Pigeons, 10–11)

It is possible to combine an infinitival clause with the ergative *kɯ*, as in (172) and (171). This construction can express a slight concessive meaning as in (171) ('without turning it off' = although he should have turned it off').

(171) *tɕe ɯ-ŋgɯ nɯ tɕu paʁndza ɲɤ-raʁ tɕe, tɕendɤre*
LNK 3SG-inside DEM LOC pig.fodder EVD-be.stuck LNK LNK
[<dian> <guan> *mɤ-kɤ-βzu*] ***kɯ*** *mɤ-kɤ-pa* ***kɯ***
electricity turn.off NEG-INF-make ERG NEG-INF-close ERG
ɯ-jaʁ lo-tsɯm
3SG.POSS-hand EVD:UPSTREAM-take.away
Some pig fodder got stuck inside (the machine) he reached his hand into it without turning it off, (Relatives, 372–3)

Alternatively, the infinitival clause with the ergative can be semantically intermediate between a manner and a purposive clause, as in (172).

(172) *tɯ-xtsa nɯnɯ ɯ-ʁzɯɣ*
INDEF.POSS-shoe DEM 3SG.POSS-shape

[*mɯ-ɲɯ-kɯ-ɲɟɯr*] ***kɯ***
NEG-IPFV-INF:NON.HUM-ANTICAUS:change ERG
ɲɯ-z-rʏsta-nɯ
IPFV-CAUS-be.fixed
They wedge the shoes (with a shoe tree) in such as way that their shape does not change. (Red leather, 109)

Fourth, in the case of stative verbs, the degree nominalization *tɯ-* can be combined with a clause describing the degree, circumstance or consequence of the state in question. The ergative *kɯ* can be inserted between the stative verb and the degree clause; its presence is optional when the degree clause is short, but obligatory in the case of long clauses, as in (173) and (174).

(173) *a-pɯ-kɯ-sɯ-ɲcʏr* *qʰe* [*ɯ-tɯ-rʑi*]
IRR-PFV-GENR:S/P-CAUS-press LNK 3SG-NMLZ:DEGREE-heavy
kɯ *tɕe* *nɯ* *kʏ-joʁ* *mújˀ-kɯ-cʰa*
ERG LNK DEM INF-lift neg:TESTIM-GENR:S/P-can
If (an elephant) presses one (with one of its feet), it is so heavy that one cannot free oneself. (Elephant, 39–40)

(174) *lɯlu a-pɯ-me* *rcanɯ,* *βʑɯ* *ɯ-kʰa* *tɕe*
cat IRR-IPFV-not.exist TOP:EMPH mouse 3SG.POSS-house LNK
[*ɯ-tɯ-ruŋɯŋʏn*] ***kɯ*** *tʏ-mtʰɯm*
3SG-NMLZ:DEGREE-cause.damage ERG INDEF.POSS-meat
tu-ndze, *tɯmgo tu-ndze,* *tɯjpu tu-ndze,* *tɕe*
IPFV-eat[III] food IPFV-eat[III] food IPFV-eat[III] LNK
ɯ-mʏ-kʏ-ndza *ra kɯnʏ tʏ-ʃkɯm* *nɯ* *ra ku-sɯspoʁ*
3SG-NEG-NMLZ:P-eat PL also INDEF.POSS-bag DEM PL IPFV-make.a.hole
If there is no cat, mice cause a lot of damage in the house as they eat meat and food, and even the things that they cannot eat, (like bags), they make holes in them. (Cat, 27–29)

The ergative is also used in clause linkings involving the verb *fse* 'be like' in the subordinate clause, as in (175).

(175) *ri* [*ɯ-jwaʁ* *nɯnɯ kɯmaʁ ɕʏɣ* *nɯ* *ra*
LNK 3SG.POSS-leaf DEM other juniper DEM PL
mújˀ-fse] ***kɯ*** *ɲɯ-ʏrʁɯrʁu* *ʑo* *qʰe*
NEG:TESTIM-be.like ERG TESTIM-be.wrinkled EMPH LNK
ɲɯ-ʏndundo *ʑo.*
TESTIM-be.clustered.together EMPH
Its leaves differ from other junipers in that they are wrinkled and clustered together. (Ephedra, 71)

7.2 Hypothetical manner

The hypothetical manner linking differs from the real manner linking in that the subordinate clause does not describe the actual manner of the action / situation, but compares it to a similar event.

There is no specific construction in Japhug for expressing this meaning. Examples of Hypothetical Manner linkings in our data all use constructions involving the verb *fse* 'be like' as a main verb and a nominalized relative clause.

(176) *nʏʑo ki jamar tɕe, nʏ-mtɕʰi lʏ-kʏ-sti*
2SG DEM:PROX about LNK 2SG.POSS-mouth PFV-NMLZ:P-plug
ɲɯ-tɯ-fse *ɕti*
TESTIM-2-be.like be.AFFIRMATIVE:FACT
You look like your mouth has been plugged. (conversation 2002, 81)

(177) *ɯ-skʏt ɯ-tɯ-wxti kɯ maka mbʏɯrloʁ*
3SG.POSS-voice 3SG-NMLZ:DEGREE-be.big ERG at.all thunder
tʏ-kʏ-βzu ʑo ***pjʏ-fse.***
PFV-NMLZ:P-make EMPH EVD.IPFV-be.like
Its sound was as loud as thunder. (Daihao)

(178) *nɯnɯ tʏ-mŋʏm qʰe, tʰɯci tɯmnɯ*
DEM PFV-hurt LNK something awl
kʏ-kʏ-sɯ-ʏtsa ʑo ***ɲɯ-fse***
PFV-NMLZ:P-CAUS-be.inserted EMPH TESTIM-be.like
When it hurts, it feels like an awl has been planted (in one's lungs). (Lung disease, 8)

8. Conclusion

This article is the first step towards a description of clause linking in Japhug. Further research is particularly needed on the issue of syntactic pivots and cataphora in clause linking. At the present stage of our research, we have not been able to detect any strict syntactic pivot, either accusative or ergative, in the constructions studied in the present work. Such research proved difficult in the case of Japhug, as the grammaticality judgments offered by our consultants on constructions not attested in the corpus are often inconsistent.

Japhug clause linking is uncommon in the context of verb final languages of Eurasia. While several converbial constructions are attested (immediate precedence, gerund, purposive and infinitive), none of them is required to express a

particular meaning, as in each of the four cases a semantically similar competing finite construction is available.

Japhug has a strong distinction between finite and non-finite verb forms, but non-finite forms are essentially used for relativization and complementation, not for clause linking. Chains of clauses in non-finite forms, which are common in languages such as Classical Tibetan or Turkic, are completely absent. This is due to the fact that converbs in Japhug are restricted to relatively less common constructions, and are not found for expressing Temporal sequence, Consequence or Condition linkings. There is no converb marking switch reference either; finite forms with inverse marking are used instead for that purpose (see Jacques 2010).

The most common type of clause linking in Japhug involves finite clauses with a linker (or a postposition / relator noun between them). Parataxis is rare, but available for expressing Temporal or Manner linkings. It appears that cases of parataxis require distinct analyses depending on the construction: some of them may be cases of serial verb constructions

A typological feature distinguishing Japhug from most Sino-Tibetan languages is the fact that some clause linking constructions require a subordinate or a main clause in a particular finite TAM form. In particular, the temporal precedence linking (3.2.3) requires a verb in the imperfective form in the subordinate clause regardless of the TAM marking of the main clause, and several types of conditional (including counterfactual, scalar concessive and alternative concessive) requires the past imperfective.

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