Diagnosing Prepositions: Decomposing Path in White Hmong

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McGill Syntax/Semantics Reading Group
December 6, 2023

1 Introduction

In White Hmong, the class of "path predicates", which describe directed motion, appear to have both verbal and prepositional uses.I focus on their use in three environments: as the main predicate of the clause, within the complement of a manner-of-motion verb, and in adjuncts situating an event in space or time.[1]

(1) kuv **mus** tajlaj
1SG **go** market
'I went to the market.'

(2) kuv khiav [**mus** tajlaj]
1SG run **to** market
'I ran to the market.'

(3) kuv yuav nyob qhov no [**mus** txog thaum kuv yuav tau kuv ib tsev] tso (Jarkey 2015)
1SG IRR dwell place this **to** up.to time 1SG IRR get 1SG one house first
'I will live here until I get my own house.'

The contrast between environments like (1) and those like (3) is particularly striking.

- In (1), predication of an external argument is both possible and necessary; in (3) it is impossible. (Following Baker 2003, this is a key diagnostic for verb-hood.)
- Path predicates can contribute "conceptual" meanings in (1), but only functional meanings in (3).

The status of (2) is unclear.

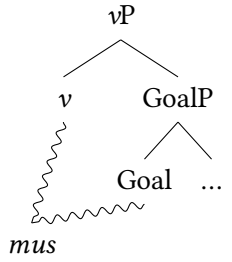
- It is not clear whether the path predicate genuinely predicates the external argument.
- Translations are not conclusive.
- Jarkey (2015) describes examples like (2) as "serial verb constructions"
- Hmong patterns as a "satellite-framed" language (in the sense of Talmy 1985, see also Snyder 2001, Folli & Harley 2016, a.o.), implying that the path predicate in (2) may not function as a verb.

[1]All uncited examples are from elicitation with speakers of White Hmong. Thank you to Ka Lee-Paine and Sy Moua for providing many, many judgments. Thank you to Marie-Thérèse Jasperson, Bee Vang-Moua, and Neng Vang for discussion and additional examples. Any errors are my own.

Descriptive work on Hmong treats path predicates as verbs, at least a subset of which give rise to synchronically-derived prepositions (Clark 1979, Jarkey 2015). But we must be careful to rule out homophonous verb–preposition sequences, as in (4).

(4) *kuv **mus mus** tajlaj
1SG go to market
'I went to the market.'

I will argue here that Hmong path predicates can lexicalize a span of variable size, possibly including both verbal and prepositional material (cf. Son & Svenonius 2008). For example, *mus* 'go, to' can lexicalize either <*v*, Goal> or <Goal>, depending on the environment, leading it to display a mix of verbal and prepositional properties.

(5) a.


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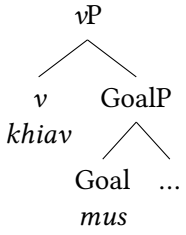

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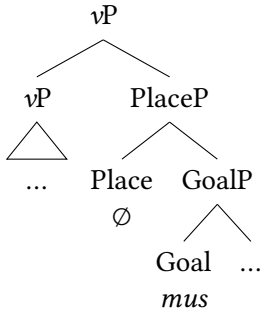


Primary evidence comes from internally-complex path descriptions (i.e., those containing multiple path predicates), which show syntactic effects characteristic of the prepositional domain across all three relevant environments.

2 Preliminaries

Hmong "path predicates" are those that describe directed motion in physical space. (The meanings of some path predicates extend to temporal as well as spatial meanings.)

- The at-issue semantic meaning of these predicates is quite variable, but necessarily includes the directed motion meaning. For example, the predicate *dim* is variously translated as 'escape', 'get away', or 'from', among other possibilities.
- These predicates are necessary in order to convey directed motion.[2]

(6) a. kuv mus (tom) tajlaj
1SG go over.there market
'I went to the/that market.'
b. kuv khiav mus (tom) tajlaj
1SG run to over.there market
'I ran to the/that market.'
c. kuv khiav (tom) tajlaj
1SG run over.there market
'I ran (about) at the/that market.'
#'I ran to the/that market.'

[2]Verbs of *obtaining* are one possible exception; see Section 3.1.

- Multiple path predicates can combine to describe a single internally-complex path of motion.

  (7) kuv **tawm** tsev **mus** tajlaj
  1SG leave home go market
  'I left home for the market.' ≈ 'I went from home to the market.'

- These can be divided into sub-classes, based on the interpretation of their internal argument. A mostly-exhaustive list is given in (8), with verbal glosses only (cf. Jarkey 2015).

(8)

Route	**Source**	**Goal**	**Transition**
hla 'cross, pass'	*tawm* 'leave'	*mus* 'go'	*txog* 'arrive'
raws 'follow, pursue'	*thim* 'retreat'	*tuaj* 'come'	*txij* 'reach, extend'
nyab 'rise'	*sawv* 'get up'	*los* 'come (home)'	*cuag* 'reach, extend, catch up to'
nce 'ascend'	*dim* 'get away'		
nqis/nqes 'descend'	*poob* 'fall'		*nto* 'reach (a high place)'
ncig 'go around, circle'	*lawm* 'leave'		
taug 'follow (a path)'			?*rau* 'put in, insert'
lawv 'follow (s.t. moving)'			

Route, Source, and Goal sub-types are of primary importance here. (For more on Transition predicates, see Johnston forthcoming.)

NB: The terms "Route", "Source", and "Goal" can each be used to describe (i) a role/interpretation of a locative, (ii) a predicate that assigns that role/interpretation, and (iii) a syntactic head (see Section 4).

3 Data: Complex paths

Descriptive work on the three-way alternation in (1–3) treats Hmong path predicates as verbs first and foremost (Clark 1979, Jarkey 2015). However, complex path descriptions in Hmong (those formed with multiple path predicates) raise two problems for this line of thinking.

3.1 Source depends on Goal

Source predicates **do not inherently assign a Source interpretation** to their argument.

- When used as the sole path predicate, their complement is obligatorily interpreted as the Goal.
- A Source interpretation only arises in combination with an overt Goal predicate.

(9) kuv **tawm** tsev
1SG leave home
#'I left home.'
'I left for home.'

(10) kuv **tawm** tsev **mus** tajlaj
1SG leave home go market
'I left home for the market.'
#'I left for home and went to the market.'

This pattern is found in all three environments in (1–3). For example: even within an adjunct, *txij* 'extend, reach, from, up.to' must combine with a Goal predicate like *los* 'come (home), to' to receive a Source interpretation.

(11) **txij** hnub kuv yuav poj-niam **los**… (Clark 1979)
from day 1SG obtain wife to
'From the day I got married onwards…'
≈ 'Since the day I got married'

Source interpretations arise **only in a particular syntactic configuration**.

Issues:

- If path predicates are verbs, we must stipulate that either the predicate's semantic content or its selectional restrictions must change from (9) to (10).
- Other Hmong verbs *can* have an inherent Source interpretation for inner locatives (these are verbs of *obtaining*; Jarkey 2015, p. 52).

(12) tus tub-sab **txeeb** [kuv cov nyiaj] [ntawm kuv tes] (Jarkey 2015, p. 52)
CLF robber snatch 1SG CLF.PL money nearby 1SG hand
'The robber snatched my money from my hand.'

3.2 Route > Source > Goal ordering

When multiple path predicates combine to describe a single path, they obligatorily do so in Route > Source > Goal order (Jarkey 2015).

(13) cov Hmoob (khiav) [**hla** dej Na.Koom **dim** hauv Nplog-teb **mus** Thai-teb]
CLF.PL Hmong run across water Mekong from inside Laos to Thailand
'The Hmong fled [across the Mekong River from Laos to Thailand].'
#'The Hmong fled, then crossed the Mekong River, then escaped Laos, then went to Thailand.'

Importantly, this ordering is grammatical, **not temporal**. In fact, examples like (13) cannot be understood as describing a simple temporal sequence.

Reordering these predicates leads to ungrammaticality or infelicity. For example, *nce* 'ascend, up' must precede *mus* 'go, to' in (14).

(14) a. kuv **nce** ntaiv **mus** sau tsev
1SG ascend stairs to upper.part house
'I climbed the stairs to the upstairs.'

b. kuv **mus** sau tsev **nce** ntaiv
1SG go upper.part house up stairs
#'I climbed the stairs to the upstairs.'
'I went upstairs to climb stairs.'

This ordering is found in the environments in both (1) and (2), and partially in (3). (Route predicates are not attested in adjuncts like (3).)

Issues:

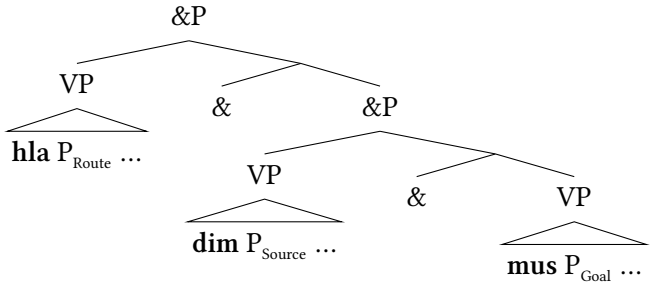
- If path predicates are verbs, the ordering restriction is surprising. Hmong serial verb constructions generally appear in a temporal (causal) order.

(15) nws **tsoo** lub tais **tawg**
3SG smash CLF bowl break
'He smashed the bowl and it broke.'

(16) kuv **nrhiav pom** lub pob
1SG find see CLF ball
'I found (≈searched for and saw) the ball.'

- To treat these as verbs, we must posit a structure that combines multiple VPs, for example by covert coordination. It is unclear how such a structure could enforce this ordering.

(17)



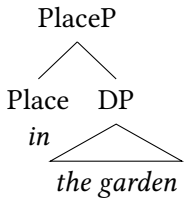
4 Path predicates as prepositions

In the previous section, we saw two effects that are difficult to account for under a verbal analysis: the dependence of Source predicates on Goal predicates, and the strict Route > Source > Goal ordering of predicates within complex path descriptions. However, these effects may find an explanation in the prepositional domain.

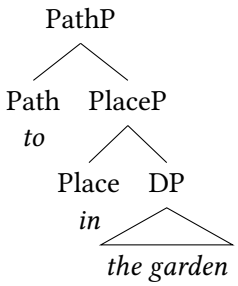
4.1 Decomposition of PP

In a line of analysis going back to Jackendoff (1983), the prepositional phrase is divided into two domains: PathP, which encodes dynamic directed motion, and PlaceP, which encodes static locative relations.

(18) John was sitting in the garden.

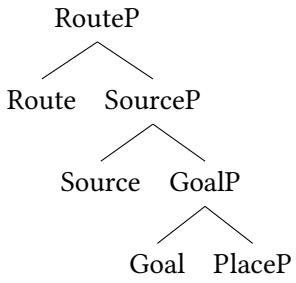


(19) Mary walked into the garden.



More recent work has argued for the further decomposition of both domains. In particular, Pantcheva (2011) argues that the path domain comprises several projections, including RouteP, SourceP, and GoalP.[3]

(20) Decomposition of PathP (Pantcheva 2011)



[3]For the decomposition of PlaceP, see among others Svenonius (2010).

Pantcheva motivates this structure using morphological patterns in case-marking across a sample of 81 genealogically-diverse agglutinating languages.

(21) Containment of Goal within Source (Pantcheva 2011, Table 4.2)

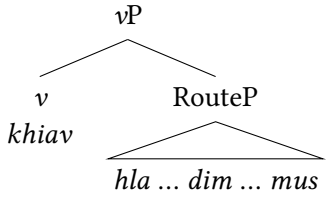
Language	Location	Goal	Source	Reference
Bulgarian	*pri*	*kəm*	*ot-kəm*	Pashov (1999)
Dime	*-se*	*-bow*	*-bow-de*	Mulugeta (2008)
Chamalal	*-i*	*-u*	*-u-r*	Magomedbekova (1967b)
Ingush	*-ğ*	*-ga*	*-ga-ra*	Nichols (1994)
Jingulu	*-mpili*	*-Nka*	*-Nka-mi*	Blake (1977)
Mansi	*-t*	*-n*	*-n-əl*	Keresztes (1998)
Quechua	*-pi*	*-man*	*-man-da*	Jake (1985), Cole (1985)
Uchumataqu	*-tá*	*-ki*	*-ki-stani*	Vellard (1967)

In this approach, Goal° is the fundamental syntactic component of a path. Source° and Route° successively merge to derive more complex (and increasingly marked) types of paths.

The intuition I want to capture is that complex paths like (13), reprinted here, make use of the decompositional syntax in (20) to model the internal structure of the complex path of motion.

(13) cov Hmoob (khiav) [**hla** dej Na.Koom **dim** hauv Nplog-teb **mus** Thai-teb]
CLF.PL Hmong run across water Mekong from inside Laos to Thailand
'The Hmong fled [across the Mekong River from Laos to Thailand].'
#'The Hmong fled, then crossed the Mekong River, then escaped Laos, then went to Thailand.'

(22)



4.2 Implementation Part 1: Simple cases

Returning to the simpler three-way alternation in (1–3):

(1) kuv **mus** tajlaj
1SG **go** market
'I went to the market.'

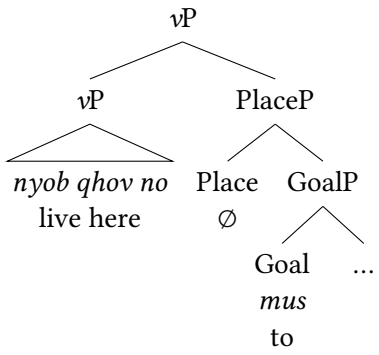
(2) kuv khiav [**mus** tajlaj]
1SG run **to** market
'I ran to the market.'

(3) kuv yuav nyob qhov no [**mus** txog thaum kuv yuav tau kuv ib tsev] tso (Jarkey 2015)
1SG IRR dwell place this **to** up.to time 1SG IRR get 1SG one house first
'I will live here until I get my own house.'

We have seen that path predicates predicates are subject to similar syntactic effects across all three environments, which I take to indicate (i) that they share a consistent underlying syntax, and (ii) that this structure involves several phrases from the decompositional P domain.

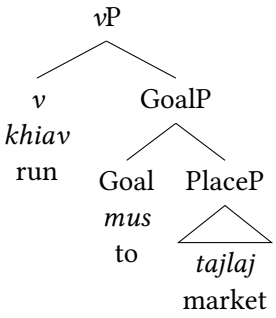
Example (3) can receive the structure in (23). (The null Place° contributes a Path-to-Place function; see Cresswell 1978, Svenonius 2010.)

(23)



And if path predicates can spell out prepositional heads in that environment, we can naturally adopt a similar structure for (2).

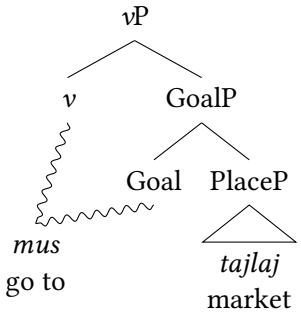
(24)



Example (1) is largely similar to (2), but we must ensure that (i) the path predicate can predicate an external argument, and (ii) the path predicate is able to contribute verbal semantics (i.e., a property of events).

To capture this, I assume that the path predicate spans both *v* and Goal (see Svenonius 2016).

(25)



However, the material spelled out by a path predicate must vary—or we are forced to treat the adjunct in (23) as a *v*P.

- Path predicates must lexicalize a span including both *v* and a prepositional head, if able.
- This can be bled in at least two ways: in adjuncts like (3) where there is no head–complement relationship between *v* and the path head, and in cases like (2) where a manner-of-motion verb lexicalizes *v*.
- No Hmong path predicate can lexicalize a span including more than one of Route/Source/Goal.

- Other path predicates differ in the spans they can lexicalize. For example, *hla* 'cross, across' might maximally spell out $<v$, Route$>$.
- Spanning itself is not crucial; a similar analysis could be given using head movement.

Effectively, the contrast in (1–3) results from the interaction of two points of variation: the span lexicalized by the path predicate and the attachment site of the PP.

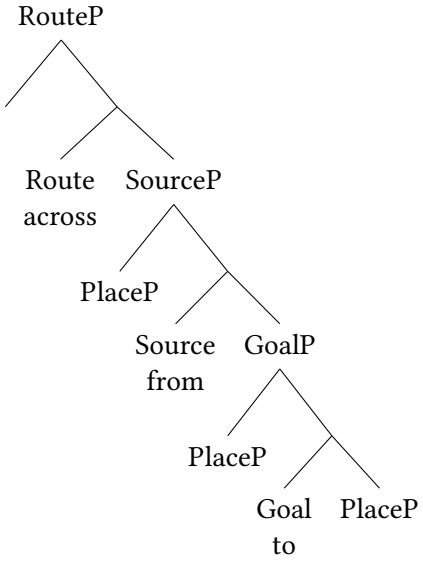
A similar proposal comes from Son & Svenonius (2008), who claim that cross-linguistic variability in the encoding of motion events arises from variability in the spans lexicalized by motion verbs (with verbs in Malayalam and Korean also lexicalizing prepositional heads, in contrast to English).

4.3 Implementation Part 2: Problems

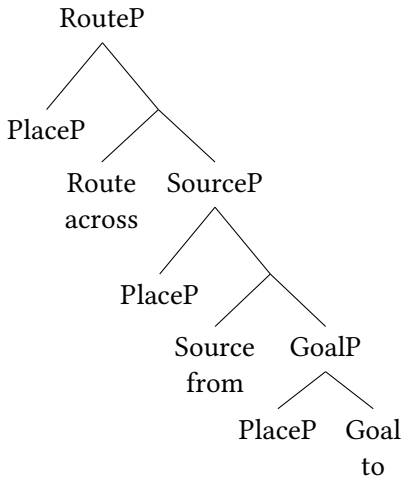
Internally-complex path descriptions are not as straightforward as I have implied thus far.

A structure that straightforwardly maps Hmong path predicates to Pantcheva's path "spine" does not appear to straightforwardly capture both word order and predicate–argument relationships.

(26) Faithful to word order:

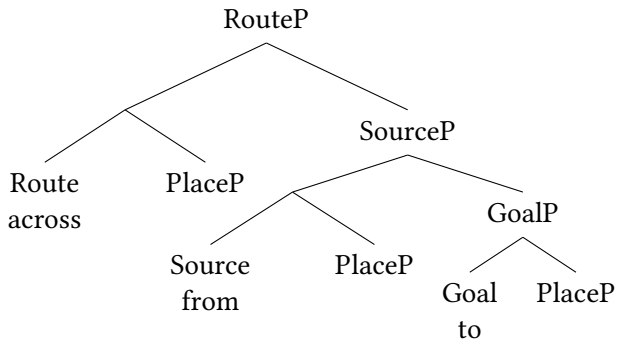


(27) Faithful to predicate–argument relationships:



Departing from a strict implementation of Pantcheva's syntax preserves the desired head–complement relationships—but it's unclear how to properly relate the predicates to one another in a structure like (28).

(28)



5 Discussion

5.1 Productivity

All of the nine Source and Goal predicates in the table in (8) show the alternation between (1) and (2). But of these, the adjunct PP usage in (3) is only clearly attested for six.

I hypothesize that this reflects a preference for certain less-marked or default predicates, but further data is needed.

5.2 Semantics

The at-issue meaning of Hmong path predicates can be highly variable. For example, the predicate *dim* is variously translated as 'get away', 'escape', or 'from', among others.

It is not clear how much of this variation is genuine, and how much is illusory (due to speakers "standardizing" translations, the effects of context, etc.).

However, this variation largely appears to align with the predictions of the present analysis:

- A predicate that lexicalizes Goal° can contribute only a property of paths (describing only a particular spatial configuration)
- A predicate that spans Goal° and v° can contribute both a property of paths and a property of events (which can incorporate relatively "rich" lexical-semantic content).

5.3 Route predicates are different

Route predicates show two important differences from Source and Goal predicates:

- Unlike Source predicates, Route predicates do not require that another path head also be present.

  (29) tus dev (khiav) taug kuv
  CLF dog run after 1SG
  'The dog followed/ran after me.'

- Multiple Route predicates may co-occur within the same complex path—something not possible for Source or Goal predicates.[4]

  (30) **taug∼taug** dej **nqis** hav **mus** (Jarkey 2015)
  RDUP∼follow water down valley go
  '(He) followed the river down the valley, away.'

  (31) *nws **mus** tajlaj **mus** lub vaj
  3SG go market to CLF garden
  Intended: 'She went to the market (and) to the garden.'

[4] Though in some cases, a single predicate can be used twice, for Source and Goal. E.g.: *los* 'come (home), to' in (i).

(i) kuv los tajlaj los
1SG come market to
'I came from the market (hither).'

Neither of these behaviors are predicted under Pantcheva's account.

To capture the first, I assume, following Ramchand (2012), that Route° (unlike Source° and Goal°) may combine directly with a phrase denoting a location (effectively omitting a large portion of the intervening syntax, including Source° and Goal°).

The explanation of the second is unclear, but may have its origins in the different semantic contributions of Route predicates vs. Source and Goal predicates.

5.4 Lexical and functional categories

Given that Hmong path predicates can lexicalize a prepositional head without lexicalizing a verbal head, but not vice-versa, we might characterize them as prepositions first and foremost—that is, as primarily a functional category.

That they are associated with verbal meanings is therefore somewhat surprising.

At present, it is not clear how widespread the Hmong-type pattern is cross-linguistically, though I suspect that a careful examination of motion "serial verb constructions" in other languages may reveal similar behavior.

References

Baker, Mark C. 2003. *Lexical Categories: Verbs, Nouns and Adjectives* (Cambridge Studies in Linguistics). Cambridge: Cambridge University Press.

Clark, Marybeth. 1979. Coverbs: evidence for the derivation of prepositions from verbs; new evidence from Hmong. *Working Papers in Linguistics, University of Hawai'i* 11(2). 1–12.

Cresswell, M.J. 1978. Prepositions and points of view. *Linguistics and Philosophy* 2. 1–41.

Folli, Raffaella & Heidi Harley. 2016. Against deficiency-based typologies: Manner-alternation parameters in Italian and English. In E. Carrilho, A. Fléis, M. Lobo & S. Pereira (eds.), *Romance Languages and Linguistic Theory 10: Selected papers from 'Going Romance' 28, Lisbon*, 103–120. Amsterdam: John Benjamins.

Jackendoff, Ray. 1983. *Semantics and Cognition*. MIT Press.

Jarkey, Nerida. 2015. *Serial verbs in White Hmong*. Leiden, The Netherlands: Brill.

Johnston, William. Forthcoming. Culmination Entailments in V and P: Evidence from Hmong. In Yağmur Kiper, Larry Lyu, Richard Wang & Niko Webster (eds.), *West Coast Conference on Formal Linguistics (WCCFL) 41*. Cascadilla Press.

Pantcheva, Marina. 2011. *Decomposing Path: The Nanosyntax of Directional Expressions*. Tromsø: University of Tromsø dissertation.

Ramchand, Gillian. 2012. On the Categories V and P: Anatomy of a Love Affair.

Snyder, William. 2001. On the Nature of Syntactic Variation: Evidence from Complex Predicates and Complex Word-Formation. *Language* 77.

Son, Minjeong & Peter Svenonius. 2008. Microparameters of Cross-Linguistic Variation: Directed Motion and Resultatives. 27. 388–396.

Svenonius, Peter. 2010. Spatial p in English. In Guglielmo Cinque & Luigi Rizzi (eds.), *Mapping spatial PPs: Cartography of syntactic structures*, 127–160. Oxford: Oxford University Press.

Svenonius, Peter. 2016. Spans and words. In 201–222.

Talmy, L. 1985. Lexicalisation patterns: semantic structure in lexical forms. In Timothy Shopen (ed.), *Language Typology and Syntactic Description, I: Clause Structure*, 57–149. Cambridge: Cambridge University Press.