Reading notes of A Grammar of Japhug

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The theoretical orientation is already well-documented in my notes about English, Latin and Mandarin Chinese.

Chapter 1

Introduction

1.1 Classification

Box 1.1: Japhug and other Sino-Tibetan languages

- Tangut: direct-inverse
- Direct-inverse in proto-ST
- Relation with Situ
- Dialects within Japhug

1.2 Sociolinguistic status

Box 1.2: Sociolinguistic status

- Relation with Ando Tibetan
- Relation with Mandarin

Chapter 2

Grammatical overview

In this chapter we do a round-by-round survey of Japhug grammar. We start with a very rough top-down anatomy of the structure of Japhug clauses (§ 2.1.1), followed by a bottom-up examination of grammatical categories and relations in the clause in the rest of § 2.1. We then do the same for the noun phrase. We finally list points to investigate in the lexicon of Japhug.

Box 2.1: Grammatical sketch TODO list

- NP
- POS list

2.1 Clause structure

2.1.1 The structure template

Clause combining We start our discussion on Japhug grammar by first dividing utterances into simple clauses. Adverbial clauses, like temporal clauses or conditional clauses, seem to always appear before the main clause (Jacques 2021, Ch 25). Coordination may be marked by coordination linker *tɕe* or q^he or simple parataxis (Jacques 2021, § 25.1.6).

In both adverbial clause subordination and coordination, clauses involved may share the auxiliary copula if there is any (Jacques 2021, p. 47, (40); p. 1091, (10)). It seems changing the subject in the middle is also possible (Box 2.3).

The simple clause: the nucleus and information packaging A simple clause, which may or may not be a part of aforementioned subordination or coordination constructions, consists of a nucleus clause and possible information packaging devices.

We can say with confidence that the basic order of Japhug nucleus clauses is SOV. Justification of concepts like subject or object is discussed in § 2.1.3 and § 2.1.4. All arguments – and of course adjuncts – of clauses can be omitted; in this way it is possible that the nucleus clause consists of only verb. The arguments are to be recovered from argument indexation (§ 2.1.5). It should be noted that argument omission or "pro-drop" is different from argument structure alternations (§ 2.1.3).

Possible alternations of the SOV order and orders of adverbials outlines below can be explained by information packaging constructions, including right dislocation for

afterthought, disambiguation, or emphasis (Jacques 2021, § 22.1.3), left dislocation for topicalization (Jacques 2021, p. 1189), or focalization (Jacques 2021, p. 1190).[1] Topicalization in Japhug may result in a chain of nucleus clauses sharing one topic (Jacques 2021, p. 1190, (11)).

Positions of adverbials Temporal expressions indicating the absolute time usually appear before the subject (Jacques 2021, p. 344, (167); p. 283, (123)). This probably is because the absolute time sets the stage for the event and by default is topical, and their syntactic position is comparable to that of adverbial clauses.[2]

On the other hand, tense, aspect, mood, evidentiality (TAME) adverbs appear after the subject and before the direct object (Jacques 2021, pp. 1200-1201,1210). It seems that locational phases also reside in roughly the same region (Jacques 2021, p. 302). Example (46) in Jacques (2021, p. 1200) suggests that the aspectual adverb precedes the manner adverb.

In some examples the *object* appears before a TAME adverb, but this likely arises from topicalization as a pause can be observed after the object (Jacques 2021, p. 1210, (82)).

Box 2.2: Positions of adverbs

Compare the positions of TAME and locational adverbials.

Also, is it possible to have locational stage-setting adverbials?

Auxiliary verb constructions In periphrastic conjugation constructions, the copula that carries the main TAME information is put at the final position, and the main verb precedes it; when there are several main verbs coordinated in a clause, only one final copula needs to appear (Jacques 2021, pp. 1090-1091).

Box 2.3: Periphrastic conjugation and verb phrase coordination

Note that the subject seems to be changed in the middle (the problem is the meaning of *ɯ-ŋgɯ* '3SG.POSS-inside' and the constituents introduced by it: does it mean 'as three very beautiful girls', and therefore is an adjunct, or is it a new subject? Also verb phrase coordination is related to syntactic ergativity – see the discussion on clause pivot)

If the coordination construction indeed works on the level of clause and not VP and therefore allows changing the subject in the middle, another question arises: sharing TAME markers between two clauses is highly unusual. This can't be a purely realizational process because of the long-range nature of copula sharing. So this has to involve (purely) syntactic coordination, and the syntactic position of the TAME copula is then higher than the subject, which is unusual. Another analysis of the construction is that we are looking at a biclausal construction, and the coordination happens to a series of nonfinite clauses, But then TAME marking can't be biclausal.

It seems currently the best option is to analyze this construction as coordination of "small clauses" whose TAME values are then specified by the end-of-sentence copula. Note that this construction seems to be only available for

[1] (Jacques 2021, p. 1190) has the OSV order, and Jacques mentions that the subject is focalized. It is possible that this example is a topic-focus-verb construction.

[2] The situation is similar to that in English: temporal phrases like *last year* almost always appear at the margin of a clause.

IMPERFECTIVE verbs, which appears frequently in periphrastic conjugation and likely only specifies the aspectual value. The tense and evidentiality categories coded on the copula are then higher than the subject.

Clausal structural template In summary, a Japhug simple clause is a nucleus clause with possible left- or right-dislocations and/or temporal expressions expressing the absolute time of the event (Box 2.2), an the nucleus clause, from left to right, consists of the subject, tense and aspect adverbs, manner and locational phrases, core arguments, the main verb, and a possible auxiliary copula; all arguments and adjuncts are not obligatory, presumably because enough information has been coded in the verb.

Box 2.4: Other forms of the nucleus clause

Serial verb constructions and nominal predicates; also see fossilized N-V sequences.

Speech fillers One final comment about the clausal template: in spontaneous speeches, Japhug speakers use several speech fillers and not a central vowel to mark pause or earn some time to think about what to say next. The speech fillers have other functions like pronoun or topic marker and should be ignored when reading Japhug texts (Jacques 2021, § 10.3).

2.1.2 The verb

Box 2.5: Event structure and valency

State change, action, etc. and relation with unergative verbs or unaccusative verbs.

Verbs can be regularly formed by denominal derivations (Jacques 2021, Ch 20). Since an independent adjective class is absent, the only two kinds of denominal derivations are noun-to-adverb derivations and noun-to-verb derivations, the former being relative marginal (Jacques 2021, p. 1011); thus the term *denominal* can be used specifically to refer to noun-to-verb derivations.

2.1.3 Arguments

Core arguments, oblique arguments, and peripheral arguments Arguments and adjuncts are to be classified according to their obligatoriness, their positions in different levels in the clause, and their internal makeup. Usually arguments that code roles like path or goal and are structurally far from the main verb[3] will not take semantically empty cases like the nominative or the accusative, so arguments can be classified as in Table 2.1. Here we treat obligatoriness first, as the criteria involves are easy. We then move to study various verb frames and the syntactic properties of their core arguments.

[3]See e.g. Cinque (1999, p. 30) for discussions about the mapping of semantically peripheral roles to structurally peripheral positions.

Table 2.1: Classification of arguments

- Prototypical core arguments: structurally close to the verb,[4] obligatory, bearing semantically empty cases.
- Prototypical peripheral arguments: structurally far from the verb, optional, bearing semantic cases (or being adverbs). Constituents with roles comparable to peripheral arguments but are not necessarily intuitively "arguments" (like adverbs) are *adjuncts*.
- Oblique core arguments: structurally close to the verb, obligatory, bearing *semantic* cases, e.g. *you are referred [to a specialist]*. Depending on the properties of the preposition construction (e.g. whether passivization is possible) and idiomization (which may prohibit topicalization of the argument), these arguments need to be classified into finer categories.
- "Optional" core arguments, bearing semantic cases or semantically empty cases, because of labile alternation. Examples include *the cat kills [a mouse]* (c.f. *the cat kills*). These arguments are still dictated by the lexical entry of the verb stem (and are still obligatory in this sense), and removing one "optional" core argument may change the meaning of the verb in a (slightly or greatly) irregular way: *I fly* can be interpreted in various ways, but *I flied to Boston* usually means I took a plane to Boston. Often a correspondence between the two meanings can still be observed: *The cat kills* in English, for example, means *the cat has a habit of killing*.
- Argument-like adjuncts, i.e. obligatory peripheral arguments, which are structurally far from the verb, bear semantic cases or are even adverbs, but are obligatory: the most notable example may be *he treats us [badly]*.

Box 2.6: Small clause and labile alternation

he gives thanks can be understood as *he gives thanks to people around him.* Does this invalidate the small clause analysis? What about the case in Japhug, like (Jacques 2021, § 22.1.2.2, (29)), where the goal is absent?

Since every clause constituent in Japhug can be omitted, the distinction between a hidden argument and the absence of an optional argument (as in labile valency alternation) or an adjunct cannot be established using superficial obligatoriness.

When we are testing the difference between core arguments and peripheral arguments, default definiteness can be used to test whether a constituent is a core argument. If an argument is first present and only later omitted, its omission should have discourse-motivated reasons, and usually the reason is that the argument has appeared in the context before: if the argument is indefinite then most of the time, we expect an indefinite pronoun to appear. Hence, we expect non-overt but obligatory arguments or *core arguments* (if we define the term this way) to be almost always definite (Jacques 2021, § 22.1.2.1). On the other hand, non-obligatory arguments – or *adjuncts* or *peripheral arguments* – should be either definite or indefinite (Jacques 2021, § 22.1.2.2).

An interesting observation is that Jacques (2021, § 22.1.2.2) makes no distinction between *peripheral arguments* and *oblique arguments*. It seems that arguments that semantically are goals or paths, when not present, are always possibly indefinite. The fact that these arguments are never indexed on the verb means another type of optionality can be invoked to explain the indefinite reading: labile alternation. Arguments removed in labile alternation, by definition, cannot be said to be definite or indefinite, but the meaning of the whole clause may be equivalent to an indefinite reading. The distinction between discourse-oriented argument omission and labile valency alternation is relatively easy when it can be told from argument indexation (Jacques 2021, § 22.1.2.1). When the argument being omitted does not contribute to indexation, the distinction lies under the fact that in labile alternation the relation between meanings of the two verb frames can be irregular, and core oblique arguments may have syntactic properties not possessed by prototypical peripheral arguments.

Examples presented in Jacques (2021, § 22.1.2.2) however do not clearly demonstrate any irregular change of the meaning. In (30), the verb means 'shoot arrows to see whose arrow will reach the farthest', which deviates from 'to shoot arrows to an target', but this is an imperative clause so the clause type is sufficient to explain the change of the meaning. In (31), we see an alternation between 'say' and 'make a sound', but the deviation between the two is not large enough.

We turn to find evidence for any specific syntactic properties shared by some goal- or path-like arguments but not others. Applicative happens to a broad range of arguments (Jacques 2021, p. 859). One interesting phenomenon is that for two verbs, the locative can be relativized using the negative object participle (Jacques 2021, § 23.5.5.2).

In conclusion, it seems that the only clearly identifiable type of "oblique core arguments" in Table 2.1 is the semiobject, which is classified as core arguments in Jacques (2021). The distinction between other oblique arguments and adjuncts i.e. peripheral arguments is more elusive, and may be non-existent.

> **Box 2.7: Non-core arguments and adjuncts**
>
> Still, we can see wordings like "non-core arguments and adjuncts" (e.g. pp. 751).

Overview of core arguments In the typological literature, macrorole notations like S, A, P are based on the premise that the arguments it represents behave syntactically in similar ways. The symbols then refer to the bundles of shared syntactic properties.

Roughly speaking, the properties may be about the deep argument structure (control, reflexive, etc.) or clause-level grammatical phenomena (relativization, subject-sharing coordination, etc.). Case marking or in other words argument flagging is controlled by the latter (e.g. accusative alignment v.s. ergative alignment) as well as the former (e.g. oblique arguments cannot be passivized), and so is verb-argument agreement or in other words argument indexation.

As languages differ in both the deep argument structures and how complete clauses are built around them, the definition of macroroles in a specific language therefore should represent the aforementioned phenomena in that language. A good definition of macroroles in a language is equivalent to a good classification of its valency classes.

Intransitive constructions In Japhug, the sole arguments of intransitive clauses largely behave in the same way: we can stipulate a S macrorole and there is no Sa/So distinctions. There exist so-called semi-transitive verbs with additional arguments, which are however not relevant to argument indexation at all (Jacques 2021, § 14.2.5)

and do not seem to be active in other grammatical phenomena.

A notable distinction within transitive clauses is that in the passive of secundative verbs, the subject does not trigger indexation (Jacques 2021, § 18.1.4).

Box 2.8: Oblique arguments in Japhug

Compare oblique arguments with, say, directional particles.

Box 2.9: Labile verb

Japhug does have S=O labile verbs, and it remains unclear whether the surface S in this case reflects some of the deep P properties.

Monotransitive constructions and objecthood In transitive clauses we can recognize A and P arguments.

The A argument is clearly more "external" or prominent. Verbal polypersonal indexation always involves two argument, and the A is always one of them, while the rest of the arguments compete to be the other argument involved (§ 2.1.5). By default we can observe that the A appears at the start of the nucleus clause (§ 2.1.1). The comparison between A and S and hence the definition of *subject* are discussed in § 2.1.4. We note however reflexive binding is absent in Japhug (Jacques 2021, p. 543) and cannot be used to prove the pivot status of the A argument either in the deep argument structure or in the whole clause.

Comparison between P and other internal arguments The P argument is also known as the *object*. Usually we expect the term *object* to refer to a position which is syntactically more active than other internal arguments and whose distribution is not restricted to the monotransitive construction (otherwise *object* and P are interchangeable). In English, for example, an argument – the P argument in the monotransitive construction and the T argument in *give sth. to sb.* – always follows the main verb with almost no other constituents being able to appear between the two, and constituents like manner phrases, relative clauses, etc. which have their scopes *over* the core verb phrase, follow the object. This seems to indicate that there is some sort of implicit fronting of both the verb and the object, leaving a swamp of various constituents behind. Therefore there is an object position after the main verb that is attested in more than one verb frames.

It is possible that the object position cannot be well defined in other verb frames. The split of object properties is observed in the English *give sb. sth.* verb frame, where the recipient argument can be passivized but not topicalized, and the theme argument can be topicalized but not passivized. The reason possibly is that the recipient argument is in an object-like position (and thus can be passivized) but either faces realizational effects that lock it there (Oba 2005), or is obligatorily focalized and hence topicalization causes conflicts in information structure (Im 2005). In this case there does not exist a prototypical object.

The P argument of monotransitive verbs regularly triggers object-like indexation (Jacques 2021, § 8.1.3, p. 543). On the other hand, some arguments, despite being similar to the monotransitive P in being the receiver of an event and possibly being the sole internal argument of the clause, can never trigger indexation. Hence the monotransitive P is the prototypical object while the internal arguments that do not trigger indexation but are not in genitive, dative, etc. cases are known to be *semi-objects* (Jacques 2021, § 8.1.5). So an object position can be defined for some two-places

verbs.

The next question is whether in other verb frames, there exists a position whose properties are close to the monotransitive P enough, so that the concept of *object* can be defined not just for the prototypical monotransitive construction.

The only kind of passivization allowed for ditransitive verbs acts on secundative verbs, and surprisingly turns the A→R→T argument structure into a T→R one, although the R seems more object-like (Jacques 2021, p. 884). It might be possible that the latter is homophonous to the passive construction but has a more complicated structure. For verbs derived from valency alternation constructions, the passive cannot happen on top of synchronically analyzable causative or applicative (Jacques 2021, p. 885), and its application on top of the tropative is also not attested (Jacques 2021, § 17.5.4).

Therefore, if passivization is taken as a criterion of objecthood, then only the monotransitive P is the object; alternatively we may say passivization in Japhug is structurally different from the English passive and only works when the action has a clear "initiator-receiver" structure, and the P argument is not a semi-object: hence objecthood in broader contexts, if it exists, does not depend on passivization.

In the applicative construction, the promoted argument ends up in a position quite close to the prototypical P, which acts just like the P in argument indexation (e.g. Jacques 2021, p. 863, (102)). Another phenomenon relevant to argument indexation is that all arguments except the highest causer compete on the empathy hierarchy to be the argument whose role in indexation is similar to the P in monotransitive clauses, and therefore the winner may be taken to be the object (§ 2.1.5). We do note however this phenomenon can be analyzed without stipulating any promotion to an object position, as is said in § 2.1.5.

> **Box 2.10: Position of the "object" defined in argument indexation**
>
> When multiple arguments compete to be the P, does this influence their word orders? If so, we have another piece of evidence for stipulating objecthood.

Finally, we note that if we are to take a broad definition of objecthood, then relativization is a good criterion (Jacques 2016).[5]

Ditransitive constructions Japhug has a clearly indirective ditransitive verb frame (i.e. a verb frame where the theme is object-like) and a secundative verb frame (i.e. a verb frame where the recipient is object-like). In the indirective construction, the recipient is dative or genitive (Jacques 2021, § 14.4.1) and it seems to have not many shared properties with prototypical subjects or objects, while the theme can be seen as the object (Jacques 2016).[6]

> **Box 2.11: Passivization of arguments**
>
> Can T_2 be passivized?

As for what Jacques (2021, § 14.4.2) analyzes as the secundative verbs (the valency class where the recipient is more object-like), the theme can be extracted in relativiza-

[5] Note that the term *pivot* in this paper refers to any macro-macro-role that is a collection of macro-roles with shared properties, and not necessarily something subject-like.

[6] Jacques (2016) uses R_1, T_1 to refer to the recipient and the theme of secundative verbs, and R_2, T_2 to refer to the recipient and the theme of indirective verbs.

tion (Jacques 2021, pp. 581) and be passivized (Jacques 2021, § 18.1.4), but the recipient participates in argument indexation in the same way as the monotransitive object does.

What is interesting is that in the resulting verb, the subject (which is the theme) does not trigger any indexation affixes. This may be a case of quirky subject.

Valency alternation Japhug seems to have a construction comparable to the "passive" construction in Mandarin; in this pseudo-passive construction, the deep, animate A argument does not appear, while the inanimate deep P argument is present, and the verb has an inverse marker despite semantically the event happens from an animate participant to an inanimate participant and is therefore semantically in the direct configuration (Jacques 2021, p. 575). The construction only appears in translation of sentences from Mandarin, and yet a native speaker didn't consider them to be ungrammatical; whether the

2.1.4 Syntactic pivot of the core clause, or the subject

Among arguments in multivalent clauses, we can easily recognize that A is the more or less external one and the rest ones are more or less internal (§ 2.1.3). These facts however can all be explained by defining a pivot for the *argument structure*, and are not direct evidence for a pivot of *the whole clause*: telling us nothing about the alignment type of Japhug: in ergative languages, we still find that the A argument is the argument structure pivot, but definitely the P argument shares various other properties with S.

The usual criteria for syntactic ergativity are not viable in Japhug, as we do not have uncontroversial verb phrase-level coordination (Jacques 2014). There are coordination constructions in which the two branches share one auxiliary, but the branches may have different subjects (see Box 2.3). This is likely to be a peculiarity of Japhug, as Prins (2011, p. 549) mentions coordination of two verb phrases sharing the same subject in Jiaomuzu, a language close to Japhug.

If we restrict ourselves to Japhug, there is one construction that at least partially resembles shared subject coordination of verb phrases. We observe that the A argument (with ergative marking) can be separated from the object and the verb by an intransitive clause (Jacques 2021, p. 306) in which a gap coreferential with the A argument exists. This may also be understood as the A argument of the main clause and the S argument of the embedded clause being extracted and fronted, and therefore neutralization of S and A as the clause-level pivot.

Subjecthood seems to be most clearly defined by relativization (Jacques 2016; see § 2.1.3 for the relation between relativization and objecthood). Relativization happens only after the whole clause is finished and a pivot position definable by relativization is definitely a clausal pivot – hence the *subject*.

Additionally, the fact that one argument may be separated from the verb and other arguments by TAME adverbs (§ 2.1.1) may also be taken as evidence for subjecthood in Japhug.

With facts above, we find that there exists a well-defined clausal pivot in Japhug and it is identical to the pivot of the argument structure. Japhug therefore has a nominative-accusative pivot.

The subjecthood defined alone the lines above does not entail anything about case marking. In prototypical monotransitive constructions we observe morphological ergativity. The existence of a direct-inverse argument indexation system (§ 2.1.5) means rules about argument indexation cannot be summarized as "the verb agrees

with the subject", and therefore the subject cannot be defined according to verb morphology (Jacques 2016), and in certain circumstances even leads to neutralization of S and P (§ 2.1.5).

2.1.5 The direct-inverse system

Polypersonal indexation and argument flagging The sole argument of a Japhug intransitive clause is indexed on the verb. In transitive clauses, two – not just one – argument are indexed on the verb. The personal affixes on the verb are only about person and number, and tell us nothing about the argument position of the argument from which they originate (Jacques 2021, p. 543). What argument is indexed is controlled by whether the clause is in a direct configuration or an indirect configuration.

Inverse indexation v.s. inverse voice According to Oxford (2023), what is known as an inverse construction may be (a) the change of clausal grammatical function of the arguments, i.e. "deep inverse", in which the patient in a way or another gets some subject-related properties and hence some sort of ergativity is observed in inverse configurations, with effects like alternations of the surface word order, scope of noun phrase (NP)s, and reflexive pronouns (e.g. see Bruening 2005), or (b) a "shallow inverse" which is mostly about argument indexation, for example a requirement that only agreement with a speech act participant (SAP) is morphologically permissible leading to a direct-inverse system based on the distinction between 1/2 and 3.[7] The deep inverse can be optional and in this case it is essentially a voice construction; the shallow inverse should be obligatory or otherwise verbal agreement is arbitrary. The two of course can be combined and we get a particularly strong inverse system.

In Japhug we can observe certain phenomena that may be described as "deep inverse". In the inverse configuration of Japhug, the A argument receives an ergative marker. Properties other than case marking are however not observed (§ 2.1.4). Therefore, in the inverse configuration, we cannot say that the patient is rendered the clausal pivot. The ergative marking of the A argument in the inverse configuration should be analyzed as inverse-triggered morphological ergativity, in which the only subject-like property that the P argument gets is that it has the same case marking with the intransitive subject.

The empathy hierarchy The relative positions of the A argument and the P argument in the empathy hierarchy control the direct-inverse configuration. Roughly, the hierarchy in Japhug is SAP > human > animal > inanimate > generic argument. Note that this hierarchy means that if the A argument of a clause is generic, while the P argument is not, the clause is in inverse configuration, while when the P argument is

[7] The deep inverse is also known as "syntactic" inverse or "inverse voice", and the shallow inverse is also known as "morphological" inverse, or "inverse alignment". This terminology however is sometimes misleading. For example, if we stipulate that in Italian, person clitics are agreement formatives and first/second person clitics belong to an agreement system only targeting SAPs, while the third person clitic belongs to another agreement system, then the impossibility of co-appearance of a first/second person direct object clitic and a third person indirect object clitic Italian can be argued to be due to locality constraints (Bianchi 2006). The existence of a speech-act only agreement system is comparable to "morphological inverse", but the phenomena related to this system usually will not be called morphology.

On the other hand, "syntactic inverse" covers both syntactic ergativity and morphological ergativity. This confusion is seen in the case of Japhug: in the inverse configuration of Japhug we see morphological ergativity, but this is deep inverse and therefore "syntactic inverse" in Oxford (2023).

generic the clause is in direct configuration. This means neutralization of S and P can be observed in the generic indexation (Jacques 2012; Jacques 2021, § 14.3.2.5). This, of course, cannot be interpreted as ergativity.

The empathy hierarchy may be analyzed as a synchronic device. Wiltschko (2014, § 7.4), for example, stipulates that the clause first decides its point of view in the empathy hierarchy, and then this piece of information controls what argument is to agree with the verb, and further notices that this process is formally comparable to how the aspect value (c.f. the direct/inverse value) dictates what is the time that is to be compared with the speech time to decide the tense (c.f. the argument indexed on the verb).

Alternatively, the empathy hierarchy may be treated as a *diachronic tendency* that languages with polypersonal indexation will likely be trapped into, possibly because a direct-inverse system reduces misunderstanding in discourses by highlighting less likely configurations. The synchronic analysis of shallow inverse then is merely some morphological manipulations of the person features received by the verb, and obligatory deep inverse can be analyzed as incompatibility between direct verb morphology and the inverse voice construction, probably because there simply is no verb form expressing both of them and therefore co-appearance of the two is blocked.

It seems in Japhug, we do have a synchronic empathy hierarchy. In the causative construction, the argument playing the role of P in indexation can be the causee or the object. Which argument is chosen depends on the persons of the arguments. First, among internal arguments, if one is first or second person and another is third person, then the first/second person one is indexed. Thus both 2→3→1 and 2→1→3 are equivalent to 2→1 in argument indexation (Jacques 2021, p. 584), and both 3→3→1 and 3→1→3 are equivalent to 3→1 in argument indexation (Jacques 2021, p. 310). On the other hand, 3→1→2 becomes 3→1, and 3→2→1 becomes 3→2, which means if the causee and the object are in a local configuration, the causee is indexed on the main verb. We can therefore say that the argument playing the role of P in polypersonal indexation is always the most salient argument, either according the standard of speech act participation or according to the standard of agentivity. The mechanism of argument indexation in the causative therefore is comparable to the analysis of English tense and aspect by Wiltschko (2014, § 7.4.1), where the aspect value of a clause selects the start or the end or the totality of an event as the reference time (c.f. the argument playing the role of P), and then the reference time and the utterance time (c.f. the A argument) are compared to decide the tense (c.f. the inverse marker).

The causative may be applied twice, with the highest argument being the agent and the second highest argument (introduced by the inner causative) being the instrument. The meaning then is '*X* makes [[*Z* do sth.] with *Y*]'. The A-like argument in indexation seems to be the highest argument, and the P-like argument seems to be the most salient in the rest of arguments: hence a 1→3→2→3 configuration is morphologically the same as 1→2 (Jacques 2021, p. 848, (67)). This further affirms the analysis outlined above.

An interesting phenomenon is the theme of secundative verbs cannot be indexed and it cannot be first or second person. This seems to again suggest some relation between the ability to trigger argument indexation and animacy, and again can be explained by stipulating that in secundative constructions, we have a R→T structure, and probably the inverse configuration in this structure is forbidden.

Deviations from the ideal inverse system The ability for an argument to trigger argument indexation depends on the animacy of the argument. Inanimate arguments rarely trigger number indexation in some intransitive constructions, including the existential construction and some dynamic verbs (Jacques 2021, § 14.6.1.1).

2.1.6 TAME categories

Decomposition of TAME categories in the same way English *he [is playing] football* is analyzed as "present (imperfect) progressive" is not necessary if there is no need for cross-linguistic comparison: although we are able to distinguish between e.g. the present tense and the past tense, or the progressive aspectuality v.s. the non-progressive one, not every combination of attested tense, aspect, modality and evidentiality values in Japhug can be morphologically realized.

The morphological realization of these categories is remarkable Their main exponents are the alternation of the orientation prefix. Some TAME categories insert a fixed prefix into the orientation prefix slot; others choose one of the four prefixes that have the same directional meaning in Jacques (2021, Table 15.1).

> **Box 2.12: Interaction between TAME and orientation**
>
> Does the TAME marking override the lexically determined orientation prefix or the semantically significant orientation prefix of a orientable prefix?

2.2 Noun phrase

Compounds

> **Box 2.13: Compounds: phrasal, or stem-level?**
>
> Japhug seems to have "real" compounds and not just the nominal attributive construction in English:[a] inalienable nouns, if appearing as the second element in a compound, have no possessive marker (Jacques 2021, p. 15). This however can be analyzed as a realizational effect as well: we need other proofs to show that the inalienable noun loses its subcategorization in the compounding process and therefore appears purely as a stem.
>
> [a] As in *noun phrase*.

Counting words

> **Box 2.14: Counted noun constructions: what's the head?**
>
> In Jacques (2021, p. 10), it is mentioned that counted nouns correspond to classifiers in Chinese grammar. An interesting problem is in a counted noun construction in Japhug, which element is the head of the NP. In English, the head of the *one of* construction is likely *one*, because it can undergo modifications: *this specific one of …*, so the partitive reading is merely semantic. If no direct modification is possible to the counted noun, maybe the counted noun has already collapsed into a classifier in this usage.

Noun valency class Japhug has the distinction between alienable and inalienable nouns. An inalienable noun has to have a possessor which is indexed on the noun, and this possessor can be understood as a core argument of the head noun (Jacques 2021, p. 116).

Coordination One interesting feature of the Japhug comitative is it's also considered when deciding the number of an NP (Jacques 2021, p. 332); but it's still not prototypically a conjunction (Jacques 2021, p. 420): the NP following the comitative marker may be omitted, agreeing with the fact that the head noun of an NP can also be dropped (Jacques 2021, p. 425). (In English this is only possible for clauses: in informal writing and speech people may start with a sentence with *and*, i.e. a conjunction construction without the first branch, but they never do so to an NP.) The NP after the comitative marker can also be relativized. Thus the comitative suffix is still recognized as a type of modification.

2.3 Clause combining

Control In Japhug, the argument in a controlled velar infinitive that is co-referential with the argument in the matrix clause can be S, A, P, and also themes in ditransitive constructions and the recipient of secundative verbs (Jacques 2016), or even the possessor of these arguments (Jacques 2021, p. 1366).

The neutralization of S and P may hint at *syntactic* ergativity. I however suspect that this may be related to the pseudo-passive construction, where the deep P argument appears as the surface A, and as the velar infinitive does not have polypersonal indexation, the inverse marking is absent.

The coreference between the matrix clause subject and a possessor in the infinitive is more interesting. This is definitely an external possession construction, but we do not know what mechanisms are under it (Deal 2017).

2.4 Ideophones

The category of ideophone occupies mainly manner adverbial positions (Jacques 2021, § 10.1.7). Its main difference with the adverb class is its morphology (Jacques 2021, § 10.1.2) and phonology (Jacques 2021, § 10.1.5).

2.5 Analyzed examples

The sentence final stative verb *ŋu* be.FACT is listed as a stative verb in the dictionary and seems to take the constituents before it as a finite complement clause (TODO: or report speech? see the condition on p. 1317), which is without any explicit complementizer. But also see pp. 1081,

Chapter 3

The verb

Japhug is a heavily inflected language, and most grammatical categories in the clause have something to do with the verb. The structure of the verb can be divided into the outer prefix chain (Jacques 2021, Table 11.1), the extended stem, and the suffix chain (Jacques 2021, § 11.3); the extended stem contains the stem, which may undergo stem alternation (Jacques 2021, Ch 12), and inner prefixes related to valence alternation (Jacques 2021, § 11.2.2).

Whether this complex is to be regarded as one *morphological* or *phonological* word is discussed in § 11.6 in the reference above. Recognition of wordhood, expectedly, is not self-evident; Prins (2011) provides an analysis of another rGyalrong language, Jiaomuzu, and in this thesis the term *verb phrase* (i.e. verbal complex in this note) is used, skipping the discussion on what is a word. In Jacques (2021, Table 11.3) four domains are defined using various criteria.

Domain A is defined according to both syntactic and morphological reasons. What's shown in Table 11.3 contains all formatives that are relevant to verb inflection, and they have non-adjacent dependencies, so strong dependencies exist between them: these formatives are realized in the same batch in clause building. Now syntactically, the formative *-ci* in slit +4 is selected by some modal prefixes in slot -6, so the two slots belong to the same system; on the other hand, outside the +4 and -6 slots we only have clitics which clearly belong to systems with higher positions (Jacques 2021, § 11.6.2), and thus all – and only – formatives in Table 11.3 constitute a syntactic word, with the same *syntactic* status of a verb-plus-auxiliary verbal complex or a "verb phrase" in Dixon's definition (i.e. without internal complements). Morphologically, no element is able to intervene between two slots in the template, so we say this batch is realized as a single morphological word instead of a verbal complex.

Domain B is about *obligatoriness*: thus the +4 slot is not included. Domain C is defined according to prosodic reasons.

Chapter 4

Verb frames

In this chapter we summarize basic verb frames in Japhug. This is done in Jacques (2021, p. 14), which is mostly about the finite clause without any valency alternation operations.

Chapter 5

TAME marking

Realizational details The TAME categories in Japhug are introduced in Jacques (2021, Ch 21). Morphologically speaking, there are three systems (Jacques 2019, p. 516):

- The PRIMARY system, whose main exponents are stem alternation, the orientation preverb, and the modal prefix; all of these happens in the template of the verb (Jacques 2021, Table 21.1). The grammatical categories marked in this system are listed below.
- The SECONDARY system, which also happens in the inflection pattern of the verb but is about aspectual and modal categories largely orthogonal to the grammatical categories marked by the PRIMARY system (Jacques 2021, § 21.6, § 21.7).
- The PERIPHRASTIC system, whose surface form is similar to complement clause constructions with the copula *ŋu*. The copula in periphrastic constructions never takes any argument indexation markers (Jacques 2021, p. 1090), and if we are to analyze the constructions as complement clause constructions, then the literal reading will be something like "it's the case that an event happens", with all the contents before the copula being a complement clause of the copula. In the follows however it can be seen that the TAME categories on the copula is complementary with the lexical verb, and hence the periphrastic constructions are to be analyzed as single-clause constructions.

  In periphrastic constructions the main verb is often in *finite* forms (Jacques 2021, p. 1081); Japhug periphrastic conjugation thus has a difference with English or Latin periphrastic conjugation, where what are used in periphrastic TAME categories are *non-finite* verb forms. The reason possibly is because the periphrastic TAME categories in Japhug historically comes from finite complement clause constructions.

  TODO: is there any constraints on the distribution of participle or infinitive?

The interaction of the three morphological systems makes Japhug TAME system extremely complicated; some periphrastic categories seem to have identical semantics with PRIMARY and SECONDARY TAME marking devices (Jacques 2021, p. 1092); whether there are hidden nuances is still not clear.

Besides the verbal complex, TAME categories are also marked by sentential adverbs and sentence-final particles (Jacques 2019, p. 518; Jacques 2021, § 21.8).

Interaction with other categories TAME categories interact strongly with the lexical aspect of the main verb, which can be crudely divided into being stative and being dynamic (e.g. Jacques 2021, § 21.3.1.2), the person of the subject, and TODO: other properties

Attested categories The following subcategories can be recognized in Japhug:

- Subjective evaluation: some TAME categories can be used to express the feeling of the speaker (§ 21.3.2.4) – but is this a grammatical category?

- Evidentiality. Japhug has a highly complicated evidentiality system (Jacques 2015, Table 31.4). The values of evidentiality attested include the generic, the factual, the sensory, the egophoric, and the inferential.

  A three-fold distinction can be observed with the non-past tense (Jacques 2021, § 21.3.4; Jacques 2019, p. 517): the factual or common knowledge (§ 21.3.1.2), the sensory (§ 21.3.2.2), and the egophoric.

  Actually there is a fourth, bleached "generic" evidentiality value with the non-past tense. The generic non-past TAME configuration with no other non-trivial TAME marking is known as the IMPERFECTIVE (Jacques 2021, § 21.2). This however seems to be very infrequent in main clauses without periphrastic auxiliaries (p. 1087), indicating a strong preference for Japhug to include a non-trivial evidentiality value in non-past sentences.

  The inferential evidentiality value appears only with the past tense, possibly because of semantic reasons: an event happening now usually doesn't need to be "inferred", and this rarity means even this category existed historically, it has long been eroded. With the past tense, we have a dichotomy between the generic evidentiality and the inferential evidentiality. It's impossible to morphologically mark the sensory evidentiality with the past tense, possibly again because of the infrequency of this configuration. It should however be noted that the sensory can still be combined with the past tense by periphrastically attaching a sensory copula to the AORIST (i.e. PAST PERFECTIVE – see below) and the PAST IMPERFECTIVE which have default evidentiality (Jacques 2021, § 21.5.1.8, § 21.5.3.5; Jacques 2019, p. 518). On the other hand, the factual evidentiality and the egophoric evidentiality are never seen together with the past tense.

- Primary tense. The distinction between the past and the non-past can be clearly identified (§ 23.3, § 23.5), partly from the interaction with evidentiality. The meaning of future is regularly expressed in the FACTUAL category (p. 1102), and thus is sometimes recognized as the future tense or "factual evidentiality in the future tense" (Jacques 2019, p. 518). This however seems to be the natural extension of the meaning of the present tense (c.f. English *the next high tide is around 4 this afternoon*; Huddleston and Pullum 2002, p. 131, [20]), and in Jacques (2021), the future tense is not recognized as a grammatical tense in Japhug (Jacques 2021, p. 1102, (46)).

- Modality. In Japhug, once the irrealis situation occurs, it seems other TAME categories are not available. There are four types of irrealis modalities falling in this domain: the IRREALIS, the DUBITATIVE, the IMPERATIVE, and the PROHIBITIVE (Jacques 2021, § 21.4).

- It seems the anterior category (the PERFECT category in English) is absent in Japhug.
- Aspect: the imperfective-perfective distinction. The non-past categories are always inherently imperfective: no perfective aspectuality is seen with non-past tense (Jacques 2019, p. 517), again possibly because of semantic reasons, since the perfective may be semantically identified with the past. The imperative-perfective distinction can only be seen with the past tense (Jacques 2021, Table 21.1, note that the AORIST is also known as the PAST PERFECTIVE; pp. 1135, 1143).
- Aspects TODO: terminative, continuative, etc. TODO: the position of the inchoative aspect The progressive aspect (§ 21.6; note that Table 21.8: compatibility?)

The composition between these categories is not orthogonal, and no independent morphological exponent can be identified for each separate TAME categories mentioned above (but in periphrastic conjugation, distribution of these primitive TAME categories onto the main verb and the auxiliary copula can be observed; Jacques 2021, p. 1089, (7)).

Primary categories By combining these categories and removing unattested combinations, we find the 11 PRIMARY TAME categories listed in Jacques (2021, p. 21.1). The realis part is replicated in Table 5.1. Note that the AORIST is just the PAST PERFECTIVE in Jacques (2015, Table 31.4), and indeed Jacques (2021, p. 1135) makes it clear that the category expresses past perfective events. It should be noted that the mapping from tense, aspect and evidentiality features to concrete PRIMARY categories is only unidirectional: for some categories there are usages that can't be full described by Table 5.1. For example, the IMPERFECTIVE category has hortative meanings sometimes (Jacques 2021, § 21.2.5); and the concrete PRIMARY categories also have non-trivial interaction with the lexical aspect of verbs (Jacques 2021, § 21.2.6, § 21.2.7).

Table 5.1: Analysis of Japhug realis TAME categories; the two sensory past cells may be filled by PERIPHRASTIC NARRATIVE (Jacques 2021, § 21.5.1.8) and PERIPHRASTIC IMPERFECTIVE NARRATIVE (Jacques 2021, p. 1157), although the two constructions are only in use in a part of the population; the meaning of the two constructions are also mostly similar to the INFERENTIAL and the INFERENTIAL IMPERFECTIVE.

tense	aspect	evidentiality				
		generic	factual	sensory	egophoric	inferential
non-past	imperfective	IMPERFECTIVE	FACTUAL	SENSORY	EGOPHORIC PRESENT	
past	imperfective	PAST IMPERFECTIVE				INFERENTIAL
	perfective	AORIST				INFERENTIAL IMPERFECTIVE

Periphrastic conjugations In a periphrastic construction we have a main verb in one of the non-past forms and one copula carrying tense and aspect information. The most prevalent periphrastic constructions are those formed by combining the copula and the IMPERFECTIVE (Jacques 2021, p. 1089), but constructions with FACTUAL (Jacques 2021, § 21.3.1.4) and SENSORY verb forms are also possible.

Chapter 6

Clause embedding

Manner serial verb construction The term *serial verb construction* is a cover-all terms for constructions where there are two verbs (or at least words that look like verbs) found in a clause but the clause is clearly not a complement clause construction or an auxiliary verb construction. The underlying structure can be extremely heterogeneous: control construction, coordination on the level of core verb phrase (hence the two verbs share the same TAME marking), manner adverbial construction where the modifier is a core verb phrase, non-prototypical auxiliary clause construction, and even more. In Japhug attested serial verb constructions can all be placed under the category of manner adverbial construction (Jacques 2021, § 25.4.1).

In the Japhug serial verb construction, the modified main verb is the second verb; the modifier precedes the main verb and may be one of the follows:

- A deideophonic verb (Jacques 2021, § 25.4.1.1);
- A similative verb phrase containing *fse* or *stu* and their semi-object, with the meaning of 'do like this';
- A verb phrase describing simultaneous action (Jacques 2021, § 25.4.1.4), possibly followed by the emphasis marker *zo*;
- Other verbs of manner.

In all cases, the first verb (or verb phrase) is the modifier; discourse linker *tɕe* can appear between the modifier and the main verb (Jacques 2021, p. 1408, (73)), demonstrating that the two verbs are two morphological words.

Degree serial verb construction Interestingly, a serial verb construction describing the degree of an action can also be found in Japhug; in this construction the verb describing the degree is the *second* verb. One way to analyze the historical origin of the construction is to treat everything before the stative degree verb as its complement, and thus Jacques (2021, p. 1410, (76)) may be analyzed as 'that the elders who knew [traditional stories] well die is finished.' This however is against the observation that the agreement marker on the second verb agrees with the subject (and therefore is plural in the above case, not singular as expected for an impersonal verb), which clearly says that the construction is indeed monoclausal.

Another possible historical origin of the construction is verb phrase-level coordination, something with the meaning of English *?The elders who knew traditional stories died and they finished.* The English example here is awkward, partly because *die* is a

state-change verb in English and therefore specifying its progress is semantically unacceptable.

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