Eastern Cham optional *wh*-movement is DG-movement

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• ‘Optional *wh*-movement’ refers to situations where *wh*-phrases can appear either in situ or in a position derived by *wh*-movement (cf. Denham 2000, cf. Cheng & Rooryck 2000 and others on optional in-situ ness)

• True optional *wh*-movement poses a problem for standard theories of *wh*-movement and Agree in general, as it is asserted that languages have one mechanism by which Agree operations interface with the *[wh]*-feature

• Cheng’s (1991) Clausal Typing Hypothesis predicts that all instances of optional *wh*-movement can be shown to be apparent (cf. Roussou & Vlachos 2011)

• Eastern Cham exhibits apparent optional *wh*-movement (AOWM; In)

  – On the surface, it looks similar to cleft-like constructions (b), in accordance with Cheng (1991), Potsdam (2006), and others who attribute AOWM to clefts

  – It also shares characteristics with topicalization (c), which has also been claimed to be a motivation for AOWM (Mathieu 2004; Pan 2014)

(1)  
  a. *Hâ daok mbeng hagait? / Hagait baow hâ daok mbeng?*
      
      hi ᵃʔ bâŋ ᵗœt / ᵗœt (po) hi ᵃʔ bâŋ
      2SG PROG eat what what COMP 2SG PROG eat
      ‘What are you eating?’

  b. *Hu hagait baow hâ daok mbeng?*
      
      hu ᵗœt (po) hi ᵃʔ bâŋ
      EXIST what COMP 2SG PROG eat
      ‘What is it that you are eating?’

  c. *Ing-aong ni baow kau daok mbeng.*
      
      ?iŋ ?œŋ ni (po) kaw ᵃʔ bâŋ
      frog[sp.] this COMP 1SG PROG eat
      ‘This frog, I am eating.’

• This talk argues that the latter parallel is essentially correct: AOWM in Eastern Cham is structurally equivalent to topicalization (1c)

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• However, traditional views on topicality and wh-topicality (i.e. D-linking) are shown to be insufficient

• Instead, topicalization and AOWM display the discourse subordination (DS) effect, which is defined in terms of rhetorical relations between sentences (Baclawski Jr. 2015; cf. López’s (2009) [+ anaphor])
  – In (2), the existence of a subordinating discourse relation between (b) and (a) licenses AOWM
  – But AOWM is infelicitous in (b’) due to the absence of a subordinating discourse relation between (b’) and (a)

(2)  
  a. *Birau mâh, Sơn saong Thuận ngap ing-aong.*
      mjaw mih sən  hɔŋm thɔn  əna?  qη  ʔən, first  Sơn with  Thuận make  frog[sp.]
      ‘First, Sơn and Thuận cooked the ing-aong [frog sp.].’
  
  b. *Ing-aong thei baow sa-ai cheh hɔn?*
    {ʔiŋ ʔ̥ɔŋ}  thɛ̆j
    ing-aong  who  COMP  older.sibling  like  more
    ‘Whose ing-aong do you[older sibling] like more?’  
    *Subordination*$_{(a,b’)}$
  
  b’. *Blaoh năn, sa-ai mbeng ing-aong thei?*
    p̥lɔh  năn,  {#}  saʔaj  ɓăŋ  {ʔiŋ ʔ̥ɔŋ  thɛ̆j,}
    after  that  older.sibling  eat  ing-aong  who
    ‘After that, whose ing-aong did you[older sibling] eat?’  
    *Coordination*$_{(a,b)}$

• This talk follows Baclawski Jr. (2018) in analyzing the DS-effect with a discourse-connected (DC) feature, accounting for both topicalization and AOWM

• Finally, the interaction between AOWM and subextraction reveals that it is not the wh-phrase that bears the relevant feature, rather a DC-particle

• On analogy with Cable’s (2010) Q-particle, the DC-particle adjoins to phrases, indicating their DC antecedent (Figure 1)

![Figure 1](https://example.com/figure1.png)

*Figure 1*
Roadmap

- Section 1: Some background on Eastern Cham, its wh-phrases, and wh-in situ
- Section 2: Evidence is presented that AOWM does not involve clefting or pseudo-clefting
- Section 3: D-linking is shown to be nearly adequate for describing AOWM
- Section 4: Core evidence that AOWM displays the DS-effect
- Section 5: Topicalization also displays the DS-effect. Locality effects indicate that topics can intervene on AOWM and vice versa, implying featural identity
- Section 6: Subextraction from ‘inventory form’ constructions indicates that wh-phrases cannot bear a [DC] feature themselves
- Section 7 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 (3a)

- They are truly in situ, not moving to a low focus position, as evidenced by the fact that in situ wh-phrases are not associated with phrase edges. In (b), the wh-phrase is VP-internal, between the modal hu and the indirect object (cf. Uribe-Etxebarria 2002 on Spanish)

(3)

a. Hâ daok mbeng hagait?

hi ʔo? bāŋ kɛt
2SG PROG eat what
‘What are you eating?’

b. Kau blei hagait ka anāk sit nan hu?

kaw [plej kɛt ka niʔ thit nān]\ P hu
1SG give what to child little that ROOT
‘What can I give to that little child?’

IPA orthography is in line with the Chamic linguistic tradition (e.g. Moussay 1971). Open circles represent falling, breathy tone on the following vowel. All Eastern Cham data is from the author’s fieldwork with over 30 native speakers from the Cham villages of Ninh Thuận province, Vietnam. Data reported here is from colloquial speech, which differs markedly from the formal speech reported elsewhere in the Chamic literature, and there is much inter- and intra-speaker variation.
• There is a clause-final polar question particle \( lɛj \) (4a)

• This is predicted if Eastern Cham is a \( wh \)-in situ language, but is not expected in \( wh \)-movement languages (Cheng 1991)

(4) \( Hâ daok mbeng wek halei? \)

\[
\begin{array}{llll}
2SG & PROG & eat & y/n.q \\
\end{array}
\]

‘Are you eating more/again?’

• It is important to note that \( wh \)-phrase forms alternate with non-interrogative \( wh \)-indefinites when they are bound by certain operators, as they do in Mandarin (e.g. Cheng 1991), Vietnamese (e.g. Tsai 2009), and other languages

  – Licensed contexts include under the scope of negation (5a) and polar questions (b)

  – Indefinites are also licensed by \( \varsigma iŋ \) ‘also’ with a universal reading (c)

• In order to ensure that a \( wh \)-phrase is truly an interrogative \( wh \)-phrase, these contexts must be avoided, as is done in the remainder of this talk

(5) a. \( Kau di hu mbeng hagait o. \)

\[
\begin{array}{llll}
1SG & exist & eat & what \\
\end{array}
\]

‘I didn’t eat anything.’ (Negation)

b. \( Ayut âng mânyum hagait halei? \)

\[
\begin{array}{llll}
friend & want & drink & what \ y/n.q \\
\end{array}
\]

‘Do you want to drink something?’ (Polar question)

c. \( Kenny mbeng aia bai halei lijang hu. \)

\[
\begin{array}{llll}
Kenny & eat & water & soup \ which \ also \\
\end{array}
\]

‘Kenny can eat many/all soups.’ (‘Also’)

1.1 Covert Q-movement

• When \( wh \)-phrases are in situ, Eastern Cham exhibits properties of covert Q-movement in the sense of Cable (2010)

• 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)
• In Eastern Cham, there must be some movement, as in situ \textit{wh}-phrases are sensitive to island constraints.
  – In a complex NP, for instance, the existence of an in situ \textit{wh}-phrase leads to ungrammaticality (6a), even though no overt movement has taken place (Note that the sentence is grammatical without a \textit{wh}-phrase)
  – Overt movement is likewise ungrammatical, surprisingly even in the presence of a resumptive pronoun, which would usually be expected to salvage island violations (e.g. McCloskey 2006:98 on resumptive pronouns as repairs)

(6) a. \textit{*Hå blei dô mbeng baow thei ngap?}
   \hspace{1cm} hi plej dô bāŋ po thej nā?
   \hspace{1cm} 2SG buy stuff(VN) eat COMP who make
   \hspace{1cm} INTENDED: ‘You buy the food that who makes?’

b. \textit{*Urang halei hå blei dô mbeng baow (nyu) ngap?}
   \hspace{1cm} jaŋ hlej hi plej dô bāŋ po (nu) nā?
   \hspace{1cm} CLF which 2SG buy stuff(VN) eat COMP 3.ANIM make
   \hspace{1cm} INTENDED: ‘Which person do you buy the food they make?’

• 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
  – In English, (7a) is grammatical, as the in situ \textit{wh}-object \textit{which book} can move at LF to be interpreted
  – In (b), however, the \textit{wh}-subject has already agreed with C and failed to move. It cannot undergo LF-movement to escape the intervention effect (Note that the \textit{*PL} notation indicates a loss of a pair-list reading)

(7) a. (\textit{Which book}) Which student didn’t read which book?

b. \textit{*PL} Which book didn’t which student read? (Pesetsky 2000:Ch.5)

• Eastern Cham intervention effects imply that \textit{wh}-phrases have no option to LF-move whatsoever, unlike those in English

• \textit{Wh}-objects cannot be under the scope of operators like negation or ‘only’ (8a–b)

(8) a. \textit{*Amaik hâ sanâng hâ di hu cheh mbeng hagait o.}
   meʔ? hi hniŋ hi hù sah bāŋ kēlt o
   mother 2SG think 2SG EXIST like eat what NEG
   INTENDED: ‘What does your mother think you do not like to eat?,’

2There is some inter-speaker variation with island constraints, as has been widely reported in other languages (cf. Szabolcsi 2006). One consultant consistently accepted in situ and moved \textit{wh}-phrases in weak and strong islands; one in weak, but not strong islands. However, six consultants rejected them in all island contexts. Impressionistically, the other two consultants are often permissive with judgments in general.
b. *Sa drei sa-ai Thuận takrâ aia bai halei min?

tha ṭʃɛjʔaj thṳ̄ən ki ṭjaej hlej mĭn
only older.sibling Thuận like soup which EMPH

INTENDED: ‘Which soup does only Thuận like to eat?’

- Intervention effects can only be avoided if the wh-phrase overtly moves out of the scope of the intervener
- However, it is not immediately clear what drives this movement, as any movement operation is taken to alleviate intervention effects (e.g. scrambling in German and Japanese)

(9) a. Abaoh kayau halei amaik hâ sanâng hâ di hu cheh mbeng o.

p̥ɔh jjaw hlej me? hi hnːiŋ hi hù sâh bāŋ o
fruit which mother 2SG think 2SG EXIST like eat NEG

‘Which fruit does your mother think you do not like to eat?’

b. Aia bai halei sa drei sa-ai Thuận takrâ min?

ʔjæ p̥aj hlej, tha ṭʃɛjʔaj thṳ̄ən ki t, mĭn
soup which only older.sibling Thuận like EMPH

‘Which soup does only Thuận like to eat?’

- I follow Cable (2010) on Sinhala in positing covert movement of a Q-particle, leaving the wh-phrase itself in situ (Figure 2a)
- In the presence of an intervening operator, the wh-phrase must move in order to enter this kind of Agree relation with C

Figure 2: Q-movement in wh-in situ (after Cable 2010:86)

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3The Q-particle itself is null, so whether it left- or right-adjoins 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.
1.2 Apparent optional wh-movement

- As just seen, wh-phrases can optionally be moved to the left-periphery (10a)
- In this position, nominal wh-phrases can be marked by the complementizer p̥o
- Wh-adverbials can also be moved to the left-periphery; some like ʔjaw ʔkɛɪt obligatorily do so, but they are not marked by p̥o (b)

(10) a. Hagait baow hâ daok mbeng?
   ʔkɛɪt (p̥o) hi ʔp? bāŋ
   what COMP 2SG PROG eat
   ‘Which one [lit.: what] are you eating?’

   b. Njep hagait, ayut mânyum aia caiy?
   ʔjaw ʔkɛɪt (*p̥o) zut ʔnum ʔjæ ʔcɛ
   why COMP friend drink water tea
   ‘Why do you[friend] drink tea?’

- Wh-prepositional phrase arguments can also be moved, but the preposition cannot be stranded or pied-piped, resulting in P-drop
  (cf. Wang 2007 on Mandarin Chinese; Sato 2010 on Indonesian)

(11) a. Hâ brei ahar ni ka thei?
   hi p̥lɛj han ni *(ka) thej
   2SG give cake this to who
   ‘Who [will] you give this cake to?.’

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

- Cheng’s (1991) Clausal Typing Hypothesis predicts that this is not true wh-movement
- The following sections turn to clefts and D-linking as possible alternatives

2 CLEFTS AND PSEUDOCLEFTS

- Cheng (1991), Potsdam (2006) and others argue that AOWM in languages like Bahasa Indonesian (Austronesian: Indonesia) and Malagasy (Austronesian: Madagascar) are in fact instances of cleft-like constructions
- This is essentially based on a parallel between AOWM (12a), relative clauses (b), and focalization (c) (Here, the use of yang)
- The prediction is that this parallelism does not extend to topicalization (d)
(12) a. siapa yang Sally cintai
   who that Sally loves
   ‘Who does Sally love?’

b. gamelan yang mereka pakai dari Yogya
   gamelan that they used from Yogya
   ‘The gamelan that they used is from Yogya.’

c. kamar itu yang harus kami hias
   room this that must we decorate
   ‘It is that room that must be decorated.’ (Cheng 1991:54)

d. buku itu John beli
   book this John bought

• As mentioned in the introduction, it is true that Eastern Cham AOWM shares
  structural characteristics with a cleft containing the existential copula hu (13b)
  and relative clauses (c)

• However, it is also structurally parallel to topicalization, unlike Indonesian (d)

• This also means that AOWM is consistent with a topic interpretation, not neces-
  sarily a focus one, as will be explored in Section 4

(13) a. Hagait baow hâ daok mbeng?
   kɛɪt (po) hi ɗ? bāŋ
   what COMP 2SG PROG eat
   ‘What are you eating?’

b. Hu hagait baow hâ daok mbeng?
   hu kɛɪt (po) hi ɗ? bāŋ
   EXIST what COMP 2SG PROG eat
   ‘What is it that are you eating?’

c. Ong likei baow Kenny thau daok pak lingiw năn.
   oːŋ kej (po) ken ni thaw ɗ? pâ? ɳ:iw năn
   grandfather male COMP Kenny know COP in outside that
   ‘The old man Kenny knows is over there.’

d. Ing-aong ni baow kau daok mbeng.
   ʔiŋ ʔ̥ɔŋ ni (po) kaw ɗ? bāŋ
   frog[sp.] this COMP 1SG PROG eat
   ‘This frog, I am eating.’

• Potsdam (2006) supports a pseudocleft analysis of Malagasy AOWM with evi-
  dence that the pseudoclefts can contain predicative material

• This is not the case with Eastern Cham. Some predicative material is possible
  with the overt cleft with the existential hu (14a), but none without it (b)
However, it is difficult to test, as many predicate-final markers also condition wh-indefinites, like the negation marker o and the root model hu

(14) a. *Hagait o baow kau daok mbeng.

\[
\begin{align*}
\text{hu} & \quad \text{kɛɪt} \quad \{\text{o}\} \quad \text{(po)} \quad \text{kaw} \quad \text{tɔʔ} \quad \text{ɓăŋ} \quad \{\}\text{exist \ NEG \ COMP \ 2SG \ PROG \ eat} \\
\text{‘There is nothing that I am eating.’}
\end{align*}
\]

b. *Hagait o baow kau daok mbeng.

\[
\begin{align*}
\text{kɛɪt} \quad \{\} \quad \text{(po)} \quad \text{kaw} \quad \text{tɔʔ} \quad \text{ɓăŋ} \quad \{\text{o}\} \\
\text{what \ COMP \ 2SG \ PROG \ eat \ NEG} \\
\text{‘Nothing, I am eating.’}
\end{align*}
\]

• Finally, Potsdam (2006) uses evidence from discontinuous wh-phrases to support a cleft analysis (14a)

• Part of the wh-phrase can be extraposed rightward, stranding the rest of the DP

• In Eastern Cham, the opposite is true: in discontinuous wh-phrases, the wh-phrase must be stranded low (b–c)

\[
\text{(This data will be explored further in Section 6)}
\]

(15) a. iza {} no novakin-dRabe {tamin’ ireo boky ireo}? which PRT read.PASS-Rabe PREP DEM book DEM

\[
\text{‘Which of these books were read by Rabe?’}
\]

MALAGASY

(Potsdam 2006:2171)

b. Abaoh pa-aok hâ blei hadom ki?

\[
\begin{align*}
\{\text{pɔh} \ \text{ʔɔʔ}\} \quad \text{hi} \quad \text{plej} \quad \{\}\quad \text{tɔm} \quad \text{ki}? \\
\text{mango} \quad \text{2SG} \quad \text{buy} \quad \text{how.many} \quad \text{kg}
\end{align*}
\]

‘How many kilograms of mango did you buy?’

\[
\text{c. *Abaoh kayau halei hâ blei limâ ki?}
\]

\[
\begin{align*}
\{\text{*pɔh jːaw} \ \text{hlɛj}\} \quad \text{hi} \quad \text{plej} \quad \{\}\quad \text{mːɨ} \quad \text{ki}? \\
\text{fruit} \quad \text{which} \quad \text{2SG} \quad \text{buy} \quad \text{5} \quad \text{kg}
\end{align*}
\]

‘Which fruit did you buy five kilograms of?’

• Thus, we do not find evidence that Eastern Cham AOWM is a concealed cleft. In the next sections, we will see that it has more in common with topicalization

3 D-linking

• If Eastern Cham AOWM is structurally similar to topicalization, it may well be due to D-linking

• It has been noted that D-linked wh-phrases behave syntactically like topics in a variety of languages (e.g. Polinsky 2001; Grewendorf 2012), and it has been shown to drive AOWM in languages like Mandarin (Pan 2014)
While D-linking is close to being an account of Eastern Cham AOWM, there are three ways in which it falls short:

2. D-linking fails to predict AOWM of what X
3. It does not account for the presence of the DS-effect

D-linked wh-phrases are usually characterized as alternative sets saliently shared by the speaker and addressee (Pesetsky 1987; Comorovski 1996; but cf. Witzschko 1997 for problems)

– However, how ‘salience’ is achieved is unclear, whether previous mention (cf. Grohmann 1998), individuation (Fiengo 2007), or not specified
– Furthermore, how does D-linking relate to other discourse effects? Is ‘salience’ the same level of salience needed to license pronouns, definites, specificity or something else?
– For many, D-linking remains an isolated phenomenon

In English and many other languages, the form of a wh-phrase is taken to reflect its D-linking properties:

– Which NP is taken to be obligatorily D-linked
– D-linked readings of bare wh-phrases (e.g. who) can be coerced
– What NP is non-D-linked (Pesetsky 1987:fn.36; Witzschko 1997:113)
– Wh-the hell is “aggressively non-D-linked” (den Dikken & Giannakidou 2002)

(16)  CONTEXT: Some people, entered the room…

a. Which (ones), did Antonia talk to? [D-linked]
b. ?Who, did Antonia talk to? [Optionally D-linked]
c. #What ones, did Antonia talk to? [Non-D-linked]
d. *Who the hell, did Antonia talk to? [Aggressively non-D-linked]

Pan (2014) claims that a D-linking feature triggers apparent optional wh-movement in Mandarin, giving detailed accounts of contexts like (17)

• Bare wh-phrases can be moved to the left periphery, but only if a D-linked reading is coerced, something that apparently cannot be done in (a)

(17)  a. *Shénme, sheí yǐjǐng dú-gùò-le t_j,?
      what who already read-Exp.-Perf
      INTENDED: ‘What did who already finish reading?’ MANDARIN
b. [Nǎ-jǐ-běn shū], ná-xiě tóngxué yǐjǐng dú-gùò-le t_j,?
      which-several-Cl book which-Pl student already read-Exp.-Perf
      ‘Which books did which students already finish reading?’ (Pan 2014)
• If D-linking were responsible for Eastern Cham apparent wh-movement, then it could be explained by an additional phrasal projection.

• In the vein of Pan (2014), D-linking corresponds with a TopicP, presumably hierarchically lower than ForceP, the site of clausal typing in the expanded left periphery (Rizzi 1997).

Figure 3: Potential D-linking analysis (after Pan 2014 on Mandarin)

- Eastern Cham moved wh-phrases initially appear to have D-linked characteristics.
- Moved wh-phrases are often translated as DWh’s (e.g. 18a).
- They are infelicitous out of the blue (18b). In such a context, a speaker will insert shared information between the speaker and addressee.

(18) a. *Hagait baow há daok mbeng? kɛt (po) hi Ḗʔ bāŋ what TOP 2SG PROG eat ‘Which one [lit.: what] are you eating?’

   CONTEXT: Out of the blue

   b. #Hagait baow há daok mbeng?

- Aggressively non-D-linked wh-phrases cannot be topicalized (a).

(19) Há daok ngap hanruai hagait?

   {*} hi Ḗʔ nā? {mброj ɛk} 2SG PROG do crazy what ‘What the hell are you doing?’
• However, the what X/which X distinction does not line up with AOWM (though cf. Fiengo [2007] for an alternate analysis of this distinction).

• Recall that what X is non-D-linked, and which X obligatorily D-linked.

• Which X is quite easily moved, as in (20). Here, the set of fruits is clearly shared.

\[(20)\] 
CONTEXT: ‘Everyone must choose a fruit to eat from the ones here.’

\textit{Abaoh kayau halei hâ äng mbeng?}

\{p\h \text{zaw } hlej\} hi iŋ bâŋ {} 
fruit which 2SG want eat

‘Which fruit do you want to eat?’

• Unexpectedly, what X can also easily be moved, as in (21), where a fruit is in the common ground, though not an obvious set of fruits.

• This is not predicted if AOWM is related to D-linking; typically an overt partitive is needed to salvage D-linking of what X (Wiltschko [1997]).

\[(21)\] 
CONTEXT: ‘Look at the fruit I have.’

\textit{Abaoh kayau hagait hâ mbeng nan?}

\{p\h \text{zaw } k̥ɛɪt\} hi bâŋ {} năn 
fruit what 2SG eat that

‘What [kind of] fruit are you eating?’

• Finally, D-linking does not predict the DS-effect.

• AOWM is felicitous in (22b). Here, the set of frogs is clearly shared by the speaker and addressee.

• However, AOWM is infelicitous in (b’). Presumably, the salience of the set of frogs is the same as in (b) – the information state is identical prior to the utterance, and both utterances make mention of the set of frogs.

\[(22)\] 
a. \textit{Birau māh, Sôn saong Thuận ngap ing-aong.}

mjaw mîh sān hɔŋm thúən ña? ?ïŋ ?ɔŋi, 
first Sôn with Thuận make frog[sp.]

‘First, Sôn and Thuận cooked the ing-aong [frog sp.].’

b. \textit{Ing-aong thei baow sa-ai cheh hön?}

\{?ïŋ ?ɔŋi thɛ̆j\} (p̥ɔ) saʔaj sāh {} hān 
ing-aong who COMP older.sibling like more

‘Whose ing-aong do you[older sibling] like more?’

b’. \textit{Blaoh nan, sa-ai mbeng ing-aong thei?}

p̥lɔh năn, {} saʔaj bâŋ \{?ïŋ ?ɔŋ thɛ̆j,\} 
after that older.sibling eat ing-aong who

‘After that, whose ing-aong did you[older sibling] eat?’
4 The DS-effect

- Apparent wh-movement is best explained in terms of the discourse subordination (DS) effect, introduced by Baclawski Jr. (2015, 2018).
  (Noting crucial insights from López’s (2009) [+ anaphor])
- The DS-effect describes a special kind of discourse anaphoric relation: an anaphor whose antecedent is in a prior sentence in the discourse.
- Discourse subordination is a type of rhetorical relation typified by Elaboration, Explanation, and elaborating answers to questions. Non-subordinating relations include sequences of events (Narration) and direct answers to questions.

(23) Discourse subordination (↓): Sentence α ↓ sentence β, iff the main eventuality described in β is a sort of the main eventuality described in α.

(24)

a. Tell me about your evening.

b. First, I had dinner at an expensive restaurant.  Elaboration(a,b)

c. They had a prix fixe special that was quite affordable.  Explanation(b,c)

d. Then, I went window shopping at a nice mall.  Narration(b,d)

- As formalized below, an anaphor is licensed if an antecedent’s sentence discourses the anaphor’s sentence.

(25) The DS-effect: For antecedent x ∈ α and discourse anaphor y ∈ β, y is licensed iff α ↓ β and y ⊆ x.

- According to Asher & Lascarides’s (2003) SDRT, questions can have exactly the same kinds of discourse relations as statements (e.g. Explanation_q, Narration_q).

(26)

a. First, I had dinner at an expensive restaurant.  Explanation_q(a,b)

c. After that, where did you go?  Narration_q(a,c)

- Turning back to Eastern Cham, AOWM displays the DS-effect.

- (27a) contains an antecedent ‘ʔiŋ ʔ̥ɔŋ ‘frog[sp.]’

- There is an anaphor in (b), and (a) ↓ (b)

- Even though there is an identical anaphor in (b’), there is no discourse subordinating relation between (a) and (b’)

- Accordingly, AOWM is felicitous in (b), but not (b’)

---

4 I assume that these relations have the same status with regard to discourse subordination. E.g., Elaboration and Elaboration_q are both subordinating. According to Asher & Lascarides’s (2003), questions are naturally subordinating. However, pronominal data strongly implies that the former is true. If interested, please ask.
(27)  

a. Birau mâh, Sơn saong Thuận ngap ing-aong.
      mjaw mɨi hɔŋ thvɔn ʔaʔ? ʔiŋ ʔɔŋ,
   first Sơn with Thuận make frog[sp.]
   ‘First, Sơn and Thuận cooked the ing-aong [frog sp.].’

b. Ing-aong thei baow sa-ai cheh hɔn?
   {ʔiŋ ʔ̥ɔŋ i} ing-aong thɛ̆j (p̥ɔ) saʔaj sʌh {} hʌn
   ing-aong who COMP older.sibling like more
   ‘Whose ing-aong do you[older sibling] like more?’  Subordination_q(a,b)

b’. Blaoh nân, sa-ai mbeng ing-aong thei?
   plɔh năn, {#} saʔaj bãŋ {ʔiŋ ʔ̥ɔŋ thɛ̆j,}
   after that older.sibling eat ing-aong who
   ‘After that, whose ing-aong did you[older sibling] eat?’  Narration_q(a,b)

• Based on the above examples, one may hypothesize that the sentence-initial adverbials (e.g. plɔh năn ‘after that’) may be relevant. This is true, in so far as certain adverbials are associated with specific discourse relations. For example, after that cues Narration (“cue words”, in the sense of Grosz & Sidner 1986).

• But cue words are not necessary to force this distinction. (28b–b’) presents a minimal pair: when elaborating on a previous statement, AOWM is felicitous, as it is a subordinating question (b)

• But when the speaker is asking for a clarification, if they did not hear or understand for example, the wh-phrase must be in situ. Accordingly, such corrections are taken to be non-subordinating (Though it should be noted that (b’) could be an echo question with distinct characteristics)

(28)  
a. Dahlak birau mbeng mâng klam ni.
      t̥ahlaʔ mjaw bãŋ klam ni,
   1SG.FORMAL just eat night DEM
   A: ‘I just ate dinner.’ [Lit.: ‘I just ate tonight.’]

b. Hagait, ajut mbeng?
   {k̥ɛɪt} zut bãŋ {}
   what friend eat
   B: ‘What [kind of food] did you [friend] eat?’  Subordination_q(a,b)

b’. #Ajut mbeng hagait?
   {#} zut bãŋ {k̥ɛɪt,}
   friend eat what
   INTENDED: B: ‘What did you [friend] eat?’  Correction_q(a,b)

• Supporting evidence comes from adverbial wh-phrases
The wh-adverb ʔjawʔ k̥ɛɪt ‘why’ must be clause-initial (29a). This follows, as ‘why’ necessarily marks Explanation relations, which are inherently subordinating. Hence, ‘why’ always displays the DS-effect.

In contrast, mp̥ʌn ‘how’ only sometimes marks Explanation. Its usual position is inside the predicate, but it too can be moved when an Explanation relation is made clear by the context (b)

(29)  
\begin{enumerate}
\item \textit{Njep hagait, ayut mânyum aia caiy?} \\
\{ʔjawʔ k̥ɛɪt\} zut nun ʔjæ čɛ \{\*\} \\
why friend drink water tea \\
‘Why do you[friend] drink tea?’
\item \textit{CONTEXT: Aia bai mbak ralo. ‘This soup is so salty.’} \\
\textit{Habien kau mbeng hu?} \\
\{mp̥ʌn\} kaw bāŋ \{??\} hu \\
how 1SG eat ROOT \\
‘How can I eat it?’ \quad \textit{Explanation},(a,b)
\end{enumerate}

Finally, throughout this section, AOWM is optional. In other words, the wh-phrases can generally felicitously remain in situ (cf. Szabolcsi 2006 and others on the general optionality of information structural syntactic movement)

This optionality disappears in partitive-like constructions where the anaphoric set relation is spelled out explicitly (30a–b) (cf. the fact that D-linking is also forced in the presence of an overt partitive in some languages)

(30)  
\begin{enumerate}
\item \textit{Dalam limâ abaoh kayau pak ni, abaoh hagait ajut âng mbeng?} \\
hamster mːi psh zaw pā? ni, \{psh k̥ɛɪt\} zut inŋ bāŋ \{??\} \\
in 5 fruit here CLF what friend want eat \\
‘Of the 5 [kinds of] fruits here, what fruit do you[friend] want to eat?’
\item \textit{Hu limâ abaoh kayau pak ni. Aboah hagait ajut âng mbeng?} \\
\textit{Hu} mːi psh zaw pā? ni, // \{psh k̥ɛɪt\} zut inŋ bāŋ \{??\} \\
exist 5 fruit here CLF what friend want eat \\
‘There are 5 [kinds of] fruits here. What fruit do you[friend] want to eat?’
\end{enumerate}

With this in mind, we can update the analysis

Baclawski Jr. (2018) analyzes the DS-effect with a discourse-connected (DC) feature and a DC-probe on C. AOWM, then, is really DC-movement

Instead of a TopicP, we posit a DC flavor of CP (though a DC-phrasal projection in the expanded left periphery is certainly possible). The hierarchical order of \( \text{CP}_Q \gg \text{CP}_{DC} \) is purely stipulative, as the Q-particle is null, but it follows from the rough similarity of DC-phrases to topics, which are generally lower than Force
5 Topicalization and locality effects

• As mentioned above, AOWM patterns with (apparent) topicalization. The DS-effect and locality provide additional evidence that they are both in fact instances of DC-movement.

• First, topicalization is equally sensitive to island constraints, and topics are optionally marked by the complementizer po (31a–b; cf. Section 1).

(31)  a. *Urang nan kau tục gimbeng kayua hà da-a (nyu) mai mân̓yum bia?
    jaŋ năn kaw thîk m̀pâŋ joa hy ?a (nu)
    CLF that 1SG be.angry(VN) very because 2SG invite 3.ANIM
    maj num biːɔ̰ come drink beer
    INTENDED: ‘That person, I am angry because you invited to come drink beer.’

    b. *Urang nan kau blei dó mbeng baow (nyu) ngap?
    jaŋ năn kau plej dó bāŋ po (nu) ṇ̃a?
    CLF that 1SG buy stuff(VN) eat COMP 3.ANIM make
    INTENDED: ‘That person, I buy the food they make.’

• Topicalization also shares P-drop fwith AOWM.
In situ indirect objects, whether wh or non-wh require the preposition ka ‘to’ (32a)

Moved indirect objects, however, lose ka entirely (b)

(32)  

   hi plej han ni *(ka) {thej/nîʔ sît nân}
   2SG give cake this to who/child little that
   ‘Who [will] you give this cake to? / You [will] give this cake to that little child.’

b. Thei hâ brei ahar ni? / Anâk sit nan, hâ brei ahar ni.
   *(ka) {thej/nîʔ sît nân} hi plej han ni *(ka)
   to who/child little that 2SG give cake this to
   ‘Who [will] you give this cake to? / That little child, you [will] give this cake to.’

5.1 The DS-effect

Turning back to the pragmatics, apparent topics in the left periphery also display the DS-effect. There is an antecedent and anaphor in (33a) and (b), and (a) ↓ (b) (compare: above)

In (b’), there is no subordinating discourse relation. Accordingly, topicalization is only felicitous in (b)

(33)  

a. Birau mâh, Sôm ngap ing-aong.
   mjaw mîh sâm ńa? ?iŋ ʔɔŋj,
   first Sôm make frog[sp.]
   ‘First, Sôm cooked the ing-aong [frog sp.].’

b. Ing-aong nan, nyu ngap bingi ralo.
   {źiŋ ʔɔŋ nân,} nu ńa? {} piñi lo
   frog[sp.] that 3SG make be.delicious very
   ‘He cooks that ing-aong [frog sp.] very well.’ Subordination(a,b)  

b’. Urak ni, sa’ai daok mbeng ing-aong nan.
   ŭuni, # saʔaj ŭə? ɓâŋ {ʔiŋ ʔɔŋ nân,}
   now older.sibling PROG eat frog[sp.] that
   INT: ‘Now, he [older sibling] is eating that ing-aong [frog sp.].’ Narration(a,b’)

・Question-Answer pairs provide additional evidence. Recall that direct answers to questions are non-subordinating (i.e. those that simply answer the question, nothing more or less), while elaborating answers are subordinating (i.e. those that offer more information than asked)

・Topicalization is only felicitous with elaborating (34b), not direct answers (b’).
(34)  

a. *Hâ âng mbeng ralaow manuk halei?*

   hi iŋ bâŋ SizePolicy nːuʔ, lej

   2SG want eat meat chicken Y/N.Q

   A: ‘Do you want to eat chicken?’

b. *Ralaow manuk, kaw mbeng paje.*

   lːɔ nːuʔ, kaw bâŋ ji?

   meat chicken 1SG eat already

   B: ‘I already ate chicken.’

Subordination(a,b)

b’. *#Ralaow manuk, kaw âng mbeng.*

   #lːɔ nːuʔ, kaw iŋ bâŋ

   meat chicken SG want eat

   INTENDED: B: ‘I want to eat chicken.’

Answer(a,b’)

• Finally, topicalization is also preferred in partitive-like constructions (35a–b), corresponding with (30) above

(35)  

a. *Dalam limâ abaoh kayau pak ni, abaoh ni kau âng mbeng.*

   lːam mːɨ p̥ɔh zːaw p̥aʔ ni, {p̥ɔh ni,} kaw iŋ bâŋ {??}

   in 5 fruit here CLF this 1SG want eat

   ‘Of the 5 [kinds of] fruits here, this fruit, I want to eat.’


   hu mːɨ p̥ɔh zːaw p̥aʔ ni, // {p̥ɔh ni,} kaw iŋ bâŋ {??}

   EXIST 5 fruit here CLF this 1SG want eat

   ‘There are 5 [kinds of] fruits here. This fruit, I want to eat.’

• This evidence confirms that apparent topicalization and wh-movement have the same discourse requirements (the DS-effect)

5.2 Locality effects

• Locality effects provide structural evidence that topicalization and AOWM involve identical features

• First, when there are multiple topics in the left periphery, their movement paths must be nested in the sense of Pesetsky (1982) (36a)

• Crossed paths consistently result in strong ungrammaticality (b)

(36)  

a. *Ahar ni anâk kumei sit nan Thuận da-a mai mbeng.*

   han ni₂ niʔ mːɛj thît nan, thvœn ?a lːi maj bâŋ t̥j

   cake this child woman small that Thuận invite come eat

   ‘This cake, Thuận invited that little girl to come eat.’

   [XPᵢ…XPᵢ,…lᵢ,…lᵢ]
b. *Anâk kumei sit nan ahar ni Thuận da-a mai mbeng.

\[ \text{nǐʔ mːɛj thĭt nan} \text{ ni thuăn } \text{ʔ̥a maj bǎŋ ti} \]

Intended: ‘This cake, Thuận invited that little girl to come eat.’

\[ *[\text{XP}_i, \text{XP}_j, t_i, t_j] \]

- Baclawski Jr. & Jenks (2016) and Baclawski Jr. (2016) account for this pattern with the reprojection of CP

- First, CP₁ is projected. It agrees with and attracts the most local DP, DPᵢ, which is then frozen in Spec-CP₁ (assuming criterial freezing)

- Then, CP₂ is projected, at which point the next most local DP can be moved

Figure 5

(a) Derivation of CP₁

(b) Derivation of CP₂

- The ungrammatical order cannot obtain, as it would require a C-probe to agree with a non-local DP at some point in the derivation

- According to Friedman et al. (2009), when such locality effects result in strong ungrammaticality, there must be featural inclusion between the two phrases

- In this case, both topics bear some feature like [DC] (along with [D], etc.)

- The same locality effect can be seen with multiple AOWM, discussed at length in Baclawski Jr. & Jenks (2016) and Baclawski Jr. (2016)

(37) a. Hagait, thei blei?

\[ \text{kęt}_{i} \text{ thej}_{i} \text{ t}_{i} \text{ plej} \text{ t}_{j} \]

‘Who bought what?’

\[ *[\text{XP}_{j}, \text{XP}_{i}, t_{i}, t_{j}] \]
b. *Thei, hagait blei?

\[ \text{th} \varepsilon \text{j} \quad \text{i} \quad \text{t} \varepsilon \text{t} \quad \text{i} \quad \text{p} \varepsilon \text{j} \quad \text{t} \varepsilon \text{j} \]

\[ \text{who} \quad \text{what} \quad \text{buy} \]

INTENDED: ‘Who bought what?’

\[ *[\text{XP}, \ldots \text{XP}, \ldots \text{t}_i, \ldots \text{t}_j] \]

- Again, the two wh-phrases must include the same features. One might posit that these features are [DC], [D], and [wh]

- However, we also find locality effects with mixed topicalization and AOWM:

(38) a. Ahar ni anâk kumei sit halei Thuận da-a maj mbeng?

\[ \text{han} \quad \text{n}_i \quad \text{n}_i \quad \text{m}_\varepsilon \text{j} \quad \text{thit} \quad \text{hle}_j \quad \text{Thuận} \quad \?a \quad \text{t}_i \quad \text{maj} \quad \text{bâŋ} \quad \text{t}_j \]

\[ \text{cake} \quad \text{this} \quad \text{child} \quad \text{woman} \quad \text{small} \quad \text{which} \quad \text{Thuận} \quad \text{invite} \quad \text{come} \quad \text{eat} \]

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

\[ *[\text{XP}, \ldots \text{XP}, \ldots \text{t}_i, \ldots \text{t}_j] \]

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

\[ \text{n}_i \quad \text{m}_\varepsilon \text{j} \quad \text{thit} \quad \text{nan}_i \quad \text{han} \quad \text{hle}_j \quad \text{Thuận} \quad \?a \quad \text{t}_i \quad \text{maj} \quad \text{bâŋ} \quad \text{t}_j \]

\[ \text{child} \quad \text{woman} \quad \text{small} \quad \text{that} \quad \text{cake} \quad \text{which} \quad \text{Thuận} \quad \text{invite} \quad \text{come} \quad \text{eat} \]

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

\[ *[\text{XP}, \ldots \text{XP}, \ldots \text{t}_i, \ldots \text{t}_j] \]

- We have to say, then, that at some level topics and moved wh-phrases include the same features. If the features differed, Friedman et al. (2009) would predict some difference in acceptability

- This proves that AOWM is truly parallel to topicalization and that both can be considered subtypes of one kind of movement, which we call DC-movement

- However, it raises some questions: why does the [wh] feature not figure into the feature inclusion calculation, and how can a wh-phrase be marked as discourse-connected?

(cf. Cable (2008) and others on the debate on wheter wh-phrases can be topical)

6 Inventory forms

- This final section provides initial evidence that there is a DC-particle within the DP that bears the [DC] feature, with evidence from inventory forms

- Inventory forms involve an NP preceding a numeral in languages where they typically follow them (Simpson 2005)

- In many languages, inventory forms are at least marginal in list contexts (e.g. recipes, shopping lists)

- In Indonesian, the demonstrative remains DP-final in inventory forms (39b)

5Note that there is an additional constraint such that TOPIC \( \gg \) FOCUS.
a. saya mau membeli [beras dua kiloDP]
   ‘I want to buy two kilos of rice.’ [Simpson 2005: (21–22)]

b. ... mengerjakan [lobang sa buah ituDP] sampai lima enam hari
   ... make hole one CLF that took 5 6 day
   ‘Indeed it took 5 or 6 days just to dig that one hole.’

c. Sugar, 3 pounds. Bread, 2 loaves. Wine, 4 bottles.

- Inventory forms are quite common in a range of contexts in Eastern Cham, where the noun moves ahead of a numeral and a classifier or measure word (40)
- This is not an instance of rightward extraposition of the numeral phrase, as indicated by the clause-final iterative marker

(40) *Kau blei tajuh ki pa-aok vek./Kau blei pa-aok tajuh ki vek.*

   kaw plej {ʔɔʔ} çuh ki? {} vi?
   1SG buy mango 7 kg ITER
   ‘I bought seven more kilograms of mangoes.’

- Inventory forms involve movement of some constituent containing the noun to a position high in the DP (feel free to ask which)
- This fact is justified by quantifiers, typically the leftmost element in a DP (cf. Brunelle & Phú, in press; Nguyen 2004 on nearly identical facts in Vietnamese)
- However, in inventory forms, the noun can appear to the left of them (41b)

(41) a. *Drei da-a mai abih salipan urang anâk saih.*

   tʃɛj ?a maj [{pih} thampan jaŋ {*} nî? seh]
   self invite come all 9 CLF student
   ‘I[myself] invited all nine of the students to come.’

b. *Drei da-a mai anâk saih, abih salipan urang.*

   tʃɛj ?a maj [nî? seh, pih thampan jaŋ ti]
   self invite come student all 9 CLF t
   ‘I[myself] invited all nine of the students to come.’

- Thus, the general structure of inventory forms is posited below

Figure 6: Preliminary inventory form schematic

- Inventory forms are relevant here because they also display the DS-effect
• To illustrate, inventory forms are possible in elaborating answers to questions like (42b), but not direct answers like (b’)

• Elaborating answers are typical examples of discourse subordination, but direct answers are typically non-subordinating.

(42)  

(a)  
A: ‘Did you go to the market and buy watermelons?’

b.  
Kau blei tamâkai sa abaoh.

kaw plej tha pɔh tɔmkaj / kaw plej tɔmkaj tha pɔh
1SG buy 1 CLF watermelon 1SG buy watermelon 1 CLF
B: ‘I bought one watermelon.’ \textit{Subordination}(a,b)

(a’).  
A: ‘How many watermelons did you buy?’

b’.  
Kau blei sa abaoh tamâkai.

kaw plej tha pɔh tɔmkaj / #kaw plej tɔmkaj tha pɔh
1SG buy 1 CLF watermelon 1SG buy watermelon 1 CLF
B: ‘I bought one watermelon.’ \textit{Answer}(a’,b’)

• What’s different about inventory forms is that no movement to Spec-CP is needed: only DP-internal movement

• I would like to hypothesize that inventory forms instantiate a \textit{DC-particle} position in the DP
  – The DC-particle is a spell-out of the discourse-connected antecedent
  – In topicalization and AOWM, this particle is a null \textit{pro}
  – In all cases, it is the DC-particle that bears the [DC] feature

\textbf{Figure 7: The DC-position}

\begin{minipage}{0.45\textwidth}
\textbf{(a) Inventory forms}
\begin{center}
\begin{tikzpicture}
  \node (root) {DP};
  \node (dc) [below left of=root] {DC};
  \node (dp) [below right of=root] {DP};
  \node (mango) [below of=dc] {mango\textsubscript{i}};
  \node (clf) [below of=dp] {7 CLF \textsubscript{t\textsubscript{i}}};
  \node (dc) [below of=clf] {[DC]};
  \draw (root) -- (dc);
  \draw (root) -- (dp);
  \draw (dc) -- (mango);
  \draw (dp) -- (clf);
  \draw (clf) -- (dc);
\end{tikzpicture}
\end{center}
\end{minipage}
\begin{minipage}{0.45\textwidth}
\textbf{(b) Topic/Moved \textit{wh}-phrase}
\begin{center}
\begin{tikzpicture}
  \node (root) {DP};
  \node (dc) [below left of=root] {DC};
  \node (dp) [below right of=root] {DP};
  \node (pro) [below of=dc] {\textit{pro}};
  \node (topic) [below of=dp] {topic/\textit{wh}};
  \node (dc) [below of=topic] {[DC]};
  \draw (root) -- (dc);
  \draw (root) -- (dp);
  \draw (dc) -- (pro);
  \draw (dp) -- (topic);
  \draw (topic) -- (dc);
\end{tikzpicture}
\end{center}
\end{minipage}

• When it comes to movement, we see the following pattern:
  – If the DC-particle is overt (inventory forms), it remains in situ, presumably agreeing with $C_{DC}$ and possibly covertly moving to Spec-CP

\textsuperscript{6}Except if the question itself is a subordinating question. In this case, the answer inherits the subordinating relation from the question. As predicted, inventory forms are felicitous in such cases.
– If it is null, it pied-pipes the whole DP, resulting in DC-movement (topicalization, AOWM).^{7}

Figure 8: The DC-position and movement

(a) Inventory forms

(b) Topic/Moved wh-phrase

- If this hypothesis is on the right path, it naturally explains the questions posed earlier regarding wh-phrases
- Observe that the numeral element of the inventory from can easily be a wh-phrase (43a)
- However, it is quite impossible for a wh-phrase to exist in the DC position (b)

(43) a. Hâ blei abaoh pa-aok hadom ki?
   hi plej [pɔh ʔɔʔ, ʃom ki? e_i]
   2SG buy mango how many kg e
   ‘How many kilograms of mango did you buy?’

b. *Hâ blei abaoh kayau halei sa ki?
   hi plej [pɔh zaw hlej tha ki?]
   2SG buy fruit which how many kg
   INTENDED: ‘Which fruit did you buy one kilogram of?’

- This implies that wh-phrases are incapable of being DC-particles. In other words, they can never be assigned a [DC] feature themselves, obviating the issue of the interaction between wh-phrases and topicality
- When they do undergo DC-movement, they are instead being pied-piped
- This allows us to explain the featural inclusion puzzle from Section 5: topics and moved wh-phrases share features at the level of the DC-particle (i.e. [DC]), but the [wh]-feature does not percolate up to the level of the highest DP

^{7}Note that, under Cable’s (2010) logic for the Q-particle, such pied piping would imply that the DP is in fact a DCP (cf. the DP vs. QP distinction), though I have not committed to that here.
7 Summary

- 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)

- Apparent optional wh-movement is best explained in terms of discourse structure: it is a type of discourse-connected (DC) movement

- DC-movement is driven by DC-particles:
  - When overt, they remain in situ (inventory forms)
  - When null, they pied-pipe the whole DP to Spec-CP (topicalization, AOWM)

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