

## The nominal temporal marker *-pe* in Kuikuro\*

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### 1. Overview

Kuikuro is a Southern Carib language spoken by approximately 600 speakers in the region known as “upper Xingu”, the headwaters of the Xingu river, Southern Amazonia, Brazil. In this talk we analyze four uses of the past Nominal Temporal Marker (NTM) *-pe*:

- (1) Bruna ekise-i kuk-inguhe-ni-pe.  
Bruna D3-COP 12-teach-AENMLZ-PE  
‘Bruna is our ex-teacher.’ Nominal *-pe*
- (2) Takumã heke ngüne ha-nügü-pe etsimbüki-lü.  
Takumã ERG house make-PNCT-PE 3DTR.finish-PNCT  
‘Takumã finished building the house.’ Aspectual *-pe*
- (3) Ami-ngo-pe ata u-te-lü-ingo Ahukugi-na.  
other.time-NMLZ-PE inside 1-go-PNCT-FUT Ahukugi-AL  
‘Next time I will go to Ahukugi.’ Adverbial *-pe*
- (4) Anetü heke leha kagaiha-pe t-akugi-ti ete to-ngo-pe-ninghe.  
chief ERG CMPL white-PE AN-expel-PTP village belong-NMLZ-PE-ABL  
‘The chief expelled the white man from the village.’ Ablative *-pe*

We propose a unified analysis of *-pe* as a terminative aspect in situation semantics. Our analysis builds on Franchetto & Santos’s (2009) description of *-pe* as well as on elicitation with three native speakers of Kuikuro in March 2015, August 2015 and June 2016.

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\*We would like to thank Mutua Kuikuro, Jamalui Mehinaku Kuikuro and Assuso Kuikuro for sharing their knowledge of Kuikuro with us, and the audience at SULA 9 for helpful comments.

## 2. Tense in Kuikuro

Kuikuro has a non-future/future contrast. The reference time of verbs without temporal inflection may either precede or overlap the time of utterance, but may not follow it. Punctual and continuative aspects are compatible with a past/present event time. Verbs that describe future events bear the suffix *-ingo* and are unattested with the continuative aspect.

- (5) Mutua heke kanga hule-tagü (ande/konige/\*kogetsi).  
 Mutua ERG fish bake-CONT now/yesterday/tomorrow  
 ‘Mutua is baking fish now/was baking fish yesterday.’
- (6) Mutua heke kanga hule-nügü (ande/konige/\*kogetsi).  
 Mutua ERG fish bake-PNCT now/yesterday/tomorrow  
 ‘Mutua bakes fish now/baked fish yesterday.’
- (7) Mutua kanga hule-nümingo (\*ande/\*konige/kogetsi).  
 Mutua fish bake-PNCT.FUT now/yesterday/tomorrow  
 ‘Mutua will bake fish tomorrow.’

## 3. Nominal uses of *-pe*

### 3.1 Distribution

*-Pe* is attested on common nouns and proper names, in possessed and absolute noun phrases:

- (8) Heu-pe apüngu leha.  
 peccari-PE die.PNCT CMPL  
 ‘A peccari died’
- (9) Yoni-pe t-apüngi leha.  
 Yoni-PE AN-die.PTP CMPL  
 ‘Yoni died.’
- (10) U-nho-pe ekise-i u-õ-pügü leha i-heke, u-nho-pe leha  
 1-husband-PE D3-COP 1-leave-PRF CMPL 3-ERG 1-husband-PE CMPL  
 t-apüngi.  
 AN-die.PTP  
 ‘My ex-husband is the person who left me or who died.’

*-Pe* is unattested on verbs:

- (11) U-nho-pe heke leha u-õ-lü>(\*pe) leha.  
 1-husband-PE ERG CMPL 1-leave-PNCT-PE CMPL  
 ‘My ex-husband left me.’

### 3.2 An informal look at the range of interpretations of nominal *-pe*

Nordlinger & Sadler (2004) make a distinction between propositional and independent nominal tense. Propositional nominal tense is realized on a noun phrase but is interpreted as verbal tense, i.e. it constraints the location of the reference time of the clause with respect to the time of utterance. Independent nominal tense on the other hand affects the temporal interpretation of the noun phrase itself. The following example shows that *-pe* is not a propositional nominal tense marker (NTM):

- (12) Akandoho-pe etsuhe-nümingo atsigé.  
bench-PE 3DTR.break-PNCT.FUT certainly  
'The bench will certainly break down.'  
Comment: it is bad and I am sure that it will break-down.

In absolute noun phrases (i.e. non-possessed noun phrases), *-pe* may convey (i) the death, destruction or end of the referent(s), cf. (13)-(16), (ii) a change of form/identity of the referent(s), cf. (17)-(18) or (iii) a loss of functionality of the referent(s), cf. (19)-(20):

- (13) Kagaiha heke kangamuke-pe e-lü.  
White ERG child-PE kill-PNCT  
'The white man killed the child.'
- (14) Karaiha heke kopu-pe he-lü.  
White ERG cup-PE break-PNCT  
'The white man broke the cup.'
- (15) Ailene-pe leha t-etsimbükí.  
feast-PE CMPL AN-finish.PTP  
'The feast is over.'
- (16) Hite-pe leha t-aki-ti.  
wind-PE CMPL AN-stop-PTP  
'The wind-PE stopped blowing.'
- (17) Itoto-pe ekise-i.  
man-PE D3-COP  
'She is an ex-man.'  
Comment: "the difference between man and woman is made in the womb; in this case she started as a man and then she became a woman."
- (18) Ahukaka-pe et-imoki-pügü leha Maja-i.  
Ahukaka-PE 3DTR-change-PRF CMPL Maja-COP  
'Ahukaka-PE changed (his name) to Maja.'

- (19) Oku-pe atsungkili-pügü leha, oku-pe hogi-pügü matso  
porridge-PE spoil-PRF CMPL porridge-PE find-PRF menstruating.woman  
heke.  
ERG  
'Ex-porridge is spoiled, a menstruating woman found it and spoiled the porridge.'
- (20) Eginhoto-pe ekise-i ande leha inhalü leha iginhu-pe-i haindene leha  
singer-PE D3-COP now CMPL not CMPL 3.song-PE-COP old CMPL  
atü-hügü.  
be-PRF  
'He is an ex-singer, now there is no more singing in him, he is already old.'

In possessed noun phrases, *-pe* may also convey that the possession relation is over:

- (21) U-nho-pe ekise-i u-õ-pügü leha i-heke, u-nho-pe leha t-apüngi.  
1-husband-PE D3-COP 1-leave-PRF CMPL 3-ERG 1-husband CMPL AN-die.PTP  
'My ex-husband is the person who left me or who died.'
- (22) Bruna ekisei Kuikuro inguhe-ni-pe.  
Bruna D3-COP Kuikuro teach-AENMLZ-PE  
'Bruna is the ex-teacher of the Kuikuro.'

### 3.3 Formal properties of nominal *-pe*

Following Tonhauser (2006), we characterize the meaning of *-pe* in terms of three inferences (we adopt the terminology of Thomas 2014): the precedence inference, the cessation inference and the existence inference. We will show that the latter is unattested with *-pe*.

#### 3.3.1 Precedence and cessation inference

Let us first define the precedence and cessation inference:

- (23) Precedence Inference:  
 $[[N -pe]]^{c,g}(x)(t)$  entails that there is a time  $t' < t$  such that  $[[N]]^{c,g}(x)(t')$
- (24) Cessation Inference:  
 $[[N -pe]]^{c,g}(x)(t)$  entails that  $\neg [[N]]^{c,g}(x)(t)$

The precedence inference accounts for the fact that (25) conveys that Jamalui was my friend at some point in the past. The cessation inference accounts for the fact that (25) conveys that Jamalui is not my friend anymore at the Topic Time (TT):

- (25) U-aminkgu-sü-pe Jamalui-i.  
 1-friend-REL-PE Jamalui-COP  
 ‘Jamalui is my ex-friend.’

The fact that (26) is contradictory provides further evidence for the cessation inference:

- (26) #U-aminkgu-sü-pe Jamalui-i, Jamalui gele ande u-aminkgu-sü.  
 1-friend-REL-PE Jamalui-COP Jamalui still now 1-friend-REL  
 #‘Jamalui is my ex-friend and Jamalui is still my friend now.’

We also predicts that (27) is acceptable, since the first conjunct conveys that Jamalui had ceased to be my friend at a past TT:

- (27) Jamalui wāke ekise-i u-aminkgu-sü-pe, ande gehale ogopi-pügü  
 Jamalui PAST D3-COP 1-friend-REL-PE now again return-PRF  
 u-aminkgu-sü-i.  
 1-friend-REL-COP  
 ‘Jamalui was my ex-friend, and now he has become my friend again.’

### 3.3.2 Existence inference

Tonhauser (2006) argues that the NTM *-kue* in Guarani triggers an existence inference, which we may define as follows<sup>1</sup>:

- (28) Existence Inference:  
 $[[N-kue]]^{c,g}(x)(t)$  entails that the lifetime of  $x$  includes  $t$ .

A past NTM that triggers an existence inference should be incompatible with NPs that denote temporary or final-stage properties or relations, like *man* (permanent property) or *father* (final-stage relation).

The felicity of the following examples show that *-pe* does not trigger an existence inference:

- (29) Is-uü-pe leha t-apüngi.  
 3-father-PE CMPL AN-die.PTP  
 ‘My father died.’
- (30) Ito-pe et-unhe-tühügü leha tü-indzase.  
 fire-PE 3.DTR-extinguish-PRF CMPL RFL-alone  
 ‘The fire died out.’

<sup>1</sup>Note that (28) is not Tonhauser’s original definition.

### 3.3.3 *-pe* as a terminative aspect

We analyze *-pe* as a terminative aspect in situation semantics (Kratzer 1989):

- (31) A model for interpreting natural language is a tuple  $M := \langle S, D, E, W, \sqsubseteq, <, \llbracket \cdot \rrbracket \rangle$ , where:  
 $S$  is the set of possible situations,  
 $D$  is the set of possible individuals,  $D \cup S$ ,  
 $E$  is the set of possible events,  $E \cup S$ ,  
 $W$  is the set of possible worlds, maximal elements of  $S$  with respect to  $\sqsubseteq$ ,  
 $\sqsubseteq$  is a strict partial order on  $S$ , the mereological part-of relation,  
 $<$  is a strict partial order on  $S$ , the temporal precedence relation,<sup>2</sup>  
 $\llbracket \cdot \rrbracket$  is the interpretation function.

A situation  $s'$  abuts a situation  $s$  to the right ( $s \blacktriangleleft s'$ ) iff  $s$  precedes  $s'$  and there is no ‘temporal gap’ between  $s$  and  $s'$ :

- (32)  $s \blacktriangleleft s'$  iff  $s < s'$  and there is no situation  $s''$  such that  $s' < s'' < s$ .

We analyze *-pe* as a terminative aspect, which maps a property of situations  $P$  to a relation between a  $P$ -situation  $s'$  and a situation  $s$  that is part of some non- $P$ -situation that abuts  $s'$ :

- (33)  $\llbracket \text{TERM} \rrbracket^{c:g} = \lambda P. \lambda s'. \lambda s. \exists s'' [P(s') \wedge \neg P(s'') \wedge s' \blacktriangleleft s'' \wedge s \sqsubseteq s'']$

For the sake of conciseness, we will abbreviate the denotation of TERM with the Greek letter  $\zeta$ .

We will also make use of a covert operation of existential closure, which always binds the first argument of n-ary lambda terms:

- (34)  $\llbracket \exists_s \rrbracket^{c:g} (\lambda s'. \lambda s. R(s, s')) = \lambda s. \exists s' [R(s, s')]$

The relation between TERM and *-pe* is expressed by a rule of Vocabulary Insertion (VI) in Distributed Morphology (Halle & Marantz 1993):

- (35) TERM  $\rightarrow$  *-pe*

$\llbracket \text{TERM} \rrbracket^{c:g}(P)(s)$  is true iff  $s$  is part of a situation (possibly  $s$  itself) that immediately follows a  $P$ -situation but is not a  $P$ -situation itself. This derives the precedence and cessation inference of *-pe*.

<sup>2</sup>Note that if  $s \sqsubseteq s'$ , then  $\neg(s < s')$ , since  $s$  is temporally included in  $s'$ : the two orders are distinct. We assume that  $s < s'$  only if  $\neg \exists s'' [s'' \sqsubseteq s \wedge s'' \sqsubseteq s']$ .

### 3.3.4 Simple nominal modification

In this subsection, we will discuss the most straightforward uses of *-pe* in absolute noun phrases. Following Tonhauser (2006), we distinguish two temporal parameters of noun phrases. The NP-time is the time of evaluation of a noun phrase, while the Nominal time is the temporal argument of a nominal predicate. In the following example, the NP-time of both NPs is the time of utterance. The Nominal time of the subject NP is also the time of utterance, while the NP time of the object NP precedes the time of utterance:

(36) The current mayor is kicking the ex-priest.

By the precedence inference, *-pe* conveys that the Nominal time precedes the NP-time. By the cessation inference, *-pe* conveys that the property described by its nominal complement does not hold at the NP-time. In this respect, the interpretation of *-pe* is similar to that of English *ex-* and Guarani *-kue*. There are however striking semantic difference between *-pe* and these other NTMs, which we illustrate in three case studies.

**Case 1** In the following example, the thing that is said to be spoiled is no longer proper porridge at the time when it is spoiled: the event time and the NP-time overlap, and follow the nominal time:

(37) Oku-pe atsunggili-pügü leha.  
porridge-PE spoil-PRF CMPL  
'The ex-porridge is spoiled.'

(38) Nominal Time < NP-time, Event Time

We assume that sentences denote properties of situations that are predicated of a topic situation (see Kratzer 2016) and that in the absence of future marking, a topic situation in Kuikuro cannot follow the time of utterance (cf. Tonhauser 2011 on Paraguayan Guarani):

(39)  $[[_{vP} \vee [_{\sqrt{P}} \sqrt{\text{SPOILED}} [_{DP} \text{DEF } 1 [_{AspP} \exists_s \text{TERM} [_{nP} t_1 n [_{\sqrt{P}} \sqrt{\text{PORRIDGE}} ]]]]]]]]$

(40)  $[[nP]^{c,g} = \lambda s'. \mathbf{porridge}(g(1), s')$   
 $[[AspP]^{c,g} = \lambda s. \exists s' [\zeta(\lambda s. \mathbf{porridge}(g(1), s))(s')(s)]$   
 $[[DEF]^{c,g} = \lambda P. \lambda s. \lambda x [P(x)(s)]$   
 $[[DP]^{c,g} = \lambda s. \lambda x [\exists s' [\zeta(\lambda s. \mathbf{porridge}(g(1), s))(s')(s)]]$   
 $[[vP]^{c,g} = \lambda s. \mathbf{spoiled}(\lambda x [\exists s' [\zeta(\lambda s. \mathbf{porridge}(g(1), s))(s')(s)]]), (s)$   
 $[[vP]^{c,g}(s^*) = \mathbf{spoiled}(\lambda x [\exists s' [\zeta(\lambda s. \mathbf{porridge}(g(1), s))(s')(s^*)]]), (s^*))^3$

$[[vP]^{c,g}(s^*)$  is defined only if there is some portion of stuff that was porridge in some situation  $s'$  that abuts to the left a situation  $s''$  of which  $s^*$  is a part, and that portion of

<sup>3</sup>Unabbreviated form:  $\mathbf{spoiled}(\lambda x [\exists s' \exists s'' [\mathbf{porridge}(x, s') \wedge \neg \mathbf{porridge}(x, s'') \wedge s' \triangleleft s'' \wedge s^* \sqsubseteq s'']], s^*)$ .

stuff is no longer porridge in  $s''$ . If defined, it is true if the maximal such portion of stuff is spoiled in  $s^*$ .

The use of *-pe* illustrated in (37) is not strikingly different from uses of *ex-* or *-kue* attested in English and Guarani. The next case studies illustrate some differences between *-pe* and these other NTMs.

**Case 2** In (41), the child must have been alive at the onset time of the killing, and became dead as a result of the killing:

- (41) Kagaiha heke kangamuke-pe e-lü.  
 White ERG child-PE kill-PNCT  
 ‘The white man killed the child-PE.’

If *kill* is decomposed as ‘cause to become dead’ (Harley 2002), one can distinguish two event times: that of the causing event and that of the resulting state. The NP-time overlaps with the latter:

- (42)  $[[\text{voiceP DP}_2 \text{ voice } [\sqrt{P} \text{ CAUSE } [\sqrt{P} \sqrt{\text{DEAD}} [\text{DP DEF 1 } [\text{AspP } \exists_s \text{ TERM } [\text{nP t}_1 \text{ n } [\sqrt{P} \sqrt{\text{CHILD}} ]]]]]]]]]]$

- (43)  $[[\text{nP}]^{c,g} = \lambda s. \mathbf{child}(g(1), s)$   
 $[[\text{AspP}]^{c,g} = \zeta(\lambda s. \mathbf{child}(g(1), s))$   
 $[[\text{DP}]^{c,g} = \lambda s. \iota x[\exists s'[\zeta(\lambda s. \mathbf{child}(x, s))(s')(s)]]$   
 $[[\sqrt{P}]^{c,g} = \lambda s. \mathbf{dead}(\iota x[\exists s'[\zeta(\lambda s. \mathbf{child}(x, s))(s')(s)]]], s)$   
 $[[\text{voiceP}]^{c,g} = \lambda s. \exists e[e \sqsubseteq s \wedge \mathbf{agent}(e, \iota x[\mathbf{white-man}(x, s)])] \wedge \exists s''[\mathbf{cause}(e, s'') \wedge s'' \sqsubseteq s \wedge \mathbf{dead}(\iota x[\exists s'[\zeta(\lambda s. \mathbf{child}(x, s))(s')(s'')]]], s'')]]$   
 $[[\text{voiceP}]^{c,g}(s^*) = \exists e[e \sqsubseteq s^* \wedge \mathbf{agent}(e, \iota x[\mathbf{white-man}(x, s^*)])] \wedge \exists s''[\mathbf{cause}(e, s'') \wedge s'' \sqsubseteq s^* \wedge \mathbf{dead}(\iota x[\exists s'[\zeta(\lambda s. \mathbf{child}(x, s))(s')(s'')]]], s'')]]$

Note that this analysis presupposes that Kuikuro nouns do not trigger a lifetime presupposition (see Musan 1997), contrary to English and Guarani nouns. A relation between individuals and situations  $R$  triggers a lifetime presupposition iff  $R(x, s)$  is defined only if  $x$  exists at the time of  $s$ . According to our analysis, (41) entails that there is situation  $s''$  caused by the agent of the killing, in which the patient of the killing does not have the property of being a child. This analysis presumes that one can truthfully assert (in Kuikuro) that some individual  $x$  is not a child in some situation  $s$  if  $x$  is dead in  $s$ . If the use of *kangamuke* (‘child’) triggered an existence presupposition, (41) would be infelicitous, since the proposition that the patient is dead in  $s''$  would contradict the presupposition that she exists (i.e. that she is alive) in this situation. As consequence, we assume that although  $[[\text{kangamuke}]^{c,g}(x)(s'')]$  entails that  $x$  is alive in  $s''$ , it does not presuppose it.

In this respect, the use of *-pe* in Kuikuro differs from that of English *ex-* and Guarani *-kue*, which would be unacceptable in the counterpart of sentence (41) in these languages.

Note that, if we are right, the difference lies not in the semantics of the NTMs but in the lifetime presuppositions of nouns.

**Case 3** *-Pe* is attested with verbs of disappearance:

- (44) Ekege-pe leha t-atanhe-ti.  
 Jaguar-PE CMPL AN-disappeared-PTP  
 ‘The jaguar disappeared.’

(44) does not entail that the jaguar is dead in the topic situation, but merely that it is no longer present. We analyze disappear as “cause to be absent,” with an agent-less causative head:

- (45)  $[_{vP} \text{CAUSE} [_{\sqrt{P}} \sqrt{\text{ABSENT}} [_{DP} \text{DEF } 1 [_{AspP} \exists_s \text{TERM} [_{nP} t_1 n [_{\sqrt{P}} \sqrt{\text{JAGUAR}} ]]]]]]]]$

- (46)  $[[\sqrt{\text{ABSENT}}]^{c,g} = \lambda x. \lambda s. \neg(x \sqsubseteq s)$   
 $[[DP]^{c,g} = \lambda s. \iota x [\exists s' [\zeta(\lambda s. \mathbf{jaguar}(x, s))(s')(s)]]]$   
 $[[vP]^{c,g}(s^*) =$   
 $\exists e [e \sqsubseteq s^* \wedge \exists s'' [\mathbf{cause}(e, s'') \wedge s'' \sqsubseteq s^* \wedge \neg(\iota x [\exists s' [\zeta(\lambda s. \mathbf{jaguar}(x, s))(s')(s'')]] \sqsubseteq s'')]]]$

$[[DP]^{c,g}(s)$  is the unique  $x$  such that  $x$  was a jaguar in some situation  $s'$  and  $s$  is part of a situation that abuts  $s'$ , in which it is not the case that  $x$  is a jaguar:

- (47)  $[[DP]^{c,g}(s) = \iota x [\exists s' \exists s'' [\mathbf{jaguar}(x, s') \wedge \neg \mathbf{jaguar}(x, s'') \wedge s' \triangleleft s'' \wedge s \sqsubseteq s'']]]]$

Assuming that  $\mathbf{jaguar}(x, s'')$  is false (rather than undefined) whenever  $x$  is not present in  $s''$ ,  $[[DP]^{c,g}(s)$  may denote a jaguar that was present in some situation that precedes  $s$  and that is absent in  $s$ .

When discussing (41), we concluded that Kuikuro nouns do not trigger a lifetime presupposition. (44) suggests that they also fail to trigger a ‘presence’ presupposition, whereby  $R(x, s)$  would be defined only if  $x$  were part of the situation  $s$ . We propose that describing an individual  $x$  as being a jaguar in a situation  $s$  in Kuikuro entails that  $x$  is present in the situation  $s$ , but does not presuppose it.

### 3.3.5 *-pe* with complements of aspectual verbs of cessation

We now move to occurrences of *-pe* on clausal complements of aspectual verbs of completion and interruption:

- (48) Takumã heke ngüne ha-nügü-pe etsimbüki-lü.  
 Takumã ERG house make-PNCT-PE 3DTR.finish-PNCT  
 ‘Takumã finished building the house.’

- (49) Ngüne ha-nügü-pe ike-tagü Takumã heke.  
house make-PNCT-PE cut-CONT Takumã ERG  
'Takumã is halting the construction of the house.'

Since *-pe* is unattested on matrix verbs, we assume that the embedded verbs in such examples have undergone zero-nominalization. More precisely, we decompose *estimbüki* ('finish') as [CAUSE [ $\sqrt{\text{COMPLETE}}$ ] NP] where NP is a nominalized event description:<sup>4</sup>

- (50) [ $\text{voiceP DP}_2 \text{ voice } [_{\text{VP2}} \text{ CAUSE } [_{\sqrt{\text{P}}} \sqrt{\text{COMPLETE}} 1 [_{\text{AspP}} \exists_s \text{ TERM } [_{\text{nP}} \text{ t}_1 \text{ n vP } ]]]]]]$

The root  $\sqrt{\text{COMPLETE}}$  denotes a relation between events and their resultant states, where the resultant state of an event *e* is "the state of *e* having culminated" (Parsons 1990):

- (51) **complete**(*P, s*) = 1 iff *s* is the resultant state of some P-event.

Given this assumption, these sentences are not fundamentally different from (41). The most striking difference is that the terminative aspect denoted by *-pe* is redundant with the predicate **complete** defined above:

- (52)  $[[\text{n}]]^{c:g} = \lambda P. \lambda e. \lambda s. e \sqsubseteq \wedge P(e)$   
 $[[\text{AsP}]]^{c:g} = \lambda s. \exists s' [\zeta (\lambda s'. g(1) \sqsubseteq s' \wedge \mathbf{build}(g(1), \iota x[\mathbf{house}(x, s')]))(s')(s)]$   
 $[[\sqrt{\text{COMPLETE}}]]^{c:g} = \lambda R. \lambda e. \lambda s. \mathbf{complete}(\lambda e. R(e, s), s)$   
 $[[\text{voiceP}]]^{c:g}(s^*) = \exists e [e \sqsubseteq s^* \wedge \mathbf{agent}(e, \iota x[\mathbf{Takumã}(x, s^*)]) \wedge \exists s'' [\mathbf{cause}(e, s'') \wedge s'' \sqsubseteq s^* \wedge \mathbf{complete}(\lambda e. \exists s' [\zeta (\lambda s. e \sqsubseteq s \wedge \mathbf{build}(e, \iota x[\mathbf{house}(x, s)])))(s')(s'')], s'')]$

### 3.3.6 adverbial uses of *-pe* in ablative post-positional phrases

In the following examples, *-pe* attaches to an interval denoting expression (pronoun or nominalized adverb). The resulting expression denotes a time that follows the said interval:

- (53) Ese-pe kae akatsange u-e-nhümingo e-itigi-nhi.  
3-PE LOC INT 1-come-PNCT.FUT 2-fetch-AENR  
'After this [pointing at the 4th finger, i.e. the 4th day], I will come and fetch you.'
- (54) Ige i akungun-ki püükü üle-pe ige-lü inhagü atati.  
DPROX wood piece-INSTR ID AN-PE bring-PNCT hole INESS  
'We took this with a piece of wood, and after that we put it inside the hole.'
- (55) Ami-ngo-pe ata u-te-lü-ingo Ahukugi-na.  
other.time-NMLZ-PE inside 1-go-PNCT-FUT Ahukugi-ALL  
'Next time, I will go to Ahukugi.'

<sup>4</sup>To keep syntactic structures and their interpretation simple, we ignore the control relation between the subjects of the two vPs.

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This use of *-pe* is also attested with temporal frame adverbials, as illustrated in (56):

- (56) kogetsi-ngo-pe-nginhe  
tomorrow-NMLZ-PE-ABL  
'after tomorrow'

For simplicity, we treat demonstrative pronouns as free variables and we assume that a demonstrative pronoun denotes a situation that the speaker is 'pointing at' in the context of utterance:

$$(57) \quad \llbracket \text{DEM}_i \rrbracket^{c,g} = g(i)$$

$$(58) \quad \llbracket \text{IDENT DEM}_i \rrbracket^{c,g} = \lambda s.s = g(i)$$

$$(59) \quad \llbracket \exists_s \text{ TERM} \rrbracket^{c,g}(\llbracket \text{IDENT DEM}_i \rrbracket^{c,g}) = \lambda s.\exists s' \exists s'' [s' = g(i) \wedge s'' \neq g(i) \wedge s' \blacktriangleleft s'' \wedge s \sqsubseteq s'']$$

Assuming that  $g(i)$  is a salient situation that coincides with the day that the speaker who utters (53) is 'pointing at',  $\llbracket \text{TERM} \rrbracket^{c,g}(\llbracket \text{IDENT DEM}_i \rrbracket^{c,g})$  is a property of situations that follow this day.

#### 4. Ablative *-pe* and verbs of removing

##### 4.1 *-pe* with verbs of removing

With verbs of removing, *-pe* is attested on noun phrases without cessation inference. It is also part of the morphosyntactic make-up of the ablative PP:

- (60) Tahoe-pe ti-jü leha u-heke i kae-ngo-pe-ngine.  
knife-PE remove-PNCT CMPL 1-ERG tree LOC-NMLZ-PE-ABL  
'I removed the knife from the tree.'

- (61) Anetü heke leha kagaiha-pe t-akugi-ti ete to-ngo-pe-nginhe.  
chief ERG CMPL white-PE AN-expell-PTP village belong-NMLZ-PE-ABL  
'The chief expelled the white man from the village.'

Interestingly, (60) does not entail that the knife is broken or otherwise unusable after it has been removed from the tree, and (61) does not entail that the white man died after he was expelled from the village. In other words, *-pe* is not interpreted as a terminative aspect taking scope directly over its nominal host. In this respect, this use of *-pe* differs from all the uses we have discussed so far.

Following Folli & Harley (2006), we assume that the ablative PP is an argument of the verb:

$$(62) \quad [\text{voiceP DP}_2 \text{ voice } [_{VP2} \text{ CAUSE } [\sqrt{P} \text{ DP}_1 [ \sqrt{\text{MOVE-OUT PP}} ] ] ] ]$$



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$$\begin{aligned} \llbracket \text{AspP} \rrbracket^{c,g} &= \lambda s. \zeta(\lambda s'. \mathbf{loc}(s') \sqsubseteq \mathbf{loc}(\iota x[\mathbf{tree}(x, g(1))]))(g(2))(s) \\ \llbracket \text{PP} \rrbracket^{c,g} &= \lambda s''. \lambda s. \zeta(\lambda s'. \mathbf{loc}(s') \sqsubseteq \mathbf{loc}(\iota x[\mathbf{tree}(x, g(1))]))(s'')(s) \end{aligned}$$

$\llbracket \text{PP} \rrbracket^{c,g}(s'')(s')$  is true iff  $s''$  is a situation located in the tree and  $s'$  is part of a situation that abuts  $s''$  but is not located in the tree.

We are now in a position to present the truth-conditions of (60):<sup>8</sup>

$$(69) \quad \llbracket (60) \rrbracket^{c,g}(s^*) = \exists e[e \sqsubseteq s^* \wedge \mathbf{agent}(e, c_s) \wedge \exists e'[\mathbf{cause}(e, e') \wedge \mathbf{moving}(e') \wedge e' \sqsubseteq s^* \wedge \mathbf{theme}(e', \llbracket \text{DP}_1 \rrbracket^{c,g}(\mathbf{init}(e), \mathbf{ext.init}(e))) \wedge \llbracket \text{PP} \rrbracket^{c,g}(\mathbf{init}(e), \mathbf{fin}(e))]$$

(69) conveys that the speaker caused a movement of the knife from within the tree to some other location, such that the knife was no longer in the tree at the end of the movement.

According to this analysis, *-pe* is used on the theme argument of verbs of removing to express the directionality of the movement, along with the ablative PP. Consequently, this use of *-pe* does not convey the destruction of the theme, but merely its disappearance from the source of the movement.

#### 4.2 *-pe* with other verbs of movement

According to our analysis, the ungrammaticality of verbs of removing without an occurrence of *-pe* on the theme DP is due to a rather idiosyncratic semantic property of these verbs in Kuikuro: namely, that their theme is encoded as a relation between  $\mathbf{init}(e)$  and  $\mathbf{ext.init}(e)$ .

This leads us to expect that, everything else being equal, *-pe* should be optional with other verbs of movement, and may trigger inferences of destruction when it is used. This prediction is borne out with verbs of manner of motion, which nevertheless license the use of *-pe* in ablative PPs:

(70) Mutua heke tilisinhü-pe hapi-jü tunga-kwa-ati.  
 Mutua ERG drink-PE pour-PNCT water-in-ALL  
 ‘Mutua poured the (spoiled) drink into the river.’  
 Comments: “the drink was spoiled.”

(71) Mutua heke tilisinhü hapi-jü tunga-kwa-ati.  
 Mutua ERG drink pour-PNCT water-in-ALL  
 ‘Mutua poured the drink into the river.’  
 Comments: “the drink was good, not spoiled.”

(72) Mutua hülüN-tagü ete-to-ngo-pe-nginhe atüpo-na.  
 Mutua walk-CONT village-belong-NMLZ-PE-ABL haven-AL  
 ‘Mutua is walking from the village to the haven.’

<sup>8</sup>Where  $c_s$  is the speaker in context  $c$ .

## 5. Conclusion

We have argued that it is possible to give a unified analysis of the Kuikuro past NTM *-pe* as a terminative aspect. In this respect, this study supports Tonhauser's (2006) proposal that some NTMs that may at first sight be classified as nominal tenses are better analyzed as nominal aspects. Indeed, our analysis builds a cessation inference in the meaning of *-pe*, a property which Tonhauser (2008) argues is characteristic of aspect rather than tense.

Note that this does not exclude the existence of nominal tense in Kuikuro. Another NTM in Kuikuro that may be a nominal tense is the future marker *-ingo*, which is attested both on verbs and on nouns as illustrated in the following examples from Santos (2007):

- (73) i-hi-tsü-ingo  
3-wife-REL-FUT  
'His future wife.'
- (74) Kogetsi kajü ahehi-jü-ingo u-heke  
tomorrow monkey take.picture-PNCT-FUT 1-ERG  
'Tomorrow I will take a picture.'

We have also observed that *-pe* does not trigger an existence inference, contrary to English *ex-* and Guarani *-kue*. We have proposed that the lack of existence inference in Kuikuro is due to an absence of lifetime presupposition with Kuikuro nouns. However, we have not provided independent evidence in support of this proposal, and we have not discussed its consequences beyond the grammar of nominal tense. Finally, we have not explained why some uses of *-pe* are obligatory while other are optional. We leave these unresolved issues to future research.

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