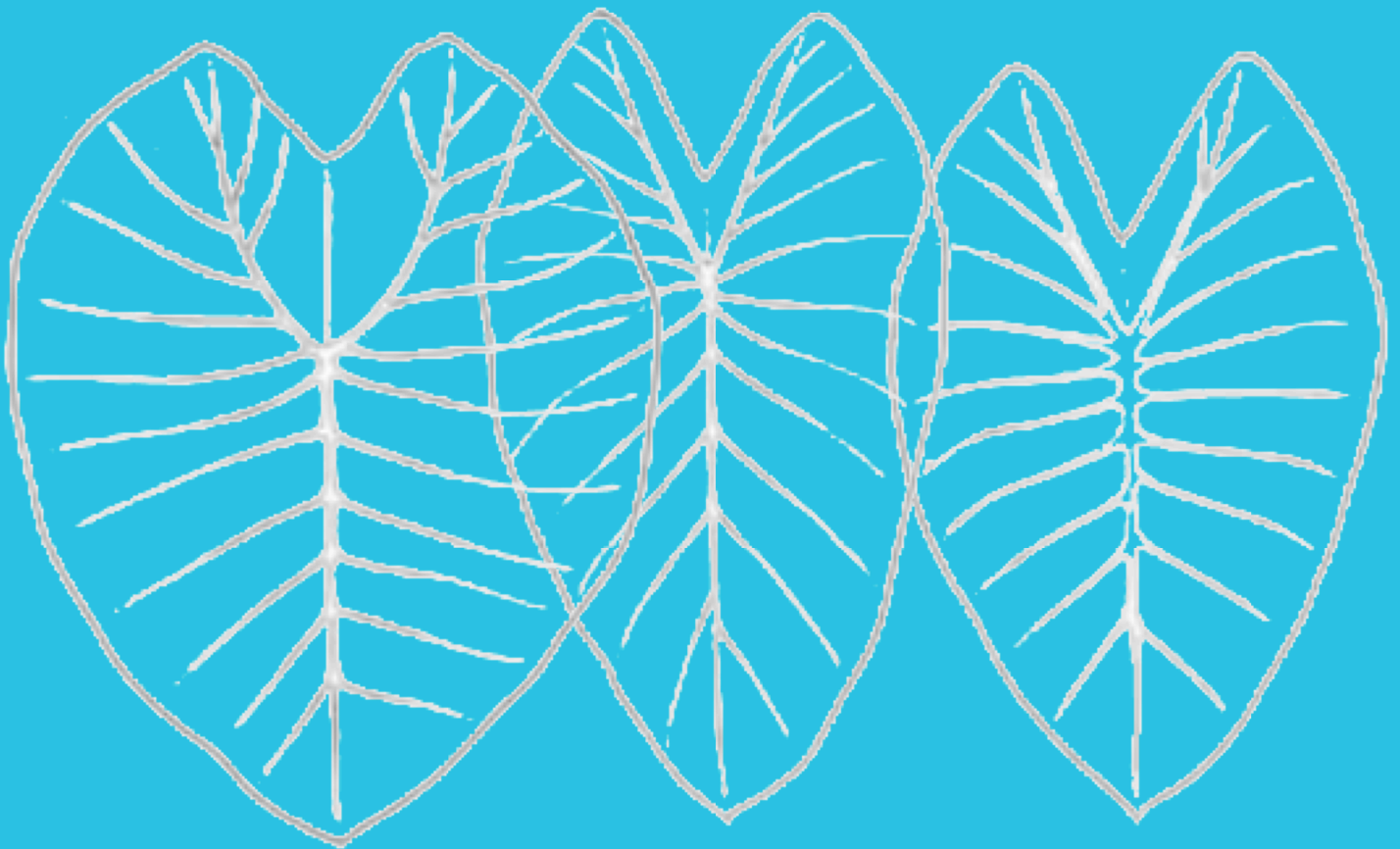


Proceedings of TripleA 5

Fieldwork Perspectives on the
Semantics of African, Asian and Austronesian Languages



Ed. by M. Ryan Bochnak, Miriam Butt,
Erlinde Meertens & Mark-Matthias Zymla

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The Perfect in Mee: New Evidence for a Result State Approach¹

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Abstract. In this paper, we present new evidence for a result state analysis of the perfect. In Mee (Trans-New-Guinea, Indonesia) the perfect combines a resultative and a universal reading, excluding the experiential one. This contrasts with graded past markers in the language. We argue that only an analysis that makes direct reference to the result state can correctly derive the data.

1 Introduction

Mee, also known as Ekari or Ekagi, is a Trans-New-Guinea language spoken in the West Central Highlands of the Papua province in Indonesia. The latest official count in 1985 put the number of speakers at 100.000 (Simons and Fenning 2018; Pawley and Hammarström 2017). Speakers are usually at least bilingual, speaking Mee and Indonesian and potentially another local language. The data presented here belong to the Lake Paniai dialect.

All Mee data in this paper are the result of primary urban fieldwork, conducted by the three authors. The data were elicited with a native multilingual speaker in Leipzig, Germany from October 2016 to August 2018 and checked with a second native speaker. Our contact language was German. In elicitations, we mostly used translation tasks, and asked for acceptability and grammaticality judgments. We also used the storyboard *Miss Smith's Bad Day* (Matthewson 2014).

Verbal predicates in Mee contain an obligatory tense/aspect morpheme that is suffixed to the stem. This affix is followed by an obligatory subject agreement vowel. The verbal morphology template is illustrated in (1), (2) gives a concrete example².

- (1) *Verbal morphology*
(object agreement) – verbal root – TAM – subject agreement – (Mood)
- (2) *Okai ki okai e-doo-p-i-gaa.*
3SG DET.M 3SG 3SG.OBJ-see-PRF-3SG.M-HYP
“He might have seen him.”

Mee has a number of morphemes that convey that the event expressed by the verb is situated anterior to a reference time (RT) or the utterance time (UT). As will be discussed below, Mee exhibits a graded past tense system. The relevant morphemes are: *-eteg* (REM.PST), *-emeg* (EXP.PST),

¹We would like to thank our consultants Antonius Zaverius 'Verry' Agapa and Agustinus 'Gusti' Giyai for sharing their language with us, and Martina Martinović and Ryan Bochnak, the audiences at TripleA5 and the 'Syntax and its interfaces' colloquium at Universität Leipzig, as well as three anonymous reviewers for valuable comments.

²Abbreviations: ABS–absolute, C–complementizer, CAUS–causative, DEM–demonstrative, DET–determiner, EXP.PST–experiential past, F–feminine, HAB–habitual, HYP–hypothetical, INDEF–indefinite, INTENS–intensifier, INTRANS–intransitivizer, LOC–locative, M–masculine, NEG–negation, OBJ–object agreement, PL–plural, POSS–possessive, PRF–perfect, REC.PST–recent past, REM.PST–remote past, SG–singular

-eg (REC.PST), and *-p* (PRF). Present tense is zero-marked.

In the following, we aim to (i) give an overview of the past tense system in the language, (ii) describe the properties of the perfect marked by *-p* and compare them to those of the English Present Perfect, and (iii), propose an analysis of this kind of resultative perfect. The rest of this paper is structured as follows: section 2 characterizes the anteriority markers and shows their distribution. Section 3 discusses the possible readings of the perfect in Mee, its interaction with verbal aspectual classes, the possibility of temporal adverbials, and pragmatic effects. We offer our analysis in section 4. Section 5 concludes.

2 The anteriority markers

Languages vary in how they encode temporal relations: some languages show a binary or ternary distinction, whereas so called tenseless languages such as Paraguayan Guarani lack tense morphology altogether and express temporal distinctions through adverbs and context (Tonhauser, 2011; Comrie, 1985; Bittner, 2005; Lin, 2006). Most Indo-European languages utilize a binary or ternary system, like the past/non-past distinction in German or the three-way distinction between past, present and future in English (Bohnenmeyer, 2002; Matthewson, 2006). Other languages make more fine-grained distinctions. In these so called graded tense languages, the degree of temporal distance is encoded in addition to anteriority/posteriority, e.g. in Gĩkũyũ (Cable, 2013). The tense morphology serves to track the distance between the event described and the time of speech, providing explicit information about how far into the past or future a reported event occurs.

2.1 Graded past tense in Mee

Mee exhibits a graded past tense, distinguishing two degrees of temporal remoteness. There are three past tense morphemes, *-eg*, *-eteg* and *-emeg*. In general, *-eg* is used for more recent events and *-eteg* for more distant ones, cf. (3).

(3) *Geto ko, Robert ki pasar uwe-eg-il #uwe-eteg-i.*
yesterday C Robert DET.M market go-REC.PST-3SG.M/ go-REM.PST-3SG.M
“Robert went to the market yesterday.”

(4) Context: Robert went to the market three days ago / last week / last month.
Robert ki pasar uwe-eteg-il #uwe-eg-i.
Robert DET.M market go-REM.PST-3SG.M/ go-REC.PST-3SG.M
“Robert went to the market.”

The use of *-eg* is usually confined to events that occurred during the day of the utterance time or one day before. With events that are more distant, *-eteg* is used. Even though this generalization holds in most contexts, the temporal threshold for the use of *-eg* and *-eteg* is not always clear-cut, but can vary across contexts. This vagueness and context-sensitivity sometimes leads to occurrences of these morphemes in contexts where they are not expected.

The remote past marker *-eteg* alternates with *-emeg*, a remote past marker with an existential reading, signaling that the event has been experienced only once in the indefinite past (Katz, 2003;

Chen et al., 2017; Bowler, 2018). In general past contexts, *-emeg* is used; *-eteg* is infelicitous.

(5) You are discussing food preferences with your friends. Your friend Maria is notoriously picky. You ask your mutual friend Petrus: Has Maria ever eaten sushi?

- a. #Maria kou sushi no-oteega me beu?
 Maria DET.F sushi eat-PST or NEG
 ‘Has Maria ever eaten Sushi?’
- b. Maria kou sushi no-omeega me beu?
 Maria DET.F sushi eat-PST.EX or NEG
 ‘Has Maria ever eaten Sushi?’

Further evidence comes from the fact that *-emeg* exhibits scopal interactions with negation, unlike *-eteg*. Under negation, *-emeg* yields a ‘never’ reading, where negation scopes over the existential past. Negation of *-eteg*, in contrast, negates the occurrence of an event at a specific point in time, as illustrated in (6).

(6) You are discussing food preferences with your friends. Your friend Maria is notoriously picky. Your mutual friend Petrus asks you: Has Maria ever eaten sushi?. You answer the question with “No, Maria has never eaten sushi.”.

- a. Beu, Maria kou sushi te-no-omega.
 no Maria DET.F sushi NEG-eat-PST.EX.3SG.F
 ‘No, Maria has never eaten sushi.’
- b. #Beu, Maria kou sushi te-no-oteega
 no Maria DET.F sushi NEG-eat-PST.3SG.F
 ‘No, Maria has never eaten sushi.’

The above data indicate that the past tense reading of *-emeg* is existential rather than referential, since *-emeg* is used to refer to general past contexts, as opposed to *-eteg*, which is used to refer to specific events in the past.

2.2 *-p* is not a past tense

In addition to the three anteriority markers discussed above, Mee exhibits a third morpheme *-p* that can be used to describe past events. The *-p* morpheme has previously been described as a recent past marker in Doble (1987). However, as (7) shows, *-p* can be used to refer to an event that is anterior to a future time. It is thus not restricted to past contexts.

(7) Context: You talk about what you want to do when you are an old man.

- a. Ani adama ki-**p**-a ko, ani uno umina ta-it-a.
 1SG old become-PRF-1SG C 1SG sleep much do-FUT-1SG
 “When I will have gotten old, I will sleep a lot.”
- b. *Ani adama ke-**eg**-a ko, ani uno umina ta-it-a.
 1SG old become-REC.PST-1SG C 1SG sleep much do-FUT-1SG

Additionally, a past tense would be predicted to be able to combine with progressive aspect to yield

a past progressive reading. However, *-p* cannot combine with the progressive morpheme *-ete*, (8).

(8) Context: What were you doing when I called you yesterday?

- a. *Ani-ki kou gaa kou buku ebate-ete-p-a.
1 SG-M DET.F moment DET.F book read-PROG-PRF-1 SG
“(Yesterday when you called) I was reading a book.”
- b. Ani-ki kou gaa kou buku ebate-ete-(e)g-a.
1 SG-M DET.F moment DET.F book read-PROG-REC.PST-1 SG
“(Yesterday when you called) I was reading a book.”

This might, however, be attributed to the fact that most tense and aspect morphemes in Mee are not compatible with one another in general. For example, the habitual *-ig* and the progressive *-ete* are ungrammatical in combination with the remote past morpheme *-eteg*, as in (9).

- (9) a. *Ani-ki pasar uw-ig-eteg-a.
1 SG-M market go-HAB-REM.PST-1 SG
”I went to the market.”
- b. *Ani-ki noota kou bone-ete-eteg-a.
1 SG-M sweet_potatoe hide-PROG-REM.PST-1 SG
”I was hiding the sweet potatoe.”

We are unsure how to account for the impossibility of combining TMA-suffixes and leave this topic to further research.

3 The Perfect

The perfect is a heterogeneous category. Many semantic studies have focused on the English Present Perfect (a.o. Klein (1994); Mittwoch (1995); Portner (2003)). Cross-linguistic studies like Bybee et al. (1994); Dahl and Velupillai (2011); Bertrand et al. (2017) reveal its diverse properties.

We focus on the following properties of the perfect, drawing on Bertrand et al. (2017); McCawley (1971); Comrie (1976); McCoard (1978): (i) the perfect may have an experiential reading and show certain pragmatics effects, so called *lifetime effects*; (ii) it may have a universal or continuous reading; (iii) it may have a resultative reading, and the result state may or may not be canceled; (iv) it may show a recent past interpretation; (v) there may be restrictions on its compatibility with time adverbials; and (vi) it may show interaction with different lexical aspectual classes (*Aktionsarten*).

Bertrand et al. (2017) examine these properties in a sample of 14 languages, and propose that there are three types of perfects: First, the *experiential perfect* allows the experiential reading, does not show lifetime effects, and is compatible with time adverbials. It disallows all other readings and does not show interaction with *Aktionsarten*. Second, the *resultative perfect* allows the resultative reading while an experiential interpretation is impossible. Languages that employ this strategy do not behave completely homogeneously and show substantial variation with respect to the other properties. Lastly, there is a hybrid strategy, in which both the experiential and the resultative reading are allowed, and languages vary on their behavior with respect to the other characteristics.

We will argue in the following that Mee shows a resultative strategy with its *-p* morpheme. By examining the concrete characteristics of the perfect in this underdescribed language, we aim to enrich the typology of the perfect. This contributes to an uncovering of commonalities between the members of the resultative perfect group and ultimately to a better understanding of this strategy.

In the rest of this section, we describe the readings and other properties of the perfect mentioned above with English examples and compare these to the Mee data.

3.1 Experiential reading

The experiential interpretation of a perfect sentence like (10) conveys the meaning that there is a time period prior to RT in which it is true at least once that the event occurred (based on Mittwoch 2008). The event is not necessarily ongoing at RT.

(10) Verry has been to Paniai (and he is still there).

It is possible to follow the expression in (10) with the clause in parentheses without redundancy, because it is not part of the meaning that the time period in which the event occurred overlaps with RT.

This reading is not available with *-p*. In (11) and (12), where the context encourages an experiential reading, only the remote or experiential past forms are felicitous.

(11) Context: The teacher asks the children ‘Have you ever been to the forest?’ Child answers:
*Ani aiko buguwa uwe-emeg-al *uwi-p-a.*
 1SG there forest go-EXP.PST-1SG go-PRF-1SG
 “I have been to the forest.” from storyboard (Matthewson, 2014)

(12) (*Tika miyoka tawani wii ko*) *ani ki ani weneekane-ido-ma Ugida*
 earlier last year four C 1SG DET.M 1SG.POSS little.sibling-PL-with Ugida
*dimi-ipa uwe-eteg-el *uwi-p-e.*
 summit-LOC go-REM.PST-1PL go-PRF-1PL
 “Four years ago, me and my siblings went up mount Ugida.”

3.2 Universal reading

The experiential reading contrasts with the universal one, sometimes also called continuous reading. Under the universal interpretation, an event or a state induced by an event at some point prior to RT holds from that point until RT (Bertrand et al., 2017). In this case, the sentence in parentheses in (13) is infelicitous, since its is redundant.

(13) Verry has been living in Paniai (#and he is still there).

Mee *-p* yields this reading, see (14) and (15). In both examples it is clear that the state still holds at the utterance time – in both sentences from the explicit adverbial and in (14) additionally from the explicit mention in the context. Note that the predicates in both examples denote states. We will come back to this observation in section 3.4.1.

- (14) Context: You moved to Paniai in 2002 and you still live there.
Ani ki (tawani 2002 make ko) Paniai umi-p-al #ume-eg-a.
 1SG DET.M year 2002 since C Paniai live-PRF-1SG live-REC.PST-1SG
 “I have lived in Paniai since 2002.”
- (15) *Ani ki (tawani 2002 make) didi to-p-a.*
 1SG DET.M year 2002 since ill stay-PRF-1SG
 “I have been sick since 2002.”

3.3 Resultative reading

Resultative reading refers to the use of the perfect where the result state of an action still holds at the reference time. Therefore, a continuation with cancellation of the result state is not felicitous, as seen in example (16). In English, this contrasts with the past tense, which can be used with such a cancellation. In the past tense the result state is thus not required to hold at the reference time.

- (16) a. Sally has bought a new dress #but she gave it away. (Tallman and Stout, 2016)
 b. Sally bought a new dress, but she gave it away.

In Mee, the resultative reading is obligatory for the perfect *-p*. *-p* is infelicitous when the result state ceases to hold, compare (17) and (18). In (17), the result state (=glasses being lost) still holds at the reference time. The perfect *-p* is felicitous here, as well as the remote past *-eteg*. In (18) on the other hand, only the remote past *-eteg* is felicitous. The perfect *-p* is not accepted by the speaker. The reason is a difference in the context. In (18) the result state already ceased to hold, i.e. the lost glasses have been found again. This cancellation thus blocks the use of the perfect.

- (17) Context: I lost my glasses 2-3 weeks ago. They’re still gone.
Ana dou-peka kou iga-p-al iga-ateg-a.
 1SG.POSS see-eye DET.F lose-PRF-1SG/ lose-REM.PST-1SG
 “I lost my glasses.”
- (18) Context: I lost my glasses 2-3 weeks ago. I found them again some time later.
Ana dou-peka kou #iga-p-al iga-ateg-a.
 1SG.POSS see-eye DET.F lose-PRF-1SG/ lose-REM.PST-1SG
 “I lost my glasses.”

3.4 Further Properties

3.4.1 Interaction of the perfect with lexical aspectual classes

In languages like German or English, the perfect receives an anteriority interpretation in all lexical aspectual classes or *Aktionsarten*. However, not all languages display this behavior. Recent studies like Matthewson et al. (2015) and Tallman and Stout (2016) show that the perfect in Niuean and Chacobo can receive readings other than anteriority, depending on the lexical aspectual classes of the verb. In Niuean, stative predicates can receive an inchoative or present interpretation with the perfect, see (19) for stage level and (20) for individual level statives.

- (19) *Kua ita (tei) a Malia.*
 PRF angry recent ABS Mary
 “Mary is angry/ Mary has become angry.” (Matthewson et al. 2015:18)

Only accomplishment and achievement verbs have the anteriority reading with the perfect in Niuean. The perfect of activities can get either an in-progress or an inchoative reading (Matthewson, 2016). Mee shows a high degree of interaction between the perfect and lexical aspectual classes. Stative predicates receive a present/ action-in-progress reading. This is true for both, individual level and stage level statives, see (20).

- (20) a. *Okai ko modo-ma*
 3SG DET.F belly-with
to-p-a.
 be.in.state-PRF-3SG.F
 “She is pregnant.”
- b. *Okai ki emoge*
 3SG DET.M angry
to-p-i.
 be.in.state-PRF-3SG.M
 “He is angry.”

Statives can also have a change-of-state reading, as in (21). This is not the same as the inchoative reading reported for Niuean stative verbs. An inchoative interpretation indicates that the state described by the verb has just (recently) begun and lasts (at least) until the time of uttering. The change of state in (21), however, signifies that the state in question is about to cease.

- (21) a. *John ki owa-apa to-p-i.*
 John DET.M house-LOC be.in.state-PRF-3SG.M
 “John is at home, but he might leave soon.”
- b. *Kou damo ko digimita to-p-a.*
 DET.F door DET.F dark be.in.state-PRF-3SG.F
 “The door is black now, but that is about to change.”

Activities marked with the perfect *-p* receive an anteriority/recent past interpretation, see (22). Note that a state like ‘be angry’ can be turned into an activity with the verb *tai* ‘do’.

- (22) a. *John ki emoge umina ti-p-i.*
 John DET.M angry very do-PRF-3SG.M
 “John was very angry (a short time ago).”
- b. *Mee naka totaa mana wega-p-i.*
 person INDEF story voice tell-PRF-3SG.M
 “Somebody told a story.”
- c. *Okai ki kou-ko rantang duba tumi-yawi-p-i.*
 3SG DET.M DEM-DET.F container in flow-CAUS-PRF-3SG.M
 “He poured it into the container.”

Accomplishment and achievement predicates also exclusively receive an interpretation of anteriority, cf. (23). They are incompatible with a reading in which the action is still in progress. More specifically, they can only receive a resultative reading with the perfect.

- (23) a. *Petrus ki iya tivi nako edamaki-p-i.*
 Petrus DET.M new TV INDEF buy-PRF-3SG.M

- “Petrus has bought a new TV.”
- b. *Okai ki damu-do idikima muni-yawii-p-i.*
 3SG DET.M door-PL all close-INTENS-PRF-3SGM
 “He closed all the doors.”

Accomplishment and achievement verbs differ in the possibility of canceling the result state interpretation. In achievement predicates, the result state caused by the event has to hold at RT obligatorily, recall (18). For accomplishment verbs, however, the interpretation of event culmination can be revoked, cf.(24).

- (24) a. *Miyoka tawani ko, inii ke inii-ya owaa migi-p-e...*
 last year C 1PL DET.F.PL 1PL-POSS house build-PRF-1PL
 “Last year we have built a house...”
- b. *... kodoya ito too ko migi-doke-tai beu.*
 but now until C build-INTRANS-do NEG
 “... but until now, it is not finished building.”
SC: Without the clause in (b), it is understood that the house is finished.

It seems that Mee shows the familiar divide between the interpretation of stative predicates and all other lexical aspectual classes: states marked with the perfect are interpreted as ongoing, while perfect-marked activities, achievements and accomplishments have an anteriority interpretation. Mee differs from languages like Niuean and Javanese in lacking the inchoative reading for states. Instead, it exhibits a change-of-state meaning. Future research should determine the exact conditions under which this reading can surface.

3.5 Occurrence with time adverbials

Specific time adverbials are infelicitous in combination with the English Present Perfect. This phenomenon is known as Klein’s (1992) *Present Perfect Puzzle*, see (25). Giorgi and Pianesi (1997) and Chung (2012) already note that not all languages show this restriction.

- (25) #Ilya has gone to Omsk yesterday/ last week/ two years a go.

The data in (26) demonstrate that Mee belongs to the group of languages in which the perfect may combine with specific time adverbials. In both sentences the *-p* perfect form occurs in the same sentence with a specific past time adverbial.

- (26) a. *Miyoka tawan inii iya owa migi-p-e.*
 last year 1PL new house build-PRF-1PL
 “Last year we built (our) new house.”
- b. *Geto ko ani ko pasar uwi-p-a.*
 yesterday C 1SG DET.F market go-PRF-1SG
 “I went to the market yesterday.”

3.6 Lifetime effects

The perfect has been observed to exhibit certain pragmatic effects, called *lifetime*, *repeatability*, or *current relevance* effects (see e.g. McCawley 1971; Inoue 1979; Katz 2003; Portner 2003 among many others). They rule out sentences like the ones in (27).

- (27) a. #Einstein has visited Princeton.
b. #Columbus has discovered America.

The perfect seems to be only compatible with actions that are considered repeatable in the future by the speaker, and to some extent the hearer (Katz, 2003).

While the scope of this paper cannot do the decade long discussion about the pragmatic effects justice, the data below seem to indicate that these effects also obtain in Mee. The perfect is incompatible with actions that cannot be repeated, like deceasing (cf. (28)) or going to a restaurant that is not open anymore (cf. (29)).

- (28) *An-ukai adamaa ko #boka-p-a/ bok-ateg-a.*
1.SG.POSS-female old.person DET.F die-PRF-3SG.F die-REM.PST-3SG.F
“My grandmother died.”

- (29) Context: There used to be a restaurant called *Mekong* in the city, where you ate two or three times. It is now closed. You tell me about it.

Mekong-pa ko ani ki kigi wiya to nota #no-p-a/ no-oteg-a.
Mekong-LOC DET.F 1SG DET.M times two only food eat-PRF-1SG eat-REM.PST-1SG
“I ate at Mekong twice.”

This section examined some properties of the perfect that have been discussed extensively in the literature. We have shown that the perfect in Mee exhibits the universal and resultative interpretation, but lacks the experiential reading, making it a resultative perfect in Bertrand et al.’s (2017) terms. It interacts with lexical aspectual classes, giving rise to present and change-of-state readings for stative verbs. We have briefly explored the compatibility with time adverbials and indicated that Mee also shows lifetime effects. The next section develops an analysis of the perfect in Mee that makes direct reference to a result state, and collects some arguments against alternative analyses.

4 Analysis & Discussion

4.1 Previous Analyses

As noted by Nishiyama and Koenig (2010:614), previous analyses of (mainly the English) perfect have generally tried to categorize perfect readings in one of the following ways: a tripartite distinction between experiential, resultative and universal reading (e.g. Pancheva 2003); a grouping of experiential and resultative vs. universal as done in the perfect time span analysis (Iatridou et al., 2001); or a monosemous analysis of the perfect, as posited for example by a temporal precedence analysis. None of these analyses fit the Mee perfect, since it groups the universal and resultative perfect and excludes an experiential reading. We argue that this pattern can only be accounted for

in an analysis that makes explicit reference to a result state.

In this subsection, we will discuss the concrete shortcomings of three approaches to the semantic analysis of perfect if applied to the Mee data, namely a temporal precedence analyses, a perfect time span analysis and an extended now analysis.

Firstly, an analysis that simply places the reference time in the posttime of the event time, as done i.a. by Klein (1994), cannot exclude the experiential reading. An event that has once taken place before the reference time, i.e. an experiential reading, is included. This is true, even if we introduce a notion of current relevance (Inoue, 1979). As seen in example (30), repeated from (11), single events that are relevant for the current discourse and happened before the reference time do not allow the *-p* form in Mee.

- (30) Context: The teacher asks the children 'Have you ever gone to the forest?' Child answers:
Ani aiko buguwa uwe-eteg-a/ #uwi-p-a.
 1SG there forest go-REM.PST-1SG go-PRF-1SG
 "I have gone to the forest."

In addition, an analysis based on temporal precedence naturally has problems with the universal perfect reading (Nishiyama and Koenig, 2010). If a state continues into the reference time, it is difficult to keep the assumption that the event has to precede the reference time. This is necessary for the Mee *-p* perfect, since the analysis needs to include the resultative and the universal reading.

An 'extended now' analysis (i.a. Portner 2003) additionally runs into problem, because the Mee *-p* perfect is compatible with definite time adverbials, contrary to the assumption that time adverbials define the extended now. A perfect time span analysis easily groups experiential and resultative perfect (existential quantification) vs. universal perfect (Iatridou et al., 2001). An analysis of the Mee data would thus need to introduce further distinctions between experiential reading and resultative readings to exclude the experiential reading. This would effectively lead to a tripartite distinction between the three readings (Pancheva, 2003). Such a move notably decreases the empirical content of this approach. It is thus clear that none of these analyses can derive the Mee data, because they do not easily group together the resultative and the universal perfect reading to the exclusion of the experiential reading.

4.2 Result State Analysis

The gist of our analysis is that the perfect morpheme *-p* in Mee introduces a state and relates it (i) to the event denoted by the verb via a result relation $R(e,s)$ (cf. i.a. Bohnemeyer 2014), and (ii) to a reference time by requiring the state to hold at the reference time (cf. subsection 2.2).

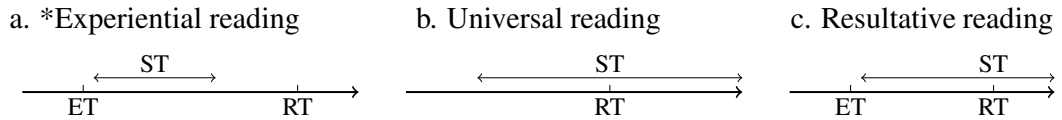
The denotation of the perfect, as given in (31), makes direct reference to the result state and thus has no difficulties in deriving the resultative reading of the perfect in Mee. It states that there is some event for which the predicate is true and for which there is a state such that the two conditions mentioned above hold. The event and the state are in a result relation $R(e,s)$ and the reference time is included in the time interval at which the state holds (ST).

- (31) *Denotation of -p*

$$\llbracket -p \rrbracket^{g,c} = \lambda P.\lambda t.\exists e [P(e) = 1 \ \& \ \exists s [R(e,s) \ \& \ t \subseteq ST]]$$

This denotation already excludes the experiential reading. If an event has taken place at least once in the past, the resulting state has most probably ceased to hold. In the universal reading, a state still holds at the reference time, even though there is no punctual event time. For the resultative reading the state caused by the event has to hold at the reference time. The temporal relation of the state time (ST) to the reference time (RT) are schematized in (32).

(32) *Schematic representation of ST in different contexts*



The following example derivation shows how a resultative reading can be derived. The sentence in (33) is repeated from (17). The event of the speaker losing his glasses in combination with the resultative reading entails that the glasses are still lost. In the example derivation in (34), the perfect marker is combined with the event of the speaker losing his glasses. This event is then substituted in the appropriate places. The last lambda-bound variable t is substituted by default with UT. The sentence then asserts the existence of an event e of losing glasses. In addition, there is a state s for this event e , which (i) is in a result relation with the event, and (ii) is true at the utterance time. In other words, the glasses are still lost.

(33) *Resultative perfect*

Ana dou-peka kou iga-p-a.
 1SG.POSS see-eye DET.F lose-PRF-1SG
 ‘I lost my glasses (and they are still lost).’

(34) *Derivation*

- a. *Combination of perfect marker with the sentence*
 $\lambda P.\lambda t.\exists e [P(e) = 1 \ \& \ \exists s [R(e, s) \ \& \ t \subseteq ST]] \ (\lambda e. \text{lose}(e, I, \text{glasses}))$
- b. *Substitution*
 $\lambda t.\exists e [\text{lose}(e, I, \text{glasses}) = 1 \ \& \ \exists s [R(e, s) \ \& \ t \subseteq ST]]$
- c. *Default substitution of t with UT*
 $\exists e [\text{lose}(I, \text{glasses})(e) = 1 \ \& \ \exists s [R(e, s) \ \& \ UT \subseteq ST]]$
 i.e. ‘There is an event such that this event of me losing my glasses is true and there is a state such that it is a result state of me losing my glasses and this state holds at the utterance time’ = ‘My glasses are still lost.’

To illustrate the exclusion of an experiential interpretation, recall the examples from section 3.1. We repeat here (11) from above as (35). In our analysis, the perfect in this context is infelicitous, because at the reference/utterance time the children are not in the forest anymore. They are in the classroom. Therefore the result state (=being in the forest) does not hold anymore.

(35) Context: The teacher asks the children ‘Have you ever gone to the forest?’ Child answers:

Ani aiko buguwa uwe-eteg-a/ #uwi-p-a.
 1SG there forest go-REM.PST-1SG go-PRF-1SG
 ‘I have gone to the forest.’

The resultative relation of course needs some elaboration. We assume that its application is dependent on the *Aktionsart* of the predicate verb, thereby mirroring the interaction with *Aktionsart* in the data. The most straightforwardly accounted for *Aktionsart* are achievement verbs. These are lexically specified for a result state (Wunderlich, 2012). The same is true for accomplishment verbs. There are however, a multitude of possible result states here, since an accomplishment has intermediate states before its culmination. We assume that the result relation holds between any of the intermediate stages and the event as well as between the event and the culminated state. The culmination is thus only implicated, but can be canceled. States pose a more serious problem, since they arguably do not involve an event. We will hypothesize that this issue is resolved by relating the state of the verbal predicate to itself inside the resultative relation. In other words, the result relation again picks a lexically specified state, in this case the only one. The remaining *Aktionsart* are activities. These notably do not involve any lexically specified state. We have to assume that in this case – as a last resort – the result relation relates every event to a state of the event having just ended, similar to the posttime in Klein (1994). This yields the recent past reading of the perfect in Mee. The interaction of the result relation with the *Aktionsart* of the verb is summarized in (36). We leave the question about crosslinguistic variation of the result relation open for future research.

(36) *Result relation R*

Input	Output
state _i	state _i
achievement _i	result state _j
accomplishment _i	result state _j (culmination only implied)
activity _i	posttime (Klein, 1994)

These properties of the result relation explain the universal perfect reading, that is also available in Mee. Recall the example (20-a), repeated here as (37). In our analysis, the result relation yields the state itself as the state of being pregnant, i.e. the state of the predicate itself. Therefore it only requires the state of the predicate to include the reference time. In this specific example the reference time is the same as the utterance time. The following sentence is thus true if the state of being pregnant holds for the referent at the speech time.

(37) *Okai ko modo-ma to-p-a.*
 3SG DET.F belly-with be.in.state-PRF-3SG.F
 “She is pregnant.”

4.3 Presupposition or Denotation

In the above descriptions we assumed that the meaning of the perfect in Mee is part of the denotation instead of being a presupposition, thus achieving more similarity to approaches to aspect than (pronominal) approaches to tense (Kratzer, 1998). This hypothesis can be tested by looking at examples with negation. If the denotation of the perfect were just a presupposition, one would expect the result state reading to project through the negation. For activities that would mean that the state of the activity not taking place is still required to hold at the reference time. As seen in (38), the perfect state acts more like a part of the denotation. In the example ‘not having talked to him’ can only mean that the speaker did not talk to Gusti at the party. The universal reading of the

negated activity is not possible, i.e. the answer with the *-p* perfect cannot mean that the speaker has not talked to him since. Therefore, the result state condition is part of the denotation and not a presupposition.

- (38) Context: You were at a party last week and saw Gusti there. I ask you about him, but you can't tell me any news, since you didn't talk to him.

Ani ki okai ma mana te-ewega-p-a.

1SG DET.M 3SG with voice NEG-talk-PRF-1SG

“I did not talk to him (at the party / *since).”

4.4 Evidentiality

Kobepa (2015) – in a paper on the recent past in Mee – analyzes the difference between past tense *-g*³ and perfect *-p* as a difference in verbal definiteness, i.e. evidentiality. *-p* is analyzed as expressing that the speaker has not witnessed the event and only infers its occurrence from the result state. Perfect is also known to influence evidentiality in other languages (see e.g. Lindstedt 2000). Similar to our account, Bowler and Ozkan (2018) and Bowler (2018) derive the evidentiality meaning as a byproduct of aspectual meaning in Turkish and Kazan Tatar. Kobepa's approach is not necessarily incompatible with our analysis. In our case, the relation between the result state and the reference time is encoded in the lexical entry, in Kobepa's account it is the inference from the result state (cf. also Nishiyama and Koenig 2010).

In this section we have thus seen that only an analysis that makes direct reference to a result state in the denotation of Mee *-p* perfect forms can derive resultative and universal perfect readings to the exclusion of an experiential perfect reading. The resultative relation between an event and a state also accounts for the fact that the reading in Mee depends on the *Aktionsart* of a predicate.

5 Conclusion

In this paper we provided a description of the perfect *-p* in Mee. This form can have a resultative reading as well as a universal reading, but it excludes experiential readings. Additionally, it can be used in contexts where the reference time is in the future. This contrasts with the past tense forms, which express that an action occurred before the utterance time. As our data show these forms do not necessitate a resultative reading and even exclude a universal reading. Therefore, we analyse the perfect in Mee as making direct reference to a result state by requiring the event to be in a result relation with the event of the predicate. This result state then has to hold at the reference time. The result relation also accounts for the interaction between the *Aktionsart* and the perfect in Mee. Since only achievement and accomplishment verbs have a lexically specified result state, only these verbs can get a resultative reading. In our analysis, states and activities get a universal or recent past reading, respectively, only as a last resort, because the result state is not specified lexically.

³Kobepa (2015) analyzes the past morpheme as *-g*, while in our analysis, it is *-eg*.

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