**Wh-movement, locality, and optionality in Eastern Cham**

Kenneth Baclawski Jr. (UC Berkeley)  
kbaclawski@berkeley.edu  
University of Geneva, Research seminar

- Optionality effects are taken to be challenges to the determinacy of syntax
- Optional wh-movement, where wh-phrases can either remain in situ or be wh-moved in the general case, is predicted not to occur (Cheng’s (1991) Clause Typing Hypothesis; cf. Cheng & Rooryck 2000 on optional in-situ ness; but cf. Denham 2000)
  - Apparent wh-movement is due to clefts, focus movement, or something else
- Information structural movement like topicalization is generally optional
  - This has led some to argue that it cannot be true syntactic movement (e.g. Erteschik-Shir 2006; Szendrői 2017)
- This talk examines both (apparent) optional wh-movement and topicalization in Eastern Cham, which are optional regardless of context

(1)  
a. Hagait baow hâ daok mbeng?  
{kɛɪt} hi  tɔʔ  bāŋ {}  
what 2SG PROG eat  
‘What are you eating?’

b. Ing-aong ni baow kau daok mbeng.  
{ʔiŋ ʔɔŋ ni} kāw  tɔʔ  bāŋ {}  
frog this 1SG PROG eat  
‘This frog, I am eating.’

- First, we show that the movement operation in (1a) is orthogonal to the interpretation of wh-phrases
- Locality effects further demonstrate that the movement operations in (a) and (b) are featurally identical
- Second, we propose a reframing of the optionality in terms of competition between forms of anaphora:

---

*My sincere thanks to the Cham people of Ninh Thuận province, Vietnam, especially to Sakaya and Sikhara (Hamu Ligaih), without whom this work would not be possible. Any mistakes in the Cham data are my own. Thanks to Peter Jenks and Line Mikkelsen, for their extensive help in the development of this work. Thanks also to Seth Yalcin, Pritty Patel-Grosz, Patrick Grosz, and audiences at the University of Oslo Forum for Theoretical Linguistics and Linguistic Department Seminar, and elsewhere for their helpful feedback and comments. This material is based upon work supported by the National Science Foundation Graduate Research Fellowship under Grant No. DGE-1106400. Any opinion, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.*
– Moved topics and wh-phrases must be discourse connected (DC), a property of discourse anaphora that also marks discourse structural information

– When phrases are marked as DC (Figure 1a–b), DC-movement always occurs, preserving movement as deterministic

– However, non-DC-marked anaphors are also possible (c–d)

Figure 1

(a) Strong discourse anaphor

(b) Strong wh-anaphor

(c) DC-marked anaphor

(d) DC-marked wh-anaphor

\[
\begin{align*}
\text{DP} & \quad \text{DP} & \quad \text{DCP} & \quad \text{DCP} \\
\triangle & \quad \text{DP} & \quad \text{DC} & \quad \text{DCP} \\
\phantom{\triangle} & \quad \text{DP} & \quad \text{DC} & \quad \text{DCP} \\
\end{align*}
\]

• The optionality arises from competing economy and interpretive constraints

– DC-marking is less economical in the structural sense (cf. Patel-Grosz & Grosz 2017)

– But it increases discourse coherence (cf. Asher & Lascarides 2003)

**Roadmap**

• **Section 1**: Some relevant background on Eastern Cham

• **Part 1**: Optional wh-movement is DC-movement

  – **Section 2**: Wh-phrases are interpreted by covert feature movement

  – **Section 3**: Moved topics and wh-phrases must be discourse connected

  – **Section 4**: Evidence from locality effects that DC-movement of topics and wh-phrases is featurally identical

• **Part 2**: Optionality and anaphora competition

  – **Section 5**: A consideration of the related notions of topicality and D-linking

  – **Section 6**: Proposal that the optionality of DC-movement is due to competition between forms of anaphora

  – **Section 7**: Evidence from partitives for the properties of wh-anaphora

• **Section 8** concludes
1 Preliminaries on Eastern Cham wh-phrases

• Eastern Cham (Austronesian: Vietnam) is an endangered language with a long history of language contact with languages of Mainland Southeast Asia
  – It is an isolating SVO language with few bound morphemes
  – It is the oldest attested Austronesian language, with a script tradition from at least the 9th century CE. In the examples here, the first line represents a romanization of Cham script known as Rumi.

• Eastern Cham wh-phrases are typically in situ

• They are truly in situ, not moving to a low focus position (b) (cf. Uribe-Etxebarria 2002 on Spanish, Manetta 2006 on Hindi-Urdu)

(2) CONTEXT: Out of the blue.

a. Hâ daok mbeng hagait?
   hɨ ․ t̥ɔʔ bəŋ kɛrt
   2SG PROG eat what
   ‘What are you eating?’

b. Kau blei hagait ka anāk sit nan hu?
   kəw [v, p̥, lɛ̆j kɛrt ka nɨʔ thit năn] hu tɨ
   1SG give what to child little that ROOT
   ‘What can I give to that little child?’

• There is a clause-final polar question particle lɛj (3a)

• This is predicted if Eastern Cham is a wh-in situ language (Cheng 1991)

(3) Hâ daok mbeng wek halei?
   hɨ ․ t̥ɔʔ vɨʔ lɛ̆j
   2SG PROG eat ITER Y/N.Q
   ‘Are you eating more/again?’

• In certain contexts, as we’ll see, wh-phrases can be Ā-moved to the left periphery

• This movement is sensitive to islands such as complex NP’s

(4) a. Hagait baow hâ daok mbeng?
   kɛrt (po) hɨ ․ t̥ɔʔ bəŋ
   what COMP 2SG PROG eat
   ‘What are you eating?’

b. *Urang halei hâ blei dō mbeng baow ngap?
   *jəŋ hlej, hɨ p̥l̥ɛ̆j də bəŋ po tɨ, nə?
   person which 2SG buy stuff(VN) eat COMP make
   INTENDED: ‘Which person do you buy the food they make?’

IPA is in line with the Chamic linguistic tradition (e.g. Moussay 1971). Open circles represent falling tone/breathy register on the following vowel. All Eastern Cham data is from the author’s fieldwork with 35 native speakers from the Cham villages of Ninh Thuận province, Vietnam. Data here is from colloquial speech, where there is much inter- and intra-speaker variation (Baclawski Jr. 2018b).
• As a minor note, this movement operation results in preposition/p-drop, which is attested in related languages like Indonesian (e.g. Sato 2011)

• Both p-drop and optional po are found in Ā-movement operations more generally, such as topicalization

(5)  
\[
\text{a. } \text{Hâ brei ahar ni ka thei?} \\
\text{hi plej han ni *(ka) thej} \\
\text{2SG give cake this to who} \\
\text{‘Who [will] you give this cake to?’} \\
\]

\[
\text{b. Thei hâ brei ahar ni?} \\
\text{(*ka) thej hi plej han ni (*ka) to who 2SG give cake this to} \\
\text{‘Who [will] you give this cake to?’} \\
\]

• Cheng (1991), Potsdam (2006), and others attribute apparent optional wh-movement to clefts or pseudoclefts (cf. also Jensen 2014 on focus-movement in the Chamic language Jarai)

• There is a variety of evidence that suggests the phenomenon in Eastern Cham is closer to topicalization than points to topicalization, not clefts

• First, unlike clefts but like topicalization, multiple wh-phrases can be moved

(6)  
\[
\text{a. Hagait, thei, hâ da-a mai mbeng?} \\
\text{kɛɪt thej hi ?a maj bâŋ} \\
\text{what who 2SG invite come eat} \\
\text{‘Who did you invite to come eat what?’} \\
\]

\[
\text{b. Ahar ni, anâk kumei sit nan, kau da-a mai mbeng.} \\
\text{han ni nî mej thît nân kâw ?a maj bâŋ} \\
\text{cake this child woman small that 1SG invite come eat} \\
\text{‘This cake, I invited that little girl to come eat.’} \\
\]

\[
\text{c. *Hu hagait hu thei hâ da-a mai mbeng?} \\
\text{*hu kɛɪt hu thêj hi ?a maj bâŋ} \\
\text{EXIST what EXIST who 2SG invite come eat} \\
\text{INTENDED: ‘Who is that what is it that you invited to come eat?’} \\
\]

• Second, there is a (matrix) subject-object asymmetry for topics and wh-phrases, but not clefts

(7)  
\[
\text{a. Thei mbeng abaoh pa-aok nan?} \\
\text{thêj *(po) bâŋ pɔh ?3 nân} \\
\text{who COMP eat CLF mango that} \\
\text{‘Who ate that mango?’} \\
\]

\[
\text{b. Mânuis ni mbeng abaoh pa-aok nan.} \\
\text{nɔuîh ni *(po) bâŋ pɔh ?3 nân} \\
\text{person this COMP eat CLF mango that} \\
\text{‘This person ate that mango.’} \\
\]
c. *Hu thei mbeng abaoh pa-aok nan?
   hu thɛ̆j (po) bāŋ pɔhʔ nān
   EXIST who COMP eat CLF mango that
   ‘Who is it that ate that mango?’

• Third, Section 3 proposes that moved topics and wh-phrases must be discourse connected, a discourse pragmatic property

• Finally, locality effects show that movement of topics and wh-phrases is the same process from a featural standpoint (Section 4)

• Before proceeding, the next section examines in situ wh-phrases in more detail

2 Covert Q-movement

• This section shows that wh-phrases are interpreted by covert feature movement

• In some wh-in situ languages, wh-phrases undergo covert/LF-movement; in others, they can be interpreted in situ (e.g. Cheng 1991)

• Cable (2010) and subsequent work makes a finer grained distinction: languages can move a Q-feature (‘Q-adjunction’), or pied-pipe a larger phrase (‘Q-projection’) (cf. Hagstrom 1998 on Japanese; Tsai 2009 on the lack of Q-movement in Vietnamese)

Figure 2

(a) Q-adjunction

\[ \begin{array}{c}
\text{XP} \\
\text{Q} \\
\text{XP} \\
\ldots \text{wh} \ldots
\end{array} \]

(b) Q-projection (after Cable 2010)

\[ \begin{array}{c}
\text{QP} \\
\text{Q} \\
\text{XP} \\
\ldots \text{wh} \ldots
\end{array} \]

• In Eastern Cham, there must be some movement, as in situ wh-phrases are sensitive to island constraints

  – In a complex NP, for instance, the existence of an in situ wh-phrase leads to ungrammaticality (8a), even though no overt movement has taken place (As expected, Ā-movement like topicalization and movement of the wh-phrase is ungrammatical)

  – The sentence is grammatical without a wh-phrase

(8) a. *Hā blei do mbeng baow thei ngap?
   *hi plēj dō bāŋ po thɛ̆j ɲā?
   2SG buy stuff(VN) eat COMP who make
   INTENDED: ‘You buy the food that who makes?’
b. *Kau blei ḏò mbeng baow amaik kau ngap.
   kāw pīj ḏò bāŋ po me? kāw ḏā?
   1SG buy stuff(VN) eat COMP mother 1SG make
   ‘I buy the food that my mother makes.’

• Despite the island data, intervention effects demonstrate that there cannot be covert phrasal movement

• **Kotek (2014, 2017)** analyzes intervention effects as alternative sets that are c-commanded by an operator and cannot escape it by overt or covert movement

• **Wh**-objects cannot be under the scope of focus-associating operators like ‘only’ and ‘also’ ([9a–b])

(9) a. *Sa drei sa-ai Thuận takrâ aia bai halei mīn?*
   *ṭha čēj ?aj thūn kī ḥī pāj hlej mīn
   only older.sibling Thuân like soup which EMPH
   INTENDED: ‘Which soup does only Thuận like to eat?’

b. *Kenny lijang nao mbeng pak nhà hāŋ halei hu?*
   *kɛnni ṭaŋ nāw bāŋ ṭi hu
   Kenny also go eat restaurant(VN) which
   INTENDED: ‘Which restaurant can Kenny also go eat at?’

• Intervention effects can only be avoided if the **wh**-phrase overtly moves out of the scope of the intervener

(10) a. *Aia bai halei sa drei sa-ai Thuận takrâ mīn?*
   ḥī pāj hlej, thā čēj ?aj thūn kī ṭi mīn
   soup which only older.sibling Thuân like EMPH
   ‘Which soup does only Thuân like to eat?’

b. *Nhà hāŋ halei Kenny lijang nao mbeng hu?*
   ṭaŋ nāw bāŋ ṭi hu
   restaurant(VN) which Kenny also go eat ROOT
   ‘Which restaurant can Kenny also go eat at?’

• Further evidence against covert movement of **wh**-phrases comes from non-interrogative readings of indeterminate **wh**-phrases ([Kuroda 1965; Kratzer & Shimoyama 2002])

• Interrogative readings cannot obtain under the scope of certain operators like negation

(11) a. *Hā di hu mbeng hagait o.*
   2SG EXIST.NEG eat what NEG
   ‘You didn’t eat anything.’ /* ‘What didn’t you eat?’

b. *Thei mānyum cà phē dahlak, dahlak ginaong mānuis nan.*
   ṭhēj nūm kā fe hlä? hlä? nāŋ nːujh nān
   who drink coffee 1SG.POL 1SG.POL be.angry person that
   ‘If someone drinks my coffee, I will be angry at them.'
• We follow Cable (2010) on Sinhala in positing covert movement of a Q-particle, leaving the wh-phrase itself in situ (Figure 3a).

• The Q-particle itself is null, so whether it left- or right-joins to DP and CP is purely stipulative. The related language Moken does have some kind of Q-particle that is pronounced as an enclitic on wh-words, sentence-finally, and occasionally elsewhere (Baclawski Jr. & Jenks 2016).

• In the presence of an intervening operator, the wh-phrase must move in order to enter this kind of Agree relation with C.

Figure 3: Covert Q-movement (after Cable 2010:86)

3 Discourse Connectedness

• Apparent wh-movement and topicalization are best explained in terms of discourse connectedness (DC) (Baclawski Jr. 2018c; cf. López’s (2009) [+ anaphor])

• This section shows that moved topics are really DC-marked phrases, while moved wh-phrases are really DC-marked wh-phrases

• First, consider the possible questions that can follow sentence $\phi$

• In the Question Under Discussion literature, a question $\phi$ can be elaborated upon via sub-questions (Roberts 1998)
  – Sub-questions address some subpart of the broader question
  – Sub-questions can contrast with other sub-questions

• Contrastive topicalization requires an anaphoric link inside a sub-question that contrasts with other sub-questions (Büring 2003; Constant 2014)
Discourse subordination does not require an open QUD or contrasting sub-questions

- Grosz & Sidner (1986): One sentence is in the same focus space as another, leaves the prior sentence ‘open’ (using the term ‘dominance’; cf. also Webber 1988)
- Segmented Discourse Representation Theory (Asher & Lascarides 2003; Asher & Vieu 2005): One sentence denotes, roughly, a subevent of another
  - Rhetorical relations are classified as subordinating or non-subordinating
  - Elaboration & Explanation = subordinating
  - Narration, Contrast, Result, Background = non-subordinating
- López (2009) analyzes Catalan clitic right-dislocation as anaphora with antecedents in a superordinate sentence
- Baclawski Jr. (2015) analyzes topicalization in Eastern Cham similarly, using the term discourse connected (DC)

- SDRT also classifies question and answer forms in terms of discourse subordination
  - Elaborating answers = subordinating (e.g. …I already ate dinner.)
  - Direct answers = non-subordinating (e.g. Do you want to eat dinner? Yes.)
• Questions can have the same kinds of discourse relations as statement
  – Elaboration vs. Elaboration_q, Narration vs. Narration_q

Figure 6: Discourse subordination and questions

(a) ![Diagram of discourse subordination]
(b) Look at my father cooking a pot of frog and a pot of ing-aong.

• Eastern Cham topics and wh-phrases can be moved to the left periphery only in subordinating contexts

• Topicalization is optional under Elaboration, but not Continuation (12b–b')

(12)  
  a. Maong Thuận ngap ing-aong.
      mɔŋ thṵ̀ən ŋăʔ ʔiŋ ʔɔŋ
      look Thuận make frog
      ‘Look at Thuận make[cook] frog.’
  b. Ing-aong nyu ngap bingi ralo.
      {ʔiŋ ʔɔŋ} ɲu ŋăʔ 3.ANIM make be.delicious very
      ‘He makes[cooks] frog very well [LIT: deliciously].’ (Subordinating)

b'. Sơn ngap ing-aong hu o.
   {#} sɤn thằw ŋăʔ ʔiŋ ʔɔ̆ʔ i 1sg want.eat mango
   Sơn know.neg make frog
   ‘Sơn does not know how to make[cook] frog.’ (Non-subordinating)

• Topicalization is possible in elaborating answers, but not direct answers (13b–b')

(13)  
  a. Hâ âng mbeng pa-aok halei?
      hi ŋăŋ ʔɔ̆ʔ lɛ̆j 2SG want eat mango y/n.q
      A: ‘Do you want to eat mango?’
  b. Pa-aok, kau mbeng paje.
      {ʔɔ̆ʔ} kaw ŋăŋ 1sg eat already
      B: ‘I already ate mango.’ (Subordinating)

b'. #Pa-aok, kau âng mbeng.
   {#} kaw ŋăŋ 1sg want eat
   B: ‘I want to eat mango.’ (Non-subordinating)

• Wh-phrases can be moved in an Elaboration_q, but not a Narration_q (14b–b')
(14)  a. Maong amâ kau tuk ing-aong sa gaok saong kiép sa gaok.
    mɔŋ mɨ kăw tŭʔ [ʔiŋʔɔŋ k̥ɔʔ] i
    look father 1SG boil ing-aong 1 pot with frog 1 pot
    ‘Look at my father boil one pot of ing-aong and one pot of frog.’

    b. Urak ni, gaok hagait ong nan daok ngap nan?
       ja ni {k̥ɔʔ kɛɪt,} oŋ năn t̥ɔʔ năʔ {} năn
       now pot what old.man that PROG make that
       ‘Now, what pot is that old man making [working on]?’ Elaboration,(a,b), ↓

    b’. Urak ni, ong nan daok mbeng gaok hagait nan?
       ja ni {#} oŋ năn t̥ɔʔ băŋ {k̥ɔʔ kɛɪt,} năn
       now old.man that PROG eat pot what that
       ‘Now, what pot is that old man eating?’ Narration,(a,b’)

• Finally, DC-marked phrases do not display contrastivity

• In contrastive topic contexts (15), movement is disfavored, and there is marking by the existential hu (Baclawski Jr. 2018a)

(15)  a. Ayut da-a urang halei mai pak ni?
    ŋut qa jaŋ hlɛj maj păʔ ni
    friend invite person which come in this
    A: ‘Which person did you[friend] invite to come here?’
    [Directed at multiple people]

    b. Drei hu da-a Thuận mai pak ni…
       c̥ɛ̆j qa thũn maj păʔ ni...
       self EXIST invite Thuận come in this
       B: ‘I[myself] invited ThuậnCT to come here…”

    b’. #Thuận, drei hu da-a mai pak ni…

• We conclude that moved topics are DC-marked phrases, and moved wh-phrases are DC-marked wh-phrases

• In SDRT, the status of rhetorical relations as subordinating or non-subordinating is determined by pronoun coherence

• Thus, the generalization is that movement of DC-phrases in Eastern Cham can be predicted by English pronoun coherence

4 Locality effects

• It remains to be seen what actually drives the movement of DC-phrases

• In this section, we show that DC-movement is independent from the wh-feature and is only driven by DC

    – Therefore, the movement of wh-phrases represents DC-movement of a phrase that happens to also have a Q-particle
• One might expect that movement of wh-phrases involves an articulated probe, searching for a general Ā-feature (e.g. Aravind 2017)
  – Such a feature might be satisfied by DC or wh

Figure 7: Ā-feature hierarchy (after Aravind 2017: (44))

[Ā]

[Op] [Top] [DC?] [...] [wh] [Foc] [Rel]

• However, in situ topics and wh-phrases never intervene on DC-movement
• This is unexpected if wh would always satisfy such a probe

(16)  
  a. Aharı Thuán da-a anâk kumei sit nan mai mbeng.  
    han ni j thộn ?a niʔ mazı thit năn, maj băng tj  
    cake this Thuán invite child woman small that come eat  
    ‘This cake, Thuán invited that little girl to come eat.’  
    [XPj...XPj...tj]
  b. Hagait, Thuán da-a thei mai mbeng?  
    kɛt j thộn ?a thɛ̆j, maj băng tj  
    what Thuán invite who come eat  
    ‘Who did Thuán invite to come eat what?’  
    [XPj...XPj...tj]

• Another hypothesis is that movement of wh-phrases involves an articulated probe, such as wh and DC (e.g. Starke 2001)
• Locality effects with multiple DC-movement allow us to test this

(17)  
  a. Xo + A,... + Aj < + Aj = X (feature identity)  
  b. Xo + A+B,... + A < + A, + B > = ✓ (feature inclusion)  
  c. Xo + A+... + B< + A > = ✓ (feature disjunction)  
    (Friedman, Belletti & Rizzi 2009: 84)

• Based on Friedman, Belletti & Rizzi (2009), we might expect an articulated probe to give rise to feature inclusion effects
• Instead, we find feature identity effects

(18)  
  a. C0+Q,+DC ... + DC ...< + Q, + DC> = ✓ (predicted)  
  b. C0+DC ... + DC ...< + DC> = X (observed)

• The general phenomenon is exemplified by (19)
• When multiple topics are DC-moving, their dependencies must be nested; they cannot be crossed (cf. Pesetsky’s (1982) Path Containment Condition)
• Crossed paths result in consistent, strong ungrammaticality

December 11, 2018
(19)  

a. *Ahar ni anâk kumei sit nan Thuận da-a mai mbeng.
   \[ \text{han ni}_j \ 	ext{nǐ}_i \ 	ext{mːej thǐt nān}_j \ 	ext{thṳ̀ən}_j \ a \ 	ext{t}_i \ 	ext{maj băn}_j \ t_j \]
   ‘This cake, Thuận invited that little girl to come eat.’ [XP\_j…XP\_i…t\_i…t\_j]

b. *Anâk kumei sit nan ahar ni Thuận da-a mai mbeng.
   \[ \text{nɨ̆ʔ mːɛj thĭt năn}_i \ 	ext{han ni}_j \ 	ext{thṳ̀ən}_j \ a \ 	ext{t}_i \ 	ext{maj băn}_j \ t_j \]
   ‘This cake, Thuận invited that little girl to come eat.’

- Baclawski Jr. & Jenks (2016) analyze a similar phenomenon in Moken (Austronesian: Thailand) with the reprojecting of CP
- CP\_1 is projected first, and the most local DC-phrase is moved, nɨ̆ʔ mːɛj thĭt nān ‘that little girl’, which is then frozen in that specifier position
- Then, CP\_2 is projected, at which point the other DP can be moved

![Diagram](a) Derivation of CP\_1  
(b) Derivation of CP\_2

- With multiple wh-phrases, crossed paths also result in ungrammaticality

(20)  

a. Hagait, thei Thuận da-a mai mbeng?
   \[ \text{k̥ɛt}_i \ 	ext{thẽj}_j \ 	ext{thṳ̀ən}_j \ a \ 	ext{t}_i \ 	ext{maj băn}_j \ t_j \]
   ‘Who did Thuận invite to come eat what?’ [XP\_j…XP\_i…t\_i…t\_j]

b. *Thei, hagait Thuận da-a mai mbeng?
   \[ \text{thẽj}_j \ 	ext{k̥ɛt}_i \ 	ext{thṳ̀ən}_j \ a \ 	ext{t}_i \ 	ext{maj băn}_j \ t_j \]
   ‘Who did Thuận invite to come eat what?’ *[XP\_i…XP\_j…t\_i…t\_j]
• The crucial data point comes when there is a mix of topics and wh-phrases
• Crossed paths still result in ungrammaticality, demonstrating that DC-movement of topics and wh-phrases involves the same feature set, namely just DC

(21)  a. *Anâk kumei sit nan ahar halei Thuận da-a maj mbeng?

\[
\begin{align*}
\text{han} & \quad \text{nï?} & \quad \text{mːj} & \quad \text{thît} & \quad \text{hlɛj} & \quad \text{thũn} & \quad \text{ʔa} & \quad \text{t}_i & \quad \text{maj} & \quad \text{bãŋ} & \quad \text{t}_j \\
\text{cake} & & \text{this} & & \text{child} & & \text{woman} & & \text{small} & & \text{which} & & \text{Thuận} & & \text{invite} & & \text{come} & & \text{eat} \\
\end{align*}
\]

‘Which cake did Thuận invite that little girl to come eat?’

\[
\left[\text{XP}_j \ldots \text{XP}_i \ldots t_i \ldots t_j \right]
\]

b. *Anâk kumei sit halei Thuận da-a maj mbeng?  

\[
\begin{align*}
\text{ni?} & \quad \text{mːj} & \quad \text{thît} & \quad \text{năn}, & \quad \text{han} & \quad \text{hlɛj} & \quad \text{thũn} & \quad \text{ʔa} & \quad \text{t}_i & \quad \text{maj} & \quad \text{bãŋ} & \quad \text{t}_j \\
\text{child} & & \text{woman} & & \text{small} & & \text{that} & & \text{cake} & & \text{which} & & \text{Thuận} & & \text{invite} & & \text{come} & & \text{eat} \\
\end{align*}
\]

INTENDED: ‘Which little girl did Thuận invite to come eat this cake?’

\[
\left[\text{XP}_j \ldots \text{XP}_i \ldots t_i \ldots t_j \right]
\]

• We analyze this via two flavors of CP: CP$_Q$ and CP$_{DC}$, perhaps relatable to ForceP and TopicP

Figure 9: DC-movement

(a) Of a non-wh-phrase

(b) Of a wh-phrase

• To summarize, optional wh-movement is only apparent; it is really DC-movement
• DC-movement is not due to clefts or focus-movement
• DC-movement of topics and wh-phrases is featurally identical
• And yet, optionality remains! When DC-movement is possible, it is optional. The next sections reframe this optionality in terms of anaphora competition
5 Topicality & D-linking

• In this section, we explore to what extent topicality and D-linking can account for DC-movement
  - Both have been proposed to drive apparent optional wh-movement (Mathieu 2004 on topic French; Pan 2014 on D-linking in Mandarin)
  - Aboutness topic and D-linking are close, but cannot account for optionality in a broader theory of discourse

• First, old information topic is clearly inadequate, as (22b–b’) presumably have the same prior information states

(22) a. *Maong amâ kau tuk ing-aong sa gaok saong kiép sa gaok.*
    mɔŋ  look
    mɨ  father
    kăw  1sg
    tŭʔ  boil
    [ʔiŋʔɔŋ ing-aong thá k̥ɔʔ pot hɔ̆ŋ͡m with kĭwʔ frog thá k̥ɔʔ]
    ‘Look at my father boil one pot of ing-aong and one pot of frog.’

b. *Urak ni, gaok hagait ong nan daok ngap nan?*
   ja ni  {kɔʔ  kɛt,}  onŋ  nán  ḏǎŋ  {kɔʔ  kɛt,}  nán
   now  pot  what  old.man  that  PROG  make  that
   ‘Now, what pot is that old man making [working on]?’  (Subordinating)

b’. *Urak ni, ong nan daok mbeng gaok hagait nan?*
   ja ni  {#}  onŋ  nán  ḏǎŋ  {kɔʔ  kɛt,}  nán
   now  old.man  that  PROG  eat  pot  what  that
   ‘Now, what pot is that old man eating?’  (Non-subordinating)

• Aboutness topic fares better, as aboutness (i.e. ‘As for X’) is a paraphrase for Elaboration

• However, following argumentation by López (2009), aboutness does not explain the capacity for DC-marked phrases to be generic

• Additionally, it is unclear how the topic-comment association with TopicP’s (in the sense of Rizzi 1997) would account for the nested path effects with multiple topics/wh-phrases

(23) a. *Sôn âng ngap ing-aong nan.*
    sɤn  want
    ɨŋ  make
    ʔiŋʔɔŋ  frog (năn)
    ‘Sôn wants to make[cook] (that) frog.’

b. *Ing-aong, nyu ngap bingi ralo.*
    {ʔiŋ  ʔoŋ,}  nu  nā̃  {piŋ̥i  be.delicious very
    frog  3.ANIM  make  lo
    ‘He makes[cooks] frog very well.’  Elaboration(a,b), ↓

• D-linking is also frequently cited to explain topic effects in wh-phrases (Pesetsky 1987)

2López (2009) accounts for this with a wide scope generic operator.
• As predicted by D-linking, *wh*-phrases are not moved out of the blue (24a)
• Aggressively non-D-linked *wh*-phrases cannot be moved (b)
• Finally, moved bare *wh*-phrases are also given D-linked translations in English and Vietnamese

(24) CONTEXT: Out of the blue

a. *Hagait baow hâ daok mbeng?*

b. *Hâ daok ngap hanruai hagait?*  
   {‘*’ hi tɔʔ ŋaʔ {mbroj ke}  
   2SG PROG do crazy what
   ‘What the hell are you doing?’

c. *Hagait baow hâ daok mbeng?*  
   ᵃk(e) t(oi) hi tɔʔ ɓăng  
   what COMP 2SG PROG eat
   ‘Which one [lit.: what] are you eating?’

• However, these facts would also fall out if moved *wh*-phrases must be discourse anaphoric, and if D-linking readings are the closest translation equivalents of DC

• Most accounts of D-linking also posit that *which X* is obligatorily D-linked, but *what X* non-D-linked (though, cf. Fiengo 2007)

• This is not borne out in Eastern Cham: *which X* is not moved in non-subordinating contexts

   mɔŋ mɨ father kâw cɔh [ʔɔ̆ʔ mːɔŋ hːɔ̆ŋ]  
   look 1SG cut mango with papaya
   ‘Look at my father cut mango and papaya.’

b. *Pacaoh blaoh, drei mbeng abaoh halei?*  
   cɔh plɔh {#} c̥ɛ̆j ɓaŋ {pɔh hlej} hu  
   cut after self eat CLF.FRUIT which ROOT
   ‘After cutting, which fruit can we[ourselves] eat?’ (Non-subordinating)

• Conversely, *what X* can be DC-moving in subordinating contexts

(26) CONTEXT: ‘Everyone must choose a kind of fruit, to eat from the kinds here.’

  *Abaoh kayau hagait hâ âng mbeng?*  
  {pɔh zăw ᵃk(e)} hi in ɓaŋ {}  
  fruit what 2SG want eat
  ‘What fruit do you want to eat?’ (Subordinating)

• More importantly, neither aboutness topic nor D-linking provide a way to account for optionality in a broader theory of discourse

• Anaphora competition provides just such an account
6 Anaphora competition

• This section presents our analysis of the apparent optionality of DC-movement as anaphora competition
  – DC-movement itself is not optional
  – It is in competition with in situ discourse anaphora

• Patel-Grosz & Grosz (2017) propose the following pronoun structure
  – Strong pronouns project an additional DP shell
  – The additional D-head introduces an individual referential index that binds the lower DP (cf. Schwarz 2009 on strong and weak articles)

Figure 10

(a) Personal pronoun (Patel-Grosz & Grosz 2017; (7–8))

(b) Demonstrative pronoun (Patel-Grosz & Grosz 2017; (7–8))

• We propose a similar analysis of DC-marked phrases:
  – DCP is a phrasal projection above DP’s that contain referential indices
  – DC projects, because it always triggers movement (Cable 2010)

Figure 11: DC phrase structure
• From here, we propose two competing constraints: Minimize DP! and Maximize Discourse Coherence! that drive optionality

• First, Patel-Grosz & Grosz (2017) propose Minimize DP!: greater syntactic structure comes at a cost when less could have been used

• This clearly favors in situ anaphors, as they lack a DCP projection
  – Minimize DP!: In situ anaphor ≫ DC-marked anaphor

• Second, we propose Maximize Discourse Coherence! based on the maxim of the same name from Asher & Lascarides (2003):
  (This is different from discourse coherence in the sense of Hobbs 1985)
  – All things equal, a discourse is more coherent if it has more: anaphoric links, discourse relations (among other things)

• Maximize Discourse Coherence! favors DC-marking, because it encodes both an anaphoric link and a discourse relation (i.e. subordination)
  – Maximize Discourse Coherence!: DC-marked anaphor ≫ In situ anaphor

• Essentially, these are economy and interpretive constraints: DC-marking is less economical, but eases interpretation

• If both constraints are equally weighted, we would expect general optionality

• To summarize, if DC is framed as a property of discourse anaphora, optionality arises when DC-marking competes with in situ forms of discourse anaphora

7 Partitives and wh-anaphora

• Finally, this section sheds some light on how wh-phrases can be discourse anaphora

• For some, the focal or interrogative nature of wh-phrases precludes them from being topical or referential (cf. Cable 2008 and references therein)

• Partitive structures demonstrate that wh-phrases can be marked as DC, but they cannot function as referential indices themselves

• The construction in question is exemplified below
  – Partitivity arises from movement of the noun and demonstrative above the numeral-classifier sequence

(27) a. Kau blei tajuh abaoh pa-aok ni.
   kaw pļej çuh pɔh ?ɔʔ? ni
   1SG buy 7 CLF mango this
   ‘I bought these seven mangoes.’

b. Kau blei pa-aok ni, tajuh abaoh.
   kaw pļej ?ɔʔ? ni, çuh pɔh t_i
   1SG buy mango this 7 CLF
   ‘I bought seven of these mangoes.’
• We analyze these partitives with movement of an inner DP to the same DP-shell position occupied by referential indices

• In other words, the partitive DP acts as the referential index (cf. Jenks 2018 for other instances of overt referential indices in Mandarin)

**Figure 12**

(a) Strong discourse anaphor

(b) Partitive

\[
\begin{array}{c}
\text{DP}_1 \\
\text{1 } \text{DP}_2 \\
\triangle \\
\ldots \\
\end{array} \\
\begin{array}{c}
\text{DP}_1 \\
\text{DP}_3 \\
\text{mango this} \\
\text{NUM CLF } < \text{DP}_3 > \\
\end{array}
\]

• There is a clear interaction between *wh*-phrases and partitives:
  – Part of the numeral-classifier sequence can be *wh*
  – But a *wh*-phrase cannot act as the referential index (note the grammaticality of the English gloss)

• Therefore, *wh*-phrases can be discourse anaphora if they are bound by a referential index, but they cannot supply that index themselves

(28) a. Hâ blei abaoh pa-aok hadom ki?

\[\text{hi } \text{plej } [\text{poh } \text{?o?i } \text{tom } \text{ki? e} ]\]

\[2\text{SG } \text{buy } \text{mango } \text{how.many } \text{kg e}\]

‘How many kilograms of mango did you buy?’

b. *Hâ blei abaoh kayau halei sa ki?

\[\text{hi } \text{plej } [\text{poh zaw hlej } \text{tha } \text{ki?} ]\]

\[2\text{SG } \text{buy } \text{fruit } \text{which } \text{how.many } \text{kg}\]

INTENDED: ‘Which fruit did you buy one kilogram of?’

• This not only accords with the observed facts (*wh*-anaphora can be DC-moved), but also confirms suspicions that *wh*-phrases cannot be referential

• It is true – they cannot function as referential indices

### 8 Conclusion

• Eastern Cham optional *wh*-movement is only apparent. It is a *wh*-in situ language with covert Q-movement (cf. Cable’s (2010) Q-adjunction)

• *Wh*-phrases and topics can be DC-moved, if they are discourse anaphora with the property of discourse connectedness
• DC-movement is not optional, but it competes with in situ discourse anaphora
• Thus, the determinacy of syntactic movement is retained

Some takeaways

• DC presents a new set of diagnostics for (non-contrastive) topics and D-linked wh-phrases
• It also gives a way for wh-phrases to be topical/referential without violating the topic/focus divide
• DC-movement could provide an avenue to explain the noted cross-linguistic similarities between topicalization and the movement of D-linked wh-phrases (e.g. Polinsky 2001; Grewendorf 2012)
• Finally, a constraint-based analysis could be necessary to account for cross-linguistic differences in the relative frequency of these constructions (e.g. the high frequency of Catalan clitic right-dislocation)

References


December 11, 2018 20


