

Non-morphological devices for expressing TAM in Kadorih

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1. Overview

Kadorih is a dialect of Ot Danum (West Barito, Austronesian), spoken in the upper reaches of Kahayan River in Central Kalimantan, especially in the West of Tumbang Miri.

Kadorih has no consistent morphological devices for indicating tense, aspect and mood/modality (TAM), in other words, there is no grammaticalized TAM category in the grammatical system of Kadorih. In this paper, on the basis of Inagaki (2007, 2008), I will describe various non-morphological devices which indicate TAM meanings.

In Kadorih, TAM meanings are wholly or partly denoted by content/function words or larger linguistic units except for undergoer voice infix, for example, adverbs, auxiliaries, nouns, verbs, prepositions, existentials, particles, interjections, numerals, verbal repetition (not reduplication), or intonation.

I will consider six temporal functions in section 2 (remote past, general past, near past, near future, general future, present), four aspectual functions in section 3 (iterative, perfect, liminal, imperfective), and seven modal functions in section 4 (imperative, interrogative, abilitive, deontic, volitive, epistemic, evidential), and conclude that Kadorih has various non-morphological means for indicating TAM meanings.

2. Temporal indicators

Kadorih has many auxiliaries for aspect or mood/modality like many western Austronesian languages (cf. Himmelmann 2005: 159), but does not have any auxiliaries for tense. In Kadorih, tense can be indicated by various time adjuncts like in ‘standard formal Indonesian’ (Sneddon 1996). (1) shows an example of standard formal Indonesian.

(1) Standard formal Indonesian (Sneddon 1996: 197, emphasis added)

a. *Tadi pagi dia pergi ke kantor.*

a.short.while.ago morning 3SG go to office

‘This morning he **went** to the office.’

b. *Dia pergi ke kantor.*

The verb *pergi* ‘go’ in (1a) refers to a past event and cannot refer to a nonpast one. This interpretation on the verb arises from the adjunct *tadi pagi* ‘this morning’, which indicates past tense in the given context. On the other hand, both past and nonpast interpretations are available when tense is not indicated at all as in (1b). These facts are true for all clauses in Kadorih.

For example, the verb *ngisok* ‘ask’ in (2a) refers to a past event, not to a nonpast one, while the clause in (2b) may be interpreted as either past or nonpast.

- (2) a. *nanai ahku ngisok io.*¹
 a.moment.ago I to.ask 3SG
 ‘A moment ago, I **asked** him.’
 b. *ahku ngisok io.*

Basically, temporal specification of clauses such as in (2a) is optional. However, as will be seen in the following subsections, Kadorih has many kinds of optional elements for indicating tense, and this fact poses a question of how they contrast with one another within the system of temporal interpretation.

In this section, I will describe six temporal functions: three kinds of past tense (general, remote, near), two kinds of future tense (general, near), and present tense. They can be indicated mainly by temporal nouns and adverbs.

2.1 Past

In this subsection, three kinds of past tense are described. Table 1 summarizes the forms of past tense indicators and their sub-functions, parts-of-speech distinction, and availability of adnominal modification.

Table 1. Past tense indicators in Kadorih

	<i>lomoi</i>	<i>hatuh</i>	<i>aang ihco</i> + temporal noun	<i>malom</i>	<i>(na)nai</i>
sub-function	remote past	general past		near or distant past	
part of speech	noun	adverb	(adverbial phrase)	noun	adverb
adnominal	few?	no	no?	yes	yes

2.1.1 Remote past

The temporal noun *lomoi* ‘era (=former)’ ensures that the situation time (=the time of the predicated situation) is completely remote past. It usually means ‘several decades ago’. Based on its syntactic distribution,² *lomoi* is classified as a noun. All temporal or locational nouns can act as adverbial or adnominal modifiers, *lomoi* can also occur either in adverbial or adnominal position as in (3).

- (3) a. *lomoi yaro usaha aang booi, aang juoi aro usaha.*
 former there.be.no effort at/in/on downriver at/in/on upriver much effort
 ‘**Formerly** there was no effort (to trade) in the downstream area, but in the upstream area, there was much effort.’

¹ The orthography I use in this paper is phonemic. Special symbols are as follows. Bilabial *w* [β], alveolar *l* [ɾ], alveolo-palatal *c j* [tɕ dʒ] *ny* [ɲ] *s* [ɕ] *y* [j], and velar *ng* [ŋ]. In addition to these segmental symbols, the fake diphthongs are spelled as *V'i / V'u* in which the vowel sequence is divided by the intervening apostrophe (e.g. *bolo'u* ‘hungry’ vs. *bolou* ‘fruit for food (slang)’).

I will use the following abbreviations: <...> infix, 3 third person, ABST abstract nominalizer, ANAPH anaphoric, CAUS causative, CL classifier, DEM demonstrative, DIST distal, EMPH emphatic, EX exclusive, EXCL exclamative, EXP experiential, FOC focused, FUT future, IN inclusive, IPFV imperfective, NEG negative, PF perfect, PFV perfective, PL plural, PLN place name, POSS possessive, PSN person name, Q question marker, QUOT quotative, REL relativizer, SG singular, SPON spontaneous, TOP topic, UV undergoer voice.

² It can be the head of an NP, and can be followed by demonstrative clitics *tuh* and *rih*.

- b. *kadorih=lah kolou kesah Miskin jaman lomo*.
 like.that=EMPH state story PSN period former
 ‘The story of Miskin in the **old** days is just like that.’

In (3a), the noun *lomo* is used as an adverbial modifier, which indicates remote past tense for the propositions denoted by the clauses. The propositions of the sentence are expressed by the phrases *yaro usaha* ‘there be no effort’ and *aro usaha* ‘(there be) much effort’. (3a) means that the situation times of ‘there_be_(no-)effort’ precede the reference time *r* (here, the time of the utterance) by several decades. On the other hand, in (3b), *lomo* occurs in adnominal position, modifying the preceding noun *jaman* ‘period’. The time indication in (3b) is non-propositional, and the phrase *jaman lomo* means that the time of the ‘period’ precedes *r* by several decades.

In both examples of (3), the temporal specification is remote past tense, and it cannot be future, present, or even near past because of the existence of *lomo*. Thus, the tense indication by *lomo* can be described as in (4).

- (4) The situation time of a clause or the time of a noun must be remote past if the relevant clause/noun is modified by *lomo* ‘former’.

2.1.2 General past

“General past” in the description of *Kadorih* is the non-remote or non-near past tense. Roughly speaking, the temporal distance from the reference point of time is unspecified.

(5) shows the examples of a general past indicator *hatuh* ‘the past’. It is an adverb, but can appear after preposition, as (5a) shows.

- (5) a. *tahkan hatuh* [from the.past] ‘in the past ~ years (during one’s lifetime)’
 b. *ahku hatuh tohko nuhpi*.
 I the.past there.be dream
 ‘I **had** a dream.’
 c. *behteng koro Kasuya nokuh Tumbang Korik hatuh*,
 when we.two PSN toward PLN the.past
 ‘When I **went** to T. Korik with Kazuya, (my engine broke down.)’

In (5b), *hatuh* occurs between the argument *ahku* and the predicate *tohko nuhpi*. This occurrence is typical for auxiliaries or adverbs. Also, clause final occurrence is possible only for adverbs as shown in (5c). Although *hatuh* can distribute in a variety of ways, it always modifies the predicate. (5b) and (5c) mean that the situation times of ‘there_be_dream’ and ‘go_to_T.Korik_with_Kazuya’ precedes the reference time *r* which is given by the context.

On the other hand, various temporal nouns can indicate general past tense when combined with *aang ihco* [at/in/on one] ‘on a certain ~’.

- (6) a. *aang ihco kotihka, io tulak ngandup*.
 at/in/on one time 3SG to.depart to.hunt
 ‘On one occasion, he **departed** to hunt.’
 b. *aang ihco ondou, ahku nohto mahtan ondou bolop*.
 at/in/on one day I to.see sun extinguished
 ‘One day, I **saw** the sunset.’

In order to indicate general past tense, the phrase *aang ihco* + temporal noun must be used without further indication of tense. If it is combined with future tense marker *nain* ‘later’ as in (7), the tense of the event is specified as future (cf. *aang ihco ondou* in (6b)).

- (7) *kanahuang=ku aang ihco ondou nain.*
 wish=my at/in/on one day later
 ‘My hope would be that (I **would** do that) someday.’

In (5) and (6), the temporal specification cannot be nonpast, rather it must be general past tense. (8) shows the description of the tense indication by *hatuh* and the phrase *aang ihco* + temporal noun.

- (8) The situation time of a clause must be general past (=temporal distance unspecified) if the relevant clause is modified by *hatuh* ‘the past’ or *aang ihco* + temporal noun ‘a certain ~’.

2.1.3 Near past

Near past modifiers in Kadorih tend to occur close to their modifyees such as verbs and nouns. For example, (9) shows the preverbal/postverbal occurrences of the temporal noun *malom* ‘yesterday, not long ago’, which modify the following/preceding verb *pihkir* ‘to think’.

- (9) a. *ahku malom pihkir huang nguan ara-i bohkon.*
 I not.long.agoto.think inside to.make name-3SG.POSS different
 ‘I **thought** about giving him a different name.’
 b. *ahku pihkir malom umba kawal=ku.*
 I to.think not.long.agowith friend=my
 ‘I **thought** (over it) together with my friend.’

The specification of near past tense is propositional in (9). The temporal noun *malom* carries the meaning of near past relevant to the whole propositions, ‘think_about_giving_him_a_different_name’ and ‘think_over_it_together_with_my_friend’. On the other hand, the tense specification of the adnominal *malom* is non-propositional.

- (10) “*mukin eku malom turih*” *hion huang=ah.*
 possibly mine not.long.ago DEM.ANAPH QUOT inside=3SG.POSS
 ‘“That might be what I gave yesterday” said in his heart.’

In (10), *malom* carries the meaning of near past relevant only to the nominal *eku* ‘mine’. It means that the event ‘my giving’ which is packaged as *eku* ‘mine’ was performed not long ago (in this example, it was the day before).

Basically, *malom* specifies near past tense as described above, but there are cases of distant past, as (11) shows.

- (11) a. *io jadi lahir aang bulan holu malom.*
 3SG PF born at/in/on month firstly/past not.long.ago
 ‘He was born **a few months ago**.’

- b. *jadi, orih naing kesah=ku,*
 then ANAPH word story=my
panyala-k=ku ngitot injah=ku nokuh Tumbang Mili malom.
 journey-my=my to.deliver mate=my toward PLN not.long.ago
 ‘So, that’s my story, (a story of) my journey when I took my mate to T. Miri before.’

Another near past marker is the adverb (*na*)*nai* ‘a moment ago, earlier’ introduced in (2) above. It specifies that an event occurred today (hodiernal). The word *nanai* often occurs in a clitic form *nai* resulting from the deletion of its first syllable.

- (12) *jadi, nanai, jam jahawen=nai*
 then a.moment.ago hour six=a.moment.ago
ihkai jadi kuman konah sihkah kahat jatuh.
 we.EX PF to.eat dishes edible.soft.shoot betel FOC.DEM.DIST
 ‘A little while ago, at six o’clock, we ate dishes of the edible soft shoot of that (not the other) betel tree stem.’

(13) shows the adverbial occurrence of *nanai*, while (14) shows the adnominal one.

- (13) Adverbial *nanai*: propositional near past
 a. *nanai ahku ngesah koturunan Tupang.*
 a.moment.ago I to.tell.story descendant PSN
 ‘A little while ago, I told about the descendants of Tupang.’
 b. *ahku nanai murik, murik bongo-k=ih,*
 I a.moment.ago to.go.upstream to.go.upstream by.oneself-my=just
 ‘I paddled upstream a little while ago, went just by myself, (left at 11:30).’

The adverb *nanai* specifies near past tense relevant to each proposition in (13). Therefore, the events ‘tell_about_the_descendants_of_Tupang’ and ‘go_upstream_by_myself’ precede the reference time *r* in both cases. On the other hand, the adnominal (*na*)*nai* specifies near past tense relevant to the nominals, ‘yours’ and ‘that_village’ in (14).

- (14) Adnominal *nanai*: non-propositional near past
 a. *inon kolou emu nanai=rih?*
 how yours a.moment.ago=ANAPH
 ‘How was yours? (=How did you get your (fruit of rambutan)?)’
 b. *io ahkan jadi raja aang lowu jatuh=nai.*
 3SG FUT to.become king at/in/on village FOC.DEM.DIST=a.moment.ago
 ‘He will become a king in that (not the other) village.’

(14b) contains non-propositional near past tense on the locational NP *lowu jatuh=nai* and propositional future tense specified by *ahkan* on the whole clause (see 2.2.2 below). This example illustrates that the verbal and nominal temporal markers coexist in Kadorih and that they are independent of each other.³

In all examples above (9–14), the temporal specifications are near or distant past tense, and it cannot be future, present, or even remote past because of the existence of *malom*/(*na*)*nai*. Thus, their tense indication can be described as in (15).

³ Kadorih has no inflectional category of tense on nouns as can be seen in the examples quoted in typological studies (e.g. Evans 2000, Lehmann & Moravcsik 2000) and as surveyed in Nordlinger & Sadler (2004).

- (15) The situation time of a clause or the time of a noun must be near or distant past if the relevant clause/noun is modified by *malom* ‘not long ago’ or *(na)nai* ‘a moment ago’.

2.2 Future

In this subsection, two kinds of future tense are described. Table 2 summarizes the forms of the past tense markers and their sub-functions, parts-of-speech distinction, and availability of adnominal modification.

Table 2. Future tense markers in Kadorih

	<i>hawun</i>	<i>nain/noin</i>	<i>(ah)kan</i>	<i>pongo</i>	<i>balang</i>
sub-function	near or distant future		general future		
					+negative
part of speech	noun	adverb	preposition	noun	adverb
adnominal	few?	few?	no	few	no

2.2.1 Near future

Near future tense in a clause can be specified by the temporal noun *hawun* ‘tomorrow’, as (16) shows.

- (16) *yo, eam ombai, ko-k. hawun, hawun=ku ngua-i.*
 OK NEG why nephew-my tomorrow tomorrow=I to.make-3SG/PL
 ‘OK, don’t worry my nephew. Tomorrow, I **will** do it.’

In (16), *hawun* is used as an adverbial modifier. (16) means that the situation time of ‘I_do_it’ follows the reference time *r* by one day. This near future marker may modify another temporal noun, for example, *panyalak=ku ondou hawun* [journey=my day tomorrow] ‘my tomorrow’s journey’.

The following example (17) shows that there is a case of non-tomorrow future indicated by *hawun*. The (sub)event of ‘bring_it_to_your_place’ in (17) can follow reference time *r* by several days.

- (17) a. *kenang-kenangan ijo ahkan omin nokuh unuk emu hawun.*
 reminiscences REL for bringing toward place yours tomorrow
 ‘(This is a) reminiscence for you **to bring** your home later.’

Another near future marker is the adverb *nain/noin* ‘later’. It can specify the tense of a clause as near future by modifying a predicate as in (18a), and may modify a temporal noun as in (18b) (and (7) above).

- (18) a. *noin=ku nguan eku aro bara emu=tuh, eku=rih.*
 later=I to.make mine much from yours=DEM, mine=DEM
 ‘Later, I **will** increase mine more than yours (gathered fruits), mine.’

- b. *ahku=tuh mahtoi, naing=ah, ondou kuju noin.*
 I=DEM to.die word=3SG.POSS day seventh later
 ‘I **would** die, he said, seven days later.’

In (16-18), the temporal specifications must be near or distant future tense because of the existence of *hawun/nain/noin*. Thus, the tense indication by them can be described as in (19).

- (19) The situation time of a clause must be near or distant future if the relevant clause is modified by *hawun* ‘tomorrow’ or *nain/noin* ‘later’.

2.2.2 General future

“General future” in Kadorih is the non-remote or non-near future tense as noted for “general past” in 2.1.2. There are three general future markers in Kadorih, (*ah*)*kan* ‘for’, *pongo* ‘late, later, last’ and *balang* ‘not to happen’.

Basically, *ahkan* is used as a preposition to introduce a goal argument.⁴ In addition, *ahkan* can introduce a purposive clause, as (20) shows.

- (20) a. *ahkan=kai narik=ah, ahku nyawot dohop umba oka=ku*
 for=we.EX to.pull=3SG/PL I to.ask.for to.help with older.brother=my
 ‘**In order that** we could pull it (=tree) down, I asked my older brother for help.’
 b. *ahka-m ngoruh ihkai jahawen=tuh.*
 for-you to.take.a.wife we.EX six=DEM
 ‘**In order** for you to take us for your six wives.’

(21) shows *ahkan* used for a general future marker when it occurs between a subject argument and a predicate. It cannot appear in a post-nominal position probably because it is basically a preposition.

- (21) a. *eam io ahkan natarang=ah.*
 NEG 3SG FUT to.collide.with=3SG/PL
 ‘It (=boat) **will** not collide with them (rocks).’
 b. *nah, ahku (ah)kan bakesah, iyo orih jodol “Miskin”.*
 well I FUT to.tell.a.story then ANAPH title PSN
 ‘Well, I **am going to tell** a story, it is “Miskin”.’

(21) means that the situation times of ‘It_collide_with_them’ and ‘I_tell_a_story’ follow the reference time *r*. The temporal distance between the situation time and *r* can be specified as one day by the near future *hawun*.

- (22) “*hawun*” *hio-i, “Cahaci ahkan ngunyang=ah”.*
 tomorrow QUOT-3SG.POSS PSN FUT to.check.fish.trap=3SG/PL
 ‘“Tomorrow” she said, “(Ra)cahaci **will** check the fish trap”.’

Another general future marker is the adjective *pongo* ‘late, later, last’. However, the functional load of this marker is very low, therefore it does not occur frequently. (23) shows that *pongo* modifies the temporal noun *ondou* ‘day’.

⁴ For example, *ahkan Mulau* ‘(brought back home many birds) for Mulau’, *ahkan Putu Sibau* ‘(moved) to Putu Sibau’.

- (23) *ahku tou hosombang umba io ondou pongo.*
 I can to.meet with 3SG day late
 ‘I can meet him **in the future.**’

There is another marker which is semantically complex,⁵ *balang* ‘not to happen (for some reason)’. Morphologically, *balang* cannot be analyzed as a polymorphemic word. (24) shows that *balang* modifies the predicate *mahtoi* ‘to die’. It cannot appear in a post-nominal position.

- (24) *tuh, kurun maruan=kai, balang=ku mahtoi=rih.*
 DEM thank.God soul=our.EX not.to.happen=I to.die=ANAPH
 ‘Now, giving thanks to our soul, I **would not** disappear.’

The temporal specifications of *ahkan*, *pongo* and *balang* cannot be past or present. The tense indication by them can be described as in (25).

- (25) The situation time of a clause must be general future if the relevant clause is modified by *ahkan* ‘for’, *pongo* ‘late, later, last’ or *balang* ‘not to happen’.

2.3 Present

The distinction of temporal distance can be tied to both past and future tense as seen in preceding subsections (e.g. remote past vs. near past). On the other hand, it is usually not tied to present tense. Essentially, “the situation referred to [...] by the present tense is simply a situation holding literally at the present moment” (Comrie 1985: 38).⁶

In Kadorih, present tense can be indicated by the phrase constituted by a temporal noun and a demonstrative *tuh*. In the following example, the temporal nouns *behteng* ‘midst’ and *wayah* ‘period’ are introduced.

(26a) shows adverbial occurrence of *behteng=tuh* ‘now’ and (26b) shows adnominal one.

- (26) a. *ahku ngandah=ka nohto anak=ku behteng=tuh sehat.*
 I happy=also to.see child=my midst=DEM healthy
 ‘I am also happy to see my children **are** healthy.’
 b. *jakai ndoi=io ngomin kompas behteng=tuh kolou Kasuya.*
 if if=3SG to.bring compass midst=DEM like PSN
 ‘If he brought a **modern** compass like Kazuya.’

The sentence in (26a) is analyzed as a nesting structure involving double embedding of the predicates [I_be_happy [I_see [child_be_healthy]]]. The phrase *behteng=tuh* specifies present tense on its following predicate *sehat* ‘(be) healthy’ in order to contrast with a hypothetical situation ‘child_be_not_healthy’ in the past or future.

In (26a), *behteng=tuh* carries the meaning of present tense relevant to the proposition of ‘child_be_healthy’. On the other hand, the tense in (26b) is non-propositional. Therefore, *behteng=tuh* in (26b) carries the meaning of present tense relevant only to the noun *kompas* ‘compass’, giving the meaning ‘modern’.

⁵ The semantic representation of (24) can be roughly sketched as [will_not [I_die]] in which the event [I_die] is embedded under the future-negative predicate. In other contexts, the interpretation can be [will [I_not_die]] or [not [I_will_die]].

⁶ “Whether or not this situation is part of a larger situation extending into the past or the future is an implicature, rather than part of the meaning of the present tense, an implicature that is worked out on the basis of other features of the structure of the sentence and one’s knowledge of the real world” (Comrie 1985: 38).

Another present tense indicator is *wayah=tuh*. The word *wayah* is a borrowed word from Ngaju Dayak (*wajah* ‘period, season’, Hardeland 1858: 638).

- (27) *Muang=tuh, wayah=tuh ijo anai=ka keturuna-i.*
 PSN=DEM period=DEM REL be=also descendant-3SG.POSS
 ‘*Muang*, (the person) whose descendants are living **today**.’

In (27), *wayah=tuh* indicates that the reference time *r* (here, the time of utterance) is included in the lifetime of *Muang*’s descendants. It does not indicate that *r* is included in the lifetime of *Muang*. This present tense indicator does not modify the preceding noun in (27). It specifies present tense relevant to the proposition. An example of non-propositional present tense indicated by *wayah=tuh* has not been attested.

The other phrases constituted by a temporal noun and *tuh* include *ondou=tuh* ‘today’, *ngohkos=tuh* ‘this morning’, *sohit=tuh* ‘this evening’, and *ngolomi=tuh* ‘this night’. However, these phrases do not specify present tense on a clause (or a noun), as (28) shows.

- (28) “*nanjung ondou=tuh*” *hio-i, “masap nokuh Tuhkang Uhkir”.*
 to.walk day=DEM QUOT-3SG.POSS to.visit toward PSN
 ‘“Today, I **will** walk” he said, “(and) visit Tuhkang Uhkir”.’

In (28), the time of the action *nanjung* ‘to walk’ and *masap* ‘to visit’ follows (or possibly precedes in other contexts) the time of utterance which was made by “I”. In other words, the tense of the clauses is not present, but near future (or possibly near past). Similarly, *ngohkos*, *sohit* and *ngolomi* do not indicate present tense even when attached to by *=tuh*.⁷

3. Aspectual indicators

In Kadorih, aspectual specification of predicates is often optional in cases of iterative and imperfective, and obligatory in cases of perfect and liminal. Aspectual meanings are denoted by a large variety of items, which includes auxiliaries, adverbs, verbs, nouns, existentials, prepositions, a particle, an adjective, numerals, temporal noun construction, and verbal repetition.

In this section, I will describe four aspectual functions: iterative (habitual, frequentative), perfect (resultative perfect, experiential perfect), liminal (inceptive, terminative, perfective), and imperfective.

3.1 Iterative

Repetition of an action verb can denote iterativity of the action. (29) shows that the verb *nangui* ‘to swim’ is repeated in order to indicate the recurrent activity.

- (29) *amun ihkai tulak bagawi kuh=pohoi ahi, ihkai nangui nangui=ih.*
 TOP we.EX to.depart to.work toward=shore there we to.swim swim=just
 ‘When going to work on the other side over the river, we just **make it a practice to swim** (to cross the river).’

⁷ The temporal nouns *lomoi* ‘former’, *malom* ‘not long ago’ (see 2.1), *hawun* ‘tomorrow’ and *pongo* ‘late, later, last’ (see 2.2) cannot be attached to by *=tuh*.

Notice that *nangui nangui* ‘to swim swim’ is a repeated verbal phrase, not a reduplicated word (cf. *nangu-nangui* ‘pretend to swim’).⁸ See 3.4 for the imperfective reading of verbal repetition.

The quantified phrases *miar* + temporal noun ‘forward (=every ~)’, *nyinong/sinong* + temporal noun ‘each, every ~’, and the repetitive temporal noun phrase *nganda’i nganda’i* ‘everyday’ can also indicate iterativity. In (30), *nyinong ondou* ‘every day’ specifies the action or process denoted by *ngalai tuhtui auh* ‘to study grammar’ as a daily event.

- (30) *nyinong ondou ahku ngalai tuhtui auh.*
 every day I to.study voice voice
 ‘I studied grammar **every day**.’

3.1.1 Habitual

“Habitual” is usually classified as a kind of imperfective aspect (cf. Comrie 1976: 25, Bybee 1985: 143). I assume that “habitual” in Kadorih is semantically a kind of iterative aspect since it involves a regular and customary/daily situation holding over a period including past, present and possibly future.

The adjective *baas* ‘strong’ can denote habituality of an action. In (31a), *baas* modifies the verb *kuman* ‘to eat’, occurring in the auxiliary position, and specifies that the action denoted by the verb is customary. Accordingly, the whole clause refers to a state of being accustomed. Moreover, in (31b), *baas* constitutes a phrase which means ‘habitually’ with the relativizer.

- (31) a. *ihko baas kuman roti?*
 you strong to.eat bread
 ‘Are you **accustomed to** eat bread?’
 b. *jo=baas, tou ulun nguan=ah.*
 REL=strong can human to.do=3SG/PL
 ‘**Habitually**, people can do it (=seal up a crack).’

In the next example, the construction [*baas* + verbal repetition] is used to indicate a habitual recurrent event. However, both habitual *baas* and iterative repetition denote the recurrence of an event, therefore (32) doubly marks the iterativity.

- (32) *uhcang baas ngulam ngulam dinding dahpur=kai, ndoi=ngolomi.*
 deer strong to.peck peck(?) wall kitchen=our.EX if=night
 ‘A deer **always pecks(?)** at the wall of our kitchen at night.’

3.1.2 Frequentative

The frequency of an event can be easily identified by elements of number-of-times. The information of ‘how often, how many times’ can be clarified by a form of numerals⁹ or the adverb *hino* ‘again’ which specifies the relevant event to happen for the second time or more.¹⁰ (33) shows an example of numeral, (34) shows a *hino* example.

⁸ For the distinctions between repetition and reduplication, see Gil (2005).

⁹ *sino* ‘once’, *handuo* ‘twice’, *hatolu* ‘three times’, *hatoapat* ‘four times’, *hata-limo* ‘five times’, *hata-jahawen* ‘six times’, *hata-uju* ‘seven times’, *hata-hanya* ‘eight times’, *hata-(jala)tien* ‘nine times’, *hata-pulu* ‘ten times’.

¹⁰ The adverb *hino* means ‘more’ when used with adjectives or conjunctive: *segah hino* [strong again] ‘more strong’, *tutang hino* [and again] ‘and further’.

- (33) *hoto-uju tonyop, hoto-uju lapang*
 times-seven sink times-seven float
 ‘seven times sinking, seven times floating’
- (34) a. *kalawu-i noo-i hino aang taruk kacu.*
 then-3SG to.set.up-3SG/PL again at/in/on upper wood
 ‘Then he set it (=fish trap) up **again** on a tree.’
- b. *lombut hino anak palanduk.*
 to.come **again** child chevrotain
 ‘The kid chevrotain appeared again.’

The other frequentative indicators are *ata* ‘incessantly’ and *bojoin* ‘much, many times’.

- (35) *mias otu atuh!*
 excessive ghost that
nulou nulou ka-duo ondou=tuh ata nguan auh atuh.
 to.do(?) ABST-two day=DEM incessantly to.make voice that
 ‘That ghost has gone too far! (It’s excessive) to make that voice **incessantly** for two days.’

In (35), the adverb *ata* ‘incessantly’ denotes the high frequency of the occurrence of the action ‘make_that_voice’. This becomes possible since *ata* specifies an aspectual property of the telic situation. The terminal point of this action is the moment when the ghost finishes uttering his short phrase. In fact, *ata* here indicates that the situation and its terminal point recur.

It is possible for a situation to recur for a long or for a short time. (36) shows that the adverb *bojoin* ‘much, many times’ specifies the high frequency of the action denoted by each verb. In (36a), the daily action of *tulak bagawi* ‘to go to work’ recurs for a long time (for months ~ years), while in (36b) the punctual action of *nohtok* ‘to cut off’ recurs for a short time (for minutes ~ hours).

- (36) a. *ahku bojoin tulak bagawi bongo-k=ih.*
 I many.times to.go to.work by.oneself-my=just
 ‘I **often** go to work just by myself.’
- b. *ahku bojoin nohtok=ah jatuh nyamah aro tohtok=ku.*
 I many.times to.cut.off=3SG/PL FOC.DEM.DIST until much cut=my.
 ‘I cut them (=the branches of the tree) **many times** until a lot of them were cut.’

3.2 Perfect

“The term ‘perfect’ refers to a past situation which has present relevance” (Comrie 1976: 12). There are two kinds of perfect indicators in Kadorih, resultative perfect and experiential perfect. The former entails the direct result of an event but the latter does not so.

3.2.1 Resultative Perfect

The verb *jadi* ‘to become, then, already’ can be used in three different functions in different environments. (37) summarizes its functions and distribution.

- (37) The functions of *jadi* ‘to become, then, already’
- Verb: indicates (non-causative) change of state if it occurs with a noun or an adjective (property concept word)
 - Conjunction: means ‘then’ if it occurs sentence-initially, followed by a pause
 - Auxiliary: indicates resultative perfect if it occurs before a predicate

(38a) shows the verbal use of *jadi* (see also 14b), and (38b, c) show the auxiliary uses (see also 11a). For a conjunction use, see the sentence-initial *jadi* in (11b) and (12) above.

- (38) a. *alut=rih jadi segah=ndoi ta-pasang gading=ah.*
 boat=ANAPH to.become sturdy=if SPON-put.on beam=3SG.POSS
 ‘The boat will **become** sturdy if its beam is put on it.’
- b. *io nyuhu=ku nohto kalimoi ijo jadi ta-marekam=ah.*
 3SG to.command=me to.see legend REL PF SPON-to.record=3SG/PL
 ‘He ordered me to see a (transcribed) legend which **was recorded**.’
- c. *tahpi, jadi ihkai ngorong=ah.*
 but PF we.EX to.straighten=3SG/PL
 ‘However, we **had already repaired** it (=telephone).’

The clause (*kalimoi jadi tamarekam* ‘(legend) was recorded’ in (38b) ensures that the direct result of the event holds at the given reference time. It entails ‘legend_be_recorded’ holding for some time after the completion of the event. Similarly, in (38c), it is entailed that the state ‘telephone_be_repaired’ holds for some time after the event.

In the case of *jadi*, a past situation has relevance to the resultant *state* (at the given reference time). For another resultative perfect indicator, there is a different kind of relevance.

The existential marker *tohko* ‘there be’ can also indicate resultative perfect.

- (39) a. *ahku tohko nyombang=ih, duo kungan kolop.*
 I there.be to.find=just, two CL tortoise
 ‘I just found two tortoises (to eat).’
- b. *ahku tohko moli ohcin ihco kungan.*
 I there.be to.buy fish one CL
 ‘I bought a fish (to eat).’

(39a) shows a finding event acted by ‘I’. In the text, after the event of ‘I_find_two_tortoises’, ‘I’ would eat that two tortoises. In this example, the past situation of ‘I_found_two_tortoises’ has relevance to the resultant *existence* of tortoises. In fact, the tortoises must exist for subsequent cooking and eating. Thus the *tohko* construction in (39a) entails ‘there_be_two_tortoises’ holding for some time after the finding event (=the finding event ~ the eating event). Also in (39b), it is entailed that ‘there_be_a_fish’ holds for some time after the completion of the buying event (= the buying event ~ the eating event).¹¹

In addition, the marker of non-existence (*n*)*yaro* ‘there be not’ can indicate resultative perfect of a negated event.

- (40) a. *yaro=ku ngonih=ndai auh asu mangang.*
 there.be.not=I to.hear=PFV voice dog to.bark
 ‘I **didn’t** completely hear the dog bark.’

¹¹ *tegee* ‘there be’ (borrowed from Ngaju) is not used for indicating continuative perfect.

- b. *Penantang Nuhpi turus tiruh,*
 PSN continuously to.sleep
kuju ngolomi kuju ondou yaro monyun.
 seven night seven day there.be.not to.get.up
 ‘Penantang Nuhpi continued to sleep, for seven nights and seven days he **didn’t** got up.’

The clause with *(n)yaro* in (40a) entails that the state of ‘I_not_hear_dog_bark’ holding for some time in the future. In (40b), it is entailed that ‘he_not_get_up’ holds for seven days.

Another resultative perfect indicator is the undergoer voice infix *-Vn-* (Inagaki forthcoming). (41) shows that the undergoer voice construction *amun tanowong* ‘if it has been felled’ is paraphrased as *umbot towong=ah* ‘after having finished felling’.

- (41) a. *jadi, amun t<an>owong, umbot towong=ah,*
 then TOP <UV>fell to.finish fell=3SG.POSS
 ‘Then, if it (=tree) **has been** felled, (I mean) after having finished felling,’
 b. *-Vn-: amun t<an>owong* ‘if it has been felled’
jadi [PF]: *amun jadi towong* ‘after felling has been done’

It should be noted that the phrase *umbot towong(=ah)* can be paraphrased as *amun jadi towong* ‘after felling has been done’ (see also the description of *umbot* in 3.3.3 for the paraphrasability of *umbot* as *amun jadi*). Thus *t<an>owong* can be paraphrased as *jadi towong* in which the verb *jadi* indicates perfect aspect. However, notice that the voice infix *-Vn-* does not necessarily indicate perfect meaning.

3.2.2 Experiential Perfect

The auxiliary *puji* invariably indicates an experiential perfect of a situation. There is a clear distinction between resultative and experiential perfect in Kadorih, as exemplified by *jadi nokuh* [PF toward] ‘have gone to’, *puji nokuh* [EXP toward] ‘have been to’. In non-elicited texts, *puji* is usually used with negative elements such as *ya, eam, (n)yaro*.

- (42) a. *ya=puji ku=tiruh mahcam orih.*
 NEG=EXP I=to.sleep like ANAPH
 ‘I **have never** slept like that (=sitting on a tree in a jungle).’
 b. *eam puji ulun noon buwu aang taruk kacu.*
 NEG EXP human to.set.up fish.trap at/in/on upper wood
 ‘People **have never** set up a fish trap on a tree.’

The examples in (42) state that the situations denoted by each sentence have never happened in each speaker’s lifetime, at least.

(43) shows the example without the negative element. There is no entailed resultant state holding for some time after the event of ‘stay_in_mountain’.

- (43) *ulun ijo puji mohcon aang puruk*
 human REL EXP to.stay at/in/on mountain
 ‘The man who **has an experience** of staying in the mountains.’

The experiencer can be not only animate as ‘I/people/man’ in (42, 43), but also inanimate as *ondou* ‘day’ in (44).

- (44) *katahin=tuh ondou nyaro puji uhcan.*
 during=DEM day there.be.not EXP rain
 ‘Recently, it **has never** rained.’

3.3 Liminal

In order to describe the aspectual indicators of inceptive, terminative and perfective collectively, I will use the term “liminal”.¹²

On the basis of Timberlake’s (2007: 285) “three phases of liminal predicates”, I define three sequential phases: *an initial phase*, in which an situation does *not* hold; *a transition phase*, during which the situation comes to hold; and *a final phase*, in which there is no more change and the situation can be expected to hold by inertia (=by carrying over the already-established situation). Accordingly, I characterize the three liminal aspects as follows.

- (45) I(nitial phase) – Tr(ansition phase) – F(inal phase) – T(erminal) p(oint)
- | | | |
|-----------------|--|-----------|
| a. Inceptive: | denotes a situation from the initial to transition phase | I–Tr |
| b. Terminative: | denotes a situation from the final to terminal point | F–Tp |
| c. Perfective: | denotes a single whole situation (represented by {...})
from the transition phase to terminal point | {Tr–F–Tp} |

The characterization of perfective given in (45c) conforms to the definition made by Comrie (1976: 18).¹³

The auxiliary *harun* ‘newly’ can indicate inceptive or terminative aspect depending on different predicates. If it occurs with an action/process predicate such as ‘work’ or ‘make’ then it indicates inceptive aspect of the action, while if it occurs with Vendler’s achievement predicate (=“liminal state” in Timberlake’s (2007) terminology) such as ‘reach’ or ‘become’ then it indicates terminative aspect. (46) shows the inceptive readings with action/process predicates, while (47) shows the terminative readings with achievement predicate.

- (46) a. *ahku haru-k=ku bagawi, sakihtar sapulu menit=ih.*
 I newly-I=I to.work approximately ten minute=just
 ‘I newly **begin to** work, but it was only ten minutes work.’
 b. *amun jadi orih, harun=to napa “tutup gading”=ah.*
 TOP PF ANAPH newly=we.IN to.make “tutup gading”=3SG.POSS
 ‘After that, we newly **begin to** make its “tutup gading”.’
- (47) a. *iyo, io turih, kuju ondou tanjung=ah,*
 then 3SG DEM.ANAPH seven day walk=3SG.POSS
haru-i tukun ihco talaga.
 newly-3SG to.reach one pond
 ‘And, his walking was seven days, (after that) he newly **reached** a pond.’
 b. *galapung nyahtong=rih, nyapur umba minyak, harun io manjadi lisan.*
 powder resin=ANAPH to.blend with oil newly 3SG to.become epoxy
 ‘The resin powder, if (we) blend it with oil, then it newly **becomes** epoxy.’

¹² Sometimes inceptive and terminative aspects are called “phasal aspects” (Payne 1997: 240).

¹³ “The perfective does indeed denote a *complete* situation, with beginning, middle, and end. The use of ‘*completed*’, however, puts too much emphasis on the termination of the situation, whereas the use of the perfective puts no more emphasis, necessarily, on the end of a situation than on any other part of the situation, rather all parts of the situation are presented as a single whole.” (Comrie 1976: 18, emphasis added)

3.3.1 Inceptive

There is an inceptive indicator *napara* ‘to begin’ which denotes a situation from the initial phase to transition phase. The prepositional phrase constituted by *tahkan* ‘from’ is often used with *napara* in order to specify a starting point, as (48b) shows.

- (48) a. *nanyam pokomo=ku napara barigas tohko nanyam uhat tulang=ku.*
 feeling feeling=my to.begin healthy there.be feeling tendon bone=my
 ‘I began to feel better, feel my body.’
 b. *rimai=lah, napara takhan ondou atuh io napa=ah.*
 in.sum to.begin from day that 3SG to.make=3SG/PL
 ‘In sum, **from** that day, he **began** to make it (=carved wooden figure)’

The first clause in (48a) includes two events denoted by *napara* and *barigas* ‘(to be) healthy’. And it is entailed that the situation of ‘my_feeling_be_healthy’ did not hold (=the initial phase), and that the situation subsequently came to hold (=the transition phase). On the other hand, in (48b), it is entailed that ‘he_make_it’ did not hold and that it subsequently came to hold by the event of ‘he_begin’.

Logically, *napara* requires the initial phase of a situation to be the presupposition. Therefore, each initial phase in (47), ‘my_feeling_be_not-yet_healthy’ and ‘he_not-yet make_it’ are the presuppositions of each sentence.

3.3.2 Terminative

The verb *tondo* ‘to stop’ denotes a situation from the final phase to the terminal point. It indicates terminative aspect which I characterized in (44) above.

- (49) a. *ahku turus tondo nguan gawi-k=ku.*
 I then to.stop to.do work-my=my
 ‘I then **stopped** my working.’
 b. *ahku tondo sokula.*
 I to.stop school
 ‘I **quit** school.’

The clause in (49a) is constituted by two events denoted by *tondo* and *nguan gawikku* ‘to do my work’. And it is entailed that the situation of ‘I_do_working’ was already established (=the final phase), and that the situation was subsequently led to the terminal point which had been set before than expected. Similarly, (49b) includes two events denoted by *tondo* and *sokula* ‘(to attend) school’. For the clause in (49b), it is entailed that the situation of ‘I_attend_school’ in the final phase was led to the advanced terminal point.

Logically, *tondo* requires the final phase of a situation to be the presupposition. Therefore, the establishments of ‘I_do_working’ in (49a) and ‘I_attend_school’ in (49b) are the presuppositions of each sentence.

Other terminative aspect indicators are the preposition *nyiring* ‘until’, and *nyamah* ‘until’.¹⁴ The preposition *nyamah* is more frequently used than *nyiring*. The prepositional phrases constituted by *nyiring/nyamah* indicate terminal point of a situation as in (50).

¹⁴ *nyamah* is a borrowed word from Ngaju Dayak *njamah* ‘until’ (Hardeland 1859: 385).

- (50) a. *ahku murik nyiring (tukun) Tumbang Anoi.*
 I to.go.upstream until to.reach PLN
 ‘I paddled upstream **until** I reached T. Anoi.’
- b. *ahku huang mandohop io nyamah ngolomi hawun.*
 I inside to.help 3SG until night tomorrow
 ‘I would like to help him **until** tomorrow night.’

3.3.3 Perfective

Perfective aspect necessarily takes the parts of a situation, the transition phase, the final phase. and the terminal point. One of the perfective aspect indicators in Kadorih is the particle *ndai* ‘entirely, no longer’. If it occurs with a stative predicate such as ‘to be intelligent’ or ‘to be stupid’, then the meanings of “become” and “completely” will be added in order to piece together the parts of a situation. This is the case of the example in (51a). On the other hand, if it occurs with an action/process predicate such as ‘to eat’, it will add “completely” to the predicate, as (51b) shows.

- (51) a. *sapiling saketap bahtu kuong Uhko anan,*
 lost thrown.out stone stupidity PSN there
harati=ndai Uhko anan=dih. tuh, eam=ndai io uong.
 intelligent=entirely PSN there=ANAPH DEM NEG=entirely 3SG stupid
 ‘Uhko’s stupidity was lost, Uhko **became** smart. Then, he was **no longer** stupid.’
- b. *ahku kuman bari=ndai.*
 I to.eat cooked.rice=entirely
 ‘I ate the cooked rice **completely**.’

The perfective indicator *ndai* frequently occurs with *perfect* indicators and liminal predicates as exemplified in a sentence such as *Sapanus=tuh jadi nihou(=ndai)* [PSN=DEM PF pass.away(=**entirely**)] ‘Sapanus has (already) been dead’.¹⁵

There is a specific perfective indicator, the auxiliary *jaha(m)* ‘not yet’, which indicates that the relevant situation is insufficient and not completed. This “non-perfective” situation is distinct from imperfective one in that the former denotes a liminal situation while the latter denotes an aliminal one as described in 3.4 below. The clause in (52) means that the action/process ‘to ask many questions’ is insufficient and not completed at the given reference time.

- (52) *ahku jaha ngisok aro umba dolang injah=ku.*
 I not.yet to.ask much with PL mate=my
 ‘I **have yet to** ask my mates about many things.’

Another perfective aspect indicator, the adverb *salenga* ‘suddenly’ involves a special operation which changes two successive phases into a single punctual situation. That is, the transition and final phases are compressed into one complex phase. Thus, *salenga* denotes a situation from the punctual transition-final phase to the terminal point. This punctual conversion can be observed well with action/process predicates as in (53).

- (53) a. *saran umo-m=rih, salenga ta-konih=ku.*
 edge rice.field-your=ANAPH suddenly SPON-hear=I
 ‘At the edge of your rice field, **suddenly** I just heard (the voice).’

¹⁵ The tendency of *ndai* to occur with liminal can also be observed in an inceptive example such as *io napara hajo=ndai* [3SG **to.begin** big=**entirely**] ‘He has become big’.

- b. *ahku salenga nohto oko=ku tutang ulun bohkon.*
 I suddenly to.see old=my and human different
 ‘I **suddenly** just saw my parent and another guy.’

Another perfective indicator is the verb *umbot* ‘to finish’. The resultative perfect indicator *jadi* introduced in 3.2.1 can often be replaced by the perfective indicator *umbot* as in (54).

- (54) *Miskin jadi kuman. rimai=lah, umbot kuman,*
 PSN PF to.eat in.sum to.finish to.eat
 ‘Miskin **already** ate (them). In sum, he **completely** ate (them),’

This fact suggests that there is a certain similarity between these two indicators. As a matter of fact, the perfective *umbot* functions as a conjunction ‘after having finished’ when it links clauses as in (55).

- (55) a. *anan umbot mondui=rih, muluh nguan ukun,*
 there to.finish to.take.a.bath=ANAPH to.cook.rice to.make food
umbot muluh nguan ukun, “yo nang” hion Sangumang.
 to.finish to.cook.rice to.make food OK mother QUOT PSN
 ‘**After having finished** taking a bath there, (they) cooked rice and made meals, and **after** (they) **had finished** cooking rice and making meals, Sangumang said “OK, mother”.’
- b. *aang anan umbot ulun munu urak manuk*
 at/in/on there to.finish human to.kill pig fowl
tongai muluh nguan ukun, umbot muluh nguan ukun,
 portion to.cook.rice to.make food to.finish to.cook.rice to.make food
ulun basarangan. umbot kuman bolum, lang=jo mahcu tiruh, ...
 human to.serve.food to.finish to.eat to.live PL=REL far to.sleep
 ‘**After** people **had finished** killing pig and fowl, some of them cooked rice and made meals, and **after having finished** cooking rice and making meals, the people served the meals. **After having finished** the meal, those who came from far (stayed there and) slept, ...’

In texts, when giving an instruction or explanation for a process of making (e.g. making a boat), both phrases *umbot orih* [to.finish ANAPH] ‘after (having finished) that’ and *(amun) jadi orih* [(TOP) PF ANAPH] ‘after that, after having been done’ are frequently used for moving on to the next process, and these two phrases have little difference in meaning. See 3.2.1 for the description of undergoer voice infix as a minor indicator of resultative perfect.

The perfect *jadi* can also function as a conjunction as noted in (37b). And this kind of perfect(ive) conjunction is used for introducing a situation relative to the established situation of the previous clause. The perfect *jadi* and the perfective *umbot* share that function.

3.4 Imperfective

Repetition of a stative verb can denote imperfectivity of the state. (56) shows that the verb *mihkoh* ‘to be afraid’ is repeated in order to indicate durative aspect. See (29) for the iterative reading of verbal repetition.

- (56) *io=rih mihkoh mihkoh kolou=ah mohcon umba ahku.*
 3SG=ANAPH to.be.afraid afraid state=3SG.POSS to.stay with me
 ‘He is **cautiously** spending time with me.’

In addition, the adverbial phrase *hondou homalom* ‘all day and night’ can also indicate durative situation, as (57) shows.

- (57) *io ngarot=ah, ngalanyang ngalaheng, hondou homalom poros.*
 3SG to.feel=3SG/PL to.be.worried/nervous all.day.and.night ill
 ‘He felt worried/nervous, and painful **all day and night**.’

Another imperfective aspect indicator is the auxiliary *honong*. This auxiliary tends to be used with the predicate of a long-term situation (permanent-like), such as a verb ‘to foster’ in (58a), an existential ‘to be’ in (58b) or even a clause of ‘being six-years old’ in (58c).

- (58) a. *inai Yoga honong rimbit biou.*
 mother PSN IPFV to.foster infant
 ‘Yoga’s mother is bringing up a baby.’
 b. (about *amai Lawang*) *ijo behteng=tuh honong anai behtang, ...*
 REL midst=DEM IPFV to.be long.house
 ‘(The man) whose long house is there now, ...’
 c. *katihka ahku honong umur=ku onom toun, ...*
 time I IPFV age=my six year
 ‘When I was six years old, ...’

The temporal noun *behteng* ‘midst’ (described in 2.3 as a present tense indicator) can indicate progressive situation. Unlike the imperfective *honong*, the other imperfective *behteng* tends to be used with the predicate of a short-term situation (temporary-like), such as a verb ‘to work’ in (59). Frequently, *behteng* functions as subordinating conjunction as seen in (5c) above.

- (59) *puun sohit nanai [...], ahku behteng=ku bagawi*
 base evening a.moment.ago I midst=I to.work
aang karaka lohpu=ku lihkut=hi.
 at/in/on ??? house=my backside=there
 ‘At the beginning of this evening, I **was working** at ___ of my house at the back.’

4. Modal indicators

In this section, I will describe seven modal functions occurring in Kadorih: imperative, interrogative, abilitive, deontic, volitive, epistemic and evidential. They can be indicated mainly by auxiliaries, verbs, nouns, adverbs, particles, etc., and cannot be indicated by morphological means. In this paper, I will use the following terms to refer to the modal functions: (a) ‘command’ for imperative; (b) ‘question’ for interrogative; (c) ‘ability’ for abilitive; (d) ‘obligation and permission’ for deontic; (e) ‘wanting’ for volitive; (f) ‘possibility, necessity’ for epistemic; and (g) ‘inference’ for evidential.

4.1 Command

In Kadorih, second person pronouns (*ih)ko* ‘you’ and (*ih)kam* ‘you all’ can be used to express strong commands when the sentence accompanied by the 2nd person actor argument

is uttered with a specific intonation. This intonation is constituted by suprasegmental features, mainly distinctive loudness (=larger) over the whole sentence to contrast with a simple statement of fact, and sentence-final non-rising pitch. Usually, the 2nd person pronoun in a strong command sentence is used as an address term as in (60).

- (60) “yo nang” hion Sangumang.
 OK mother QUOT PSN
 “ihko” hio-i “norok sondak balai atuh”,
 you QUOT-3SG.POSS to.chop squash big.one that
 ‘Sangumang said “OK, mother”. “You,” he said, “chop that big squash”.’

Person names can function as address terms as illustrated by *bawi Sandah* in (61a) below. However, what characterises each sentence in (61) as (polite) command is the interjection (*a*)*yu* ‘go ahead’. The examples in (61) may not involve the specific intonation observed in (60) above because of the existence of (*a*)*yu*. Frequently, the 1st person plural inclusive pronoun (*ih*)*to* ‘we (including you)’ can be used to express polite command, as (61c) shows.

- (61) a. “*yu*, nimang ahku=*ih*, bawi Sandah”.
 go.ahead to.flatter me=just female PSN
 ‘“Now, say admiring words, Bawi Sandah”.’
 b. “*yu*, nokuh bari”.
 go.ahead toward cooked.rice
 ‘“So, (let’s) dig in”.’ (saying to a guest)
 c. “*ayu* to=*tolu* kuh=*anai*”.
 go.ahead we.IN=three toward=there
 ‘“Let us three go there”.’

The other interjection *ara* ‘Do not’ on its own expresses strong prohibition without the specific intonation. This interjection may be used to express an indirect command for the 3rd person, i.e., “event-oriented” obligation (see section 4.4 below), as (62b) shows.

- (62) a. “*nnn*, tonih inang” hio-i, “*ara* ihko nuhtui”.
 INTJ to.be.silent mother QUOT-3SG.POSS Don’t you to.give.a.speech
 ‘“Hmm, be silent, mother” he said, “**Don’t** speak”.’
 b. *ara* io sundop, *ara* io dalou tusang
 Don’t 3SG tilted Don’t 3SG excessive tilted
 ‘It **must not** be tilted, **must not** be too tilted.’

4.2 Question

Similarly to the command shown in 4.1, questions can be expressed by a specific intonation which involves sentence-final rising pitch.

The other question indicators include the particle *kuwoh* ‘what opinion’ (can be contracted to *boh*), and interrogative pronouns (e.g. *amoh* ‘where’). These markers can express questions without specific intonation.¹⁶ (63) shows the question sentences formed by *kuwoh*, *boh*, and *amoh*. The contracted form *boh* in (63c) may alternatively be analyzed as an exclamative marker.

¹⁶ Notice that the particle (*ku*)*woh* and interrogative pronouns may function as indefinite pronouns either when used directly (e.g. *amoh*) or when reduplicated (e.g. *amo- amoh*).

- (63) a. “*kuwoh hio-m io ahkan tulak?*”
 Q QUOT-your 3SG FUT to.depart
 ‘Do you think that he will depart?’
- b. “*kuwoh hioi, “wartel=mi tou hapan?”*”
 Q QUOT-3SG.POSS telephone=your(PL) can to.use
 ‘He said “can (we) use your telephone?”’
- c. “*boh=anak hioi, “anai=ka aang=jo duo-m?”*”
 Q=child QUOT-3SG.POSS there.be=also matter=REL to.get-you
 ‘“My child” she said, “is there anything you got?”’
- d. “*amoh loh pou=mu?*”
 where house=your
 ‘“Where is your house?”’

4.3 Ability

There are three kinds of ability indicators, the auxiliary *tou* ‘can, may, possible’, the verb *duon* ‘to get, can’, and the verb *taan* ‘to know, can’.

The auxiliary *tou* carries the meaning of ‘ability of the agent’ when used with an animate agent argument as in (64). In (64a), the enabling conditions for the action ‘to_swim’ are internal to the agent *ihko* ‘you’. In (64b), the conditions for ‘to_answer’ are basically internal to the agent, i.e., agent-oriented, but may be outside the agent in other contexts. The ability indicator *tou* can also express permission (4.4) or possibility (4.6).

- (64) a. “*inon ihko tou nangui?*” *hio-k=ku.*
 what you can to.swim QUOT-my=my
 ‘“Can you swim?” I asked.’ (on a boat)
- b. *ahku eam tou mutah=ah.*
 I NEG can to.answer=3SG/PL
 ‘I **didn’t** know the answer.’ (lit. I could not answer it.)

Second ability indicator is the verb *duon* ‘to get’. It can function as an auxiliary indicating the ability of the agent as in (65). The person/number is cross-referenced on *duon* (*-k=ku* [-1SG=1SG]) if agent-oriented ability is indicated. Here, the enabling conditions for the action ‘to_defeat’ is in the agent *ahku* ‘I’. The ability marker *duon* cannot be used to express permission (cf. *tou*), but see 4.6 for its possibility reading.

- (65) “*ahku duo-k=ku po-kalah io.*”
 I to.get-I=I CAUS-to.lose 3SG
 ‘“I **can** defeat him”.’

Third (in)ability indicator is the verb *taan* ‘to know’ which originally means ‘to know’ (e.g. *eam=ku taan ara-m* [NEG=I to.know name-your] ‘I don’t know your name’). Together with the negative auxiliary *eam/ya*, this verb carries the meaning of ‘inability of the agent’, as (66) shows. The (in)ability indicator (NEG) *taan* is not used to express (im)permission (cf. *tou*), but see the (im)possibility reading discussed in section 4.6.

- (66) a. *kapahtung jatuh=nai*,
 puppet FOC.DEM.DIST=a.moment.ago
baya puna ya=taa-i nahasong, ...
 only indeed NEG=to.know-3SG to.breathe
 ‘It is only possible that that (not the other) puppet **cannot** breathe.’
- b. “*ihko ya=taa-m nuhkat ahka-k bua.*
 you NEG=to.know-you to.climb for-me fruit
ombai=poh kan=bawi Sandah malom tou”.
 why=EXCL for=female PSN not.long.ago can
 ‘You **cannot** climb (the tree) to get the fruit for me (now). Why on earth could (you do so) for Bawi Sandah yesterday.’

In (66a), the disabling conditions for the action ‘to_breathe’ are internal to the agent *kapahtung* ‘puppet’. On the other hand, in (66b), the agent *ihko* ‘you (=kid chevrotain)’ could climb a tree ‘yesterday’ but cannot do so today. The speaker of this sentence believes that the disabling conditions for ‘to_climb’ are completely inside the agent. This fact is marked by the cross-reference of 2nd person singular *-m* on *ya=taan*, as 1st person singular *-k=ku* on *duon* shown in (65) above. See also the discussion on “root possibility” in 4.6.

4.4 Obligation and permission

In Kadorih, the command indicators shown in 4.1 can be used to express “event-oriented” obligation (see (62b)). Obligations of this kind “do not rest upon a particular participant, but represent general rules of conduct” (Hengeveld 2004: 1195). For example, in (67), the meaning of event-oriented obligation is conveyed by the command intonation over the sentence. Thus the generic statement of ‘people_set_up_fishtrap_in_the_water/river’ in (67) represents “general rule of conduct”.¹⁷

- (67) “(*ulun noon buwu*) *aang danum, aang sungoi*”.
 human to.set.up fish.trap at/in/on water at/in/on river
 ‘((It is ‘**necessary**’ for) people to set up a fish trap) in the water! in the river!’

The auxiliary (*ma*)*himat* ‘require’ can also indicate event-oriented obligation as in (68).

- (68) a. *mahimat dahtar tohtokah=rih.*
 to.require plain cut 3SG.POSS=ANAPH
 ‘It is ‘**necessary**’ for its piece (of wood) to be plain.’
- b. *jorih pamahku=to segah, himat takhan urung anai=rih.*
 FOC.ANAPH nailing=we.IN sturdy require from nose there=ANAPH
 ‘That (not the other) is what I nailed firmly, it is ‘**necessary**’ for the process to be started from the stem (of the boat).’

On the other hand, the meaning of agent-oriented obligation is conveyed by *harus* ‘must’ (borrowed from Malay), *padulu* ‘need’ or *puna* ‘indeed’. (69a) is the non-elicited example of *harus*, while (69b) and (69c) are the elicited/translated examples (from Indonesian) of *padulu* and *puna*. See 4.6 for the necessity reading of *puna*.

¹⁷ Timberlake (2007: 320) states that “[b]ehind obligation is an operation analogous to an imperative or optative: ‘creating an obligation should be understood ... in terms of authoritative acts of “so be it” ’ (Lyons (1977: 835))”.

- (69) a. *ondou hawun ahku harus nokuh umo.*
 day tomorrow I must toward rice.field
 ‘I **must** go to the rice field tomorrow.’
 b. *ihko padulu nuhtui.*
 you need to.give.a.speech
 ‘You **need to** describe something (in terms of its price). (Ind. Kau harus berkata.)’
 c. *tahpi ihto puna ngindoi=ah.*
 but we.IN indeed to.wait=3SG/PL
 ‘However, we **must** wait for it. (tapi kita harus menunggu.)’

As described in 4.3, the auxiliary *tou* can indicate ability of agents when used with an animate agent argument. It can also carry the meaning of permission when the co-occurring predicate denotes a generic event as in (70). The permission meanings of *tou* are conveyed under social enabling conditions. See also the possibility reading of *tou* discussed in 4.6.

- (70) a. *huang=to ohpat dohpo, limo dohpo, uras tou=ih.*
 inside=we.IN four fathom five fathom all can=just
 ‘What we have in mind, (we want it to be) four or five fathoms, **it is (socially) possible for** all lengths.’
 b. *tou ihto nokuh himba, ngurah karo sibip.*
 can we.in toward forest to.look.for muchness remnant
 ‘**It is (socially) possible for** us to go to the forest and to look for a lot of (wood) uncarried.’

4.5 Wanting

The spatial noun *huang* ‘inside (=intend to)’ can convey the meaning of wanting because it can designate ‘inside the heart’ as illustrated by *hion huang=ah* [QUOT inside =3SG.POSS] ‘said in his heart’ in (10) above. In (71a), *huang* indicates agent-oriented wanting, and the sentence shows that there are agent-internal conditions of wanting to conduct the action denoted by the predicate.

- (71) a. *ahku=tuh huang ngesah takan tapara-i.*
 I=DEM inside to.tell.story from origin-3SG.POSS
 ‘Now, I **would like to** tell the story from the start.’
 b. *io huang buli tanggal duo pulu.*
 3SG inside to.return date two ten
 ‘He **is going to** go home on the 20th.’
 c. *ondou jadi bohta-bohtat, huang boloang.*
 day to.become dawning inside clear
 ‘It became dawn, (the sky) **is going to** become clear.’

If the agent is inanimate 3rd person as in (71c), then *huang* indicates the future tense. When used with the animate 3rd person agent as in (71b), *huang* usually carries the meaning of future tense, but it can also indicate agent-oriented wanting (‘He wants to go home on the 20th’). Of course, *huang* in the clause with 1st person agent may indicate the future tense depending on the context. In fact, *huang* in (71a) can be paraphrased as the general future indicator *ahkan* (compare (71a) with (21b) above). Thus *huang* can be described as a tense-modal indicator.

Another wanting indicators include the verb *jolik* ‘to desire’, the auxiliary *kani* ‘want’ and *elen* ‘not want’. These indicators always express agent-oriented wanting as in (72), and cannot carry the tense information.

- (72) a. “*inai amai doro pasti jolik nohto osun=do.*”
 mother father in.a.twosome surely to.desire to.see grandchild=their
 ‘“I think (your) parents **hope to** see their grandchildren”.’
- b. *io ya=kani tahi lanon.*
 3SG NEG=want (time)long to.be.awake
 ‘He doesn’t **want to** stay up all night.’
- c. “*ele-u naing ah=rih. amai, nyaro=ah kani jihpon.*”
 not.want-3SG word 3SG.POSS=ANAPH father there.be.no=3SG want servant
 ‘He said he didn’t want. (My) father! he never wanted any servant.’

These auxiliary(-like) indicators above express agent-oriented wanting. The other kind of indicators is event-oriented wanting ones. They can evaluate events in terms of what is (un-) desirable under agent-external conditions. (73) says that ‘my nephew deceived me’ is undesirable under social conditions.

- (73) “*eam batek” hio-i.*
 NEG desirable QUOT-3SG.POSS
 ‘“It (=the fact that my nephew deceived me) is not good” he said.’

4.6 Possibility and necessity

As noted in 4.3, the ability indicators *tou*, *duon*, *taan* carry the meaning of possibility when the enabling conditions for the event are internal to the agent.

The person/number is cross-referenced on *duon* under the internal enabling conditions (see (65)). However, it is not the case when *duon* indicates “root possibility” (Bybee et al. 1994: 178, 194).¹⁸ “Root possibility” is the ability/possibility allowed by external enabling conditions. In (74a), *duon* in main clause is not cross-referenced by 1st person singular, and the external (social) enabling conditions, i.e., ‘circumstance_press_on_me’ are denoted by the subordinate clause. In (74b), the subordinate clause denotes one of the external (physical) enabling conditions, which cause a loss of ability/possibility to ‘return in a day’.

- (74) [ability/possibility] ‘because’ [external conditions]
- a. *ahku ya=duon ngindoi io nyamah io buli,*
 I NEG=to.get to.guard 3SG until 3SG to.return
kobaiu keadaan mendesak ahku=ka.
 because circumstance to.press I=also
 ‘I **will** not (**be able to**) support him until he goes home, because the circumstances are pressing on me.’
- b. *jadi, ahku murik hawun, ya=duon topuli,*
 then I to.go.upstream tomorrow NEG=to.get to.return.in.a.day
kobaiu sungoi Bolihkoi beteng=tuh tocak nganyangit.
 because river PLN midst=DEM dry very
 ‘Then, I will paddle upstream tomorrow, I **will** not (**be able to**) return in a day because the Marikoi river is very shallow now.’

¹⁸ “[I]t is possible for the agent to carry out the action of the main verb; i.e. s/he is able and external conditions allow it” (Bybee et al. 1994: 320). Hengeveld (2004: 1195) classifies it as “facultative event-oriented modality”.

The conclusions that ‘I cannot support him [...]’ and that ‘I will not be able to return [...]’ in (74) are reasonable ones based mainly on the speaker’s experience. Thus *duon* can be characterized as an indicator of assumptive possibility.¹⁹

Unlike *duon*, the person/number can be cross-referenced on the other “root possibility” indicator *taan*, as (75) shows. In (75), 3rd person singular *-i* is marked on *ya=taan* despite the agent-external (physical) disabling conditions, i.e., ‘there_be_water’ which causes a loss of ability/possibility to ‘adhere (to it)’. This fact suggests that the ability/possibility indicator *duon* is distinct from ‘NEG *taan*’ in terms of whether the person/number can be cross-referenced under agent-external conditions.

- (75) *ya=taa-i leket=ndai lisan kabain danum=rih.*
 NEG=to.know-3SG to.cling=PFV epoxy owing.to water=ANAPH
 ‘The epoxy resin bond **will** not (**be able to**) adhere (to it) any more because of the water (brought by rain).’

The “root possibility” indicator (NEG) *taan* can express assumptive (im)possibility.

Another possibility indicator is the auxiliary *tou*. It is the most frequent modal indicator because of its high functional load, and it can carry the meaning of speculative possibility as in (76a) or assumptive possibility as in (76b). See section 4.3 for the ability reading and section 4.4 for the permission reading.

- (76) a. *mihkoh io tou balua sala umba sarupih=rih.*
 to.be.afraid 3SG can to.go.outside wrong with plank=ANAPH
 ‘Being afraid that it (=nail) **may** stick out in a wrong direction from the plank.’
 b. *napurak, (danum) tou tame nokuh luwang alut.*
 to.wet water can to.go.inside toward inside boat
 ‘Being wet, (water) **will** go inside a boat.’

The adverb *puna* ‘indeed’ can also function as a possibility indicator. In (77a), *puna* expresses deductive possibility based mainly on speakers’s experience, while in (77b) it expresses assumptive possibility based mainly on visual evidence. See 4.4 for its obligation reading.

- (77) a. *ahku jadi jelas, jadi nohto, puna anak Bolihkoi.*
 I PF sure PF to.see indeed child PLN
 ‘I was sure, I saw it, (**it was necessary that**) it was the tributary of Marikoi River.’
 b. *ulun atuh puna bokoporos=ah, kihta-k=ku.*
 human that indeed to.be.painful=3SG vision-my=my
 ‘(**It was necessary that**) that person was really suffering pain, I saw him.’

Another possibility indicator is the adverb *bada’i* ‘probable’. It indicates speculative possibility.

- (78) *bada’i=ih ahku jadi kolou ulun ijo oko*
probable=just I to.become like human REL old
 ‘**It is possible that** I have become like an old man.’

¹⁹ I will follow the distinction of epistemic judgements made by Palmer (2001): (i) speculative (MAY: possible conclusion), (ii) deductive (MUST: only possible conclusion), and (iii) assumptive (WILL: reasonable conclusion).

4.7 Inference

In Kadorih, there are indicators of sensory (=seeing, hearing) or reporting evidence. The tense specifications of both the seeing event and the hearing event are specified as non-future. Thus the sensory evidential indicators can be described as tense-modal indicators.

The deictic particle *hom* ‘here and now (visible)’ usually expresses visual evidential of the situation which holds at the present moment, as (79a) shows.²⁰ Also, the particle *hom* can introduce the conclusion of an inference. For the example in (79b), it is the only possible conclusion (=deductive) that ‘your_stupidity_be_most_excessive’. It was inferred from the fact that the speaker saw “your” stupid behavior (=setting the fish trap on a tree).

- (79) a. *haru-m lombut=hom*.
 newly-you to.come=here.now.visible
 ‘You arrived now (I am seeing you).’
 b. “*tapadalou hom=emu kuong mu=tuh*”.
 most.excessive here.now.visible=yours stupidity your=DEM
 ‘(It is necessary that) your (stupidity) is the most excessive, your stupidity.’

Verbal nouns of sensory events such as *panohto* ‘seeing’ or *pangonih* ‘hearing’ can specify the source of evidence. (80a) shows the evidence was obtained by the speaker’s eye. The conclusion ‘person_be_woman’ was inferred from the evidence (e.g. non-growth of facial hair, non-enlargement of larynx (Adam’s apple), etc.). Similarly, it is also possible that the source of evidence is specified by the sensory noun *kihtan* ‘vision’ as in (80b).

- (80) a. *panohto=ku, io ulun bawi*.
 seeing=my 3SG human female
tahpi hioi umba arop=ah, “ulun bahkas”.
 but QUOT-3SG.POSS with self=3SG.POSS human male
 ‘I saw (her), (it was necessary that) the person was a woman, but the person said to (her)self “I am a man”.’
 b. *pohkok=ah arai=dih ulun bahkas*,
 main.part=3SG.POSS name=ANAPH human male
tahpi kihta-k=ku ulun bawi.
 but vision-my=my human female
 ‘The main thing is that it was a man’s name, but I saw (her), (it was necessary that) (the person) was a woman.’

The conclusions can be inferred, by the 3rd person, from the sensory evidence obtained by the 3rd person’s eye as in (81).

- (81) *Uhko nakung buwu=oh. [...] kihtai ohcin naang aro*.
 PSN to.carry fish.trap=3SG.POSS vision=3SG.POSS bird much
 ‘Uhko carried his fish trap. [...] He saw (it), there were many birds.’

The quotative marker *hion* (originally a noun) can be used by a speaker to repeat someone’s utterance.²¹ It can specify that the source of evidence is the person(s) whose

²⁰ This meaning of visual evidential is commonly available when *hom* occurs with a liminal predicate such as ‘arrive’ in (79a) or with a liminal aspect described in 3.3 above.

²¹ I will describe *hion* as the quotative marker because it is basically not the reporting evidential. It can quote the speaker’s utterances, “chanting” for hearer (in order to command), expressions from another language, technical

utterance is quoted. Accordingly, someone's utterance can be regarded as a kind of evidence. Examples (22) in 2.2.2 and (73) in 4.5 above are repeated in (82) below.

- (82) a. "*hawun*" ***hio-i***, "Cahaci ahkan ngunyang=*ah*".
 tomorrow QUOT-3SG.POSS PSN FUT to.check.fish.trap=3SG/PL
 '“Tomorrow” she (=Manana) said, “(Ra)cahaci will check the fish trap”.'
- b. "*eam batek*" ***hio-i***.
 NEG desirable QUOT-3SG.POSS
 '“It (=the fact that my nephew deceived me) is not good” he (=Racahaci) said.'
- c. "*ihko eam mahtoi*" ***hion auh=ah***.
 you NEG to.die QUOT voice=3SG.POSS
 '“You (=Penahtang Nuhpi) won't die” he (=Utem) said.'

(83) summarizes conclusions inferred from (81) and their utterers.

(83)	It is possible/necessary that ~	the source of evidence
a.	'tomorrow_Racahaci_check_fishtrap'	Manana
b.	'fact_not_desirable'	Racahaci
c.	'PenahtangNuhpi_not_die'	Utem

The choice between epistemic 'possible' and 'necessary' in (82) will be determined pragmatically, on the basis of various social (or possibly physical) conditions.

5. Conclusion

In this paper, I described non-morphological means for indicating TAM in Kadorih. The main findings of this paper are as follows.

- Parts of speech:
 - TAM meanings are *not* indicated by cardinal numerals, classifiers, or reduplication
 - many TAM adverbs/verbs/nouns occur in preverbal position (like auxiliaries)
 - major: many adverbs (as TAM), many auxiliaries and verbs (as AM)
 - some nouns (as TAM), some temporal noun constructions (as AM)
 - some prepositions, existentials, particles and interjections (as TAM)
 - minor: an adjective, numerals, (interrogative) pronouns (as AM)
 - minor: intonation, infix, repetition (as AM)
- Tense:
 - mostly optional
 - indicated mainly by adverbs and nouns
 - “non-propositional (nominal) tense” can be indicated only in non-future tense
 - trichotomy of remote, near and general past;
 - dichotomy of near and general future
- Aspect:
 - often optional in cases of iterative/imperfective
 - obligatory in cases of perfect/liminal
 - indicated mainly by auxiliaries, adverbs and nouns
 - three types of resultative perfect (resultant *state*, *existence* and *non-existence*)
 - perfect *jadi* and perfective *umbot* share the property of conjunction
 - liminal *harun* (inceptive/terminative) is sensitive to verbal lexical aspect

- verbal repetition (iterative/imperfective) is sensitive to verbal property of action/state
- Modality:
 - sometimes obligatory
 - indicated mainly by auxiliaries, verbs and nouns
 - *tou*, *duon* and *taan* can express ability/possibility, only *tou* can express permission
 - person/number cross-reference on *duon* is sensitive to internal/external enabling condition
 - wanting *huang* and sensory evidentials *panohto*, *kihtan* are tense-modal indicators

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