

Is Paraguayan Guaraní a Tenseless Language?*

Judith Tonhauser

The Ohio State University

1. Introduction

Verbs in Paraguayan Guaraní obligatorily occur with person/number inflection but not with temporal, aspectual, or mood/modal markers. I refer to verbs that do not occur with such markers as *unmarked verbs*. In matrix clauses, such verbs are compatible with present and past time reference, as illustrated in (1) for the unmarked verb *a-jeroky* (A1sg-dance):¹

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¹Unless noted otherwise, the Guaraní data presented in this paper were collected in the Paraguayan departments of Guairá and Asunción from 2004 to 2008. The examples are given in the standardized orthography of Guaraní used in Paraguay (Ministerio de Educación y Cultura 2004, cf. also Velázquez-Castillo 2004, 1421f.), except that all postpositions are attached to their host. Following the official orthography, accents are not written for normally accented words (stress on the final syllable); stressed nasal syllables are marked with a tilde. Examples are marked to identify their origin; elicited examples are marked with [E], examples from a corpus of naturally occurring texts with [C]. The language has two sets of cross-reference markers: The set A prefixes (which mark transitive subjects and some intransitive subjects, see Velázquez-Castillo (2002) for details on the cross-reference marking system) are *a(i)*– ‘A1sg’, *ja(i)*– ‘A1pl.incl’, *ro(i)*– ‘A1pl.excl’, *re(i)*– ‘A2sg’, *pe(i)*– ‘A2pl’, and *o(i)*– ‘A3’; the set B prefixes (which mark some intransitive subjects and possessors) are *che(r)*– ‘B1sg’, *ñane(r)*– ‘B1pl.incl’, *ore(r)*– ‘B1pl.excl’, *nde(r)*– ‘B2sg’, *pende(r)*– ‘B2pl’, and *i(ñ)–/h–* ‘B3’. The two portmanteaux prefixes *ro(i)*– ‘12sg’ and *po(i)*– ‘12pl’ refer to a first person subject and a second person (singular/plural) object. The following glosses are used: 3.pron/S/O = 3rd subject/object person pronoun, ABL = ablative case, BUT = denial of expectation, CF = counterfactual (cf. Tonhauser 2009), COMPLETE = completive aspect, DES = desiderative, DIM = diminutive, EMPH = emphatic, excl = exclusive, FUT = future marker, incl = inclusive, JE = reflexive/passive, MIGHT = possibility modal, MUST = necessity modal, NEG = negation, NOM = nominalizer, NOM.PAST = past-oriented nominal aspect (cf. Tonhauser 2007a), PERF = perfect aspect, PL = plural, PROG = progressive, PURP = purpose, QU = question, RC = relative clause, SAY = reportative evidential.

- (1) a. Context: What are you doing right now?
 A-jeroky.
 A1sg-dance
 ‘I am dancing.’ [E]
- b. Context: What did you do yesterday at the party?
 A-jeroky.
 A1sg-dance
 ‘I danced.’ [E]

Unmarked verbs are frequent in naturally occurring discourse: in one story I analyzed in detail, over 50% of verbs were unmarked (Tonhauser 2007b). Despite the absence of overt markers, unmarked verbs in Paraguayan Guaraní (henceforth Guaraní) are temporally and modally interpreted, i.e. utterances containing such verbs are true at particular times and worlds, and false at others. (1-b), for example, is true if the speaker danced in the actual world at a time included in the contextually given past time at which the party took place; the utterance may be false at other indices (world-time pairs).

Matthewson (2006) proposes that unmarked verbs in St’á’timcets (Salish) are temporally interpreted with a (phonologically zero) non-future tense morpheme that restricts the reference time at which such verbs are interpreted to a non-future time. I tentatively adopt a version of this analysis for Guaraní in my discussion of the future marker *-ta* (Tonhauser to appear). The meaning of the non-future operator I assume is given in (2-a): it applies the predicate P , a function from worlds (type ω) to times (type t) to truth values (type τ), to the world of evaluation w^* and the contextually given reference time rt that must be identical to or prior to the utterance time *now*. The truth conditions of (1-b) under this analysis are given in (2-b): (1-b) is true if the speaker dances at the contextually given, non-future reference time, here the time of the party.

- (2) a. NON-FUT: $[[\lambda P_{\langle \omega, \langle t, \tau \rangle \rangle} [P(w^*)(rt) \wedge rt \leq now]]]^{M, g, i, j, w}$ (Tonhauser to appear)
 b. $dance'(sp)(w^*)(rt) \wedge rt \leq now$

The analysis correctly predicts the infelicity of matrix clauses headed by unmarked verbs in contexts with future time reference such as (3) (but see section 3 for a future context in which unmarked verbs may occur) since the NON-FUT operator is infelicitous with future reference times.

- (3) Context: What will you do tomorrow?
 #A-jeroky.
 A1sg-dance [E]

According to this proposal, the temporal interpretation of unmarked Guaraní verbs proceeds like that of English verbs, with tense covert in Guaraní and overt in English, cf. the past tense verb *danc-ed*. As already pointed out in Tonhauser (to appear), the feasibility of this proposal needs to be established for a broader range of Guaraní data than matrix clauses like (1) and (3). The goal of the current paper is to start to do just that. This enterprise includes identifying (i) whether the language has overt tenses (which would

lend support for the assumption of a phonologically zero tense), (ii) the verbal paradigm of which the zero tense would be part of, and (iii) the distribution and interpretation of unmarked verbs and the zero tense morpheme.

2. Temporal, aspectual and modal markers

This section identifies the verbal paradigm of temporal, aspectual and modal verbal markers of Guaraní, i.e. the paradigm that a phonologically zero tense morpheme would be part of.² It is also shown that none of these overt markers is a tense, which is defined as an expression that is part of a systematic grammatical marking that locates the reference time with respect to the local evaluation time, which is the utterance time in matrix clauses (e.g. Kamp and Reyle 1993, Klein 1994, Bittner 2005) and a time determined by the embedding construction in embedded clauses (e.g. Oghihara 1996, Gennari 2003, Kubota et al. 2009).

2.1 Aspectual markers

The three most frequent aspectual markers of Guaraní are the completive suffix *-pa*, the perfect suffix *-ma* and the progressive marker *hína*, an adverb. This section focuses on illustrating that these expressions are not tenses; for more detailed descriptions and analyses of these expressions see Liuzzi (1987), Liuzzi and Kirtchuk (1989) and Tonhauser (2006).³

The examples in (4) and (5) show that the completive suffix *-pa* and the perfect suffix *-ma* are felicitous in contexts with past and future time reference, respectively. The felicity of these examples provides evidence that neither suffix restricts the location of the reference time with respect to the utterance time. Future time reference is expressed in (5-b) by the suffix *-mo'ã* inside the negation circumfix (cf. Tonhauser 2009) and in (5-a) with the future marker *-ta*, cf. section 2.3 and Tonhauser (to appear).

- (4) a. Context: The boy fell into the water when he tried to catch the frog.
I-ky'a-**pá**-ite Juán-chi porke tuju-ry
B3-dirty-COMLETE-very Juan-DIM because mud-juice
o-jagara-**pa** la ij-ao.
A3-grap-COMLETE the B3-cloth
'Juanito was totally dirty because the mud had completely soiled his clothes.'
[C]

²Guaraní also has at least one mood marker, the prefix *t(e)-*, illustrated in (i). Since the morphosyntax and semantics of mood are little understood in Guaraní, they are not included in the discussion.

- (i) Context: A walks away without telling his sister what he's up to. She yells after him (jokingly):

Te-re-ho e-mano!
Te-A2sg-go A2sg-die

'Go die!'

[overheard]

³A formal semantic analysis of the Mbya cognate of *-pa* is given in Thomas (2007).

- b. Context: The boy was preparing a bath for himself when he saw the frog.
 Oi-ké-**ma** katu la i-kotý-pe.
 A3-enter-PERF BUT the B3-room-to
 ‘He had already entered the room.’ [C]
- (5) a. Context: I think this will make us happy until our money runs out...
 ha upéi o-ñe-mboka-**pá**-ta rembireko rová-ta hína
 and then A3-JE-twist-COMplete-FUT wife face-FUT PROG
 ñandé-ve.
 B1pl.incl-to
 ‘and then it will show us it’s other side.’ [C]
- b. Jagua-kuéra n-o-ñarõ-mo’ã-vé-i-**ma** die mil arý-pe.
 dog-PL NEG-A3-bark-CF-more-NEG-PERF ten million year-in
 ‘Dogs will not bark anymore in ten million years.’ [E]

The progressive marker *hína* occurs in examples with past, present and future time reference in (6); *hína* is therefore not a tense either. That the reference time is a past time in (6-b) is ensured by the occurrence of the past time adverb *kuri*, discussed below.

- (6) a. Context: Julia comes looking for Rossani. Maria tells her she’s not at home. Julia asks:
 Ndaipori-pa **hína**?
 not.exist-QU PROG
 ‘She’s not here?’ [overheard]
- b. Yvy hykúe **hína** kuri
 earth wet PROG back.then
 ‘The earth was getting wet.’ (Gregores and Suárez 1967, 115)
- c. Ñaga-ité-ma o-ḡuahé-ta **hína** la o-ho-va’e-kue.
 now-very-PERF A3-arrive-FUT PROG the A3-go-RC-NOM.PAST
 ‘Very soon now the one who went will be arriving.’ (Gregores and Suárez 1967, 115)

In sum, the Guaraní markers *-ma*, *-pa* and *hína* are not tenses, according to the definition assumed here, since they do not restrict the temporal relation between the reference time and the utterance time. They receive an aspectual analysis in Tonhauser (2006).

2.2 Past temporal adverbs *kuri* and *va’ekue*

Guaraní has two adverbs, *kuri* and *va’ekue*, which require the reference time to be located prior to the utterance time.⁴ Thus, consultants judge (7) felicitous only in contexts with a past reference time, not with a present reference time.

⁴Differences in the temporal remoteness expressed by the two adverbs (e.g. Gregores and Suárez 1967, 154; Melià et al. 1997, 102; Zarratea 2002, 90f. and Tonhauser 2006, 263ff.) are ignored here.

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(7) Context: What did Maria do yesterday?

O-ke **kuri** / **va'ekue**.
A3-sleep back.then back.then

'She slept.' [E]

Although they locate the reference time prior to the utterance time, both adverbs may co-occur with future time-denoting temporal adverbs, as long as the main verb is marked with the future marker *-ta*. As discussed on Tonhauser (to appear), temporal adverbs co-occurring with *-ta* constrain the temporal location of the eventuality time with respect to the reference time (not of the reference time with respect to the utterance time), and hence may be used in contexts with a past reference time. (8), for example, is felicitous in a context where the speaker was hired at a time in the past to sing at a party that was supposed to happen tomorrow, but the party has been cancelled since the speaker was hired.

(8) Context: What will you do tomorrow?

Ko'ëro a-purahéi-ta **kuri**.
tomorrow A1sg-sing-FUT back.then

'I was going/supposed to sing tomorrow.' [E]

Although *kuri* and *va'ekue* require the reference time to be prior to the utterance time, I nevertheless don't analyzed them as tenses. According to the definition I assume, an expression is a tense only if it restricts the temporal relation between the reference and the utterance time but also is part of the grammatical paradigm of verbs. I argue that *kuri* and *va'ekue* fail this second requirement on the basis of the following two pieces of evidence. First, they are adverbs rather than part of the grammatical paradigm of the verb since they may occur, for example, not only after the verb as in (8), but also after all verbal dependents (cf. Tonhauser 2006, 264 for an example with *kuri* before the verb):

(9) Context: I tried not to show here that I was worried...

porke o-ñe-hundí-ta chugui la i-po **kuri**.
because A3-JE-lose-FUT of.3 the B3-hand back.then

'because she would lose her hand.' (lit.: ...her hand would be lost to her.) [C]

The second piece of evidence that *kuri* and *va'ekue* are comparable to the English adverb *back then* is that they occur very infrequently in naturally occurring discourse and only "when the discourse context and the lexical aspect features of the predicate alone would not suffice to convey past time reference" (Tonhauser 2006, 262); Gregores and Suárez (1967, 153) likewise comment that *kuri* is used "when there is some special need of making explicit the reference to past events". In a corpus of about 2,000 Guaraní words (comparable to about 5,000 English words since Guaraní is mildly polysynthetic), *kuri* and *va'ekue* occur only four and seven times, respectively, compared to 18 occurrences of the

completive aspect *-pa* and 45 occurrences of the perfective aspect *-ma*.

Two contexts in which *kuri* and *va'ekue* are used are (i) at the beginning of stories when the reference time needs to be shifted into the past and (ii) at points in a discourse when the attention of the hearer needs to be redirected to a (previously established) past reference time. The first use is illustrated for *kuri* in (10), which is the first utterance in a naturally occurring story:

- (10) O-ĩ-je **kuri** upe kyju kapi'ipé-pe peteĩ ka'arẽ-guý-pe,
 A3-be-SAY back.then that cricket meadow-at one bush-under-at
 o-guereko-há-pe i-kuára-mi.
 A3-have-NOM-at 3-cave-DIM
 'There was once a cricket in a meadow under a bush, where it had its cave.' [C]

In (11), *kuri* is used discourse-medially to re-introduce a previous (past) reference time with respect to which an eventuality is temporally located. The utterance in (11) comes from a story told by one of my consultants about her daughter's hand injury. The girl had seriously cut her fingers and lost all feeling in them. When the fingers were healed, she held them to a stove to test whether she had regained her feeling (she hadn't). The fingers were severely burnt as a consequence. In this utterance, *kuri* is necessary to shift the reference time for *o-hapy* 'A3-burn' to a past time, prior to the time at which she saw that her fingers were thinner. The consultant who told me this story commented that, without *kuri*, (11) would sound as if she was burning her fingers as she saw them.

- (11) Aré-rire ha'e o-hecha la i-kuã-i po'i-ve porke upéva
 much.time-after 3.pronS A3-see the 3-finger-DIM thin-more because that
 o-hapy **kuri**.
 A3-burn back.then
 'Later she saw that her fingers were thinner because she had burnt them.' [C]

In sum, past time reference in Guaraní is expressed in the majority of cases by unmarked verbs, not by verbs marked with *kuri* or *va'ekue*, or other temporal adverbs; *kuri* and *va'ekue* are not past tenses, according to the definition assumed.

2.3 The future marker *-ta*

The suffix *-ta* 'FUT' is the marker most frequently used when consultants are asked to translate Spanish utterances with future time reference into Guaraní:⁵

- (12) Context: Somebody asks me how I'll entertain my guests:
 A-jeroký-ta.
 A1sg-dance-FUT
 'I will dance.' [E]

⁵The material in this section is taken from Tonhauser (to appear).

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As discussed in detail in Tonhauser (to appear), utterances with *-ta* entail future time reference and are compatible with the modal attitudes of intention and prediction. The modal attitude of intention is illustrated by (12), that of prediction by (13).

(13) Context: I see dark clouds on the horizon and say:

O-ky-**ta**.

A3-rain-FUT

‘It will rain.’

[E]

When the reference time is the utterance time, as in (14), *-ta* is compatible only with temporal adverbs that denote a time in the future of the utterance time.

(14) a. Ko’ẽro a-purahéi-**ta**.

tomorrow A1sg-sing-FUT

‘Tomorrow I will sing.’

[E]

b. Ko’áãa a-purahéi-**ta**.

now A1sg-sing-FUT

‘Now I will (start to) sing.’ (Not: ‘I am singing right now.’)

[E]

c. #Kuehe a-purahéi-**ta**.

yesterday A1sg-sing-FUT

[E]

But *-ta* is not a deictic future marker. The examples in (8) and (15) show that *-ta* is also felicitous with past reference times in both matrix clauses (15-a) and embedded clauses (15-b):

(15) a. Context: A mother tells about her experiences with taking care of her daughter’s wound.

Ha che la a-japo-há-pe chupe la kurasion priméera ves
and B1sg the A1sg-do-NOM-at 3.pronO the cure first time
a-hechá-**ta** hína.
A1sg-see-FUT PROG

‘And I who cleaned her wound, I would see her wound for the first time.’ [C]

b. Context: A Paraguayan friend complains that I returned to Paraguay later than I said I would.

Ere ambue arý-pe ché-ve e-jú-**ta**-ha-gue
A2sg.say other year-at B1sg-to A2sg-return-FUT-NOM-NOM.PAST
octúbre ñepyrũ-há-pe.
October beginning-NOM-at

‘You told me last year that you would return (last) October.’

[E]

Tonhauser (to appear) argues that *-ta* does not locate the reference time in the future of the utterance time, i.e. is not a future tense, but rather locates the eventuality time in the future of the reference time, i.e. is a prospective aspect.

2.4 Modals

The Guaraní verbal paradigm consists of a set of four modal suffixes, in addition to *-ta*: the possibility modal *-ne* ‘MIGHT’, the necessity modal *-va’erã* ‘MUST’, the desiderative modal *-se* ‘DES’, and the counterfactual marker *-mo’ã* ‘CF’. The meaning of the latter is discussed in detail in Tonhauser (2009). Additionally, the language has modal verbs like *i-katu* (A3-possible) ‘it’s possible’ and *oi-kotevẽ* (A3-must) ‘s/he must’. I only discuss the suffixes here since the verbs are clearly not tenses.

The possibility modal *-ne* ‘MIGHT’ and the necessity modal *-va’erã* ‘MUST’ are both compatible with epistemic and with deontic conversational backgrounds (cf. Kratzer 1981, 1991, Portner 2009), as illustrated in (16) for *-ne* and in (17) for *-va’erã*. The examples also show that both suffixes are compatible with present and past time reference, i.e. are not (future) tenses.⁶

- (16) a. Context: A farmer is looking at the clouds.
 Ko’ẽro o-ký-**ne**.
 tomorrow A3-rain-MIGHT
 ‘It might rain tomorrow.’ [E]
- b. Context: A child wants to watch TV. Mario says:
 Re-hechá-**ne** la téle.
 A2sg-watch-MIGHT the TV
 ‘You may watch TV.’ [E]
- (17) a. Context: A woman has just heard that a man’s daughter has gotten married.
 O-vy’á-iterei-**va’erã**.
 A3-happy-much-MUST
 ‘He [the man] must be very happy.’ [C]
- b. Context: My grandmother milked the cows every the morning.
 O-vende-pá-rire o-japo-**va’erã** rambosa
 A3-sell-COMPLETE-after A3-make-MUST breakfast
 i-personal-kuéra-pe-ãgua-rã.
 B3-personnel-PL-at-PURP-NOM.FUT
 ‘After she had sold it all (the milk), she had to make breakfast for her personnel.’ [C]

Utterances with the desiderative suffix *-se* ‘DES’ realize wishes and desires, and is often translated with the English verb *want*. The suffix is compatible with past, present and future time reference, as illustrated in (18-a) to (18-c), respectively. Thus, it is not a tense either.

⁶Future research needs to ascertain the compatibility of these suffixes with contexts with future time reference.

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- (18) a. Context: Somebody complains that Rita hasn't come by for a visit in a long time. Rita says:
A-ju-**se** reí-ko po-hecha-mí.
A1sg-come-DES for.nothing-EMPH 12pl-see-DIM
'I had wanted to come and see you.' [C]
- b. Context: I tell my friends that I'm going to bed.
A-ke-**se**.
A1sg-sleep-DES
'I want to sleep.' [E]
- c. Che-kyvy o-estudia-**sé**-ta tuicha-vé-vove.
B1sg-younger.brother A3-study-DES-FUT big-more-when
'My younger brother will want to study when he's bigger.' [E]

The suffix *-mo'ã* realizes a counterfactual meaning outside the scope of negation, as in (19). As discussed in Tonhauser (2009), *-mo'ã* in such utterances requires that there is a time in the past of the utterance time at which an intention about a future eventuality was formed (or a prediction was made), and this eventuality is known at the utterance time to not (have) come true.

- (19) Context: The speaker had intended to go to Asunción.
A-ha-**mo'ã** Paraguay-pe.
A1sg-go-CF Asunción-to
'I almost went to Asunción (but I didn't).' [E]

In the scope of negation, *-mo'ã* realizes future time reference, cf. (5-b), and is parallel in interpretation to the future suffix *-ta* (Tonhauser 2009).

2.5 Summary

As mentioned in section 1, Guaraní verbs are obligatorily marked only for person/number information. As the preceding sections illustrate, unmarked verbs, i.e. verbs that only occur with person/number markers, are in opposition to verbs marked with one or more of the aspectual and modal suffixes in (20-a) and verbs that occur with one or more of the temporal adverbs in (20-b) (which can also be marked with an aspectual or modal suffix).

- (20) a. *-ma* 'PERF', *-pa* 'COMPLETE', *-ta* 'FUT', *-ne* 'MIGHT', *-va'erã* 'MUST',
-se 'DES', *mo'ã* 'CF'
b. *hína* 'PROG', *kuri* 'back then', *va'ekue* 'back then'

None of these markers are tenses, under the definition assumed according to which a tense is an expression that is part of a systematic grammatical marking that locates the reference time with respect to the local evaluation time. Thus, Guaraní is a tenseless language, in the sense that it does not have overt expressions that are tenses.

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- c. **O-ký-rõ** ko'ëro ja-pytá-ta óga-pe.
 A3-rain-if tomorrow A1pl.incl-stay-FUT house-at
 'If it rains tomorrow we'll stay home.' [E]
- d. Context: A child that was born blind has just had an operation that restored her eye-sight. She wakes up in the morning and says:
 Ko pyharé-pe a-mombe'ú-ta che-sý-pe o-pa mba'e
 this night-at A1sg-tell-FUT B1sg-mother-to A3-complete thing
a-hechá-va ko ára-pe.
 A1sg-see-RC this day-at
 'Tonight I'll tell my mother about all the things I see today.' [E]

I assume that these embedded clauses are finite clauses since the unmarked verbs can be replaced by verbs marked with e.g. the future marker *-ta* (although consultants much prefer the version without *-ta*). If these clauses are finite, then the zero non-future tense would have to occur with the unmarked verbs in (21). Given that the eventualities denoted by the unmarked verbs in these examples are located in the future of the utterance time, these data show that the zero non-future tense cannot be an absolute non-past tense since this would incorrectly predict the infelicity of the examples in (21). Rather, the zero tense morpheme would have to be a relative non-future tense which locates the reference time at or prior to the local evaluation time, which is the utterance time in matrix clauses and a time provided by the embedding construction in subordinate clauses. This correctly predicts that unmarked verbs in matrix clauses cannot receive absolute future time reference but that unmarked verbs in subordinate clauses can be compatible with future time reference, if the embedding construction provides a future evaluation time, with respect to which the non-future tense is interpreted. The feasibility of such an analysis for constructions like those in (21) is left to future research.

Example (3) in section 1 showed that unmarked verbs are not acceptable in contexts like (the Guaraní-version of) *What will you do tomorrow?*. But it is not the case that unmarked verbs are infelicitous in all contexts with future time reference. Consider (22):

- (22) Context: It's my sister's wedding tomorrow. My mother says to my sister:

Ja-ensaya la ja-japó-ta-va ko'ëro. **E-pu'a** a la seis. La
 A1pl.incl-go.over the A1pl.inc-do-FUT-RC tomorrow A2sg-get.up at the six the
 pelukéra ou a la siéte. **E-sẽ** nde-róga-gui a la ócho. Ha
 hair.dresser A3.come at the seven A2sg-leave B2sg-house-ABL at the eight and
e-menda a la nuéve.
 A2sg-marry at the nine

'Let's go over what we'll do tomorrow. You get up at six. The hair dresser comes at seven. You leave your house at eight, and you get married at nine.' [E]

In the discourse context given in (22), the (bold-faced) unmarked matrix clause verbs receive a future time interpretation. Thus, at the least, data like (22) raise doubt about whether

a tense morpheme that entails non-future temporal reference can be assumed to play a role in the temporal interpretation of unmarked verbs in finite clauses in Guaraní. It is an open question, however, what distinguishes the context in (22) from e.g. the context of (3), where unmarked verbs in matrix clauses are incompatible with future time reference.

Another piece of data that raises doubt as to whether it is feasible to assume a non-future zero tense in Guaraní is the projective behavior of the non-future temporal implication. The non-future (zero) tense morpheme of Matthewson (2006) presupposes that the reference time is prior to the utterance time.⁷ If matrix clauses with unmarked verbs trigger this presupposition, we expect the presupposition to project when the unmarked verb is embedded under the scope of an operator that is a hole for presuppositions, such as questions, negation and modals (e.g. Karttunen 1973, Chierchia and McConnell-Ginet 1990). To explore the projective behavior of the non-future temporal implication, it is necessary to first establish constructions that function as holes for presuppositions in Guaraní. I do so on the basis of the example in (23), which contains the verb *o-heja* ‘A3-leave’, interpreted here as ‘stop’. Consultants judge this example felicitous only in contexts in which Malena smoked before, thus making the implication that Malena smoked a candidate for presupposition.

- (23) Maléna o-heja la je-pita.
 Malena A3-leave the JE-smoke
 ‘Malena stopped smoking.’ [E]

In the examples in (24), (23) is questioned (24-a), occurs in the antecedent of a conditional (24-b), or in the scope of sentential negation (24-c) or a modal (24-d). Each of these utterances is considered felicitous by my consultants only in contexts where Malena is known to have smoked before, thus motivating that these constructions are holes for presuppositions in Guaraní and supporting the hypothesis that the implication of (23) that Malena smoked is a presupposition.

- (24) a. Maléna-pa o-heja la je-pita?
 Malena-QU A3-leave the JE-smoke
 ‘Has Malena stopped smoking?’ [E]
- b. Maléna o-hejá-ramo la je-pita, a-vy’a.
 Malena A3-leave-if the JE-smoke A1sg-happy
 ‘If Malena stopped smoking, I am happy.’ [E]
- c. Maléna nd-o-heja-i la je-pita.
 Malena NEG-A3-leave-NEG the JE-smoke
 ‘Malena didn’t stop smoking.’ [E]
- d. I-katu Maléna o-heja la je-pita.
 B3-possible Malena A3-leave the JE-smoke
 ‘It’s possible that Malena stopped smoking.’ [E]

⁷The NON-FUT operator of Tonhauser (to appear) asserts rather than presupposes that the reference time is at or prior to the utterance time.

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Armed with this diagnostic, we can now examine the behavior of the non-future temporal implication presupposed by the zero non-future tense morpheme. If this tense presupposes a non-future temporal reference for unmarked verbs, we expect unmarked verbs under the scope of operators like those in (24) to have a non-future temporal reference since the non-future temporal implication should project. Consider the examples in (25) and (26). As expected, unmarked verbs in the scope of negation (25-a) and in questions (25-b) receive a non-future temporal interpretation. Unmarked verbs in the antecedent of a conditional (26-a) and the scope of a modal (26-b) are not interpreted with non-future temporal reference.

- (25) a. **Nd-a-purahéi-ri.**
NEG-A1sg-sing-NEG
'I am/was not singing.' [E]
- b. **O-purahéi-pa?**
A3-sing-QU
'Did he sing?' or 'Was/Is he singing?' [E]
- (26) a. **Re-purahéi-ramo, a-sě-ta.**
A2sg-sing-if A1sg-leave-FUT
'If you sing, I will leave.' [E]
- b. Context: About Mario, what did he do/is he doing/will he do at the party?
I-katu o-purahei.
B3-possible A3-sing
'It's possible that he sang/he is singing/he will sing.' [E]

These data show that unmarked verbs do not exhibit a uniform behavior in contexts that are holes for presuppositions: in matrix clauses, the purported presupposition seems to project (25), but not in embedded clauses (26). The data in (26-b) is particularly telling since the unmarked verb is compatible with past, present and future time reference. This again raises doubt as to the feasibility of an analysis according to which non-future temporal reference is presupposed (Matthewson 2006) or entailed (Tonhauser to appear) by unmarked verbs.

In sum, unmarked verbs in matrix and embedded clauses are compatible with past, present and future time reference. The future time interpretation of unmarked verbs in matrix clauses and the interpretation of unmarked verbs in contexts that are holes for presuppositions raises doubt as to whether a phonologically zero non-future tense morpheme is empirically motivated for the temporal analysis of unmarked verbs in Guaraní. If this conclusion holds up in future research, this would mean that Guaraní is not just tenseless in the sense that it does not have overt tenses but also tenseless in the sense that it also does not have expressions whose interpretation depends on a covert tense morpheme.

4. Alternative approaches

There are alternatives to assuming a zero tense morpheme for the temporal interpretation of tenseless verbs. Lin (2005), for example, proposes that the tense information relevant for

the temporal interpretation of tenseless verbs in Mandarin Chinese is part of the meaning of aspect markers: for example, “in addition to its aspectual component, perfective aspect has semantic tense as part of its meaning” (Lin 2005, 7). Although Lin argues that “Chinese not only has no morphological tenses but lacks semantic features in the above sense” (Lin 2005, 1), Lin’s analysis of Mandarin Chinese is not strictly tenseless since the tense meaning (the relation between the reference time and the local evaluation time) is conveyed by aspect markers. In Guaraní, none of the aspectual markers can be taken to convey a non-future tense meaning in addition to their aspectual meaning, as illustrated in sections 2.1 and 2.3. An analysis based on a zero aspect morpheme would give rise to similar questions about its distribution and interpretation as the zero tense morpheme did.

Another alternative is Bittner’s (to appear) analysis of Kalaallisut verbs, which are also not marked for tense (Bittner 2005). The string *Aani sinig-pu-q* (Aani asleep-DEC.IV-3SG) is interpreted in (27-a) with present time reference and in (27-b) with past time reference:⁸

- (27) a. Ole aallar-pu-q. Aani sinig-pu-q.
 Ole leave-DEC.IV-3SG Aani asleep-DEC.IV-3SG
 ‘Ole has left. Aani is asleep.’ (adapted from Bittner to appear, 21)
- b. Ole ulluq-mi aallar-pu-q. Aani sinig-pu-q.
 Ole day-LOC leave-DEC.IV-3SG Aani asleep-DEC.IV-3SG
 ‘Today Ole left. Aani was asleep.’ (adapted from Bittner to appear, 22)

The restriction to non-future temporal interpretation follows, rather than from a phonologically zero tense morpheme, from the meaning of the declarative mood marker, which Bittner argues requires the eventuality denoted by the verb to be ‘currently verifiable’: “an event is currently verifiable if it has already happened; a state, if at least the beginning has” (Bittner to appear, 15). This implies that verbs marked with declarative mood are compatible only with non-future temporal reference. In contrast to Kalaallisut verbs, Guaraní verbs are not obligatorily inflected for mood. The temporal interpretation of unmarked Guaraní verbs can therefore not follow from the meaning of mood (or other overt) markers.

A hypothesis to be pursued in future work is that the temporal (and modal) interpretation of unmarked Guaraní verbs follows from the *absence* of overt marking, which is known to be meaningful in other empirical domains: in the domain of number, for example, the absence of plural marking is taken to implicate singular reference in English (e.g. Greenberg 1963, but see e.g. Roberts 1987); Faller (2002, 2004) argues that the absence of an evidential marker in Quechua conveys direct evidential meaning. In future research, I will explore whether the temporal (aspectual and modal) meaning of unmarked Guaraní verbs derives from its position in the verbal paradigm, i.e. the opposition of such verbs with verbs marked for temporal, aspectual and modal information.

⁸The following glosses are used in the Kalaallisut examples: 3SG = third person singular, DEC = declarative mood, IV = intransitive verb, LOC = locative case.

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Department of Linguistics
The Ohio State University
222 Oxley Hall, 1712 Neil Ave
Columbus, OH 43210

judith@ling.osu.edu