LF Wh-Movement in Mong Leng

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1 Introduction

In this paper I argue for the existence of LF movement in the language of Mong Leng, positing it as the means by which in-situ wh-arguments obtain matrix scope in constituent questions. Primary support for this hypothesis comes from the existence of island sensitivity in Mong Leng, which utilizes no overt movement to form wh-questions. Additional evidence is found in the interaction of wh-arguments with universal quantifiers and their relationship to indefinite pronouns.

Section 2 introduces Mong Leng and presents its strategies of polar and wh-in-situ question formation. Section 3 discusses the alternative strategy of wh-movement in other languages and the phenomenon and analysis of island restrictions. Section 4 deals with islands and wh-in-situ: 4.1 presents data from island-immune wh-in-situ languages and their syntactic/semantic analyses, while island-sensitive wh-in-situ languages and their analyses are discussed in 4.2, where I advocate and sketch an LF wh-movement account for Mong Leng. Section 5 provides further evidence for LF movement by examining quantifier scope differences (5.1) and grammaticality disparities with indefinite/wh-argument homophones (5.2). The paper is then concluded in Section 6.

2 Mong Leng Question Formation

2.1 Background

Mong Leng[1] is a language of the Hmong-Mien (Miao-Yao) family spoken by a subset of the Hmong people group mainly located in the highlands of Laos, Thailand, and Vietnam, and by a significant population of resettled Hmong expatriates in the United States. Current (2005) estimates of the number of Hmong in the world put the total around 4.5 million (Lemoine, 2005, p. 7).

Mong Leng is a largely monosyllabic language, possessing an impressive inventory of consonants (47) and tone/phonation-type contrasts (7). Each syllable consists of an onset and a rime, where the onset is a consonant or consonant cluster, and the rime is a vowel or diphthong (with [ŋ] following nasalized vowels) produced with a specific tone/phonation type.

There is an evident lack of allophonic variation in Mong Leng, as prenasalization, aspiration, and nasalization are used contrastively, and the rigid syllable structure results in uniform phonotactic environments. This lends itself to a relatively straightforward orthography: the phonologically-based RPA expresses each syllable as consonant/consonant cluster + vowel/diphthong + tone/phonation marker. (Nasalized vowels are indicated by doubling the vowel symbol.) The only segments for which the RPA has no symbols are glottal stop (the onset for syllables written as vowel-initial) and [ŋ] (which exhibits free variation in syllables with nasalized vowels).

Though rich in its phonetic inventory, Mong Leng is rather impoverished in morphology, lacking verbal and nominal inflection. For example, the pronoun *kuv* can mean "I," "me," or "my." Verbs never bear any

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[1]Also known as "Hmong Njua" or "Green Hmong."

inflection whatsoever, and different tenses and aspects are expressed with separate particles or inferred from context. Word-order is strictly SVO,[2] as illustrated in the following examples:[3]

(1)   (a) *Kuv   pum   nwg.*
          1SG   see   3SG

          'I see him/her/it.'

      (b) *Nwg   pum   kuv.*
          3SG   see   1SG

          'He/she/it sees me.'

Note finally that verb serialization is also a common phenomenon in Mong Leng:

(2)   (a) *Nwg   muab   tug   us   noj.*
          3SG   take   CL   duck   eat

          'He (took and) ate the duck.'

      (b) *Nwg   qha   kuv   has   tas   nwg   tua   tug   us.*
          3SG   tell   1SG   say   that   3SG   kill   CL   duck

          'He told me (saying) that he killed the duck.'

2.2   Polar Questions

Polar questions in Mong Leng are formed by simple insertion of the yes/no particle *puas* obligatorily before the verb or auxiliary:

(3)   (a) *Koj   nyam   kuv.*
          2SG   like   1SG

          'You like me.'

      (b) *Koj   puas   nyam   kuv?*
          2SG   Q   like   1SG

          'Do you like me?'

(4)   (a) *Lauj   tau   pum   tug   us.*
          Lao   have   see   CL   duck

          'Lao has seen the duck.'

      (b) *Lauj   puas   tau   pum   tug   us?*
          Lao   Q   have   see   CL   duck

          'Has Lao seen the duck?'

It is important to note that Mong Leng, which is a language very dependent on lexical tone contrast, does not utilize any special intonational contour to mark a sentence as a polar interrogative, relying entirely on the presence of the *puas* particle.

   Polar questions marked with *puas* can also appear in embedded environments.[4]

(5)   (a) *Maab   puas   nyam   nwg?*
          Mang   Q   like   3SG

          'Does Mang like him/her/it?'

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[2]This holds true for both matrix and embedded clauses, with the exception of relative clauses, in which the clause-initial relative pronoun may be the object (yielding OSV order).

[3]A key for the more obscure Mong Leng morpheme glosses is as follows: CL = classifier, Q = polar question particle, REL-PRO = relative pronoun

[4]The distribution of the subordinating conjunction *saib* is similar (though not identical) to that of 'whether,' and for my purposes here, I gloss it as such.

(b) *Lauj nug kuv saib   Maab puas nyam nwg.*
   Lao   ask 1SG whether Mang Q   like 3SG

   'Lao asked me whether Mang likes him.'

(c) *Lauj xaav txug saib   Maab puas nyam nwg.*
   Lao   wonder   whether Mang Q   like 3SG

   'Lao wonders whether Mang likes him.'

The above sentence in (c) can also mean 'Lao wonder**ed** if/whether Mang likes him,' as tense is usually interpreted from context. In these and future examples, I have chosen the tense which yields the most natural reading.

2.3 Wh-Questions

For my purposes here, I consider only wh-arguments, since 'where,' 'when,' 'why,' and 'how' are either adjuncts or clausal constructions and do not exhibit the same behavior as 'who' and 'what.'

   Mong Leng is a wh-in-situ language, and utilizes no wh-particle to "type" its wh-questions. The Mong Leng constituent meaning 'who' is *leej twg* (lit. 'person unknown'), while the word for 'what' is *dlaabtsi*.[5] *Leej twg* and *dlaabtsi* exhibit the same behavior in all respects. Both appear in-situ, as shown in the following sentences:

(6) (a) *Lauj nyam Maab.*
        Lao   like   Mang

        'Lao likes Mang.'

    (b) ***Leej twg*** *nyam Maab?*
        who   like   Mang

        'Who likes Mang?'

    (c) *Lauj nyam **leej twg**?*
        Lao   like   **who**

        'Who does Lao like?'

(7) (a) *Lauj tsoo tug us.*
        Lao   hit   CL   duck

        'Lao hit the duck.'

    (b) *Lauj tsoo **dlaabtsi**?*
        Lao   hit   **what**

        'What did Lao hit?'

    (c) ***Dlaabtsi*** *tsoo Lauj?*
        what   hit   Lao

        'What hit Lao?'

Leej twg and *dlaabtsi* can also occur in embedded clauses. In these examples, the wh-arguments take scope within their embedded clauses, yielding local readings:

(8) (a) *Lauj paub **leej twg** nyam Npis.*
        Lao   know **who**   like   Be

        'Lao knows who likes Be.'

    (b) *Lauj paub Npis nyam **leej twg**.*
        Lao   know Be   like   **who**

        'Lao knows who Be likes.'

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[5]Unlike *leej twg*, the morphological components of *dlaabtsi* are unrelated to its meaning: *dlaab* and *tsi* in isolation mean 'demon' and 'not,' respectively.

(9) (a) *Lauj qha kuv **leej twg** nyam Npis.*
      Lao   tell 1SG **who**   like   Be
      'Lao told me who likes Be.'

    (b) *Lauj qha kuv Npis nyam **leej twg**.*
      Lao   tell 1SG Be   like   **who**
      'Lao told me who Be likes.'

(10) (a) *Lauj paub **dlaabtsi** tsoo Npis.*
      Lao   know **what**   hit   Be
      'Lao knows what hit Be.'

    (b) *Lauj paub Npis tsoo **dlaabtsi**.*
      Lao   know Be   hit   **what**
      'Lao knows what Be hit.'

(11) (a) *Lauj qha kuv **dlaabtsi** tsoo Npis.*
      Lao   tell 1SG **what**   hit   Be
      'Lao told me what hit Be.'

    (b) *Lauj qha kuv Npis tsoo **dlaabtsi**.*
      Lao   tell 1SG Be   hit   **what**
      'Lao told me what Be hit.'

Although no movement is involved, it is possible to interpret *leej twg* or *dlaabtsi* in an embedded clause as taking wide scope to form a matrix wh-question. These long-distance readings are allowed with the matrix verb-complementizer construction *has tas* 'say that,' which introduces the embedded clause:

has tas 'say that'

(12) (a) *Lauj has tas Maab nyam Npis.*
      Lao   say that Maab like   Be
      'Lao said that Mang likes Be.'

    (b) *Lauj has tas **leej twg** nyam Npis?*
      Lao   say that **who**   like   Be
      'Who did Lao say likes Be?'

    (c) *Lauj has tas Npis nyam **leej twg**?*
      Lao   say that Be   like   **who**
      'Who did Lao say Be likes?'

(13) (a) *Lauj has tas tug tsuv tua tug us.*
      Lao   say that CL   tiger kill CL   duck
      'Lao said that the tiger killed the duck.'

    (b) *Lauj has tas **dlaabtsi** tua tug us?*
      Lao   say that **what**   kill CL   duck
      'What did Lao say killed the duck?'

    (c) *Lauj has tas tug tsuv tua **dlaabtsi**?*
      Lao   say that CL   tiger kill **what**
      'What did Lao say the tiger killed?'

Long-distance readings are also available with other verbs that optionally serialize with *has tas*, such as *qha* 'tell':

qha 'tell'

(14) (a) *Lauj qha kuv has tas Npis nyam Maab.*
　　　　Lao tell 1SG say that Be like Mang
　　　　'Lao told me that Be likes Mang.'

　　(b) *Lauj qha koj has tas Npis nyam **leej twg**?*
　　　　Lao tell 2SG say that Be like **who**
　　　　'Who did Lao tell you Be likes?'

　　(c) *Lauj qha koj has tas **leej twg** nyam Maab?*
　　　　Lao tell 2SG say that **who** like Mang
　　　　'Who did Lao tell you likes Mang?'

(15) (a) *Lauj qha kuv has tas tug tsuv tua tug us.*
　　　　Lao tell 1SG say that CL tiger kill CL duck
　　　　'Lao told me that the tiger killed the duck.'

　　(b) *Lauj qha koj has tas **dlaabtsi** tua tug us?*
　　　　Lao tell 2SG say that **what** kill CL duck
　　　　'What did Lao tell you killed the duck?'

　　(c) *Lauj qha koj has tas tug tsuv tua **dlaabtsi**?*
　　　　Lao tell 2SG say that CL tiger kill **what**
　　　　'What did Lao tell you the tiger killed?'

When the upstairs clauses consist of such (serialized) elements, *leej twg* or *dlaabtsi* may be arbitrarily-deeply embedded and still take wide scope:

xaav 'think' & has tas 'say that'

(16) (a) *Koj xaav has tas Lauj has tas **leej twg** nyam Npis?*
　　　　2SG think say that Lauj say that **who** like Be
　　　　'Who do you think Lao said likes Be?'

　　(b) *Koj xaav has tas Lauj has tas Npis xaav has tas Maab nyam **leej twg**?*
　　　　2SG think say that Lauj say that Be think say that Mang like **who**
　　　　'Who do you think Lao said Be thinks Mang likes?'

　　(c) *Koj xaav has tas Lauj has tas Npis xaav has tas Maab nyam **dlaabtsi**?*
　　　　2SG think say that Lauj say that Be think say that Mang like **what**
　　　　'What do you think Lao said Be thinks Mang likes?'

Restriction

When the matrix verb is *paub* 'know,' however, long distance readings are unavailable or marginal:

paub 'know'

(17) (a) **Lauj paub **leej twg** nyam Maab?*
　　　　Lao know **who** like Mang
　　　　'Who does Lao know likes Mang?'

　　(b) **Lauj paub Maab nyam **leej twg**?*
　　　　Lao know Maab like **who**
　　　　'Who does Lao know Mang likes?'

(18) (a) *?Lauj paub **dlaabtsi** tua tug us?*
      Lao know **what** kill CL duck
      'What does Lao know killed the duck?'

   (b) *?Lauj paub tug tsuv tua **dlaabtsi?***
      Lao know CL tiger kill **what**
      'What does Lao know the tiger killed?'

Bruening and Tran (2006) treat this type of long-distance/local reading dichotomy in Vietnamese as the result of matrix verb selectional restrictions, and I will do the same with Mong Leng. I present these examples merely to eliminate the non-long-distance verb *paub* 'know' from consideration in island constructions, since it already prohibits embedded wh-constituents from taking wide scope by default.

3   Wh-Movement & Islands

3.1   Wh-movement

English and German (and many other languages), in contrast to Mong Leng, utilize overt fronting of wh-constituents to form wh-questions. In this scheme, the wh-constituent is base-merged in its argument position and subsequently undergoes Ā-movement to Spec-CP (along with Subject-Aux inversion). The following examples illustrate English and German wh-argument questions, with the original base-merged position of the wh-constituent indicated by ___.

(19) (a) Mark saw John at the store.

   (b) **Who** did Mark see ___ at the store?

(20) (a) Jerry bought sunglasses in L.A.

   (b) **What** did Jerry buy ___ in L.A.?

(21) (a) *Ingo hat Lutz in Berlin gesehen.*
      Ingo has Lutz in Berlin seen
      'Ingo saw Lutz in Berlin.'

   (b) ***Wen*** *hat Ingo* ___ *in Berlin gesehen?*
      who.ACC has Ingo ___ in Berlin seen
      'Who did Ingo see in Berlin?'

(22) (a) *Ingo hat Sonnenbrille in L.A. gekauft.*
      Ingo has sunglasses in L.A. bought
      'Ingo bought sunglasses in L.A.'

   (b) ***Was*** *hat Ingo* ___ *in L.A. gekauft?*
      what has Ingo ___ in L.A. bought
      'What did Ingo buy in L.A.?'

3.2   Islands

Beginning with Ross (1967), it was discovered that such Ā-movement is restricted by "islands," a specific set of constructions from which wh-constituents may not be extracted without resulting in ungrammatical questions. In this section I present some relevant island constructions in English and German.

3.2.1 Complex NP Island

Movement of a wh-argument out of a "complex NP," such as a relative clause, results in ungrammaticality:

(23)   (a) John met the man that Amy married.
       (b) * **Who** did John meet the man that ___ married?

(24)   (a) *Ingo traf den   Mann, den   Stefani liebt.*
           Ingo met   the.SG.MASC.ACC man   REL-PRO.SG.MASC.ACC   Stefani loves
           'Ingo met the man that Stefani loves.'
       (b) ***Wer**   traf Ingo den   Mann, den   ___ liebt?*
           who.NOM met Ingo the.SG.MASC.ACC man   REL-PRO.SG.MASC.ACC   ___ loves
           'Who did Ingo meet the man that ___ loves?'

3.2.2 Adjunct Island

Adjuncts, such as 'because' phrases, tend also to prohibit extraction of a wh-constituent:

(25)   (a) He lives there because he likes the mountains.
       (b) * **What** does he live there because he likes ___ ?

(26)   (a) *Er wohnt dort, weil   er die   Berge   liebt.*
           he lives there because he the.PL   mountains loves
           'He lives there because he likes the mountains.'
       (b) ***Was** wohnt er dort, weil   er ___ liebt?*
           what lives he there because he loves
           'What does he live there because he loves ___ ?'

3.2.3 WH-Island

Although not a "WH-Island" in the strictest sense, an embedded clause introduced by 'whether' does not allow extraction of a wh-constituent:

(27)   (a) He knows whether Mark likes apples.
       (b) * **What** does he know whether Mark likes ___ ?

(28)   (a) *Er weiss, ob   Jonas Äpfel mag.*
           he knows whether Jonas apples likes
           'He knows whether Jonas likes apples.'
       (b) ***Was** weiss er, ob   Jonas ___ mag?*
           what knows he   whether Jonas ___ likes
           'What does he know whether Jonas likes ___?'
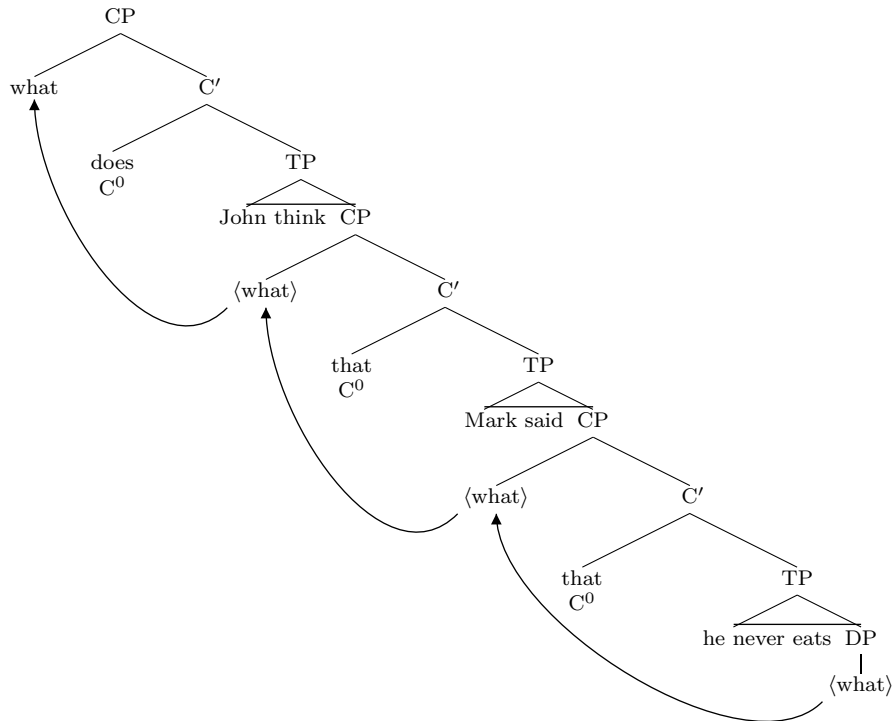
3.2.4 Clausal Subject Island

Finally, when a wh-argument has been base-merged inside a clause that ends up in subject position (Spec-TP, or possibly Spec-CP), extraction of that wh-argument to form a constituent question is prohibited:

(29)   (a) That George likes you is obvious.
       (b) * **Who** that George likes ___ is obvious?

(30)   (a) *Dass Tim dich   mag, ist offensichtlich.*
           that Tim you.SG.ACC   likes is   obvious
           'That Tim likes you is obvious.'
       (b) ***Wen**   dass Tim ___ mag, ist offensichtlich?*
           who.ACC that Tim ___ likes is   obvious
           'Who that Tim likes ___ is obvious?'
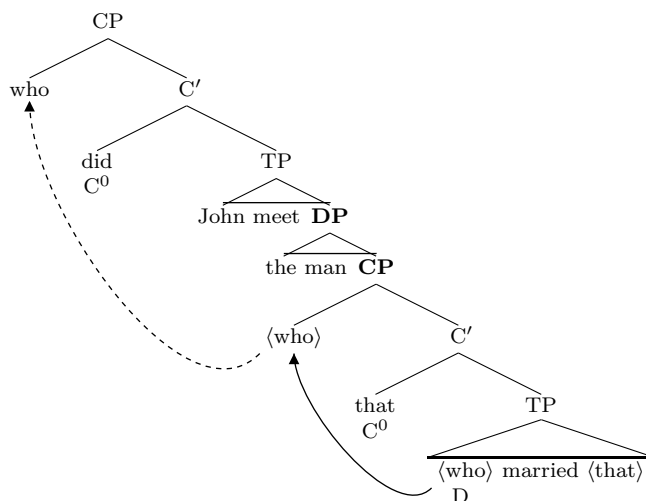
3.2.5 Analysis

In an attempt to combine these separate island restrictions under a single principle, Chomsky (1973, as cited in Santorini & Kroch, 2007, ch. 12) proposes successive cyclic movement of wh-constituents and introduces the notion of *Subjacency*, which defines specific barriers to such movement. This principle is the precursor to the modern Phase Impenetrability Condition/Constraint (PIC) in Minimalism, which stipulates that "feature matching reaches no further than the specifier of an embedded phase" (Adger, 2003, p. 386). In practice, this requires a wh-constituent undergoing fronting to "leapfrog" into Spec-CP of each embedded clause on its way up to matrix scope position, as depicted in the following (Minimalist) tree:

(31) What does John think that Mark said that he never eats ___ ?

According to Subjacency, CPs and DPs are "bounding nodes," and successive cyclic wh-movement may cross only one bounding node at a time. Movement of a wh-constituent out of a relative clause is therefore prohibited (shown with a dotted line in the following figure) because it would involve crossing both a CP and a DP in one step (shown in **boldface**):

(32) * Who did John meet the man that ___ married?

As demonstrated in the tree above, this principle accounts for the ungrammaticality of the Complex NP island. However, Subjacency cannot fully capture every island constraint without the inclusion of extra principles such as the Minimality Condition and Empty Category Principle (ECP).[6] Despite this shortcoming, it is the most complete effort within the P&P framework to date, and current papers often use "Subjacency" and "island restrictions" interchangeably to denote these barriers to wh-movement.

4 Wh-in-situ & Islands

4.1 Island Immunity

Given that island constructions pose barriers to wh-movement, one might expect wh-in-situ questions to be immune to their restrictions. This is indeed the case with several languages, including Malay, Ancash Quechua, Korean, and Mandarin Chinese.[7]

4.1.1 Malay (Cole & Hermon, 1998, p. 228)

Cole and Hermon (1998) give examples from Malay demonstrating the grammaticality of wh-in-situ in various islands:

Complex NP Island

(33) *Kamu sayang perempuan yang telah berjumpa **siapa?***
     you   love   [woman   [that already meet   **who**]]

'For what person x, you love the woman who met x ?'

Adjunct Island

(34) *Ali dipecat kerana Fatimah fikir dia membeli **apa?***
     Ali was fired [because Fatimah thinks [he bought   **what**]]

'For what x, Ali was fired because Fatimah thinks he bought x ?'

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[6]Discussion of these concepts is beyond the scope of this paper.

[7]The language data and morpheme glosses are from the original works, but I have chosen to to present my own English translations of these grammatical island constructions with a "for what (person) x..." scheme.

WH-Island

(35) *Awak   agak   di mana Mary   membeli **apa?***
      you   wonder [where   [Mary   bought   **what**]]

    'For what x, you wonder where Mary bought x ?'

Clausal-Subject Island

(36) *Yang Ali mengahwini **siapa** mengecewakan ibunya?*
     [that Ali married   **who**] upset   his mother

    'For what person x, that Ali married x upset his mother?'

4.1.2   Ancash Quechua (Cole & Hermon, 1994, p. 245)

Likewise, Cole and Hermon (1994) present data showing wh-in-situ to be unconstrained by islands in Ancash Quechua:[8]

Complex NP Island

(37) *(Qam) kuya-nki   **ima-ta**   suwaq nuna-ta?*
     you   love-2PL **what**-ACC steal man-ACC

    'For what x, you love the man who stole x ?'

4.1.3   Korean and Mandarin Chinese

The situation with wh-in-situ and islands in Korean and Mandarin Chinese is more complex than in Malay and Ancash Quechua, but it is generally assumed that wh-arguments in these languages can violate islands, as the following data from Shin (2005), Cheng and Rooryck (2000), and Huang (1982) illustrates:

Korean (Shin, 2005, p. 51)

Complex NP Island

(38) *Minswu-ka   **nwukwu-ka** ssu-n   chayk-ul   sass-ni?*
     Minswu-Nom [[**who-Nom**   write-Rel] book-Acc] bought-Q

    'For what person x, Minswu bought the books that x wrote?'

WH-Island

(39) *Minswu-nun nwukwu-ka **mues-ul**   hay-ss-nunci kwungkumhayha-ni?*
     Minswu-Top [who-Nom   **what-Acc** do-Past-C]   wonder-Q

    'For what x, Minswu wonders who bought x ?'

Adjunct Island

(40) *Minswu-nun Senhi-ka   **mues-ul**   sa-se   hwakanass-ni?*
     Minswu-Top [Senhi-Nom **what-Acc**] buy-because] is upset-Q

    'For what x, Minswu is upset because Senhi bought x ?'

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[8]Despite failing to provide additional examples, Cole and Hermon assert that wh-in-situ is immune to other islands as well (p. 246).

Mandarin Chinese

Complex NP Island (Cheng & Rooryck, 2000, p. 2)

(41) *Hufei xihuan nei-ben **shei** xie   de   shu?*
     Hufei like   that-CL **who** write DE   book

     'For what person x, Hufei likes the book that x wrote ?'

WH-Island (Huang, 1982, p. 525)

(42) *ni   xiang-zhidao **shei** mai-le   **sheme?***
     you   wonder   [**who** buy-ASP   **what**]

     'For what x, you wonder who bought x ?'

     'For what person x, you wonder what x bought ?'

4.1.4 Analyses

Though the grammaticality of in-situ wh-arguments in such island constructions is not surprising, it does pose a problem for standard syntactic analyses. Since the early days of Government and Binding it has been assumed that wh-fronting occurs in overt syntax to establish wide scope for the wh-constituent. It was therefore proposed that wh-constituents appearing in-situ also obtain wide scope, but through covert movement to Spec-CP (or C^0) at LF (Logical Form). Indeed, the previous Chinese example from Huang (1982) seems to support this view, with the two possible readings indicating the different logical forms that arise when two wh-constituents are in competition for movement to scope position at LF.

Therefore, if wh-constituents in-situ do indeed move (albeit at LF), their ability to scope out of island restrictions is unexpected under this theory and must be explained. The first attempt at doing so was Huang's (1982) proposal that LF movement is simply not subject to the Subjacency principle, which only acts to restrict overt syntactic movement. However, this idea did not sit well with certain linguists, whose opinion Reinhart (1998) summarizes as follows:

> "...subjacency is a general constraint on Move α, and there can be no difference in this respect between phonetically visible and invisible movement. If *wh*-in-situ do not show subjacency effects, this cannot be dealt with through statements about properties of LF movement; rather, it indicates that they don't move." (p. 34)

Alternatives to LF movement were therefore forthcoming, and the first to appear was *unselective binding*, in which an operator sitting in scope-position binds the wh-constituent acting as a variable. The mechanism of unselective binding was first developed by Heim (1982) and popularized for the analysis of wh-in-situ questions by Pesetsky (1987) (as cited in Reinhart, 1998, pp. 29-30). Then in 1998, Reinhart (1998), arguing that unselective binding suffers from the inability to correctly capture possible interpretations, proposed the alternative mechanism of *choice functions*. The details of these methods are not important for the purposes of this paper, but suffice it to say that both alternatives (unselective binding and choice functions) involve no covert movement, consequently predicting wh-in-situ free of island restrictions. With these mechanisms available to explain the island-free data, LF movement as an explanation for wh-in-situ was seemingly rendered obsolete.

4.2 Island Sensitivity

Unfortunately for these methods, however, there do exist languages with in-situ wh-constituents that exhibit at least some sensitivity to island constructions, despite their lack of wh-movement. These include French (Cheng & Rooryck, 2000), Vietnamese (Bruening & Tran, 2006), Eastern Armenian, Persian (Megerdoomian & Ganjavi, 2000), Japanese (Watanabe, 1992), Iraqi Arabic (Wahba, 1991, cited in Bruening, 2007, p. 158), Hindi (Srivastav, 1991, cited in Bruening, 2007, p. 158) and the language in focus, Mong Leng. Selected examples to illustrate this island sensitivity are given below.[9]

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[9]Many of these examples are grammatical as echo questions, but it is their ungrammaticality as context-free matrix questions that reveals their sensitivity to islands.

4.2.1 French (Cheng & Rooryck, 2000, p. 3)

Cheng and Rooryck (2000) show that French employs optional wh-movement in questions and note that in-situ wh-arguments are not allowed inside islands:

Complex NP Island

(43) *Jean aime le livre que **qui** a écrit?*
Jean like the book that **who** has written
'Who does Jean like the book that ___ wrote?'

4.2.2 Eastern Armenian & Persian (Megerdoomian & Ganjavi, 2000, p. 3)

According to Megerdoomian and Ganjavi (2000), both Eastern Armenian and Persian utilize optional wh-movement. Wh-movement in these languages is sensitive to islands, but, unexpectedly, wh-in-situ shares this sensitivity. (Eastern Armenian examples are in (a), Persian examples are in (b).)

Clausal Subject Island

(44) (a) **Vor Vrej-e **umin** e mat'nel amboqj ent'anik-in husahat'ets?*
[that Vrej-Nom **whom** is denounced] whole family-Dat disappointed
'Whom the fact that Vrej denounced ___ disappointed the whole family?'

(b) **Inke **ki** bâ in ma'sale âshenâ hast xeyli jâleb-e?*
[this-that **who** with this issue familiar is] very interesting-is
'Who the fact that ___ is familiar with this issue is very interesting?'

WH-Island

(45) (a) **Ara-n uzum e imana vor **ov** e inch girk k'artatsel*
Ara-Nom wanting is know-Subj that **who** is what book read
'Who did Ara want to know which book ___ had read?'

(b) **Nâder mi-xâhad be-dânad ke ki **kodâm ketâb-o** xunde?*
Nader Prog-want Subj-know that who **which book-Acc** read
'Which book does Nader want to know who read ___ ?'

4.2.3 Japanese (Watanabe, 1992, p. 263)

Watanabe (1992) observes that certain questions in Japanese exhibit WH-Island effects:

WH-Island

(46) *??John-wa Mary-ga **nani-o** katta ka dooka siritagatte iru no?*
John-Top [Mary-Nom **what-Acc** bought whether] know-want Q
'What does John want to know whether Mary bought ___ ?'

4.2.4 Vietnamese (Bruening & Tran, 2006, pp. 8-9)

Bruening and Tran (2006) present two types of wh-in-situ questions in Vietnamese: one type is immune to islands, while the second type is sensitive. They argue that the island-immune wh-in-situ questions utilize unselective binding, while LF movement is present in those sensitive to islands.[10] The following are examples of Vietnamese wh-in-situ questions that exhibit island sensitivity:

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[10]I discuss their analysis in greater detail in Section 4.2.6.

Complex NP Island

(47) *Tân sẽ chụp hình con hổ đã dọa **ai?**
Tan ASP catch picture [CL tiger [ASP scare **who**]]
'Who will Tan take a picture of the tiger that scared ___ ?'

Clausal Subject Island

(48) ***Ai** sẽ bỏđi làm mọi người bối rối?
[**who** ASP leave] make everyone embarrass
'Who that ___ will leave will make everyone embarrassed?'

Adjunct Island

(49) *Tân sẽ thua cuộc vì **ai** làm hư xe của anh ta?
Tan ASP lose event [because **who** make damage vehicle belong he]
'Who will Tan lose the race because ___ will damage his car?'

4.2.5   Mong Leng

Finally, my research has revealed that in-situ wh-arguments in Mong Leng are also sensitive to islands.

It is important to note that the words for 'who' and 'what' are homophonous with the indefinite pronouns 'someone' and 'something.' Since wh-questions in Mong Leng are not typed by an intonation contour or question morpheme, practically any utterance containing *leej twg* or *dlaabtsi* can have more than one meaning:

(50) (a) **Leej twg** hlub koj ?/.
who/someone love 2SG
'Who loves you?'
'Someone loves you.'

(b) *Lauj noj **dlaabtsi** ?/.*
Lao eat **what/something**
'What is Lao eating?'
'Lao is eating something.'

In island constructions, only declarative indefinite or echo question readings are available. The following examples are thus marked as ungrammatical questions:

Complex NP Island

(51) (a) *Lauj pum tug txivneej kws Maab nyam.*
Lao see CL man REL-PRO Mang like
'Lao saw the man that Mang likes.'

(b) **Lauj pum tug txivneej kws **leej twg** nyam?*
Lao see CL man REL-PRO **who** like
'Who did Lao see the man that ___ likes?'

Adjunct Island

(52) (a) *Nwg nyob nuav ruaqhov nwg nyam cov roob.*
3SG live here because 3SG like article.PL.INDEF mountain
'He lives here because he likes mountains.'

(b) **Nwg nyob nuav ruaqhov nwg nyam **dlaabtsi?***
3SG live here because 3SG like **what**
'What does he live here because he likes ___ ?'

13

WH-Island

(53) (a) *Lauj tsi tau qha kuv saib tug tsuv puas tau noj tug us.*
      Lao not have tell 1SG whether CL tiger Q have eat CL duck
      'Lao has not told me whether the tiger has eaten the duck.'

(b) **Lauj tsi tau qha koj saib tug tsuv puas tau noj **dlaabtsi?***
      Lao not have tell 2SG whether CL tiger Q have eat **what**
      'What has Lao not told you whether the tiger has eaten ___ ?'

Clausal Subject Island

(54) (a) *Qhov Maab nyam koj yog qhov zoo.*
      that Mang like 2SG be CL good
      'That Mang likes you is good.'

(b) **Qhov **leej twg** nyam koj yog qhov zoo?*
      that **who** like 2SG be CL good
      'Who that ___ likes you is good?'

4.2.6 Analyses

The methods of unselective binding and choice functions cannot capture any of the above island-sensitive data, since they predict island immunity for in-situ wh-constituents. These examples have an easy explanation under LF movement, however, if island constructions are treated as a restriction on all movement (both overt syntactic and LF). Thus, the in-situ wh-arguments in these questions may be analyzed as attempting to reach scope position by LF movement and failing to do so as a result of the island restrictions. This analysis avoids the notion of island-free LF movement that instigated the development of alternative methods in the first place. (I present the mechanics of such an analysis below, in Section 4.2.7)

    The reincarnation of an LF analysis as island-sensitive movement has received some attention in the literature, albeit slight. Cole and Hermon (1994) assume that LF movement obeys Subjacency and therefore reject LF movement as an analysis for island-free wh-in-situ questions in Ancash Quechua (Section 4.1.2). However, they leave open the possibility that island-sensitive LF movement of in-situ wh-constituents occurs in other languages (p. 259). Cheng and Rooryck (2000) analyze the above island-sensitive French example (Section 4.2.1) as involving LF movement of a wh-feature to C^0. Megerdoomian and Ganjavi (2000), however, reject an LF movement explanation for the Eastern Armenian and Persian data (Section 4.2.2), instead appealing to Minimality restrictions on null operators, while Watanabe (1992) proposes a syntactic null-operator movement analysis for Japanese (Section 4.2.3).

    Bruening and Tran (2006) present the most explicit LF movement account in their analysis of the Vietnamese data (Section 4.2.4), appealing to the above island restrictions and also to intervention effects (Beck, 1996) as indicators of LF wh-movement to matrix scope position. According to Beck, certain quantifiers form a barrier to LF movement of an in-situ wh-constituent, as is the case with *niemanden* 'nobody' and *wo* 'where' in the following multiple wh-question in German:

(55) (a) **Wer hat niemanden **wo** angetroffen?*
      who has nobody **where** met
      'Who didn't meet anybody where?'

(b) *Wer hat **wo** niemanden angetroffen?*
      who has **where** nobody met
      'Who didn't meet anybody where?'

Beck's claim is that the in-situ *wo* moves to scope position at LF, a process that is blocked when it is c-commanded by the negative quantifier *niemanden* in (a). Bruening and Tran illustrate a similar effect in Vietnamese, bolstering their argument that LF movement of the in-situ wh-constituent is at work (pp. 329-330):

(56) (a) *Ai   cũng   thích bóng đá.*
      who UNIV-QUANT like   football
      'Everyone likes football.'

   (b) **Ai* *cũng   thích **cái gì?***
      who UNIV-QUANT like   **what**
      'What does everyone like?'

(57) (a) *Chẳng ai   mời   Tân.*
      Neg   who   invite Tan
      'No one invites/ will invite Tan.'

   (b) **Chẳng ai   mời   **ai?***
      Neg   who   invite **who**
      'Who does/will no one invite?'

Bruening and Tran analyze this as an LF intervention effect, attributing the ungrammaticality of the questions in (b) to the presence of the quantifiers *cũng* and *chẳng*, which c-command the wh-constituents *cái gì* 'what' and *ai* 'who,' respectively.

In Mong Leng, however, such effects are nowhere to be seen, as illustrated by the grammaticality of questions with in-situ wh-arguments c-commanded by quantifiers in the (b) examples:

(58) (a) *Suavdlawg nyam Maab.*
      everyone   like   Mang
      'Everyone likes Mang.'

   (b) *Suavdlawg nyam **leej twg?***
      everyone   like   **who**
      'Who does everyone like?'

(59) (a) *Tsi   muaj leej twg noj us.*
      NEG   exist someone   eat duck
      'No one is eating duck.'

   (b) *Tsi   muaj leej twg noj **dlaabtsi?***
      NEG   exist someone   eat **what**
      'What is no one eating?'

(60) (a) *Suavdlawg tsi   nyam kuv.*
      everyone   NEG   like   1SG
      'No one likes me. / Everyone doesn't like me.'

   (b) *Suavdlawg tsi   nyam **leej twg?***
      everyone   NEG   like   **who**
      'Who does no one like? / Who does everyone not like?'

At first glance, this lack of intervention effects appears to present serious counterevidence for the claim that Mong Leng wh-in-situ questions involve LF movement. In a recent paper, however, Beck (2006) rejects her previous movement-based analysis of intervention effects in favor of an account involving focus semantics. This development weakens Bruening and Tran's argument for LF movement in Vietnamese, but prevents the lack of such effects in Mong Leng from eliminating LF movement as an option for wh-in-situ scope. It is therefore possible to conclude, as Bruening and Tran do, that unselective binding/choice functions operate in island-immune wh-in-situ constructions, while in-situ wh-questions showing island sensitivity employ LF movement to establish scope. In the next section, I present a sketch of this proposed LF movement in Mong Leng.

4.2.7 LF Movement Mechanics

My LF movement analysis of wh-in-situ questions in Mong Leng proposes that a wh-argument moves to Spec-CP at LF to obtain scope over the clause. This movement is schematized in the following examples:

(61)

PF	**LF**
Lauj noj dlaabtsi? Lao eat what 'What is Lao eating?'	[$_{CP}$ *dlaabtsi* [$_{TP}$ *Lauj noj* ⟨*dlaabtsi*⟩]] what Lao eat ⟨what⟩

(62)

PF	**LF**
Maab nyam leej twg? Mang like who 'Who does Mang like?'	[$_{CP}$ *leej twg* [$_{TP}$ *Maab nyam* ⟨*leej twg*⟩]] who Mang like ⟨who⟩

When a matrix question is formed with the wh-argument base-merged inside an embedded clause, the wh-argument moves through each upstairs Spec-CP at LF until it reaches matrix scope position:

(63) **PF**

Lauj has tas nwg noj dlaabtsi?
Lao say that 3SG eat what
'What did Lao say that he is eating?'

LF

[$_{CP}$ *dlaabtsi* [$_{TP}$ *Lauj has* [$_{CP}$ ⟨*dlaabtsi*⟩ *tas* [$_{TP}$ *nwg noj* ⟨*dlaabtsi*⟩]]]]
what   Lao say   ⟨what⟩   that   3SG eat ⟨what⟩

(64) **PF**

Maab has tas nwg nyam leej twg?
Mang say that 3SG like who
'Who did Mang say that she likes?'

LF

[$_{CP}$ *leej twg* [$_{TP}$ *Maab has* [$_{CP}$ ⟨*leej twg*⟩ *tas* [$_{TP}$ *nwg nyam* ⟨*leej twg*⟩]]]]
who   Mang say   ⟨who⟩   that   3SG like ⟨who⟩

However, when an embedded interrogative clause occurs with a matrix verb for which a long-distance question interpretation is unavailable (such as *paub* 'know'), the wh-argument obtains only local scope at LF by moving to Spec-CP of its own clause:

(65) **PF**

Npis paub Lauj noj dlaabtsi.
Be   know Lao   eat   what
'Be knows what Lao is eating.'

LF

[$_{CP}$ [$_{TP}$ *Npis paub* [$_{CP}$ *dlaabtsi* [$_{TP}$ *Lauj noj* ⟨*dlaabtsi*⟩]]]]
         Be   know   what   Lao   eat   ⟨what⟩

(66) **PF**

Npis paub Maab nyam leej twg.
Be   know Mang like   who
'Be knows who Mang likes.'

LF

[$_{CP}$ [$_{TP}$ *Npis paub* [$_{CP}$ *leej twg* [$_{TP}$ *Maab nyam* ⟨*leej twg*⟩]]]]
         Be   know   who   Mang like   ⟨who⟩

Movement of the wh-argument in Mong Leng at LF parallels overt syntactic wh-movement in other languages, and is therefore subject to the same island restrictions. For example, the following question with a Complex NP Island is ungrammatical because the wh-argument *leej twg* must cross two bounding nodes (here, a CP and a DP) in one step to reach matrix scope position, violating Subjacency:

Complex NP Island

(67) **PF**

*Lauj pum tug txivneej kws   leej twg nyam?
Lao   see   CL   man   REL-PRO who   like
'Who did Lao see the man that ___ likes?'

LF

[$_{CP}$ *leej twg* [$_{TP}$ *Lauj pum* [$_{DP}$ *tug txivneej* [$_{CP}$ ⟨*leej twg*⟩ *kws*   [$_{TP}$ ⟨*leej twg*⟩
         who   Lao   see   CL   man   ⟨who⟩   REL-PRO   ⟨who⟩

nyam]]]]]]
like

Because of this parallelism, wherever current syntactic theories can explain the ungrammaticality of island constructions for overt wh-movement, they can be used to account for the ungrammaticality of island constructions with in-situ wh-arguments in Mong Leng.[11]

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[11]It is interesting to note that Mong Leng wh-questions seem not to be sensitive to the Coordinate Structure Island, which is ungrammatical in English:

Lauj ntaus leej twg hab Npis?
Lao hit   who   and Be
'Who did Lao hit ___ and Be?'

There exists evidence, however, which suggests that the Coordinate Structure Island is ungrammatical for relative clauses in Mong Leng, but I will leave this issue open for now.

5   Additional Evidence

Additional facts about the behavior of in-situ wh-elements also suggest the presence of LF wh-movement in Mong Leng.

5.1   Quantifier Scope Differences

The availability of both covarying and single-interpretation answers to questions with a universally-quantified element provides additional evidence for LF movement in Mong Leng.[12] In both of the following questions, the wh-argument is c-commanded by the universal quantifier *suavdlawg* 'everyone,' and each question has two types of possible answers, shown in (a) and (b) with their logical forms:

(68)   *Suavdlawg   noj   **dlaabtsi?***
      everyone   eat   **what**
      'What is everyone eating?'

> (a) $\exists y[\textbf{thing}'(y) \wedge \forall x[\textbf{person}'(x) \rightarrow \textbf{eat}'(x,y)]]$
>   'There exists a thing y such that, for every person x, x eats y.'
>
>   *Peb   suavdlawg   noj   tug   us.*
>   1PL   everyone   eat   CL   duck
>   'We are all eating the duck.'
>
> (b) $\forall x[\textbf{person}'(x) \rightarrow \exists y[\textbf{thing}'(y) \wedge \textbf{eat}'(x,y)]]$
>   'For every person x, there exists a thing y such that x eats y.'
>
>   *Kuv   noj   mov,   Lauj   noj   tug   us,   Maab   noj   ...*
>   1SG   eat   rice   Lao   eat   CL   duck   Mang   eat
>   'I am eating rice, Lao is eating the duck, Mang is eating...'

(69)   *Suavdlawg   ntaus   **leej twg?***
      everyone   punch   **who**
      'Who is everyone punching?'

> (a) $\exists y[\textbf{person}'(y) \wedge \forall x[\textbf{person}'(x) \wedge x \neq y \rightarrow \textbf{punch}'(x,y)]]$
>   'There exists a person y such that, for every person x not equal to y, x punches y.'
>
>   *Peb   suavdlawg   ntaus   Lauj.*
>   1PL   everyone   punch   Lao
>   'We are all punching Lao.'
>
> (b) $\forall x[\textbf{person}'(x) \rightarrow \exists y[\textbf{person}'(y) \wedge x \neq y \wedge \textbf{punch}'(x,y)]]$
>   'For every person x, there exists a person y such that x is not equal to y and x punches y.'
>
>   *Kuv   ntaus   Npis,   Maab   ntaus   koj,   Lauj   ntaus...*
>   1SG   punch   Be   Mang   punch   2SG   Lao   punch
>   'I am punching Be, Mang is punching you, Lao is punching...'

The answers in (a) interpret the wh-question as asking for one specific thing, while the (b) answers assume a covarying reading.[13] These contrasting interpretations can be analyzed as the result of competition between QR and LF wh-movement: both the universal quantifier *suavdlawg* and the wh-argument attempt to obtain scope over the question by moving to Spec-CP at LF. When the wh-argument resides in Spec-CP, as depicted in (a), the single-interpretation reading arises. By contrast, when the universal quantifier obtains scope position, as in (b), the covarying reading is produced:

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[12]Under the assumption of Quantifier Raising (QR), that is. The complete situation is naturally more complicated than can be dealt with in this paper.

[13]According to my consultant, (a) is the primary reading, in which the existential quantifier takes wide scope over the universal quantifier. However, I have not yet developed a mechanism for capturing this primacy.

(70) (a) [$_{CP}$ *dlaabtsi*$_{i}$ [$_{TP}$ *Suavdlawg noj* ⟨*dlaabtsi*⟩]]
              what   everyone eat ⟨what⟩

           'What one thing is everyone eating?'

  (b) [$_{CP}$ *Suavdlawg* [$_{TP}$ ⟨*Suavdlawg*⟩ *noj dlaabtsi*]]
              everyone   ⟨everyone⟩ eat what

           'What thing is each person eating?'

These two interpretations are easily accounted for by an analysis that assumes LF wh-movement, which competes with QR for scope position.

5.2 Indefinite Homophony

A final motivation for the operation of LF movement in Mong Leng comes from the presence of indefinite homophony. As mentioned in Section 4.2.5, the wh-arguments 'who' and 'what' in Mong Leng are homophonous with the indefinite pronouns 'someone' and 'something':

(71) (a) ***Leej twg***   *hlub koj* *?/.*
          who/someone love 2SG

          'Who loves you?'

          'Someone loves you.'

  (b) *Lauj noj* ***dlaabtsi***   *?/.*
          Lao eat **what/something**

          'What is Lao eating?'

          'Lao is eating something.'

Island constructions that are ungrammatical with wh-question readings become grammatical under declarative indefinite interpretations:

Complex NP Island

(72) (a) **Lauj pum tug txivneej kws* ***leej twg*** *nyam?*
          Lao see CL man   REL-PRO **who**   like

          'Who did Lao see the man that ___ likes?'

  (b) *Lauj pum tug txivneej kws* ***leej twg*** *nyam.*
          Lao see CL man   REL-PRO **someone** like

          'Lao saw the man that someone likes.'

Adjunct Island

(73) (a) **Nwg nyob nuav ruaqhov nwg nyam* ***dlaabtsi?***
          3SG live here because 3SG like **what**

          'What does he live here because he likes ___ ?'

  (b) *Nwg nyob nuav ruaqhov nwg nyam* ***dlaabtsi.***
          3SG live here because 3SG like **something**

          'He lives here because he likes something.'

It is generally known that indefinites can defy all manner of syntactic restrictions to establish scope (Reinhart, 1997), and thus their violation of island restrictions in Mong Leng is not surprising. The fact that their homophonous wh-arguments are subject to the same restrictions that the wh-indefinites ignore, however, shows that whatever semantic mechanism is used to explain indefinite scope **cannot** also function as an analysis of wh-argument scope. That is, if it were proposed that LF movement is island-immune and is the

means by which indefinites establish scope in Mong Leng, LF movement could not be utilized to explain island-sensitive wh-arguments. Likewise, if unselective binding or choice functions were adapted so as to be sensitive to islands for the purpose of explaining island-sensitive wh-arguments, these methods could not be put forth as a mechanism for island-immune indefinites to obtain scope.

For such a situation, in which the grammaticality of lexically- and syntactically-identical utterances is reversed when a single lexeme receives a different interpretation, the most natural analysis is one in which different semantic mechanisms are at work. Unselective binding, choice functions, and LF movement therefore fall neatly into the following categories in Mong Leng:

	Indefinite Pronouns	**Wh-Arguments**
Island-Sensitive?	N	Y
Scope Mechanism	Unselective Binding or Choice Functions	LF Movement

6 Conclusion

This paper has presented the phenomenon of islands as barriers to wh-movement, discussing languages in which overt wh-movement is sensitive to islands and others in which wh-in-situ is island-immune. Some wh-in-situ languages, however, unexpectedly show sensitivity to islands. Mong Leng is one of these, and I have investigated this property of Mong Leng, showing the most natural account to be an LF movement analysis in which in-situ wh-arguments move to scope position at LF. The mechanics of this island-sensitive LF movement were sketched out, and additional evidence for LF movement in Mong Leng was found in the interaction of wh-arguments with universal quantifiers and their relationship to indefinite pronouns.

It is important to note, however, that islands are in truth not merely a wh-movement phenomenon. Island constructions have the potential to place restrictions on other unbounded dependencies as well, such as relative clauses, pseudo-clefts, and topicalizations. What remains to be investigated, therefore, is whether these additional unbounded dependencies exist in Mong Leng, whether they are also sensitive to islands, and whether the LF movement analysis developed in this paper will suffice.

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