Some aspectual and temporal interpretations of verb forms in Yalálag Zapotec

1. Introduction

This paper presents a description of the aspectual and temporal interpretations of a number of verb forms in Yalálag Zapotec and discusses the interaction of these verb forms. In particular, the discussion focuses on verb forms with the following prefixes: “ll-”, “n-”, “b-”, and “g-”. A hypothesis is suggested, according to which prefixes “b-” and “g-” can be considered as Past tense morphemes. Evidence is provided in support of this hypothesis. Finally, a number of other relevant observations are provided.

2. The focus of discussion: aspectual prefixes in Yalálag

In this section, I introduce three aspectual prefixes in Yalálag and discuss the temporal and aspectual meanings they can have in the language.

2.1. Prefix “ll-”

Prefix “ll-” can be used with stative state-level predicates (Carlson, 1977):

(1) Llawelha zá.
    \textit{Love.1sg corn}
    \textit{“I love corn”}

Prefix “ll-” can also be used with eventives under a habitual interpretation:

(2) Welse llilhabe (du) llida gaye
    \textit{always comes around at five}
    \textit{“She always comes at five”}

(3) Llawa zá’n.
    \textit{Eat.1sg corn}
    \textit{“I eat corn”}

Prefix “ll-” is also used in Progressive constructions on the auxiliary as well as on the lexical verb:

(4) Llia llawa zá’n.
    \textit{Aux.1sg eat.1sg corn.def}
    \textit{“I am eating corn”}

The three sentences above all describe Present stative, habitual, or progressive English sentences. Yet, the suffix “ll-” can also be describe past eventualities.

In (5), “ll-” is used with a progressive construction modified by \textit{llida gaye} (“at five”), which suggests a temporal dislocation (in this case, into the past). Here, “ll-” appears on the lexical verb. Arguably, prefix z- on the auxiliary is an allomorph of “ll-” because in the examples where \textit{zebe} (or \textit{ze}) was used for the 3\textsuperscript{rd} person form of the auxiliary, its 1\textsuperscript{st} person form could be \textit{llawa} (or \textit{lli}) along with \textit{zia} (cf. (6) and (7)).
(5) (Du) llida gaye zebe llawbe zá.
   Around at five aux.Pres eat.Pres.3Fam corn
   “He was eating corn at five”

In (6), “ll-” is again used in a progressive construction, but this time on the auxiliary as well as on the lexical verb. The temporal dislocation is performed within the matrix clause which contains the adverb nájè as well as a “g-” form of the main verb (to be discussed below).

(6) Nájè gukwelhe Malhia’n lli Xhúá’n llawbe zá.
   Yesterday noticed Maria Aux Juan eat.3Fam corn
   “Yesterday, Maria noticed that Juan was eating corn”

In (7), “ll-” is still on a progressive construction, but this time the temporal dislocation suggesting that the described eventuality is in the past is performed by the when-clause, which clearly moves the main temporal locus into the past of the utterance time.

(7) Lliia llawa zá’n, ka balhabe.
   Aux eat.1sg corn when came.3Fam
   “I was eating corn, when she came”

The examples in (5)-(7) all contain an eventive verb “eat”. The ability of “ll-” to appear on verbs that describe past states was not explored.

Despite the ability of “ll-” to appear on verbs that describe past eventualities, the speaker never used it on verbs modified by past oriented adverbs like yesterday. The only relevant negative example that was obtained is (8).

(8) *Llawa be’elhe gudwize.
   Eat.1sg meat last.year
   Int: “I used to eat meat last year”.

It is hard, however, to treat (8) as a clear case of incompatibility between llawa and gudwize because this example was judged as bad qua the translation of the intended English sentence and it was not clear if it is bad on its own or not.

2.2. Prefix “n-”

This prefix has been used by the speaker with such predicates be and have:

(9) Naka ben unya.
    Be.1sg person rich
    “I am rich”

(10) Nápá tu kamion.
    Have.1sg a car
    “I have a car”

The sentence below shows that “n-” can also occur on verbs that describe a past state:
Despite being able to appear on predicates that describe a past state, a VP with “n-” on its verb cannot be modified by a past-oriented adverb like gudwize (“last year”):

(12) *Gudwize nápá tu kamion.
  Last.year had.1sg a car
  Int.: “I had a car last year”.

2.3. Interim summary: differences and similarities between “n-” and “ll-”

The above data seem to suggest that prefix “n-” is used on verbs that are individual-state predicates, whereas “ll-” is used with stage-level predicates, progressives or habitual eventives. This is the only difference between the two prefixes that seems to arise from the above data.

As for the similarities, both prefixes can appear on verbs describing present and past eventualities and both are incompatible with past-oriented adverbs.

2.4. Prefixes “b-” and “g-”

The elicited data suggest that prefix “b-” is used on the verbs that “ll-” is used on (but not only to those) and prefix “g-” applies to those predicates that “n-” applies to. Whenever these prefixes appear on verbs, those verbs describe a past eventuality.

In (13), bawelha describes a past state of loving (compare it to llawelha in (1)):

(13) Xhebazulhe bawelha zá’n, ka naka bidao. (repeated (11))
  Too.much loved.1sg corn.def when be child
  “I loved corn when I was a child”

In (14), balhabe describes a past event of arriving at five (compare it to llilhabe in (2)).

(14) Balhabe llida gaye.
    Came.3Fam at five
    “He came at five”

In (15), bdawa describes a past event of eating the corn (compare bdawa to llawa in (3) and (4)).

(15) Bdawa zá’n, ka balhabe.
    Ate.1sg corn.def when came.3sg
    “I started eating corn, when he arrived”.

In (16), guka stands for “was” (compare it to naka in (9)).

(16) Guka be’en unya.
    was.1sg person rich
    “I used to be rich”

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1 This observation was made by Seth Cable.
In (17), *gupa* stand for “had”. Compare it to *nàpá* in (10):

(17) Gudwize *gupa* tu kamyon.

*Last year, I had a car*.

There are no cases of “b-”/“g-” appearing on verbs that describe a present eventuality. Even though there are no negative data supporting this point, the informant never produced “b-”/“g-” forms when she was asked to give a Yalálag equivalent of an English sentence describing a present eventuality. For this reason, I propose the following descriptive generalization:

(18) Whenever a “b-”/“g-” verb form is used, a past eventuality is described.

### 3. Hypothesis: “b-”/“g-” as Past tense prefixes

In this section, I would like to propose a hypothesis that “b-”/“g-” are the prefixes of Past tense and provide some evidence and arguments in support of this hypothesis.

Despite the data suggesting that “b-”/“g-” are always associated with a past time or a past temporal interval, it is not immediately obvious that these two prefixes can be associated with Past tense. The reason for this is that “ll-” and “n-”, as we saw above, can also appear on verbs that describe past eventualities. If “ll-” and “n-” can also perform temporal back-shifting, then it will be harder to argue that “b-”/“g-” are Past tense prefixes because they will simply appear as affixes performing a function that can be performed by other means, especially, by morphemes that do this optionally. In that case, the picture will be much more blurred. Besides it is well-known that temporal back-shifting can be done by the aspectual system of a language. A separate argument will be needed to show that “b-”/“g-” are not aspectual prefixes.

I would like to begin with providing an argument that, despite their ability to describe a past eventuality, there is evidence to believe that “ll-” and “n-” should not be associated with temporal back-shifting and, therefore, should not be viewed as (optional) Past tense morphemes or aspectual back-shifters.

The first thing to observe is that out of the blue verbs with “ll-”/“n-” prefixes are never understood as describing a past tense eventuality. Sentences (1)-(4) and (9)-(10) were never given by the informant as translations of English past tense sentences and when questioned about some of them, the informant straightforwardly denied that such simple sentences could express temporal anteriority.

The second thing to observe is that verbs with “ll-”/“n-” describe a past eventuality only in the presence of some other element that is able to perform temporal back-shifting. In (5), the back-shifting can be contextually performed by *llida gaye* (“at five”). In (6), the matrix clause contains unambiguous temporal shifters “g-” on *gukwelhe* (“noticed”) and *nájè* (“yesterday”). In (7), *llia llawa* is associated with a past eventuality in the presence of the matrix *balhabe*. In (11), *naka* describes a past state in the presence of a non-ambiguous back-shifter “b-” on *bawelha* in the matrix sentence.

Given these observation, it is not unnatural to treat “ll-” and “n-” verbs as tenseless verb forms that are temporally anaphoric on a salient time provided by some semantic means. Another option is to treat “ll-” and “n-” as relative Present tense morphemes that indicate a time simultaneous with
a temporal antecedent provided elsewhere in the sentence. Languages with relative Present-under-Past are well-known with Japanese being one of paradigmatic examples (Ogihara, 1989). From this perspective, Yalálag would provide cases of Present-under-Past in complement CPs (for an example, see sentence (6)). Yalálag would then be an interesting case, in which the temporal interpretation of a matrix verb is dependent on the temporal interpretation of the embedded verb as illustrated at least in the case of matrix sentences with embedded when-clauses. The sentence in (7) provides one such example.

If this is indeed so, then we need not look at “ll-”/“n-” as potential back-shifters and, in that case, the picture will not get blurred by optional temporal back-shifting associated with these prefixes. It will then be less problematic to view “b-”/“g-” as Past tense morphemes.

One puzzling aspect that arises from the data above is why “ll-”/“n-” are incompatible with past-oriented adverbials like gudwize (“last year”) as illustrated in (8) and (12) but can be compatible with back-shifting llida gaye (“at five”). One hypothesis here is that gudwize, unlike llida gaye, is intrinsically past-oriented. If llida gaye can also perform a temporal shift into the future (I don’t have relevant data to back this up but it doesn’t seem unnatural to expect such a possibility), then it will not be temporally past-oriented.

Another argument in favor of a temporal and not aspectual nature of “b-”/“g-” comes from its interaction with matrix “b-”/“g-” when it occurs in an embedded clause. In an attitude report, “b-”/“g-” under “b-”/“g-” can express simultaneity:

(19) Bne Malhia’n ke bzullebe nájé.
   Said Maria.def that be.drunk yesterday
   “Maria said that she was drunk yesterday”
   Comment: can be used in a situation when Maria said yesterday: “I am drunk”.

(Ogihara & Sharvit, 2012) argue that simultaneous Past-under-Past is a marker of the pronominal Past tense system.

Another type of relevant examples is “b-”/“g-” under “b-”/“g-” in a when-clause. With two stative predicates, a simultaneous reading is possible:

(20) Xhebazulhe bawelha zá’ñ, ka guka bidao.
   Very.much loved corn.def when was.1sg child
   “I loved corn when I was a child”

A simultaneous reading is also possible in a similar example with two activity verbs:

(21) Chak bxhoa yeu, lebe bdabe bxhonjbe.
    When swam.1sg river she ?? ran.3sg
    “When I was swimming, she was running”

(22) Chak bxhoa yeu, lebe bxhonjbe.
    When swam.1sg river she ran.3sg
    “When I was swimming, she was running”

In (22), a “b-” form (bxhonjbe) without an auxiliary is also possible and conveys a simultaneous reading. This suggests that they do not behave as aspctual forms from which we would expect a back-shifted reading for the embedded state or activity w.r.t. the matrix state.
Despite all of this being suggestive, the data are not as convincing as I have shown so far. Simultaneity under a matrix verb in a “b-”/“g-” form is more salient if expressed in terms of “ll-”/“n-” forms in the case of attitude reports as well as when-clauses.

The idea expressed in (19) is expressed better in terms of non-“b-” form as shown in (23):

(23) Bne Malhia’n ke zullebe.  
    *Said Maria.def that be.drunk  
    “Maria said she was drunk”

(20) is better conveyed by (24), where the preferred form of the embedded predicate is the “n-” form:

(24) Xhebazulhe bawelha zá’n, ka naka bidao.  
    Very.much loved corn.def when is.1sg child  
    “I loved corn when I was a child”

This, however, does not immediately testify against the hypothesis that “b-”/“g-” are Past tense morphemes. It rather shows that the language has something like inborn relative Present tense (Ogihara and Sharvit 2012) which is more salient than an independent embedded Past.

Still, however, the informant found some simultaneous Past-under-Past readings impossible. For example, simultaneity with the time associated with Juan thought in (25)-(26) can only be expressed with a “n-” for and not with a “g-” form.

(25) Guklhe Xhúà’n nakbe be’ene unya.  
    Thought Juan he.is person rich  
    “Juan thought he was a rich person”

(26) *Guklhe Xhúà’n guka be’ene unya.  
    Thought Juan I.was person rich  
    Intended: “Juan thought he I.was a rich person”

It is not clear why guka is bad in (26) and I will not investigate this more. Instead, I will move on to a number of different, yet related topics that will present other kinds of behavior that the abovementioned prefixes exhibit.

4. Compatibility with Past-Oriented and Punctual Adverbs

Eventive verbs combine well with punctual temporal adverbs like at five:

(27) Balhabe llida gaye.  
    Came.3Fam at five  
    “She came at five”

But stative predicates do not. They require the presence of an item that blurs the boundaries of the punctual adverb:

(28) Bduna ꞌ(du) llida gaye.  
    I.was.hungry around at five  
    “I was hungry at five”
Temporal adverbials like *ten years ago* were systematically changed into *some time ago* or *long ago* when they co-occurred within the same clause with individual-level predicates:

(29) Ka na guka ben unya.
   *Long ago I was person rich*
   “Ten years ago, I was a rich man”

(30) Ka na’n gupa mell.
   *Long ago I had money*
   “Two years ago, I had money”

Individual-level predicates like “have money” were also incompatible with adverbs like *nájè* (“yesterday”) or *nalla* (“today”):

(31) Got mell kia (?nájè).
   *Was/had money mine yesterday*
   “I had money yesterday”

(32) De mell kia (?nalla).
   *Be/have money mine today*
   “I have money today”

But stage-level predicates like “be drunk”, “be sleepy”, or “feel well” could combine with such adverbs (in particular, *nájè* (“yesterday”)) and could even do without “b-” prefixes:

(33) Bi bzube gwen nájè.
   *Not stood well yesterday.*
   “He was sick yesterday”

(34) Zullebe nájè.
   *Drunk yesterday*
   “She was drunk yesterday”

(35) Bzebe bdawbe zá nájè.
   *Aux.Past eat.Past.3Fam corn yesterday*
   “He was eating corn yesterday”

(36) Llak watasbe nalla.
   *Be sleepy.3fam today*
   “He is sleepy today“.

(37) Llak watasbe nájè.
   *Be sleepy yesterday.*
   “He was sleepy yesterday.“

5. Interaction of verb forms in attitude reports

5.1. Eventive verbs in complement CPs

In complement CPs, “b-” forms of eventive verbs always have a back-shifted interpretation.
(38) Ne Malhia’n ke beko’n bdau be’elhen.  
*Says Maria.def that dog.fem ate meat*  
“Maria says that the dog ate the meat”

(39) Bne xhiden ke beko’n bdau be’elhen.  
*Said cat.def that dog.def ate meat.def*  
“The cat said that the dog ate the meat”

(40) Guklhe Malhia’n (*ke) beko’n bdau be’elhen.  
*Thought Maria that the dog ate meat.def*  
“Maria thought that the dog ate the meat”.

And “Il-” forms of verbs in attitude reports all have a temporal interpretation simultaneous to the time described in the matrix clause:

(41) Nájè gukwelhe Malhia’n lli Xhúà’n llawbe zá.  
*Yesterday noticed Maria Aux Juan eat.3Fam corn*  
“Yesterday, Maria noticed that Juan was eating corn”

5.2. Stative verbs in complement CPs

Stage-level stative verbs in complement CPs under “b-”/“g-” matrix predicates seem to allow for a simultaneous reading. The same reading is allowed by the bare (“b-”/“g-”-less) versions of those predicates:

(42) (*Nájè) gukwelhe Malhian (b)dun Xhúà’n.  
*Yesterday, realized Maria be.hungry Juan.def*  
(Yesterday) Maria realized that Juan was hungry.

Individual-level predicates in their “b-”/“g-” forms seem to allow a simultaneous and occasionally a back-shifted reading but not always:

(43) Bne Malhia’n ke bawelhe Xhúà’n gawbe zá ka na.  
*Said Maria that liked Juan eat.3Fam corn long.ago*  
“Maria said that Juan used to like corn”.

(44) *Guklhe Xhúà’n guka be’ene unya.  
*Thought Juan I.was person rich*  
*Intended: “Juan thought he I.was a rich person”*

These data are not clear. Perhaps the difference between these two sentences is the stative imperfective status of the matrix VP in (44).

6. Interaction of verb-forms in when-clauses

6.1. Simultaneous readings

As it has already been said above, sentences with when-clauses allow for a simultaneous reading of an embedded stative with a matrix stative or eventive verb (or vice versa) if, at least, one of the verb forms is “Il-”/“n-”. Two interesting examples are:
(45) Blihabe, ka Ilia llawa zá
   *Arrived.3Fam when aux eat.1sg corn*
   “He arrived when I was eating corn”

(46) Blihabe, ka Ilia llawa zá’n.
   *Came.3Fam when aux eat.1sg corn*
   “She came when I was eating corn”

In (45)-(46), the verb in the when-clause is in the “ll-” form, while the matrix eventive is in the “b-” form. Yet, the reading is simultaneous describing two past eventualities.

If both verbs are in the “ll-”/“n-” form, then the reading is simultaneous Present. If at least one verb is in “b-”/“g-” form, then the reading is simultaneous in the past. But as was illustrated in (22), simultaneity in the past is also possible with both clauses having the verbs in their “b-” form.

6.2. Non-simultaneous readings

These readings arise when the verbs in both clauses are eventive in their “b-” form. Interestingly, in such cases a back-shifted reading does not arise:

(47) Bdawa zá’n, ka balhabe.
   *Ate.1sg corn when came.3fam*
   “I began to eat corn, when she came”
   *“When he arrived, you had already finished eating corn”*
   *“When he arrived, you were eating corn”*

In order for a back-shifted reading to appear, an extra auxiliary verb must be used:

(48) Ba bdawlha zá’n, ka balhabe.
   *Aux ate.1sg corn when came.3Fam*
   “I had eaten the corn, when she came”

7. Culminating accomplishments and “b-” forms of verbs

When a “b-” form of an accomplishment is used, the reading is perfective:

(49) Malhia’n be’n mesen.
    *Maria.def made this.table*
    “Maria made this table”.

The table has to be finished as illustrated by the infelicity of (50):

(50) *Malhia’n be’n mesen, na bikse basllull ben.
    *Maria.def made this.table but not finished it*
    “Maria made this table but didn’t finish it”.
8. Applying some telicity and perfectivity diagnostics

Running some standard telicity diagnostics against the “b-” verb forms in Yalálag showed that these forms can be used in contexts that strongly favor telic readings as well as in context that strongly favor atelic readings.

A telicity test in which a modification of a VP with “in” and “for” temporal adverbials. An “in” temporal adverbial requires a telic reading of the verb, whereas a “for” temporal adverbial only combines with an atelic temporal adverb. Examples:

(51)   a. Mary cooked\textsubscript{telic} the corn \textit{in five minutes}.
   b. Mary cooked\textsubscript{atelic} the corn \textit{for five minutes}.

In many languages, different verb forms are required for each of the temporal modifiers.

The elicited Yalálag data shows that there is no difference between \textit{in five minutes} and \textit{for five minutes} adverbials. Both are identical. Moreover, “b-” forms can be used with a “telic”, as well as an “atelic” adverbial.

(52) Ga’i minutez bdaâw zân nàjé.
    \textit{five minutes past.eat.1sg corn.the yesterday}
    “I ate the corn in five minutes yesterday”

(53) Ga’i minutez benchawa ye’lwann nàjé
    \textit{five minutes cooked.1sg food yesterday}
    “I cooked for 5 minutes yesterday”

The verb form that is used in (53) is the same form that is used in a different sentence for which a telic interpretation seems to be preferred:

(54) Benchau Xhúà’n béeính para xnabe.
    \textit{Cooked Juan meet.def for mother.Fam}
    “Juan cooked the meat for his mother”.

A perfectivity test originally proposed by Krifka works in cases of a so-called incremental theme argument. An incremental theme argument denoted by a bare plural DP or a bare mass term is only compatible with an imperfective VP:

(55) a. John drank wine. (imperfective)
    b. John ate apples. (imperfective)

Yalálag allows “b-” verb forms together with an incremental theme argument denoted by a bare plural DP (Krifka, 1992):

(56) Bdaûb man sanka.
    \textit{Ate he apples.}
    “He ate apples”.

It has already been shown in (52) that “b-” forms can be used in a telic VP. Given that telic VPs are always perfective, we can conclude that “b-” verb forms allow for a perfective as well as imperfective interpretation of the corresponding VP.
One form that allowed only for an imperfective interpretation of the VP was not a “b-” verb form:

(57) Wahbe bino.
    Drank wine
    “He drank wine”

The sentence in (57) is infelicitous in a situation when all the wine has been drunk (the bottle is empty).

Another diagnostic that suggest that “b-” verb forms can occur in imperfective VPs is the possibility of simultaneous Past under Past in an attitude report:

(58) Bne Malhia’n ke bzullec nájè.
    Said Maria.def that be-drunk yesterday
    “Maria said that she was drunk yesterday”
    Comment: felicitious in a situation when Maria said “I am drunk”.

9. Conclusion

In this paper, I presented and explored the temporal and aspectual interpretations that prefixes “ll-”, “n-”, “b-”, “g-” can have in Yalálag Zapotec as well as their interaction with each other in attitude reports and when-clauses. I also explored their interaction with punctual and past-oriented adverbs. Finally, I ran some telicity and perfectivity tests against “b-” and “g-”. The main hypothesis that I tried to argue for is that there are reasons to believe that “b-” and “g-” are Past tense morphemes. Yet, the proposal made here is preliminary and inconclusive. Other verb forms and prefixes must be investigated before it becomes possible to get a full understanding of how temporal and aspectual meanings are encoded in this language.

References