

# Culmination Entailments in V and P: Evidence from White Hmong

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41<sup>st</sup> West Coast Conference on Formal Linguistics

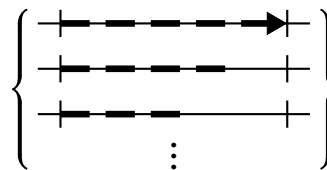
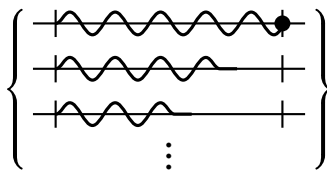
May 5–7, 2023

University of California, Santa Cruz

## 1 Introduction

Recent analyses of (non-)culmination<sup>1</sup> in Accomplishment and Goal predicates take both to include **both total and partial** events/paths. These are unified by a modal relationship to a goal (see e.g. Martin, Grant, et al., 2021; Nadathur and Filip, 2021).

- (1) Mahler was **writing** a tenth symphony (when he died). (Nadathur and Filip, 2021)  
 (2) We went **to** an exhibition, but never arrived. (Martin, Grant, et al., 2021)  
 (3) Accomplishments (*build, eat, write...*): (4) Goal predicates (i.e. *to*):



In V, these denotations interact with the meaning of perfective aspect, giving rise to two types of languages (Martin, 2019; Nadathur and Filip, 2021).

- ‘Strong’ perfective (e.g. English, French, Russian) → culminating
- ‘Weak’ perfective (e.g. Mandarin, Hindi, **Hmong**) → non-culminating

White Hmong (*Hmoob Dawb* /m̥ɔ̃ŋ<sup>55</sup> dɛə̃<sup>55</sup>/), is a Hmong-Mien language of Laos and Thailand. It is tenseless and isolating, with SVO word order. In White Hmong (henceforth ‘Hmong’) neither Accomplishments nor Goal predicates entail culmination by default—but in both cases, culmination entailments can be derived by the same strategy: secondary predication. This parallelism represents:

- A novel pattern in the typology of (non-)culmination across categories.
- An until now unattested strategy for forming (complex) path descriptions—secondary predication.

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\*Thank you to Ka Lee-Paine and Sy Moua, my consultants, for sharing their language with me. Any errors are my own. Thank you to Jessica Coon, Luis Alonso-Ovalle, and Lisa Travis for discussion and guidance. Thank you to Justin Leung for discussion of Cantonese, to Connie Ting, Alex Zhai, Jing Ji, and Wei Zhang for discussion of Mandarin, and to Hooi Ling Soh, Thérèse Moua Jaspersen, and Neng Vang for discussion of Hmong. Thank you for questions and comments to audiences at the Montreal–Ottawa–Toronto–Hamilton Syntax Workshop, the Montreal Underdocumented Languages Linguistics Lab, the McGill Syntax–Semantics Reading Group, and the University of Minnesota Hmong Linguistics Research and Reading Group.

<sup>1</sup>I use ‘(non-)culmination’ throughout to conflate two related notions: (non-)culmination in V, and (un-)boundedness in P.

## 2 Data: (Non-)culmination in V and P

### 2.1 (Non-)culminating Accomplishments

Accomplishment predicates in Hmong, like *nrhiav* ‘find’ in (5), do not entail culmination.

- In a suitable context, they may *imply* culmination, but this implication is defeasible.
- Culmination can be **entailed** by the inclusion of a secondary predicate (in (6), *pom* ‘see’).

- (5) kuv **nrhiav** lub pob lawm (tabsis tsis nrhiav tau)  
1SG find CLF ball PERF (but NEG find can)  
‘I found the ball (but I didn’t manage to find it).’  
≈ ‘I searched for the ball.’
- (6) kuv **nrhiav pom** lub pob lawm (#tabsis tsis nrhiav tau)  
1SG find see CLF ball PERF ( but NEG find can)  
‘I found the ball (#but I didn’t manage to find it).’

### 2.2 (Un-)bounded Goal paths

Likewise, Goal (path) predicates in Hmong do not entail culmination.

- In a suitable context, they may also *imply* culmination, but once again this implication is defeasible.
- Culmination can again be **entailed** by the inclusion of a secondary predicate (in (8), *txog* ‘arrive’).

- (7) kuv khiav **mus** tom tajlaj lawm (tabsis tsis txog)  
1SG run go DEM market PERF (but NEG arrive)  
‘I ran to that market (but I didn’t get there).’  
≈ ‘I ran towards that market.’
- (8) kuv khiav **mus txog** tom tajlaj lawm (#tabsis tsis txog)  
1SG run go arrive DEM market PERF ( but NEG arrive)  
‘I ran to that market (#but I didn’t get there).’

Note that the path predicates in (7–8) are glossed using English verbs. This reflects their status as categorially-flexible predicates, able to serve as either V or P (Jarkey, 2015). Despite these glosses, I take the path predicates in examples like (7–8) to merge **within the prepositional phrase**,<sup>2</sup> allowing for cross-linguistic comparisons with (dedicated) prepositions.

### 2.3 Parallelism

Across both V and P, the secondary predicate:

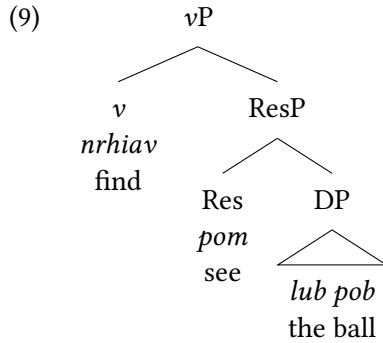
- Has the profile of an Achievement (i.e., punctual and telic).<sup>3</sup>
- Immediately follows the main predicate (unlike other multi-verb constructions in Hmong).
- Contributes truth-conditional meaning (e.g., (6) is true just in case the subject established visual contact with the object).

<sup>2</sup>The properties of Hmong path predicates and the reasoning behind this assumption will be addressed in Section 5.

<sup>3</sup>Prepositional secondary predicates must belong to a small class of punctual, telic motion predicates including *txog* ‘arrive’, *cuag* ‘reach, catch up to’, *nto* ‘reach (a high place)’, and others.

### 3 Analysis

I propose that these two secondary predication constructions instantiate a parallel syntax and semantics.

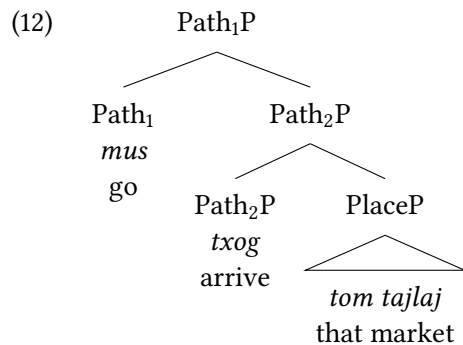


(10)  $\llbracket \text{find see the ball} \rrbracket = \lambda e. \exists e_1, e_2 [e = \text{CAUSE}(e_1, e_2) \wedge \text{find}(e_1) \wedge \text{see}(e_2, \text{the-ball})]$

- Here, *find* and *see* represent the lexical-semantic content of the two predicates.
- Crucially, *pom* ‘see’ describes a minimal transition into a state—there are no partial eventualities in its denotation.
- *e* is a complex event in which  $e_1$  **causes**  $e_2$ . As schematized in (11), this includes only eventualities in which a (particular) endpoint is reached.

(11)

$$\llbracket vP \rrbracket = \left\{ \begin{array}{l} \text{---} + \bullet \\ \text{---} + \bullet \\ \vdots \end{array} \right\} = \left\{ \begin{array}{l} \text{---} \bullet \\ \text{---} \bullet \\ \vdots \end{array} \right\}$$



(13)  $\llbracket \text{go arrive the market} \rrbracket = \lambda p. \exists p_1, p_2 [p = p_1 \oplus p_2 \wedge \text{go}(p_1) \wedge \text{arrive}(p_2) \wedge p_2(1) = \text{location}(\text{that-market})]$

- *go*, *arrive* represent the predicates’ deictic/geometric content.
- Crucially, *txog* ‘arrive’ describes a minimal path (two points)—there are no partial paths in its denotation.
- $p$  is the **concatenation** of  $p_1$  and  $p_2$  (see Zwarts, 2005), as indicated by  $\oplus$ . As schematized in (14), this includes only paths in which a (particular) endpoint is reached.

(14)

$$\llbracket \text{Path}_1P \rrbracket = \left\{ \begin{array}{l} \text{---} + \blacktriangleright \\ \text{---} + \blacktriangleright \\ \vdots \end{array} \right\} = \left\{ \begin{array}{l} \text{---} \blacktriangleright \\ \text{---} \blacktriangleright \\ \vdots \end{array} \right\}$$

## 4 Discussion

### 4.1 Secondary predication in P

Secondary predication and telicity are well-known to be linked in the verbal domain (see e.g. Levin and Rappaport Hovav, 1998). Martin and Gyarmathy (2019) have already put forward an account of culmination in Mandarin ‘complex verbs’ that is similar to the present proposal for Hmong.

However, the alternation observed with Hmong path predicates (examples (7–8), repeated here) is **not clearly attested** in other languages.

- (7) kuv khiav **mus** tom tajlaj lawm (tabsis tsis txog)  
1SG run go DEM market PERF (but NEG arrive)  
‘I ran to that market (but I didn’t get there).’  
≈ ‘I ran towards that market.’
- (8) kuv khiav **mus txog** tom tajlaj lawm (#tabsis tsis txog)  
1SG run go arrive DEM market PERF ( but NEG arrive)  
‘I ran to that market (#but I didn’t get there).’

- A number of languages seem to allow secondary predication of path predicates, but this alone is not sufficient.
- Both Cantonese and Mandarin allow sentences roughly parallel to (8)—but in these languages, path predicates appear to be culminating by default (i.e., the continuation in (7) would not be felicitous).
- Other languages with secondary predication of path predicates include Lao (Enfield, 2008, ex. 230, 323), Tariana (Aikhenvald, 2006, ex. 12, 19), and Teribe (Quesada, 2011, ex. 3, 21, 34). In all of these cases, it remains unclear whether path predicates are culminating or non-culminating by default.

Secondary predication as a strategy for deriving (complex) paths is **not attested** in the formal typology of paths of motion (see e.g. Zwarts, 2008; Pantcheva, 2011).

- But: English *to*, *into*, *onto* are sometimes taken to spell out both Path<sup>o</sup> and Place<sup>o</sup> (e.g. Ramchand 2008).

### 4.2 Two loci for deriving (non-)culmination

Cross-linguistically, two broad types of strategies are attested for deriving (non-)culmination:

- ‘High’ operations **restrict** the predicate (including viewpoint aspect, PP analogues like Pantcheva’s (2011) Bound<sup>o</sup> and Scale<sup>o</sup>).
 

(15) a. [AspP [Asp **PFV**] [vP [v write] [DP a novel ]]]  
b. [BoundP [Bound **up**] [PathP [Path to] [PlaceP the house ]]]

(16) a. [AspP [Asp **PROG**] [vP [v write] [DP a novel ]]]  
b. [ScaleP [Scale **-wards**] [PathP [Path to] [PlaceP the house ]]]
- ‘Low’ operations **derive a new (complex) predicate** (including situational aspect operations, PP analogues).
 

(17) a. [vP [v find] [ResP [Res see] [DP the ball ]]]  
b. [Path<sub>1</sub>P [Path<sub>1</sub> go] [Path<sub>2</sub>P [Path<sub>2</sub> arrive] [PlaceP that market ]]]

## 5 Path predicates in Hmong

### 5.1 Path predicates are prepositions

Path predicates (including Route, Source, and Goal predicates) are generally categorially-flexible in Hmong, serving as either V or P (Jarkey, 2015).<sup>4</sup>

The clearest examples of their prepositional usage include those like (18a–b), in which the path predicate forms (part of) an adjunct PP describing the spatial or temporal extent of an event (and *not* describing motion on the part of the subject or any other argument).

- (18) a. [txij lub zos peb nyob rau yav.pem.toj] mas, ua tau teb pob.kws... (Fuller, 1985)  
reach CLF village 3PL live to mountain TOP make get field corn...  
'From the village we lived in up to the mountains, (we) grew corn...'
- b. [dim qhov rooj txog phab.ntsa] mas, cov neeg sawv.ntsug  
get.away CLF door arrive wall TOP, CLF.PL person be.standing  
'From the (front) door to the (back) wall, people are standing.'

(18a–b) do not necessarily show that path predicates in examples like (7–8) are genuine prepositions. There is, however, a relatively large body of circumstantial evidence that supports this view.

#### 1. Hmong is a 'satellite-framed' language.

- 'Satellite-framed' languages (sensu Talmy, 1985) are those languages that, like English, can represent a motion event with a syntactic configuration like (19): a manner-of-motion verb serves as 'main verb' of the clause, while the directed motion itself is encoded in a more peripheral 'satellite'.

(19) [<sub>vP</sub> [<sub>v</sub> run ] [<sub>PathP</sub> [<sub>Path</sub> to ] [<sub>PlaceP</sub> the market ]]]

- Satellite-framed languages have also been shown to share a constellation of other syntactic properties: (i) double object constructions, (ii) resultatives, (iii) verb-particle constructions, (iv) 'created-result' constructions, and (v) noun-noun compounds (see e.g. Snyder, 2001; Folli and Harley, 2016).
- In Hmong, not only is the word order of motion events consistent with (19), but it also shows all five of the accompanying properties mentioned here.<sup>5</sup>

#### 2. Hmong path predicates take as their external argument the theme of motion.

- The theme of motion is not necessarily the same as the subject. This is consistent with the behavior of prepositions cross-linguistically.

(20) kuv tso Sua mus tajlaj  
1SG send (a person) Shoua go market  
'I sent Shoua to the market.'

#### 3. Hmong path predicates follow syntactic restrictions found in the prepositional domain.

- When multiple path predicates co-occur within a single (complex) path description, they follow an obligatory Route > Source > Goal ordering (Jarkey, 2015, p. 111).

<sup>4</sup>Only *rau* 'to, into, for' is a dedicated preposition.

<sup>5</sup>Although due to licensing restrictions, the genuine availability of double object constructions in Hmong is subject to some debate.

- (21) Route *hla* ‘cross’ > Source *dim* ‘escape’ > Goal *mus* ‘go’  
cov Hmoob khiav [**hla** dej Na.Koom **dim** hauv Nplog-teb **mus** Thai-teb]  
CLF.PL Hmong run cross water Mekong escape inside Laos go Thailand  
‘The Hmong fled [across the Mekong River from Laos and to Thailand].’

- Pantcheva (2011) observes this same ordering in the P domain, which she takes to be universal.

- (22) [ RouteP [ SourceP [ GoalP [ ...]]]] (Pantcheva, 2011, p. 3)

4. Postverbal culmination marker *tau* co-occurs with (non-path) Activity and Accomplishment predicates, but not with path predicates.

- (23) a. [kuv txiv lawv] twb **coj tau** cuaj tug npua tuaj (Jarkey, 2015)  
1SG father 3PL TAU REAL bring nine CLF pig come  
‘My father and them (successfully) brought along nine pigs...’  
b. \*kuv txiv **coj** cuaj tug npua **tuaj tau**  
1SG father bring nine CLF pig come TAU  
‘My father (successfully) brought along nine pigs.’

5. Other serializing languages have been analyzed similarly.

- Svenonius and Son (2009) claim that Tetun Dili verbs *ba* ‘go’ and *mai* ‘come’ can also serve as prepositions meaning ‘to’ and ‘from’, respectively.

## 5.2 Path predicates can be main verbs

In many examples, Hmong path predicates serve as the main verb of the clause. Is this usage consistent with their prepositional properties described in Section 5.1?

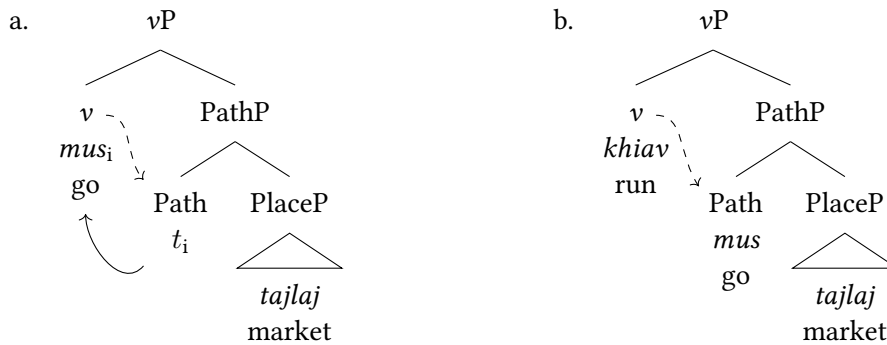
Consider the alternation in (24), which intuitively describe the same path of motion—though (24a) includes only a path predicate, and (24b) also includes a manner-of-motion predicate.

- (24) a. kuv **mus** tajlaj  
1SG go market  
‘I went to the market.’  
b. kuv **khiav** **mus** tajlaj  
1SG run go market  
‘I ran to the market.’

Inspired by Folli and Harley’s (2016) analysis of resultatives in satellite-framed languages, I take the prepositional usage to be primary, with the main verb usage being derived by head movement.

- I assume that Hmong path predicates like *mus* ‘go’ must initially merge as head of PathP.
- The c-commanding *v* enters into an Agree relation with Path.
- Diverging from Folli and Harley, I take this relation to trigger head movement from Path to *v* only when *v* is not occupied by another (verbal) root, such as *khiav* ‘run’ in (24b). This leads to the diverging structures in (25a) and (25b).

(25)



### 5.3 Speculative remarks on culmination, serialization, and grammaticalization

In Hmong, there exists one dedicated path preposition, *rau* ‘to, into, for’,<sup>6</sup> which entails culmination.

- (26) nws mus rau Asmeslivkas lawm (Jarkey, 2015, p. 222)  
 3SG go to America PERF  
 ‘He has gone to America. (#But he didn’t make it there.)’

All of the languages cited in Section 4.1 as examples of prepositional secondary predication make use of productive **verb serialization**. Such languages might be said to ‘re-use’ lexical items for additional (functional) purposes.

- Does this make them more likely to do so within PP as well?
- As a language moves away from serialization (and towards dedicated grammatical markers), does this behavior change?

Cantonese and Mandarin are two languages whose use of serialization, compared to Hmong, generally appears less free, and further along a pathway towards grammaticalization. Although they do allow secondary predication of path predicates, Goal predicates in these languages do not readily allow non-culminating interpretations.

- (27) ngo<sup>5</sup> heoi<sup>3</sup> zo<sup>2</sup> gaai<sup>1</sup>si<sup>5</sup> (#daan<sup>6</sup>hai<sup>6</sup> mou<sup>5</sup> heoi<sup>3</sup> dou<sup>3</sup>) Cantonese (Justin Leung, p.c.)  
 1SG go PFV market ( but NEG.PFV go arrive)  
 ‘I went to the market (#but I didn’t get there).’

Tentative hypothesis: dedicated prepositions are more likely to receive default-culminating interpretations.

- Why should this be the case? Possibly, dedicated prepositions have access to the (prepositional) Place domain, while categorially-flexible predicates are limited to V and Path domains.
- If so, grammaticalization into a dedicated preposition is expected to lead to a culminating interpretation.

<sup>6</sup>*rau* is also attested as a verb, meaning ‘put in, insert’ (Jarkey, 2015, p. 215), however this usage is generally not accepted by my consultants. It’s not clear to me whether this represents diachronic change or synchronic variation.

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