A/Ā-Operations at the Mongolian Clausal Periphery

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Abstract

This paper examines and provides a unified analysis for the interaction between ECM and Ā-operations such as thematic topicalization and *wh*-licensing at the Mongolian embedded clausal periphery. Building on a previous proposal that ECM targets Spec CP, which can be an A-position in Mongolian (Fong 2019), I argue that thematic topicalization and *wh*-licensing are associated with an Ā-domain projected below CP. Furthermore, I advance an analysis in which the A- and Ā-properties of syntactic dependencies are the result of different features involved in Agree relations. The Agree-based analysis allows for a flexible account for the intricate patterns of the A/Ā-interactions at the Mongolian clausal periphery, while also making concrete predictions confirmed by independent facts from this language. I then compare the Mongolian case with typical cases of improper movement, and discuss the implications of the current account for a general theory of movement typology.

Keywords ECM · A/Ā-movement · Agree · Mongolian

1 Introduction

Since the work of Chomsky (2000, 2001), a common perspective in Minimalist syntax has been that Internal Merge requires the establishment of an Agree relation. Expanding on this view, there is a growing body of literature including Chomsky (2004, 2007, 2008), Obata (2010), Obata and Epstein (2011), van Urk (2015), Keine (2016, 2019), and Lohninger et al. (2022), which focuses on deriving the distinction between A- and Ā-movement from the Agree mechanism. In particular, it has been suggested that A-movement and Ā-movement behave differently because they are driven by different kinds of features, a concept implemented in various ways by the aforementioned authors. Despite the differences among specific proposals, a common thread across these previous studies is that the relevant constraints on movement are either fully or

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partially removed from movement dependencies themselves, and the burden of explanation is instead placed on the Agree mechanism and Merge. Concomitantly, there has also been increasing discussion about whether an Agree-based view of the A/Ā-distinction handles well-known generalizations and puzzles in a more explanatory way, and whether all properties of movement can be reduced to Agree and features.

Against this backdrop, this paper takes as its point of departure novel observations on the interaction between A/Ā-operations at the Khalkha Mongolian (henceforth Mongolian) embedded clausal periphery. The main proposal is that an Agree-based view of movement types, combined with the Mongolian clausal architecture, allow us to provide a unified account for the patterns of exceptional case marking (ECM), *wh*-licensing, and topicalization in Mongolian. Specifically, the current account explains three interconnected properties of Mongolian syntax:

  (i) Mongolian allows ACC-case assignment on an embedded subject at the edge of an embedded finite CP.
 (ii) Only ACC-subjects can be A-extracted from an embedded finite CP; NOM subjects may not be.
(iii) Ā-operations (*wh*-licensing and thematic topicalization) on subjects within the embedded clause are incompatible with the contexts specified in (i-ii).

To help illustrate these properties, consider the sentences presented in example (1).

(1) a. **Both NOM and ACC are available on embedded subject**

      Bagš   [cP Bat-ig/Bat   ter nom-ig   unš-san gej] khel-sen
      teacher.NOM   Bat-ACC/Bat.NOM that book-ACC read-PST C   say-PST

      'The teacher said that Bat read that book.'

  b. **ACC degraded when the *wh*-subject takes embedded scope**

      Bagš   [cP ?*khen-iig/khen ter nom-ig   unš-san be   gej]
      teacher.NOM   who-ACC/who.NOM that book-ACC read-PST *wh*-Q C
      asuu-san
      ask-PST

      [Embedded scope only] 'The teacher asked (that) who read that book.'

  c. **ACC ok on regular non-*wh* subjects of an embedded question**

      Bagš   [cP Zaya-g/Zaya   yamar nom-ig unš-san be   gej]
      teacher.NOM   Zaya-ACC/Zaya.NOM what   book-ACC read-PST *wh*-Q C
      asuu-san
      ask-PST

      [Embedded scope only] 'The teacher asked (that) what book Zaya read.'

First, (1a) is an embedded declarative construction, in which the matrix verb *khel-* ('to say') takes a finite embedded CP headed by the complementizer *gej*. Property (i) is illustrated by the fact that the embedded subject *Bat* can appear in either NOM or ACC form. With respect to their differences, previous research suggests that NOM subjects are structurally lower than ACC subjects. The ACC-case marking is due to the subject raising to the edge of CP, receiving its case from the matrix clause in an ECM-like fashion (Fong 2019, use of the term ECM mine). The NOM and ACC embedded

subjects in (1a) also differ in their movement properties. As will be discussed in the subsequent sections, only ACC subjects can A-move into the matrix clause, and NOM subjects generally cannot. In the second example (1b), the embedded clause is also a finite CP headed by [$_C$ *gej*]. What is different from (1a) is that in (1b) the clausal complement is a *wh*-question in which the subject *wh*-phrase takes embedded scope. Importantly, in this example ECM on the embedded subject is degraded. Note that the degraded status of ACC on the subject is not due to the [+Q] CP blocking cross-clausal ACC case assignment (cf. Kitagawa 1985). The embedded *wh*-question in (1c) has the object *wh*-phrase taking embedded scope. The embedded subject is a non-*wh*, regular DP *Zaya*. The complement clauses in (1b) and (1c) presumably have the same size. The ACC case marking is degraded on the *wh*-subject in (1b), but not on the regular non-*wh*-subject *Zaya* in (1c).

As I will show, ECM is not only degraded on *wh*-subjects of embedded interrogatives as seen in (1), but is also degraded when an embedded subject undergoes embedded thematic topicalization, both being Ā-operations. Building on an Agree-based view of phrasal movement, I argue that (i-iii) directly results from the Mongolian clausal architecture and the availability of a ϕ-probe on C^0. While it has been argued that Mongolian Spec CP can be an A-position (Fong 2019), I show that there exists an intermediate Ā-domain between TP and CP, resulting in a [[[... $_A$] $_{\bar{A}}$] $_A$] clausal periphery. This departs from a typical characterization of A/Ā-domains, in which different domains are structurally determined in terms of height. In particular, Ā-movement has been taken to target higher landing sites than A-movement (e.g., Williams 2003; Müller 2014, also see Keine 2016, 2018 for an overview of alternative approaches to characterizing A/Ā-positions).[1] The proposal for Mongolian, in which Spec CP as an A-position is potentially available above some Ā-domains, does not fit well with accounts in which A- and Ā-domains are directly mapped onto the hierarchy of levels of projections. Instead, the current proposal, if on the right track, suggests that there should not be a universal classification of A/Ā-positions, nor should there be a universal hierarchy between them (e.g., that Ā-positions are uniformly higher than A-positions), a natural consequence under the Agree-based approach to movement types. Since properties of movement make reference to the Agree mechanism, what makes one movement type differ from another is really the structural locations and properties of the probes and goals, subject to cross-linguistic variation. This is a desirable outcome. As discussed in much recent literature, the A- vs. Ā-distinction no longer has an independent status in the Minimalist Program. The Agree-based approach, among other proposals, is one of the ways to render such distinction an epiphenomenon that emerges from the operations Agree and Merge (see e.g., Chomsky 1995, 2004; for recent discussions and alternative proposals see Safir 2019).

Due to its flexible word order and unique locality profile, Mongolian provides an ideal testing ground for the Agree-based approach to movement types. The case study presented here illuminates the behavior of the Agree mechanism as it relates to movement dependencies in that it examines the features which are operative in

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[1] More recently, the difference between A- and Ā-positions has also been characterized in terms of phase theory. For example, it has been suggested that Ā-movement targets the edge of a phase, and A-movement is only within the domain of a phase head (e.g., Miyagawa 2009; Charnavel and Sportiche 2016).

triggering movement, and the interactions between probes bearing different features. Against this general background, the rest of the paper will proceed as follows. In Section 2, I provide background on the Mongolian ECM constructions, specifically addressing the previous proposal that Spec CP in these ECM configurations can be an A-position. In Section 3, I present a set of data which shows that ECM is degraded when the embedded subject is a *wh*-phrase taking embedded scope. In Section 4, I present an additional set of data showing that ECM is also degraded when the embedded subject is the embedded thematic topic. In Section 5, I build on the observations in Sections 3 and 4 and present an Agree-based analysis for the interactions between ECM and Ā-operations (*wh*-licensing, thematic topicalization). Section 6 discusses further implications of the current proposal. Section 7 concludes the paper.

2 Mongolian ECM and the Potential A-Status of Spec CP

The main purpose of this section is to provide the necessary background for the discussion of the interaction between ECM and Ā-operations in Sections 3 and 4. I focus in particular on the previous treatment of Mongolian ECM, and the proposal that Spec CP can be an A-position in Mongolian.

2.1 Some Background on Mongolian ECM Constructions

Mongolian exhibits NOM- ACC case alternation on the embedded subject shown in (2) below.

(2)   a.   **NOM embedded subject**

        Zaya   [CP **Dorj**   zawgüi bai-san   gej] khel-sen
        Zaya.NOM   Dorj.NOM busy   COP- PST C   say-PST
        'Zaya said that Dorj was busy.'

    b.   **ECM-like construction with ACC embedded subject**

        Zaya   [CP **Dorj-iig** zawgüi bai-san   gej] khel-sen
        Zaya.NOM   Dorj-ACC busy   COP- PST C   say-PST
        'Zaya said that Dorj was busy.'

The construction in (2b) differs from typical English ECM constructions (e.g., *I believe **him** to be smart*) in several ways. First, the ACC case marking on the embedded subject is optional. In most cases, the subject of a finite embedded clause can alternate between ACC (-*iig* in (2b)) and NOM (morphologically unmarked on regular DPs, marked on pronouns). Second, the embedded clause which allows an ACC subject in (2) is a full finite CP with a complementizer *gej*. In these two respects, Mongolian ECM constructions resemble those in Japanese (e.g., Kuno 1976, 2007; Hiraiwa 2001; Tanaka 2002a) and Korean (Yoon 1991; Hong 2005; Yoon 2007), although language-specific differences remain.

Fong (2019) argues that Mongolian ECM, as exemplified in (2b), does not involve prolepsis in which the ACC subject is base-generated in the matrix clause. Instead,

she demonstrates that the ACC subject in (2) originates from the embedded clause, and subsequently raises to the edge of the embedded CP where it receives ACC case from the matrix clause. I will summarize some of her core arguments here. First, the ACC subject can surface to the right of an unambiguously embedded adverb (cf. e.g., Deal's 2017 discussion on Nez Perce, where a proleptic ACC-DP cannot surface below an embedded adverb). The data in (3) suggest that the ACC-subject originates from the embedded clause and that it need not obligatorily raise into the matrix clause.

(3) Bat   [CP margaaš Dulmaa-g   nom unš-n   gej] khel-sen
    Bat.NOM   tomorrow Dulmaa-ACC book read-NPST C   say-PST
    'Bat said that Dulmaa will read a book tomorrow.'   (based on Fong 2019: (3))

However, Mongolian has a highly flexible word order. Thus, an alternative analysis of the word order in (3) is that both the temporal adverb *margaaš* 'tomorrow' and *Dulmaa-g* 'Dulmaa-ACC' are located in the matrix clause. This alternative account would be possible if the adverb could be placed inside the matrix clause by scrambling.

(4) **Alternative analysis of (3)**

    Bat   margaaš Dulmaa-g   [nom unš-n   gej] khel-sen
    Bat.NOM tomorrow Dulmaa-ACC   book read-NPST C   say-PST

To rule out the possible derivation in (4), Fong shows that independently scrambling the adverb *margaaš* out of the embedded CP results in the sentence being severely degraded.

(5) **Scrambling of *margaash* 'tomorrow' leads to ungrammaticality**

    *Margaash₁ Bat   [__₁ Dulmaa(-g) buuz id-n   gej] khel-sen
    tomorrow   Bat.NOM   Dulmaa-ACC buuz eat-NPST C   say-PST
    Int. 'Bat said that Dulmaa will eat buuz tomorrow.'   (based on Fong 2019: (15))

Fong attributes the status of (5) to a general ban on long-distance scrambling (LDS) in Mongolian. However, as will be discussed below, Mongolian does allow LDS of embedded arguments (e.g., Sakamoto 2012, 2017; Gong 2023). The reason behind the degraded status of (5) is worth exploring further in future research.[2] Nevertheless,

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[2] Note that the unacceptability of (5) does not imply a general ban on adverb scrambling in Mongolian. A VP-level low adverb like 'quickly', for example, can independently undergo clause-internal scrambling.

(i) a. Bat   khurdan gui-j   bai-na
        Bat.NOM quickly run-CVB COP- NPST
        'Bat is running quickly.'

     b. Khurdan₁ Bat   t₁ gui-j   bai-na
        quickly   Bat.NOM   run-CVB COP- NPST

Similar patterns can be observed with adverbials such as 'with a loud voice'.

(ii) a. Aaw   öndör duu-gaar khüükhd-üüd-iig duud-san
        father.NOM loud voice-INST child-PL- ACC   call-PST
        'Father called the children with a loud voice.'

     b. Öndör duu-gaar₁ aaw   t₁ khüükhd-üüd-iig duud-san
        loud   voice-INST father.NOM   child-PL- ACC   call-PST

for the purpose of the current point, it suffices to confirm that LDS of the adverb 'tomorrow' is independently unavailable in (5), and thus the structural analysis (4) relying on scrambling of 'tomorrow' is ruled out. Therefore, the fact that the ACC-subject surfaces to the right of the embedded temporal adverb can be taken to indicate that the ACC-subject is located within the embedded CP in (3).

In addition, the entire embedded CP containing the ACC-subject can be fronted as a unit. This is expected if the ACC-subject is located within the embedded clause in (6).

(6) **Fronting of the entire embedded clause**

> [(Margaaš) Dulmaa(-g)　nom unš-n　　　gej]$_1$ Bat　　　__$_1$ khel-sen
> 　tomorrow Dulmaa-ACC book read-NPST C　　Bat.NOM　　say-PST
> 'Bat said that Dulmaa will read a book tomorrow.'

Fong presents another set of data concerning idiomatic interpretation which supports the idea that the ACC-subject originates from the embedded clause.

(7) **Acc-subjects allow idiomatic construal with embedded constituents**

> Dorj　　chang-aar [Bat-iin nüd-iig　oree deer-ee　　　gar-san　gej]
> Dorj.NOM loud-INST Bat-GEN eye-ACC top　on-REFL.POSS climb-PST C
> khel-sen
> say-PST
> Idiomatic reading. 'Dorj said loudly that Bat was very surprised' (Lit. 'Dorj said loudly that Bat's eyes climbed on top of themselves') (based on Fong 2019: (11))

In (7), the ACC-subject *Bat-iin nüd-iig* 'Bat's eye'-ACC can be construed as a part of the subject-verb idiom. This is expected if the ACC-subject is introduced inside the embedded clause.[3]

The above facts point to two conclusions. First, the embedded ACC-subject originates from the embedded clause. Second, the embedded ACC-subject does not obligatorily raise into the matrix clause. Building on these conclusions and considering additional facts from binding (see Fong 2019: 10-13), Fong argues that while ACC subjects do not obligatorily raise into the matrix clause, they are nevertheless higher than regular NOM subjects in the syntactic structure. Specifically, she proposes that the

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footnote 2 continued

Therefore, it seems appropriate to attribute the unacceptability of (5) to construction-specific factors (e.g., that scrambling of the adverb crosses a clausal boundary) and/or the independent lexical and structural properties of the adverb being scrambled.

[3] As discussed by Yoon (2007: 619), in Korean subject raising leads to the loss of the idiomatic reading. The lack of idiomatic reading in Korean ECM is expected under Yoon's analysis in which raising targets a Major Subject which is generated higher in the structure. It seems difficult to extend this type of analysis to the Mongolian case at hand, since in contrast to Korean, ECM in Mongolian does preserve idiomatic reading. Similar to Yoon's approach, an anonymous reviewer also suggested an alternative in which the ECMed subject is base-generated in the embedded Spec CP and binds a *pro* within the CP complement (and thus the ECMed subject is never located below CP). However, it would also be difficult for this alternative to explain the idiom facts in Mongolian. For the purpose of this paper, I will follow the idea in Fong's analysis in which the subject is introduced inside the embedded clause and then undergoes movement to the edge of the embedded CP. I am thankful to an anonymous reviewer for helpful discussions on these analytical alternatives.

subject raises to the edge of embedded CP, where it receives ACC case from the matrix *v*. This process is schematized in (8).

(8) **ACC case assignment of embedded subject according to Fong (2019)**
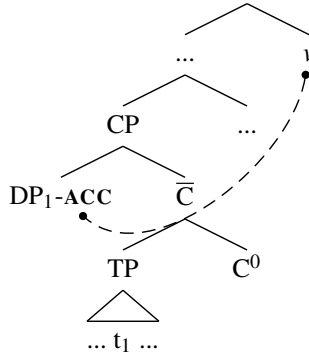
As will be discussed in detail in Section 5, I will adopt Fong's idea that the embedded subject can raise to the edge of the embedded CP and receive ACC case there. However, I will depart from Fong's analysis in not taking the matrix *v* to be the source of ACC case assignment. Rather, I adopt the idea that ACC case in Mongolian is assigned as a dependent case. In the next section, I will present additional properties of Mongolian ECM, and return to the details of the dependent case analysis in Section 5.

2.2 Spec CP as an A-position

In the preceding section, I discussed some facts of ECM constructions in Mongolian, and showed that they can be accounted for under Fong's (2019) analysis in which the embedded subject undergoes raising to Spec CP and receives ACC case there. Another important observation Fong (2019) makes is that the accusative embedded subjects can A-move out of the embedded CP and into the matrix clause. First, while in most cases the embedded subject can either be in NOM or ACC, NOM subjects in general may not move out of the embedded clause, only ACC subjects can.

(9) a. **NOM subjects may not move out of embedded CP** [4]

    *Bold   Tuya$_1$ kharamsaltai-gaar [$_{CP}$ ___$_1$ teneg bai-san gej]
    Bold.NOM Tuya.NOM sad-INST   stupid COP-PST C
    bod-son
    think-PST

    Int. 'Bold thought with sadness that Tuya was stupid.'

  b. **ACC subjects may move out of embedded CP**

    Bold   Tuya-g$_1$ kharamsaltai-gaar [$_{CP}$ ___$_1$ teneg bai-san gej]
    Bold.NOM Tuya-ACC sad-INST   stupid COP-PST C
    bod-son
    think-PST

'Bold thought with sadness that Tuya was stupid.'

Fong (2019) demonstrates that the cross-clausal movement of ACC subjects exemplified in (9b) displays A-properties. For example, (10) shows that cross-clausal movement of an embedded accusative subject feeds variable binding in the matrix clause.

(10)   **Movement from embedded Spec CP feeds variable binding**

   a.   **No variable binding in base order**

     Öör-iin-kh ni$_1$ eej   [$_{CP}$ **okhin bür-iig**$_{*1}$ ukhaantai gej] khelsen
     self-GEN- KH 3S.POSS mother   girl   every-ACC intelligent C   said
     'His/her$_1$ (own) mother said that every girl$_{*1}$ is intelligent.'

   b.   **Embedded ACC subject A-moves and binds matrix pronoun**

     Okhin bür-iig$_1$ öör-iin-kh ni$_1$ eej   [$_{CP}$ ——$_1$ ukhaantai gej]
     girl   every-ACC self-GEN- KH 3S.POSS mother   intelligent C
     khelsen
     said
     'Every girl$_1$, her$_1$ (own) mother said is intelligent.'

Based on evidence such as (10), Fong concludes that the cross-clausal displacement of the accusative subject observed in (9b) is a kind of A-movement.

(11)   (=(9b)) **A-movement out of finite CP**

Bold   Tuya-g$_1$ kharamsaltai-gaar [$_{CP}$ ——$_1$ teneg bai-san gej] bod-son
Bold.NOM Tuya-ACC sad-INST   stupid COP-PST C   think-PST
'Bold thought with sadness that Tuya was stupid.'

It is well-known that A-movement out of a finite clause is not possible in English (Chomsky 1973)—a sentence like (12) is ungrammatical.

(12)   * John$_1$ is believed [$_{CP}$ ——$_1$ [$_{\bar{C}}$ (that) [$_{TP}$ Mary likes ——$_1$]]].
                                                                         (Lasnik and Saito 1992: (103))

The standard account (e.g., Chomsky 1977, 1981, 1986; May 1979; Lasnik and Saito 1992; Fukui 1993a) developed to exclude constructions like (12) consists of two major components. First, the requirement, due to subjacency, that movement proceed through the edge of a finite clause, which is an Ā-position in English; Second, a constraint

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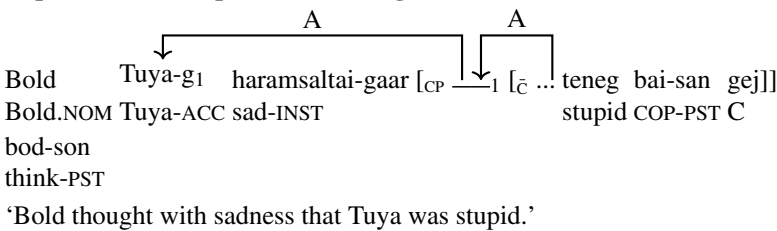[4] The example is modified based on von Heusinger et al. (2011): (18) (Fong (2019):(66))

imposing a *Ban on Improper Movement* which prohibits movement from an Ā-position to an A-position.[5]

(13) **Ban on Improper Movement**

Movement may not proceed from an Ā-position to an A-position.

In contrast to English, subsequent research suggests that some languages do allow A-movement to proceed out of a finite clause, known as hyperraising[6] (e.g., Ura 1994, 1995; Ferreira 2004; Carstens and Diercks 2013; Halpert 2019; Zyman 2018; see Zyman 2021 for a recent review of languages with hyperraising and major analytical approaches). Mongolian, as discussed above, is one such language. According to Fong's (2019) analysis, the embedded Spec CP in Mongolian is an A-position, and thus movement to Spec CP is an instance of A-movement.

(14) **Spec CP as an A-position in Mongolian**

$$\text{A} \qquad \text{A}$$

Bold Tuya-g$_1$ haramsaltai-gaar [$_{CP}$ __$_1$ [$_{\bar{C}}$ ... teneg bai-san gej]]
Bold.NOM Tuya-ACC sad-INST stupid COP-PST C
bod-son
think-PST

'Bold thought with sadness that Tuya was stupid.'

Therefore, Mongolian has "proper" movement through Spec CP, an idea which was previously proposed for Japanese (e.g., Tanaka 2002a) and Korean (e.g., Yoon 1991). On Fong's account, A-movement through Spec CP in Mongolian is not deemed a violation of (13) due to the presence of a ϕ-probe on C^0. In particular, she extends van Urk's (2015) proposal that A-movement is distinguished from Ā-movement in that the former involves ϕ-feature agreement, whereas the latter does not (also see Chomsky 2007 for similar ideas). Essentially, Spec CP is regarded as an A-position in Mongolian because movement targeting Spec CP takes place in response to ϕ-agreement. However, as Zyman (2021) comments, since modern Khalkha Mongolian does not seem to exhibit overt ϕ-agreement, a natural question is whether there is

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[5] Note that (13) is stated in more general terms compared to some alternative formulations. In order to rule out chains like (12), Chomsky (1973:244) states that no rule can involve X, Y in the structure ... X ... [$_\alpha$ ... Z ... -WYV ...] ... where "Y is in COMP and X is not in COMP". See e.g., Lasnik and Uriagereka (1988), Cinque (1990) for other formulations and observations that the constraint may extend to constructions other than COMP to non-COMP movement. See e.g., May (1979), Lasnik and Saito (1992), Müller and Sternefeld (1993), Fukui (1993a) for discussions regarding the source of such a constraint.

[6] Ura (1994) originally distinguishes "superraising" from "hyperraising". "Superraising" refers to the operation by which a DP moves across another distinct intervening subject DP to an A-position in a higher clause:

i. *John$_1$ seems [$_{CP}$ that [$_{TP}$ it was told __$_1$ [that Mary is a genius]]]

"Hyperraising", on the other hand, refers to A-movement from the subject position of a tensed (or finite) clause to the subject position of a higher finite clause:

ii. *They$_1$ seems [$_{CP}$ that __$_1$ like Mary]

I abstract away from such terminological distinction here and use "hyperraising" to refer to A-movement of an embedded subject out of a finite clause.

any direct evidence for the existence of such ϕ-probe in Mongolian, an issue which remains unresolved in Fong (2019). In the upcoming sections, I identify and confirm several predictions arising from the availability of a probe on C^0 which induces A-movement. Specifically, I show that the interactions between A- and $\bar{\text{A}}$-operations at the embedded finite clausal periphery naturally follow from an Agree-based view of movement types, in which A-movement to Spec CP proceeds in response to a ϕ-probe on C^0, combined with the Mongolian clausal architecture.

3 ECM is incompatible with *wh*-licensed subjects

In this section, I present the interaction between ECM and *wh*-licensing in Mongolian. In Section 3.1, I provide background on Mongolian *wh*-questions. I adopt the assumption that *wh*-phrases do not move covertly, and are instead licensed in-situ. Given this background, I present previously unnoticed data in Section 3.2, suggesting that in an embedded question, *wh*-licensing and ECM cannot co-occur on the embedded subject. I identify some of the issues these data pose for the A-status of Spec CP, which I will provide a solution for in Section 5.

3.1 *Wh*-Licensing in Mongolian

This subsection provides background on Mongolian *wh*-questions in preparation for the discussion in Section 3.2, focusing specifically on the structure of embedded questions. I assume *wh*-licensing in Mongolian does not involve covert or overt movement of *wh*-phrases, and present empirical data consistent with this view.

3.1.1 Matrix and Embedded Questions

Mongolian is a *wh*-in-situ language. A grammatical *wh*-question requires the presence of a *wh*-Q particle *be/we*, which is distinguished from a yes/no question particle *uu/üü*.

(15)   a. **Wh-questions require the *wh*-Q particle *be/we***

Ta   yamar nom-ig   unši-j   bai-na   **we**   /*uu?
2PL.NOM what   book-ACC read-CVB COP-NPST *wh*-Q /*y/n-Q

'What book are you reading?' [7]

   b. **Y/N questions require the *y/n*-Q particle *uu/üü***

Ta   ter nom-ig   unš-san **uu**   /*we?
2PL.NOM that book-ACC read-PST *y/n*-Q /*wh*-Q

'Did you read that book?'

In embedded constructions, the location of a *wh*-Q particle unambiguously indicates the scope of the *wh*-phrase. As shown in (16a), the *wh*-phrase *ali nomig* ('which book.ACC') inside the embedded clause obligatorily takes embedded scope when the

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[7] For one addressee, the second person plural pronoun *ta* is used honorifically for polite address.

question particle *be* is inside the embedded clause. In contrast, the *wh*-phrase obligatorily takes matrix scope when the question particle *be* is in the matrix clause, as shown in (16b).

(16) a. Nawčaa   [$_{CP}$ Zaya-g   ali   nom-ig   unš-san **be**   gej] asuu-san
        Nawčaa.NOM   Zaya-ACC which book-ACC read-PST *wh*-Q C   ask-PST
        [Embedded scope only] 'Nawčaa asked (that) which book Zaya read.'

  b. Nawčaa   [$_{CP}$ Zaya-g   ali   nom-ig   unš-san gej] khel-sen **be**?
        Nawčaa.NOM   Zaya-ACC which book-ACC read-PST C   say-PST *wh*-Q
        [Matrix scope only] 'Which book did Nawčaa say that Zaya read?'

Notice also that as exemplified in (16a), the *wh*-question particle is always followed by the complementizer *gej* in Mongolian finite embedded questions.[8] I propose that the *wh*-question particle *be/we* instantiates a Force^0 head, which hosts a *wh* probe. The complementizer *gej* in an embedded question instantiates C^0 located above Force^0. Therefore, a *wh*-question with embedded scope such as the one in (16a) has the following clausal periphery.

(17) **Clausal periphery of Mongolian embedded *wh*-questions**
    [$_{CP}$ [$_{ForceP}$ [$_{TP}$... ...] *be/we*] *gej*]

3.1.2 *Wh*-licensing in Mongolian

In this section, I discuss the mechanism of *wh*-licensing in Mongolian and take note of some auxiliary assumptions. It should be acknowledged that whether in-situ *wh*-phrases undergo covert movement or not in Mongolian is a complex issue beyond the scope of the current paper. Therefore, I will limit my discussion to the points immediately relevant to the current topic, and leave a thorough investigation into this issue to future work. In this paper, I take the position that Mongolian *wh*-questions involve *wh*-licensing, which does not require overt or covert movement but is instead established via Agree with Force^0. I discuss data related to subjacency and focus intervention effects which lead me to adopt the no-covert-movement view.

First, while Fong (2019) suggests that the unacceptability of a *wh*-phrase inside conditional clauses and *whether*-islands can be accounted for by assuming covert *wh*-movement in Mongolian, it has long been observed, since Huang (1982), that some in situ *wh*-phrases can indeed appear in positions from which overt extraction is not quite acceptable. As discussed in detail by Simpson (2000), the fact that overt and covert movement often are not fully parallel in their locality profile poses challenges to the type of approach which motivates covert *wh*-movement based on island sensitivity. This non-parallelism with regard to movement carries over to Mongolian, in which

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[8] This pattern can potentially be compared with the Japanese *-ka-to* (-Q-C) sequence (e.g., Saito 2012), although in Japanese, *to* is often optional. Similar to the current proposal, Saito (2012) also suggests a recursive CP structure for the Japanese clausal periphery. To some extent, Mongolian *-be-gej* is more similar to the Korean embedded question pattern V_{stem}-*nya-ko*, where *-nya-* is a Q marker (*wh* or *y/n*) and *-ko* is the complementizer. Unlike the Japanese *-ka-to* pattern, the complementizer *-ko* is obligatory in Korean indirect questions, like Mongolian.

relative clauses (RCs) are strong islands for scrambling (18a), and overt $\bar{\text{A}}$-movement, such as relativization (18b).

(18)   a. **An RC is a strong island for scrambling**

*Ter nom-ig$_1$ Bat   [$_{RC}$ očigdor   ___$_1$ khudalda-j aw-san]
that book-ACC Bat.NOM   yesterday   trade-CVB buy-PST.PTCP
khun-iig   khai-j   baina
person-ACC search-CVB COP.NPST

Int. 'That book, Bat is looking for the man who bought yesterday. '

b. **An RC is a strong island for relativization**

*[$_{RC}$ [$_{RC}$ ___$_2$ ___$_1$ Unš-ij   baigaa] nom$_1$ ikh khetsuu] khun$_2$ khurdan
                              read-CVB be.PTCP book very difficult man   fast
sur-č   čad-na
learn-CVB can-NPST

Int. 'The man whose book that he is reading is very difficult can learn very fast.'

Nevertheless, a *wh*-phrase may freely appear in RCs (19).[9]

(19)   *wh*-**phrases can appear in RCs**

Ta   [$_{RC}$ **khen-ii** bič-sen] nom-ig   aw-san be?
2PL.NOM   who-GEN write-PST book-ACC buy-PST *wh*-Q

'Who$_x$ did you buy the book which x wrote?'

Similarly, a *wh*-phrase can also take scope out of an adjunct clause, another strong island for overt phrasal movement such as scrambling.

(20)   *wh*-**phrases can appear in adjunct islands**

[**Khen**   owd-son učraac] ta nar bayar-t   yaw-j čad-san-gui we?
who.NOM ill-PST   because 2P PL celebration-DAT go-CVB can-PST-NEG *wh*-Q

'Who$_x$ is it such that you couldn't go to the celebration because x got ill?'

The second piece of relevant data concerns focus intervention effects, a phenomenon which has been suggested to have implications for the presence or absence of covert *wh*-movement in a certain language (e.g., Pesetsky 2000; Keine 2016; Aravind 2018; Kotek 2019, see also Cable 2010). Beck (2006), building on Kim (2002) and expanding earlier work (Beck 1996; Beck and Kim 1997), discusses intervention effects in *wh*-questions of a number of languages, such as Korean, Japanese, Malayalam, Hindi/Urdu, French, German, and parts of English. The focus intervention configuration can be described as follows.

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[9] Note that Nishigauchi (1986) attributes this type of data to the possibility of LF pied-piping in Japanese.

(21) **Focus intervention effect (Beck 2006: (9-11))**

    a. A quantificational or focusing element may not intervene between a *wh*-phrase and its licensing complementizer.

        i. *[Q_i [... [intervener [... *wh*-phrase$_i$ ...]]]]

    b. A intervenes between B and C when A c-commands B, and C c-commands both A and B.

An example of focus intervention effect in Mongolian is illustrated in (22). In (22a), the NPI *khen č* ('anyone') c-commands the *wh*-object *yamar nomig* ('what book-ACC'), in violation of (21a). The sentence is severely degraded. Importantly, the structural relationship between the *wh*-phrase and the NPI intervener matters. If the *wh*-phrase scrambles to a higher position where it is no longer c-commanded by the intervener, the intervention effect disappears. This possibility is presented in (22b).

(22)   a. **Focus intervention effect**

    ?*[$_{NPI}$ Khen   č]   yamar nom-ig   unš-aa-**gui**   we?
        Who.NOM FOC   what   book-ACC read-PST-NEG *wh*-Q

    Int. 'What book did no one read?'

  b. **Focus intervention effect obviated by scrambling**

    Yamar nom-ig$_1$ [$_{NPI}$ khen   č]   ___$_1$ unš-aa-**gui**   we?
    what   book-ACC   who.NOM FOC   read-PST-NEG *wh*-Q

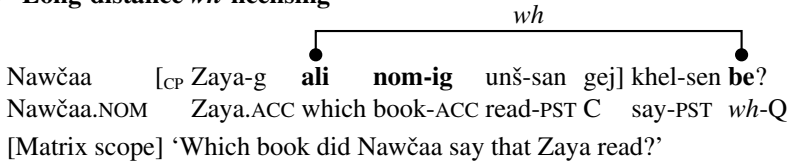   'What book did no one read?'

Expanding on earlier work, Beck provides a semantic analysis of intervention effects in which *wh*-phrases make use of the same interpretational mechanism as focus. To give a very general summary, in her account a *wh*-phrase can only be evaluated by a question operator, and requires its first c-commanding operator to be a question operator. As a result, a *wh*-phrase c-commanded by an intervening focus-sensitive operator will be uninterpretable even if there exists a higher c-commanding question operator, giving rise to intervention effects.[10] Beck's analysis and its implications are further explored in Kotek (1994, 2019). In particular, Kotek examines the correlation between superiority and intervention effects in English (an observation due to Pesetsky 2000), and suggests that covert movement, just as overt movement, is capable of obviating intervention effects. Subsequent studies build on this idea and use focus intervention effects to diagnose the existence of potential covert *wh*-movement in a *wh*-in-situ language (e.g., Keine 2016 for Hindi, Aravind 2018 for Malayalam). In particular, it is taken that focus intervention effect arises if neither overt nor covert movement takes place.

    If these proposals are on the right track, the data in (22) potentially provide further clues on the absence of covert *wh*-movement in Mongolian. Specifically, if the *wh*-phrase in (22a) had undergone covert movement to a higher position, we would not have observed an intervention effect. The fact that such an effect does arise in (22a) suggests that the *wh*-phrase does not undergo covert movement to a higher position.

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[10] See Miyagawa (2009) Chapter 5 for an alternative focus-based formulation implementing Beck's insight.

In the current analysis, I will assume a mechanism in syntax in which construction of a *wh*-question does not involve covert movement, and instead involves establishing an Agree relation between a *wh*-probe (on Force^0 in Mongolian) and an appropriate goal. This Agree relation is taken to be able to apply long-distance, as evidenced by the fact that a *wh*-phrase inside an embedded CP can be licensed by a matrix Q-particle in (16b), repeated below.

(23) **Long-distance *wh*-licensing**

$$\text{\textit{wh}}$$

Nawčaa   [$_{CP}$ Zaya-g   **ali**   **nom-ig**   unš-san gej] khel-sen **be**?
Nawčaa.NOM   Zaya.ACC which book-ACC read-PST C   say-PST *wh*-Q
[Matrix scope] 'Which book did Nawčaa say that Zaya read?'

Before proceeding to the main observations regarding *wh* vs. ECM interaction, I will make some additional comments regarding the long-distance *wh*-licensing mechanism assumed here. The Agree relationship between the Q-particle and the *wh*-phrase in (23) crosses a CP phase boundary. A natural question arises as to how this kind of long-distance Agree mechanism fares with locality restrictions on syntactic operations such as the Phase Impenetrability Condition (PIC) (Chomsky 2001). For present purposes, I assume that *wh*-agreement in Mongolian is subjected to locality restrictions, and that the long-distance Agree is possible here due to a version of cyclic agreement (Legate 2005; Munakata 2007; Aravind 2018). The core idea of cyclic agreement, as laid out in Legate (2005), is that potential inter-phasal agreement relations may consist of smaller local agreement steps established through the intermediary of intervening phase-defining heads. While this mechanism was originally proposed to handle certain unaccusative constructions, Legate notes that the cyclic agreement operation has clear applications in *wh*-in-situ constructions. A recent implementation of cyclic agreement in Ā-constructions is Aravind's (2018) account of long-distance *wh*-licensing in Malayalam. Building on Legate (2005), Aravind proposes that in Malayalam, long-distance *wh*-agreement that spans across a CP phasal boundary is mediated by the C^0 of the intermediate clause. For concreteness, in this paper I will assume a similar long-distance agreement mechanism for Mongolian *wh*-licensing. Take the configuration in (23) as an example. The agreement between the matrix *wh*-Q and the embedded *wh*-phrase is mediated by the C^0 of the intermediate CP. Although the intermediate CP is not associated with interrogative interpretation, I take the C^0 of this intervening CP to possess a *wh*-feature which may Agree with *ali nomig* 'which book.ACC' in the embedded clause. After the *wh*-feature of the intermediate C^0 is valued via Agree, this intermediate C^0 itself may function as a goal for the matrix clause *wh*-probe.[11]

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[11] The intuition behind this *wh*-feature on the intervening C^0 comes from long-distance successive cyclic *wh*-movement. As pointed out by Aravind, in the derivation of long-distance *wh*-movement, it is often suggested that the intermediate C^0, while not being an interrogative C^0 itself, is nevertheless equipped with a *wh*-feature that triggers movement of an embedded *wh*-element to its specifier (e.g., McCloskey 2002). The cyclic agreement solution of long-distance *wh*-licensing can be seen as an Agree version of this proposal. For additional discussions on the locality restriction on Agree vs. movement in light of various constructions cross-linguistically, see Adger and Ramchand (2005), Bobaljik and Wurmbrand (2005), and Keine (2017), among others.

3.2 *Wh*-Licensing vs. ECM

The core observation of this section is that ECM is degraded when the embedded subject is a *wh*-phrase taking embedded scope. First, recall from previous discussion that *wh*-Q particles in Mongolian unambiguously indicate *wh*-scope. Therefore, in (24) only the embedded scope reading is available. Notice that in this sentence, the *wh*-phrase *ali nomig* ('which book.ACC') is the embedded object, and ACC case marking on the embedded subject *Bat* is acceptable.

(24) **The ACC-subject is compatible with *wh*-object taking embedded scope**

Bold	[CP Bat-ig/Bat	ali	nom-ig	unš-san	be	gej]	asuu-san
Bold.NOM	Bat-ACC/Bat.NOM	which	book-ACC	read-PST	*wh*-Q	C	ask-PST

[Embedded scope only] 'Bold asked (that) which book Bat was reading.'

In contrast, if the *wh*-phrase is in the subject position of the embedded clause, it can only be in NOM case. ACC case marking is degraded.

(25) **The ACC-case is incompatible with *wh*-subject taking embedded scope**

Bold	[CP khen/?*khen-iig	ter	nom-ig	unš-san	be	gej]	asuu-san
Bold.NOM	who.NOM/who-ACC	that	book-ACC	read-PST	*wh*-Q	C	ask-PST

[Embedded scope only] 'Bold asked (that) who read that book.'

Similar effects are found in embedded multiple *wh*-questions. In (26), the ECM of the embedded *wh*-subject is degraded.

(26) **ACC case is degraded on a *wh*-subject in an embedded multiple *wh*-question**

Bold	[CP khen/?*khen-iig	yu(-g)	khar-san	be	gej]	asuu-san
Bold.NOM	who.NOM/who-ACC	what(-ACC)	see-PST	*wh*-Q	C	ask-PST

[Embedded scope only] 'Bold asked (that) who saw what.'

Strikingly, this constraint disappears when the embedded *wh*-subject obligatorily takes matrix scope (i.e., no embedded scope reading is possible).

(27) **The ACC case is compatible with a *wh*-subject taking matrix scope**

Bold	[CP khen/khen-iig	ter	nom-ig	unš-san	gej]	khel-sen	be?
Bold.NOM	who.NOM/who-ACC	that	book-ACC	read-PST	C	say-PST	Q

[Matrix scope only] 'Who did Bold say (that) read that book?'

The observations made in (24–27) can be descriptively stated as (28).

(28) **Constraint on embedded subject *wh*-licensing**
?**wh*-phrase.ACC, when it is the subject of a finite embedded question.

This generalization raises three questions. First, if Mongolian embedded Spec CP is an A-position that a subject can optionally raise to and receive ACC, why is this option unavailable when the subject is a *wh*-phrase taking embedded scope? Second, why does this option become available when the *wh*-subject obligatorily takes matrix

scope? Third, what is the structural source of this pattern, and how do we model it in such a way so that (28) emerges from independent properties of grammar? I will defer a solution to these questions until Section 5. In the next section, I identify parallels between embedded *wh*-constructions and thematic topicalization in their interactions with ECM, which allows for a unified analysis that accounts for all three phenomena.

4 ECM is incompatible with thematic topic subjects

In this section, I examine further data which show that ECM is incompatible with subjects as embedded thematic topics. I identify the status of thematic (aboutness) topics in Mongolian and posit that they are interpreted at Th(eme)P. I then show that thematic topic interpretations are unavailable on ECM subjects, a pattern which resembles (28).

4.1 Topic Constructions in Mongolian

In Mongolian, topics are often indicated by the particle *bol*. The interpretation of phrases marked by *bol* is, to some extent, similar to those marked by *wa* in Japanese (e.g., Kuno 1975; Heycock 2008; Tomioka 2010; Vermeulen 2013). For example, similar to *wa*, *bol*-marked phrases can be interpreted as a "theme" (i.e., aboutness topic or thematic topic as defined in Kuno 1975) or as a contrastive topic; thus, (29) is ambiguous. The sentence can be used to convey information about Bat, without implying any information about other individuals or entities. Alternatively, under the contrastive reading, the sentence implicates contrast with other individuals or entities salient in the context.

(29) **Both thematic and contrastive readings are available**

[Bat   **bol**] ter nom-ig   unš-san
Bat.NOM TOP   that book-ACC read-PST

'Bat read that book.'
[Thematic: Speaking of Bat, he read that book.]
[Contrastive: Bat read that book (but I don't know about other people).]

While a contrastive reading is available for *bol*-marked phrases in most cases, the thematic reading is possible only when a phrase is in the clause-peripheral position. In (30), *bol* marks *ter nomig* ('that book.ACC') in the canonical object position. The object can only receive contrastive reading. However, if the object is placed at the sentence-initial position as in (31), the thematic reading becomes accessible.

(30) **Only a contrastive reading is accessible**

Bat   [ter nom-ig   **bol**] unš-san
Bat.NOM that book-ACC TOP read-PST

'Bat read that book.'
[*Thematic: Speaking of that book, Bat read it.]
[Contrastive: Bat read that book (but I don't know about other books).]

(31) **Both thematic and contrastive readings are accessible**

[Ter nom-ig **bol**]₁ Bat ___₁ unš-san
that book-ACC TOP Bat.NOM read-PST

'That book, Bat read.
[Thematic: Speaking of that book, Bat read it.]
[Contrastive: Bat read that book (but I don't know about other books).]

The thematic reading on a subject topic remains accessible even when the subject no longer counts as the sentence-initial constituent after scrambling applies. As shown in (32), when a *bol*-marked subject is preceded by a scrambled object, the thematic reading, although not as strong as the contrastive reading, is still accessible.

(32) Ter nom-ig₁ [Bat **bol**] ___₁ unš-san
That book-ACC Bat.NOM TOP read-PST

'That book, Bat read.'
[(Weakened) Thematic: Speaking of Bat, he read that book.]
[Contrastive: Bat read that book (but I don't know about others).]

Importantly, thematic topic interpretations are not limited to matrix clauses. In Mongolian, finite CP complements of the verb 'to say' allow embedded thematic topics. A typical case is given in (33), in which the third singular pronominal possessive in the embedded CP coindexes with the matrix subject *bagš* ('teacher'), ensuring that it is not a direct quotation (cf. Fukui 2006; Vermeulen 2013). The embedded subject *Bat* is marked by *bol*, giving rise to an embedded thematic topic reading. Meanwhile, the contrastive reading is also available.

(33) **Embedded thematic topics**

Bagš₁ [CP Bat **bol** offis-t ni₁ khoyor nom-ig unši-j
Teacher.NOM Bat.NOM TOP office-DAT 3S.POSS two book-ACC read-CVB
duusga-san gej] khel-sen
finish-PST C say-PST

'The teacher₁ said that Bat finished reading two books in his₁ office.'
[Thematic: The teacher₁ said that speaking of/as for Bat, he finished reading two books in his₁ office.]
[Contrastive: The teacher₁ said that Bat finished reading two books in his₁ office (but not other people).]

As (33) exemplifies, structurally speaking, the kind of embedded environment which can accommodate thematic topic interpretations is limited to CPs that are "big enough" (i.e., finite CPs headed by the complementizer *gej*). In contrast, nonfinite embedded clauses smaller than a CP cannot host a thematic topic. For example, (34) contains a nonfinite embedded clause which is marked with ACC case. The embedded verb *unšikh* ('to read') is a nonfinite participial form with a non-past interpretation.[12] This

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[12] Janhunen (2012) calls *-kh* a 'futuritive participle' ending. It refers to the future in some contexts, but is also often used as a general atemporal form of the verb with no specific temporal reference. For this reason, it is also widely used as the "dictionary form" of verbal elements.

embedded clause does not project CP, nor does it allow [$_C$ *gej*]. The phrase marked by
bol only has contrastive reading.[13]

(34) **The thematic topic reading is unavailable in nonfinite embedded clauses**

Bagš   [Bat(-ig) **bol** tawan nom unši-kh]-iig   khel-sen
Teacher.NOM Bat-ACC TOP five   book read-INF]-ACC say-PST

Lit. 'The teacher said Bat (to) read 5 books. '
[*Thematic: The teacher said that speaking of/as for Bat, he reads 5 books.]
[Contrastive: The teacher said that Bat read 5 books (but not other people).]

Based on the patterns of matrix and embedded topics, I propose that there is a des-
ignated projection Th(eme)P for thematic topics in the Mongolian clausal periphery,
between TP and CP, adapting similar proposals for Japanese by Saito (2009, 2012) to
the current case. A phrase occupying this position receives thematic topic reading.

(35) **Embedded clausal periphery with a thematic topic**
     [$_{CP}$ [$_{ThP}$ [$_{TP}$ ... ...]] *gej*]

4.2 Embedded Topicalization vs. ECM

Given the background provided above, consider (36-37). In both examples, the embed-
ded subject *Natsagdorj* is marked by *bol*. Crucially, when the embedded *bol*-marked
topic receives ACC case as in (36), the thematic topic reading is no longer available.
Such a reading can only be obtained when the embedded subject is in NOM, as in (37).

(36) **When the embedded subject is marked by *bol*, ECM disallows the thematic
     reading**

Bagš   [$_{CP}$ Natsagdorj-**iig**   **bol** aldartai zokhiolč gej] oyutn-uud-ad
teacher.NOM   Natsagdorj-ACC TOP famous writer   C   student-PL-DAT

khel-sen
say-PST

'The teacher said to the students that Natsagdorj was a famous writer.'
[?*Thematic: The teacher said that speaking of/as for Natsagdorj, he was a famous
writer.]
[Contrastive: The teacher said that Natsagdorj was a famous writer (not some
other people).]

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[13] The data so far indicate that while thematic *bol* has a limited distribution, contrastive *bol* can occur in
a wider range of subordinate clauses (this distribution is to some extent similar to Japanese thematic and
contrastive *wa*, see e.g., Kuno 1975 and Heycock 2008 for an overview). The specific licensing mechanism
for contrastive *bol* in Mongolian remains to be investigated in detail in future research, and I will leave this
issue open. For the purpose of the current paper, I assume that contrastive *bol*-phrases need not occupy the
clause-initial position and can be licensed in-situ.

(37) **When the embedded subject is marked by *bol*, the NOM subject allows the thematic reading**

Bagš   [$_{CP}$ Natsagdorj   **bol** aldartai zokhiolč gej] oyutn-uud-ad
teacher.NOM   Natsagdorj.NOM TOP famous writer   C   student-PL-DAT
khel-sen
say-PST

'The teacher said to the students that Natsagdorj was a famous writer.'
[Thematic: The teacher said that speaking of/as for Natsagdorj, he was a famous writer.]
[Contrastive: The teacher said that Natsagdorj was a famous writer (not some other people).]

This pattern resembles the one exhibited by *wh*-constructions in Section 3.2. Typically, both topicalization and *wh*-licensing/movement are identified as Ā-operations. The parallelism can therefore be stated in terms of interactions between A- and Ā-operations. In particular, Ā-operations involving *wh* and thematic topics are incompatible with ECM (an A-operation), when they apply to the same DP at the embedded clausal periphery.

 Similar to *wh*-constructions, thematic topic marking on the embedded object does not interfere with ECM. This point is illustrated with (38), in which the embedded object *nooluurin büteegdekhüüniig* ('cashmere products'.ACC) is marked with the topic marker *bol*. The fact that the object *cashmere product* in (38) is not in its canonical object position is indicated by the fact that it is interrupted by a sentential-level adverb *jil bür* 'every year' from the verb *aw-* ('buy'). In this example, the thematic reading of the embedded object is accessible. Meanwhile, the embedded subject *eej* ('mother') can receive ACC case marking. The ACC-subject arguably is located at the edge of the embedded CP, since it not only receives ECM but is also locally bound by the matrix subject.

(38) **An object thematic topics does not interfere with an ECM subject**

Zaya$_1$ [$_{CP}$ eej-**iig**-ee$_1$ nooluur-in   büteegdekhüün-iig **bol**
Zaya.NOM   mother-ACC- REFL.POSS cashmere-GEN product-ACC   TOP
jil   bür   ikh   aw-dag   gej] nadad   khel-sen
year every much buy-HABIT C   1SG.DAT say-PST

'Zaya said to me that her mother buys a lot of cashmere products every year.'
[Thematic: Zaya said that, as for cashmere products, her mother buys a lot every year.]
[Contrastive: Zaya said that her mother buys a lot of cashmere products every year (but not other products).]

Given the observations above, the core generalization about embedded thematic topics can therefore be descriptively stated as (39).

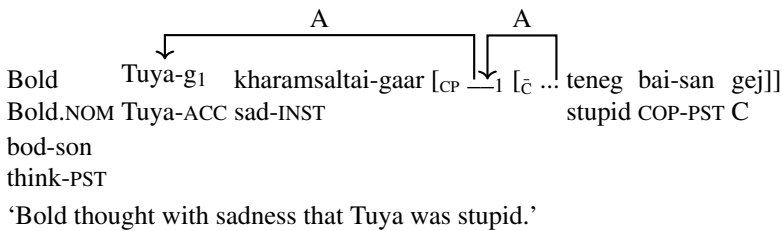(39) **Constraint on thematic topic interpretation on embedded subject**
Subject.NOM *bol* can be an embedded thematic topic, but **subject.ACC *bol*** may not be.

5 A/Ā-operations at the clausal periphery: an Agree-based analysis

5.1 Overview of the Analysis

In this section, I summarize the important properties of Mongolian *wh*-questions, thematic topicalization, ECM, and the proposed analyses for them. I then introduce a unified Agree-based approach which accounts for their interactions at the embedded clausal periphery. First, it was suggested in Fong (2019) that Mongolian Spec CP can be an A-position. The edge of CP is also a position where the embedded subject may receive ACC case from the matrix clause. Embedded subjects which do not move to Spec CP stay in Spec TP and receive NOM instead. In addition, A-movement launching from Spec CP into the matrix clause is not deemed a violation of the ban on improper movement, since Spec CP can be an A-position in Mongolian.

(40) **Spec CP as an A-position**

Bold Tuya-g$_1$ kharamsaltai-gaar [$_{CP}$ —$_1$ [$_{\bar{C}}$ ... teneg bai-san gej]]
Bold.NOM Tuya-ACC sad-INST stupid COP-PST C
bod-son
think-PST

'Bold thought with sadness that Tuya was stupid.'

Independently, I have presented novel data on finite CPs hosting embedded *wh*-questions and thematic topicalization. I have adopted (17), repeated below as (41), for *wh*-questions with embedded scope, and (35), repeated as (42), for embedded thematic topics.

(41) (= (17)) **Clausal periphery of Mongolian embedded *wh*-questions**
[$_{CP}$ [$_{ForceP}$ [$_{TP}$... ...] $_Q$*be/we*] $_C$*gej*]

(42) (= (35)) **Clausal periphery with an embedded thematic topic**
[$_{CP}$ [$_{ThP}$ [$_{TP}$ ... ...]] $_C$*gej*]

Further, I have presented and examined patterns in which embedded *wh*-questions and thematic topics interact with ECM in a similar fashion. In particular, ECM is incompatible with a *wh*-subject taking embedded scope (descriptively summarized in (28), repeated below as (43)). ECM is also incompatible with an embedded thematic subject (summarized in (39), repeated below as (44)).

(43) (=(28)) **Constraint on embedded subject *wh*-licensing**
?*wh-phrase.ACC, when it is the subject of a finite embedded question.

(44) (=(39)) **Constraint on thematic topic interpretation on embedded subject**
Subject.NOM *bol* can be an embedded thematic topic, but **subject.ACC** *bol* may
not be.

I suggest that (43-44) are tied to the profile of the Mongolian embedded clausal periphery (41-42). To model this connection, I offer two interrelated claims. The first claim is that raising of embedded subjects to Spec CP occurs in response to a ϕ-probe on C^0, along the line of what has been proposed in Fong (2019) (see also van Urk 2015). Since the choice between NOM and ACC case on the subject of embedded finite clauses is in principle optional in Mongolian, I assume that the ϕ-probe has the option of staying on C^0 or being inherited by a lower head (i.e., T^0). When the ϕ-probe remains on C^0, it agrees with the embedded subject, and this suppresses the agreement with T^0 which would have resulted in nominative case assignment. As a result, the subject raises to Spec CP, where it becomes accessible to accusative case assignment.[14] By contrast, when the ϕ-probe is inherited by T^0, no ϕ-agreement with C^0 is triggered, so that the embedded subject is free to agree with T^0. As a consequence, the subject does not raise to Spec CP, and the case that emerges on the subject would be nominative.

This leads to the second claim: the incompatibility between ECM and Ā-operations (43-44) is due to the fact that agreement with the ϕ-probe on C^0 bleeds thematic topic and *wh*-licensing. Therefore, in the current account, the interactions between A- and Ā-operations on an embedded subject are modeled in terms of relations between probes bearing different kinds of features. I lay out the analysis in greater detail in the next section.

5.2 An Agree-Based Approach to Mongolian ECM

The core aspect of the current analysis is couched in the view that movement of an element X requires prior establishment of a relation between X and a c-commanding probe with some featural requirement which X satisfies (Chomsky 2000). Under this view, differences between movement types emerge from properties of distinct features involved in Agree. Chomsky (2007:25), for example, characterizes the difference between A- and Ā-movement as follows: "A-movement is IM (internal merge) contingent on probe by uninterpretable inflectional features, while Ā-movement is IM driven by EF". In addition, researchers such as van Urk (2015) propose that A-movement behaves distinctly from Ā-movement because the former involves ϕ-feature agreement but the latter is driven by Ā-features such as topic or *wh*. Likewise, in the current analysis for Mongolian, I take (A-)movement to Spec CP to be driven by ϕ-agreement, and in contrast, Ā-operations such as *wh*-licensing and thematic topicalization involve Ā-features (e.g., *wh*, topic).

As both *wh*-licensing and topicalization interact with subject raising to Spec CP (ECM), I will start with an analysis of the raising/ECM construction in Mongolian. I assume a general Agree-based view of phrasal movement, according to which A-movement is tied to ϕ-agreement (specific formulation varies, see e.g., Chomsky 2007;

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[14] Departing from Fong's proposal though, I will assume that, in Mongolian, accusative case is assigned as a dependent case. This point will be addressed below.

Obata and Epstein 2011; van Urk 2015). I propose that optional subject raising to Spec CP (which feeds ACC case assignment) is due to (45).

(45) **Subject raising to Spec CP**
   Raising of an embedded subject to Spec CP occurs in response to a ϕ-probe on C^0.

The above part of my proposal is similar to Fong's in that both posit a ϕ-probe on C^0 that drives subject raising to Spec CP. However, I depart from Fong (2019) in one respect. Recall that Fong assumes the ACC case on the raised subject is assigned by v in the matrix clause. As it turns out, independent data suggest that the case assignment mechanism in Mongolian needs to be reconsidered. In this paper, I adopt the idea in Gong (2023) that Mongolian possesses two modalities of structural case assignment, in which ACC case is assigned as a dependent case, and NOM case is assigned by finite T.[15]

(46) **Hybrid Case Assignment Mechanism in Mongolian**
   a. If there are two distinct argumental NPs in the same phase, such that NP1 c-commands NP2, then value the case feature of NP2 as accusative case, unless NP1 has already been marked for case.
   b. Nominative case is assigned by finite T^0.

Under the proposal (46), ACC is assigned as a dependent case. In ECM constructions, the embedded subject raises to the edge of the embedded CP by (45), where it becomes accessible to dependent case competition by virtue of being locally c-commanded by a matrix DP (e.g., the matrix subject at Spec vP).

It should be noted that for the purpose of this paper, the specific ACC case assignment mechanism is not crucial, as long as the subject DP must raise to the edge of the embedded CP to receive accusative case. Both Fong's head-licensing analysis and the dependent case analysis assumed here require the embedded subject to raise to the phase edge in order to be accessible to ACC case assignment. Nevertheless, additional facts suggest that a hybrid analysis in which accusative is a dependent case might be on the right track (see also Aravind 2021 for additional support for a dependent case analysis of Mongolian ACC case). Before turning to the discussion of ECM, I will briefly review some of the empirical evidence from Gong (2023) for the hybrid case assignment mechanism in Mongolian.

The core evidence given in Gong (2023) for the dependent case status of Mongolian accusative case involves various types of embedded constructions. First, embedded subjects can be marked with accusative even when there is no functional head in the matrix clause that can assign to it accusative case. Aravind (2021) observes that predicates like *uurlakh* 'to become angry' do not license accusative case, as shown in (47a). However, when the predicate *uurlakh* takes a finite CP as its complement, as in (47b), the embedded subject can be in accusative case.

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[15] The proposal in (46) renders the case system in Mongolian similar to that in the Turkic language Sakha, as proposed by Baker and Vinokurova (2010).

(47) a. **The predicate *uurlakh* does not assign ACC**

    Bat   Zaya-d/*Zaya-g   uurla-san
    Bat.NOM Zaya-DAT/Zaya-ACC become.angry-PST

    'Bat became angry at Zaya.'

  b. **The complement clause of *uurlakh* still has an ACC subject**

    Emč   [$_{CP}$ Bat-**ig** em-ee   uu-gaagüi   gej]
    Doctor.NOM   Bat-ACC medicine-REFL.POSS drink-PST.NEG C
    uurla-san
    become.angry-PST

    'The doctor became angry that Bat did not drink his medicine.'

It seems that the availability of accusative case marking on the embedded subject is dissociated from the case-assigning potential of the matrix predicate. This is further supported by (48), in which the subject of an adjunct clause can be marked with accusative case.

(48) **An ACC subject is possible inside an adjunct-clauses**

    Ta   [bagš-iig   irekh-ed] angi-d-aa   baisan uu?
    2PL.NOM teacher-ACC come-DAT classroom-DAT-REFL.POSS COP.PST *y/n*-Q

    'Were you in your classroom when the teacher came?'

In this sentence, there is no functional head available in the matrix clause that can license the ACC case on the subject of the adjunct clause. However, the construction is grammatical with an ACC subject. On the dependent case approach, these facts follow straightforwardly. The embedded subject, being at the edge of the embedded clause, receives accusative case via competition with the matrix subject in (47b) and (48).

    Second, the availability of ACC on the embedded subject is contingent upon the presence of an eligible matrix clause case competitor. If a matrix case competitor is absent (e.g., in a construction where the matrix clause involves an impersonal predicate), ACC case is not allowed on the embedded subject. An example is provided in (49).

(49) **The embedded SUBJ cannot be in ACC case without a matrix case competitor**

    [*Bat-ig/Bat/Bat-in   ger-iin   daalgawr-aa   khiikh in]
    Bat-ACC/Bat.NOM/Bat-GEN home-GEN assignment-REFL.POSS do.FUT 3SG.POSS
    čukhal
    important

    'It is important that Bat will do his homework.'

The fact that an ACC subject is disallowed in (49) would follow if ACC case on the embedded subject is a dependent case, assigned via competition with an eligible c-commanding case competitor in the same domain. Since there is no such case competitor in (49), ACC case is unavailable.

    In addition to the dependent accusative case, nominative case is unavailable in various tenseless domains. One of the relevant constructions discussed in Gong (2023)

concerns nonfinite relative clauses in Mongolian, which lacks a tense head. In these relative clauses, the subject must be in genitive case, as shown in (50). This is unexpected if nominative is an unmarked case that is freely available independent of the specific clausal structure, but it is consistent with the view that nominative is assigned by T^0.

(50) **The RC subject is in genitive case**

    [RC Minii/*Bi   id-sen]   alim
        1SG.GEN/1SG.NOM eat-PST.PTCP apple

    'The apple which I ate'

To summarize, we observe that the Mongolian accusative case behaves like a dependent case, whereas the nominative case behaves like it is licensed by T^0. In the subsequent discussion, I will adopt the hybrid case assignment mechanism (46) and demonstrate how it works in tandem with the ϕ-probe on C^0 in ECM constructions.

In order to illustrate the main proposal, consider the ECM example in (51), in which the subject of the embedded finite CP can either be in NOM or ACC case.

(51) (=(2)) **The subject of a finite embedded CP can be in NOM or ACC case**

    Zaya   [CP **Dorj-iig/Dorj**   zawgüi bai-san gej] khel -sen
    Zaya.NOM   Dorj-ACC/Dorj.NOM busy   COP- PST C   say -PST

    'Zaya said that Dorj was busy.'

According to (45), movement to the edge of CP is driven by agreement with a ϕ-probe on C^0. This proceeds as follows. As visualized in (52), the ϕ-probe on C^0 searches its domain and agrees with the subject at Spec vP, since it is the closest goal bearing appropriate features. As a result of this agreement process, the subject DP undergoes movement to Spec CP. At the edge of CP, the subject DP receives dependent accusative case by competition with an eligible case competitor in the higher domain (e.g., the matrix subject, marked in (52) as DP_2).

(52) **The subject moves to Spec CP in response to ϕ-probe on C^0**
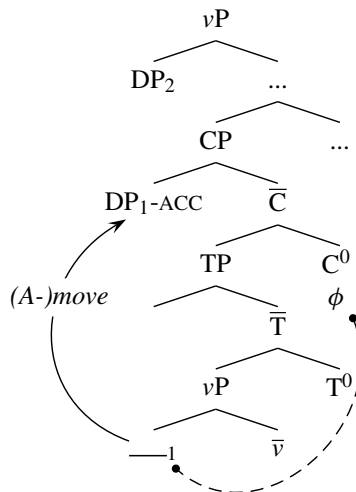
In (52), movement to Spec CP takes place in response to the ϕ-probe on C^0. Thus, this movement has A-properties and Spec CP is considered an A-position. This is essentially what has been proposed in Fong (2019) for Mongolian, building on Chomsky (2007) and van Urk (2015). However, it is worth noting that in the current formulation, ϕ-agreement with C^0 only triggers movement to Spec CP, but C^0 is not the accusative case assigner (nor the matrix v). In my account, ϕ-feature-driven movement to Spec CP feeds ACC case assignment in the sense that it puts the subject DP in a structural position accessible to dependent case competition. ACC case assignment is dissociated from ϕ-agreement in Mongolian ECM.

Recall that the major feature of Mongolian ECM is that it is *optional*. The embedded subject can be in either accusative or nominative case. So what about nominative subjects? How are they licensed? I suggest, along the lines of Miyagawa (2005b), that the ϕ-probe has the option of staying on C^0 or being inherited by T^0 (cf. a later account by Miyagawa 2009, which draws on αP and assumes the ϕ-probe always gets inherited by a lower head). When the ϕ-probe is inherited by T^0, no ϕ-agreement with C^0 is triggered, so that the embedded subject is free to agree with T^0. Since T^0 is the functional head that assigns NOM case, NOM case will be licensed on the subject DP in this scenario. As indicated in (53), I further suggest that once the subject DP agrees with T^0, it moves to Spec TP. In the scenario depicted in (53), Spec CP is not an A-position, and ECM is not possible. Notably, my approach renders ECM an obligatory operation despite the fact that it yields an optional variation. The C^0 head may optionally keep its ϕ-feature specification or pass it down to T^0, but once it keeps its ϕ-probe, agreement with C^0 and movement to Spec CP become obligatory in syntax.

(53) **The ϕ-probe on C^0 is inherited by T^0**
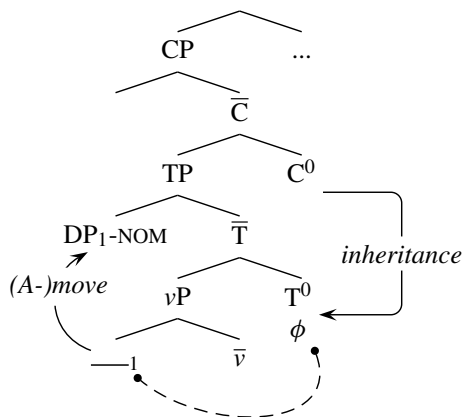
Before turning to the core data involving topicalization and *wh*-licensing, I will summarize the key components of my analysis of ECM. While maintaining Fong's suggestion that movement to Spec CP in Mongolian takes place in response to a

ϕ-probe on C^0, I have proposed that ϕ-agreement with C^0 (resulting in ACC case assignment) suppresses agreement with T^0 (resulting in NOM case assignment). If C^0 passes down its ϕ-features to T^0, the subject DP does not agree with C^0 and is free to agree with T^0, resulting in nominative case assignment. Taken together, the current proposal amounts to stating that the optionality of ECM in Mongolian is due to the fact that C^0 has the option to either keep its ϕ-probe or pass it down to T^0 (similar to the mechanism adopted in Miyagawa 2005b, cf. Miyagawa 2009; also cf. Takeuchi 2010 for a similar proposal based on optional feature inheritance for Japanese ECM).[16]

The current Agree-based proposal allows for a systematic treatment of the core data concerning interactions between A/$\bar{\text{A}}$-operations at the clausal periphery. The previous claim in Fong (2019) that there is a ϕ-probe on C^0 remained largely a speculation for Mongolian, given the predictions of van Urk's system. If C^0 indeed can be introduced with a ϕ-probe, then it is expected to have detectable properties or have at least some effects on the derivation that can be indirectly observed. The current Mongolian data on A/$\bar{\text{A}}$-interactions offer a case study in which the potential ϕ-probe on C^0 affects the derivation in a way that is observable on the surface. Specifically, I argue that the incompatibility between ECM and $\bar{\text{A}}$-operations as summarized in (43-44) is due to the fact that agreement with the ϕ-probe on C^0 bleeds thematic topic and *wh*-licensing in the lower domain. I spell out the specific analyses for topicalization *vs*. ECM interaction and *wh*-licensing *vs*. ECM interaction in the next two sections.

5.3 Topicalization vs. ECM

I start with the analysis of interactions between thematic topicalization and ECM. First, I take typical $\bar{\text{A}}$-features (thematic topic, *wh*) to always come from the clausal periphery (i.e., C^0). This is consistent with the fact that thematic topic is possible inside an embedded clause only if it projects a CP headed by [$_C$ *gej*]. Embedded clauses smaller than a CP, like the one in (54) (= (34)), are unable to host a thematic topic.

(54) (=(34)) **Thematic topic unavailable in nonfinite embedded clauses**

Bagš   [Bat(-ig) **bol** tawan nom unšikh]-iig   khel-sen
Teacher.NOM Bat-ACC TOP five   book read.INF]-ACC say-PST
Lit. 'The teacher said that Bat (to) read 5 books. '
[*Thematic: The teacher said that as for Bat, he reads 5 books]

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[16] Note that in standard formulation, ϕ-features occurring on C^0 are always inherited by T^0 (Chomsky 2007, 2008). Richards (2007) specifically argues [uϕ] cannot remain on a phase head like C^0, based on the condition that Value and Transfer of uF must happen simultaneously (*Value-Transfer simultaneity*). However, further research, such as Obata and Epstein (2011), suggests that in some cases ϕ-features do need to remain on C^0 in languages such as Kilega. Obata and Epstein draw on a parameterized view of edge features (EFs) — pure EFs and ϕ-EFs. They assume that as a type of EF, ϕ-EF is free to remain on C^0 while observing Richards's *Value-Transfer simultaneity*. While I have assumed that the ϕ-probe can simply remain on C^0 in Mongolian, I believe the Obata and Epstein-style formulation of ϕ-EFs is also compatible with the current case. While fully recognizing these equally probable analytical options and their potential implications, I believe the distinction between them do not give rise to significant empirical consequences in the exposition of the Mongolian ECM case at hand. Thus, I will not pursue this issue further in the current work, and continue to adopt the feature inheritance mechanism illustrated in (52-53).

Given the structure for embedded thematic topics (55), I suggest that the Theme head Th^0 requires selection by C^0 to obtain its feature specifications.

(55) **Clausal periphery with an embedded thematic topic** (= (35))
$[_{CP} [_{ThP} [_{TP} \ldots \ldots] Th^0] _{C}gej]$

Specifically, I propose that an Ā-probe with the *Theme* feature specification is introduced on C^0, and is inherited by Th^0. To some extent, the current proposal resembles Miyagawa's (2010) topic feature inheritance from C^0 to T^0/α^0. I also adopt his treatment of the topic head in which the topic probe (i.e., *Theme* in the current discussion) is not associated with any particular phrase in the structure. Following Miyagawa, I suggest that the *Theme* feature, once inherited by Th^0, simply requires its specifier to be filled. In other words, *Theme* does not probe, and a DP may receive thematic topic interpretation only if it occupies Spec ThP.[17] With this in mind, consider the case in which the thematic topic interpretation of a *bol*-marked embedded subject is incompatible with ECM. The relevant example is repeated as follows.

(56) **Thematic topic reading unavailable on ECM subjects**

Bagš [_{CP} Natsagdorj-**iig** **bol** aldartai zokhiolč gej] oyutn-uud-ad
teacher.NOM Natsagdorj-ACC TOP famous writer C student-PL-DAT
khel-sen
say-PST

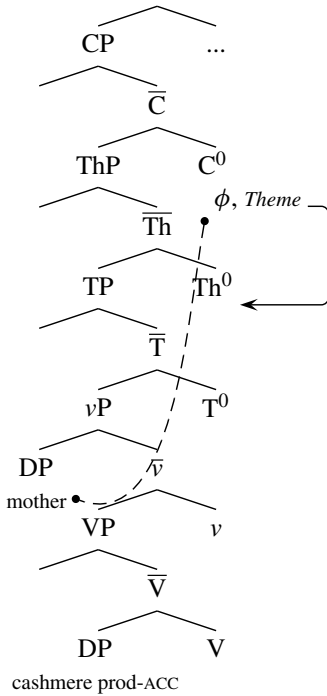'The teacher said to the students that Natsagdorj was a famous writer.'
[?*Thematic: The teacher said (to the students) that as for Natsagdorj, he was a famous writer.]

I suggest that the thematic interpretation is unavailable in (56) because agreement with the ϕ-probe on C^0 induces movement to Spec CP, bleeding thematic topic licensing on the subject. This process is illustrated with (57). First, C^0 is introduced with ϕ and *Theme*. Upon the merger of C^0, two processes happen simultaneously: Th^0 receives *Theme* by inheritance, and in turn requires its specifier to be filled.[18] At the same time, the ϕ-probe on C^0 immediately searches its domain and ϕ-agrees with the subject [_{DP} Natsagdorj], triggering subject raising to Spec CP. As ϕ-agreement takes place upon the merger of C^0, the raised subject will always end up skipping Spec ThP. Therefore, when C^0 retains its ϕ-features, ECM becomes obligatory, and thus the subject can never become a thematic topic.

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[17] This is also consistent with the view of topicalization in Chomsky (2008:151) "Take.. topicalization of DP. EF of a phase head PH can seek any DP in the phase and raise it to Spec PH ... there are no intervention effects, unless we assume that phrases that are to be topicalized have some special mark." Chomsky further comments that positing such a special mark seems superfluous, because "what is raised is identified as a topic by the final position it reaches, and any extra specification is redundant... We need not postulate an uninterpretable feature that induces movement. "

[18] Importantly, the requirement that Spec ThP be filled cannot be simply satisfied by a trace. That is, this position cannot be satisfied "in passing". This treatment of Spec ThP is reminiscent of Rizzi (2006) and Rizzi and Shlonsky's (2007) criterial positions (see Rizzi 2017 for a recent discussion on potential sources of such effects).

(57) **The embedded subject moves to Spec CP in response to ϕ**

Unlike the subject which must raise in response to ϕ on C^0, the object still remains within the domain of Th^0, and should in principle be able to raise to Spec ThP. This prediction is borne out by (38), repeated below as (58). In this sentence, the object *nooluurin büteegdekhüüniig bol* ('cashmere product'.ACC TOP) receives a thematic topic reading within the embedded clause. Recall from the previous discussion that the object is no longer in its canonical verb-adjacent position, because it is separated from the verb 'buy' by a sentential-level adverb 'every year'.

(58) (=(38)) **An object thematic topics does not interfere with an ECM subject**

Zaya$_1$ [$_{CP}$ eej-**iig**-ee$_1$ nooluur-in büteegdekhüün-iig **bol**
Zaya.NOM mother-ACC- REFL.POSS cashmere-GEN product-ACC TOP
jil bür ikh aw -dag gej] nadad khel-sen
year every much buy -HABIT C 1SG.DAT say-PST

'Zaya said to me that her mother buys a lot of cashmere products every year.'
[Thematic: Zaya said that, as for cashmere products, her mother buys a lot every year.]

As illustrated in (59-60), I suggest that the embedded object in (58) ultimately receives thematic interpretation at Spec ThP. The derivation proceeds as follows. First, upon the merger of C^0, Th^0 inherits the *Theme* feature from C^0, and the ϕ-probe on C^0 agrees with the embedded subject. This is shown in (59). As shown in (60), although the subject must raise to Spec CP in response to the ϕ-probe and skipping ThP, the object can independently raise to Spec ThP, receiving a thematic topic reading. Therefore, a construction with a subject undergoing ECM and an object acting as thematic topic like (58) is possible.

(59) ϕ **probing, *Theme* feature inheritance by** Th^0

(60) **Subject moves to Spec CP, object raises to ThP**
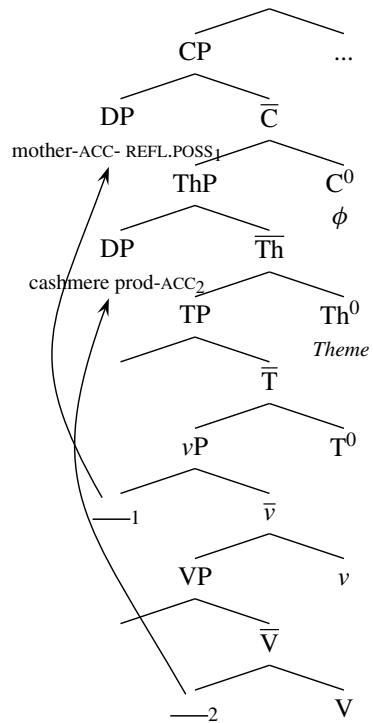
To sum up, under the current analysis, the interactions between ECM and thematic topicalization essentially result from the ϕ-probe on C^0 acting on a structure in which a ThP is projected lower than CP. If C^0 retains its ϕ-features, the ϕ-probe always ends up agreeing with the subject and inducing raising to Spec CP. Since a DP may receive thematic topic interpretation only when it occupies Spec ThP, a subject attracted by ϕ on C^0 always ends up skipping the thematic topic position Spec ThP (importantly, as noted in footnote 18, Spec ThP cannot be filled "in passing"). The object, in contrast, does not interact with the ϕ probe on C^0. Therefore, it is free to move to Spec ThP, receiving thematic interpretation there. On the other hand, if C^0 passes its ϕ-features down to T^0, the subject DP does not agree with C^0 or move to Spec CP. In this scenario, either the subject or the object can become the embedded thematic topic. Since no raising-to-Spec CP occurs in the absence of ϕ-features on C^0, when a subject becomes the thematic topic, it can only be in NOM case:

(61) NOM subject-*bol* allows thematic topic reading

Bagš   [CP **Natsagdorj**   **bol** aldartai zokhiolč gej] oyutn-uud-ad
teacher.NOM   Natsagdorj.NOM TOP famous writer   C   student-PL-DAT
khel-sen
say-PST

'The teacher said to the students that Natsagdorj was a famous writer.'
[Thematic: The teacher said (to the students) that speaking of/as for Natsagdorj, he was a famous writer.]

5.4 *Wh*-Licensing vs. ECM

In this section, I extend the above analysis to the interactions between embedded *wh*-questions and ECM. Based on the observations made in Section 3, I suggest that Mongolian *wh*-questions do not involve covert movement of *wh*-phrases, and instead involve the establishment of an Agree relation between an $\bar{\text{A}}$-probe with *wh*-feature specifications and a goal bearing *wh*-features.[19] As an $\bar{\text{A}}$-feature, the interrogative *wh* feature is similar to *Theme* in the sense that it is introduced on C^0 and is inherited by a lower head (i.e., Force^0). In effect, Force^0 starts functioning as a probe which seeks an appropriate goal to agree with only until C^0 is introduced.

Before turning to the core data, another key property of *wh*-questions in Mongolian needs to be discussed. Let us first consider the examples in (62).
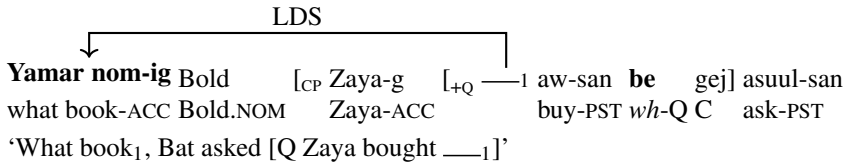
(62) a. Nawčaa   [CP Zaya-g   **ali**   **nom-ig**   unš-san **be**   gej]
        Nawčaa.NOM   Zaya-ACC which book-ACC read-PST *wh*-Q C
     asuul-san
     ask-PST

     '[_Q Nawčaa asked [Q (that) which book Zaya read]] '
   b. ***Khen**   [CP Zaya-g   ter nom-ig   unš-san **be**   gej] asuul-san
        who.NOM   Zaya-ACC that book-ACC read-PST *wh*-Q C   ask-PST

     '[_Q Who asked [Q (that) Zaya read that book]] '

These examples instantiate a well-known generalization first proposed by Harada (1972), that in languages like Japanese (as well as Mongolian), a *wh*-phrase must be contained within the domain of the +Q clause where it takes scope.[20] One piece of evidence suggesting Harada's condition in fact applies at LF concerns the radical reconstruction property of long distance scrambling (LDS),[21] illustrated with (63) from Mongolian.

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[19] Alternative formulations of the nature of this $\bar{\text{A}}$-probe are also available. For example, it is possible to extend Miyagawa's (2009) analysis of *wh*-questions to the current account. In Miyagawa's analysis, *wh*-questions are formed via a focus probe entering into Agree relation with the focus feature of the closest *wh*-phrase. See Miyagawa (2009), Chapter 5, for a detailed discussion of the nature of such a focus feature.

[20] Recasting Harada's generalization in Trace Theory, Saito's (1989) explanation of the ungrammaticality of Japanese examples parallel to (62b) is that they violate the Proper Binding Condition. Nevertheless, as I will show, Harada's observation still holds in the current analysis, in which LF *wh*-movement is not assumed.

[21] For additional discussion on LDS in Mongolian and its properties, see studies including Sakamoto (2012, 2017), Maki et al. (2016), and Gong (2023).

(63) **Scrambling: LDS *wh*-phrase licensed by embedded Q**

LDS

Yamar nom-ig Bold   [$_{CP}$ Zaya-g   [$_{+Q}$ ——$_1$ aw-san **be**   gej] asuul-san
what book-ACC Bold.NOM   Zaya-ACC   buy-PST *wh*-Q C   ask-PST
'What book$_1$, Bat asked [Q Zaya bought ——$_1$]'

Example (63) is a declarative sentence with an embedded *wh*-question. The *wh*-phrase *yamar nomig* ('what book'.ACC) originates in the embedded clause and undergoes long distance scrambling to the matrix-initial position. Since the matrix clause is a declarative sentence, the *wh*-phrase cannot be licensed in the scrambled position. As a result, the *wh*-phrase must be interpreted within the embedded clause even though at S-structure it occupies a position outside of it. The grammaticality of (63) suggests that Harada's condition applies at LF – the scrambled *wh*-phrase undergoes reconstruction to a position within the scope of the embedded +Q clause, satisfying Harada's condition at LF.

In addition to the above observations, we have also seen that in Mongolian Q-particles unambiguously indicate the *wh*-scope. Taken together, Harada's condition can be stated as follows for Mongolian:

(64) **Harada's Condition (for Mongolian)**
A *wh*-element must be interpreted within the scope of a *wh*-question particle at LF. [22]

With this background in mind, consider (65), repeated from (25). In an embedded question, a *wh*-phrase acting as a subject argument may not undergo ECM.[23]

(65) (=(25)) **The ACC-case is incompatible with a *wh*-subject taking embedded scope**

Bold   [$_{CP}$ khen/?*khen-iig   ter nom-ig   unš-san be   gej] asuul-san
Bold.NOM   who.NOM/who-ACC that book-ACC read-PST *wh*-Q C   ask-PST

[Embedded scope only] 'Bold asked (that) who read that book.'

---

[22] Harada's Condition can be taken to be a form of the ban against vacuous quantification at LF, which requires an operator to bind a variable, as suggested by Watanabe (1992). Watanabe (1992) assumes movement does happen in *wh*-in-situ constructions. But his idea regarding the LF ban on vacuous quantification can be straightforwardly translated into the variant of Harada's Condition for Mongolian here. I believe his core insight is not affected by making such a connection.

[23] Patterns similar to (65) seem to exist in Japanese as well. An anonymous reviewer, citing Tanaka (2002b), notes the following pattern in Japanese (cf. Kitagawa 1985 for a superficially similar pattern, but with different CP periphery).

i. Kanozyo-wa [$_{CP}$ dare-ga/*o   sagisi   ka to] tazune-ta
   she-TOP   who-NOM/ACC swindler Q C   ask-PST
   'She asked who was a swindler.'

It might be worth exploring if the analysis suggested for Mongolian can be extended to Japanese (and other languages that exhibit similar contrasts). I will leave an in-depth cross-linguistic investigation for future study. Thanks to the reviewer for noting the Japanese contrast in i.

In addition, recall that when the *wh*-phrase is not the subject in a Mongolian embedded question, ECM is indeed allowed (66).

(66) (=(24)) **The ACC-subject is compatible with a *wh*-object taking embedded scope**

Bold   [CP Bat-ig/Bat   ali   nom-ig   unš-san be   gej] asuul-san
Bold.NOM   Bat-ACC/Bat.NOM which book-ACC read-PST *wh*-Q C   ask-PST

[Embedded scope only] 'Bold asked (that) which book Bat was reading.'

The question relevant for the Mongolian case here is why ECM becomes unavailable when the subject is a *wh*-phrase taking embedded scope. Recall that ECM is due to the raising of an embedded subject to Spec CP, which is taken to be a kind of A-movement. In the current Agree-based analysis, properties of A-movement are the properties of movement resulting from the interaction of a ϕ-probe with its goal, rather than the properties of a particular syntactic position. Under this view, we may attribute the contrast between (65) and (66) to an interpretation requirement stated as follows.

(67) **Feature-Driven Interpretation Requirement (FDIR)**

If an element X undergoes ϕ-feature-driven movement to a landing site α, then X is interpreted in the Spell-Out domain which α belongs to.

FDIR states that an element undergoing movement in response to a ϕ-probe is interpreted within the Spell-Out domain of its landing site. I will first demonstrate how it accounts for the facts regarding the interaction between ECM and *wh*-interpretation. Then, I will provide independent evidence for FDIR and discuss its potential implications.

First, FDIR correctly excludes ECM on a *wh*-subject taking embedded scope as in (65). Suppose C^0 is introduced with a ϕ-probe along with *wh*, the latter being inherited by Force^0, as depicted in (68).

(68) **ϕ-probe on C^0 Agrees with embedded *wh*-subject**

In (68), the subject DP bears a *wh*-feature. Thus, both the ϕ-probe on C^0 and the *wh*-probe inherited by Force^0 will target the subject upon merger of C^0. The ϕ-probe agrees with the subject and drives movement of the subject to Spec CP. Note that C^0 is a phase head. By standard assumptions of phase theory (Chomsky 2001), the Spell-Out domain of the C phase is the complement of C^0 – ForceP. This is labeled as Domain 1 in (68). The edge of CP, on the other hand, does not belong to the Spell-Out domain of the C phase, but instead belongs to the next higher domain, labeled as Domain 2 in (68). By FDIR, the subject *wh*-phrase must be interpreted in Domain 2 (i.e., the domain which Spec CP belongs to). However, licensing of the embedded question simultaneously requires the *wh*-phrase to be interpreted within the scope of the Q-particle (by Harada's Condition), which is an area within Domain 1. As a result of FDIR, the subject *wh*-phrase is forced to be interpreted outside of the scope of the Q-particle, and thus will not be licensed.

On the other hand, if C^0 passes down its ϕ-features to T^0, the subject does not undergo ϕ-feature driven movement to Spec CP, and is free to agree with T^0, receiving NOM case. The subject then raises to Spec TP. By FDIR, the subject needs to be interpreted in Domain 1 and thus has the option to be interpreted within the scope

of the Q-particle, satisfying Harada's Condition.[24] Therefore, nominative *wh*-subjects can be properly licensed.

(69) **NOM *wh*-subject can be properly licensed**
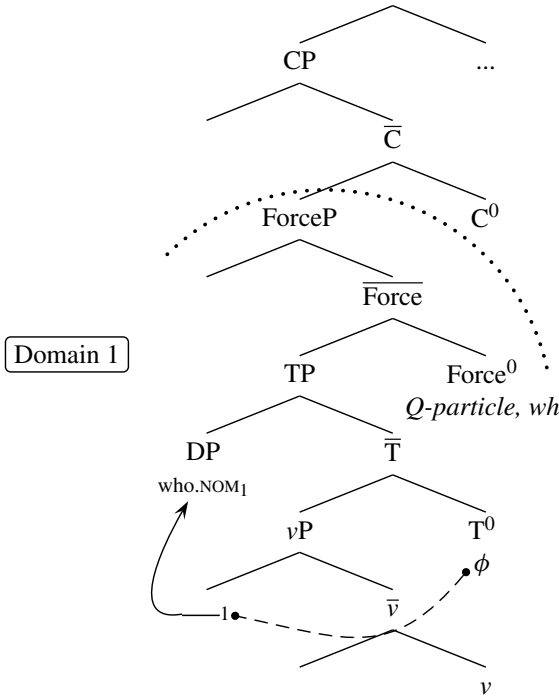
In contrast, when it is the object that bears *wh*-features instead of the subject, *wh*-licensing does not interfere with ϕ-probing of C^0, and thus ECM should be possible. This is borne out by the data in (66), with the derivation schematized in (70). Here Force^0 targets the object DP bearing *wh*, and ϕ on C^0 targets the subject which does not bear *wh*. The subject can raise to Spec CP, and the object *wh*-phrase is interpreted within the lower domain and is properly licensed by Force^0.

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[24] Notice that FDIR only restricts the *domain* in which a DP must be interpreted, and is underspecified with respect to the specific *syntactic position* in which the DP is interpreted within that domain. This aspect of FDIR makes certain predictions, which will be discussed below.

(70) ϕ-**probe on C^0 Agrees with subject, *wh* licenses object**
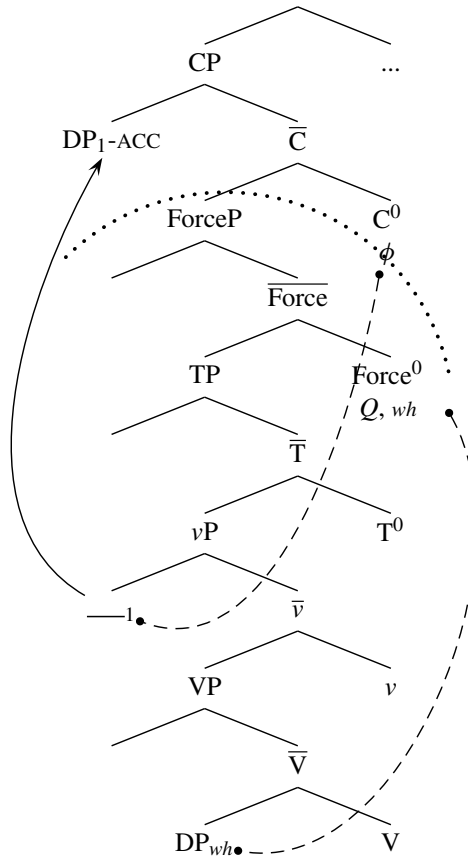
Finally, consider the behavior of an ECM subject in a matrix scope question in (27), repeated in (71).

(71) (= (27)) **ACC-subject compatible with *wh*-subject taking matrix scope**

Bold	[$_{CP}$ khen/khen-iig	ter nom-ig	unš-san gej]	khel-sen be?
Bold.NOM	who.NOM/who-ACC	that book-ACC	read-PST C	say-PST Q

[Matrix scope only] 'Who did Bold say (that) read that book?'

Here the *wh*-phrase *khen* ('who') in the embedded subject position can undergo ECM. Under the current analysis, this means that the subject can raise to the embedded Spec CP in response to the ϕ-probe on C^0. Since the embedded clause is not a question, there is no ForceP projected inside the embedded domain. Since *wh*-licensing is taken to be able to apply long-distance in the current analysis, the Force^0 in the matrix clause can license the embedded subject either in embedded Spec CP (with ECM) or in a CP-internal position (without ECM). The visualization in (72) illustrates the former

scenario, in which the subject DP is at the edge of CP, getting ACC case there and being *wh*-licensed by matrix Force^0.[25]

(72)   **Matrix Force^0 licenses embedded subject at Spec CP**
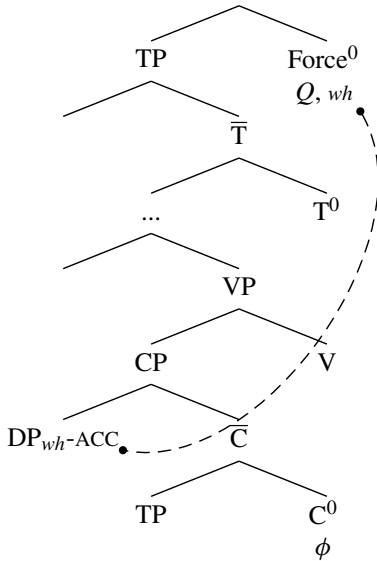
Notice that in the case of (71), the domain which the embedded *wh*-subject is interpreted in does not matter for the purpose of *wh*-licensing. This is because Harada's Condition only requires the subject to be interpreted within the scope of the matrix Force^0 at LF. Since Force^0 is located at the periphery of the matrix clause in (71), as long as the *wh*-subject can be interpreted somewhere within the scope of the matrix Force^0, Harada's Condition can be satisfied. Therefore, regardless of whether ECM applies or not, the embedded subject can be interpreted within the scope of the matrix Force^0 in (71).

The Mongolian ECM facts discussed so far are derived by FDIR which restricts the domain of interpretation. Because Mongolian has a clausal periphery in which ForceP is projected below CP, ECM which requires ϕ-feature-driven movement beyond the domain of the C phase, will not be able to reconstruct back into the original domain for *wh*-question interpretation.

Notice that FDIR only restricts the *domain* in which a DP must be interpreted, and is underspecified with respect to the specific *syntactic position* in which the DP is interpreted within that domain. This domain-centered nature of FDIR predicts that while ϕ-feature-driven movement crossing the domain of a phase head must be interpreted in the higher domain, ϕ-feature-driven movement which starts out and lands

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[25] Recall that it is an independent empirical fact in Mongolian that an in-situ *wh*-phrase can be separated from the licensing Force^0 by several phasal boundaries. This is handled by the assumed cyclic agreement mechanism of long-distance *wh*-licensing, as discussed in Section 3.1.2. Here I assume that the cyclic agreement mechanism enables long-distance licensing of an embedded *wh*-subject in a CP-internal position (a non-ECM subject).

within the same domain of a phase head should in principle be able to reconstruct. This prediction is borne out by independent data from Mongolian. Consider the following sentence.

(73) Bi   [$_{CP}$ neg tsagdaa   udakhgui irekh   baikh gej] bodoj
     1SG.NOM   one policeman.NOM soon   come.INF might C   think
     baina
     be.NPST
     'I think that a policeman might come soon.'

In (73), the embedded subject *neg tsagdaa* 'a policeman' can take either wide scope or narrow scope with respect to the modal *baikh* 'might'. The sentence can either be interpreted as I think there is a policeman and he might come soon, or I think it might be that a policeman will come soon. I suggest that both scopes are available in this case because the subject 'a policeman' undergoes movement to the embedded Spec TP, after agreeing with the ϕ-probe on the embedded T^0.

(74) [$_{TP}$ [$_{\bar{T}}$ [$_{vP}$ a policeman] [$_{\bar{v}}$ [$_{VP}$ come] v]] might]]

Since this movement is ϕ-feature-driven, the DP *a policeman* needs to be interpreted within the Spell-Out domain of Spec TP (its landing site). Crucially, the Spell-Out domain containing the landing site Spec TP also contains the launching site Spec vP (i.e., the two syntactic positions fall within the same Spell-Out domain). Thus, the DP 'a policeman' can either be interpreted at Spec TP (outside of the scope of 'might'), or at Spec vP (within the scope of 'might').[26]

In contrast to (73), an ECM subject can only take wide scope with respect to *baikh* 'might'. Sentence (75) can only be interpreted as I think there is a policeman and he might come soon.

(75) Bi   [$_{CP}$ neg tsagdaa-g   udakhgui irekh   baikh gej] bodoj
     1SG.NOM   one policeman-ACC soon   come.INF might C   think
     baina
     be.NPST
     'I think that a policeman might come soon.' (wide scope only)

The contrast between (75) and (73) is predicted by FDIR. In (75), the ECM subject has undergone ϕ-feature-driven movement to the embedded Spec CP, which is in a separate Spell-Out domain from its launching site. This is illustrated in (76).
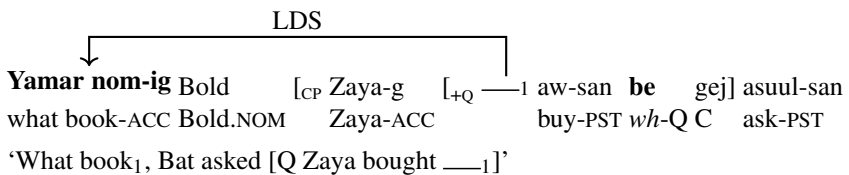
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[26] The domain-oriented nature of FDIR as proposed here allows for certain well-known cases of A-reconstruction. Consider May's (1977:188) example: *Some politician$_1$ is likely* [$_{TP}t_1$ *to address John's constituency]*. (some > likely; likely > some). FDIR correctly predicts that both the wide and the narrow scope reading are allowed here. First, subject raising is commonly taken to be driven by the ϕ-probe on the matrix T. Second, the landing site of *some politician*, Spec TP, is within the same Spell-Out domain as the launching site, which is the embedded Spec TP, if we follow Chomsky (2001) in assuming that the matrix verbal projection headed by the raising predicate is a weak phase and does not trigger Spell-Out. Therefore, according to FDIR, the DP can be interpreted either at Spec TP or Spec vP, since they belong to the same Spell-Out domain.

(76) $[_{CP}$ $[_{\bar{C}}$ $[_{TP}$ $[_{\bar{T}}$ $[_{vP}$ a policeman $[_{\bar{v}}$ $[_{VP}$ come $]$ $v]]$ might$]]$ $C]]$
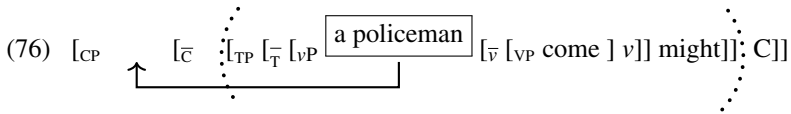
The scenario depicted in (76) is familiar by now: According to FDIR, the DP 'a police-man' needs to be interpreted within the Spell-Out domain which Spec CP belongs to. Consequently, 'a policeman' must be interpreted outside of the scope of 'might'.

In addition, FDIR only restricts the interpretation of a DP that has undergone ϕ-feature-driven movement. We expect that movement which is not driven by ϕ-features should not be constrained by FDIR. This prediction is indeed borne out. The fact that feature-driven movement to Spec CP does not reconstruct for *wh*-interpretation contrasts sharply with LDS, which does reconstruct for *wh*-interpretation. Recall that LDS of a *wh*-phrase shows radical reconstruction in the sense that it has no effect on the interpretation of the embedded question. The relevant example is (63), repeated here as (77).

(77) **LDS shows radical reconstruction**

LDS

Yamar nom-ig Bold $[_{CP}$ Zaya-g $[_{+Q}$ ——$_1$ aw-san **be**   gej$]$ asuul-san

what book-ACC Bold.NOM   Zaya-ACC   buy-PST *wh*-Q C   ask-PST

'What book$_1$, Bat asked [Q Zaya bought ——$_1$]'

Example (77) shows a *wh*-phrase can be scrambled to a position outside the c-command domain of the Q-particle where it takes scope at LF. The *wh*-phrase 'what book' is scrambled from the embedded question into the matrix declarative clause, and the sentence is still acceptable. What is surprising about (77) is that although at S-structure the *wh*-phrase is outside of the scope of the embedded *wh* Q-particle, just like in (62b), the result sounds far better than (62b). Therefore, a long distance scrambled *wh*-phrase can nevertheless be interpreted within the scope of an embedded Q-particle. Since LDS is not driven by agreement with a ϕ-probe, FDIR does not apply here, and the fact that it shows radical reconstruction is expected.[27]

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[27] As far as the set of empirical facts presented here goes, it is clear that LDS differs from ϕ-feature-driven movement operations in terms of radical reconstruction, which I attributed to the fact that scrambling is not ϕ-feature-driven. For the purpose of this paper, I remain open to the issues of i. what feature(s) drive scrambling; and ii. whether or not scrambling is feature-driven at all. A number of studies suggest that scrambling is a type of feature-driven movement in the syntax proper, hence not an optional operation (e.g., Miyagawa 1994, 1997, 2001, 2003, 2005a; Grewendorf and Sabel 1999; Sabel 2001; Kitahara 2002; Ko 2007, among others; also see Bailyn 2006 for relevant discussion). In contrast, researchers such as Saito (2009, 2004), Fukui (1993b), and Tada (1993) have defended the view that scrambling is an optional movement in syntax and is not driven by feature checking (in particular, see e.g., Saito 2004; Saito and Fukui 1998). The issues i.-ii. are discussed extensively in the study of scrambling, and are well beyond the immediate scope of the current study. I will leave them open here.

6 Mongolian Clausal Periphery: Implications for the A/Ā-Distinction

Before I conclude this paper, I will provide some further remarks on the implications of the current account. The major part of my empirical investigation has focused on the consequences of previous proposals that some languages allow A-movement through CP, and therefore Spec CP can be an A-position in those languages (e.g., Tanaka 2002a for Japanese, Yoon 1991 for Korean, and Fong 2019 for Mongolian). The A-status of Spec CP raises important questions about the nature of the A/Ā-distinction and how scope, usually determined by Ā-operations, can be affected by the A/Ā-status of CP. Specifically, if movement to Spec CP is a kind of A-movement, such movement should in principle interact with other operations that target CP, such as *wh*-licensing and topicalization.

The empirical data presented in this paper indicate that in Mongolian, subject raising to Spec CP (feeding ECM) is incompatible with the subject having embedded *wh*-scope or embedded thematic topic interpretation. Since it is proposed that the Ā-domain associated with *wh*- and topic interpretation is structurally lower than Spec CP, which is an A-domain in ECM contexts, superficially it seems that the relevant A/Ā-interaction can also be formulated as the result of some variant of the ban on improper movement. Specifically, one might posit that the embedded subject has already undergone some sort of Ā-operation (related to *wh* or topic interpretation) associated with the lower Ā-domain, and hence it may not further undergo A-movement (ECM) to Spec CP, an A-position.

However, a careful examination reveals a crucial distinction between Mongolian and typical English improper movement cases. As explicated in Keine (2016, 2018), the canonical English improper movement scenario involves the interaction of two constraints: i) locality requirement of movement; and ii) a well-formedness requirement on movement chains such as a ban on improper movement (specific formulation and explanations vary, see e.g., Chomsky 1973; May 1979; Lasnik and Uriagereka 1988; Cinque 1990; Müller and Sternefeld 1993, among others). But I argue that the same scenario in fact does not arise in Mongolian. Consider the account by May (1979), building on Chomsky (1973), for the ungrammaticality of English examples like (78).

(78)　**May (1979: 720)**
　　*Who$_1$ decided Bill would hit ___$_1$?

Example (78) is ungrammatical because a ban on improper movement[28] rules out the chain representation created by locality-governed movement, shown in (79), adapted from May's (2). Due to locality constraints, extraction out of a finite clause requires a prior stop at the edge of the clause. In (79), this obligatory intermediate stop is e$_2$ at $\overline{S}$,

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[28] The ban is stated along the lines of "Conditions on Transformations", in which Chomsky suggests a prohibition of movement of a phrase in COMP to a non-COMP position. See Chomsky (1973), footnote 24 for further discussion. May argues that the source of such prohibition lies in binding. His account has two crucial components. First, the intermediate Ā landing site cannot be skipped due to locality (Tensed S condition and/or Specified Subject Condition). Second, Ā-movement leaves behind variables which are subjected to binding Condition C. If Ā-movement were followed by a further step of A-movement, the variable would have been bound from an A-position, violating Condition C.

an $\bar{\text{A}}$-position in English. Essentially, the surface form of (79) is ruled out in English under the dual restrictions of locality plus a ban on improper movement — If locality is obeyed, then movement targeting the matrix S must stop at the intermediate $\bar{\text{A}}$-position at $\bar{\text{S}}$, violating the ban on improper movement. On the other hand, if the DP had skipped the intermediate $\bar{\text{S}}$ and directly moved to the matrix clause A-landing site, the ban on improper movement would have been circumvented, but locality would have been violated. There is no derivation available that satisfies both in (78)/(79). Following the discussion in Keine (2016, 2018) and restating this in terms of phase theory, what (78)/(79) suggests is that a DP at the edge of a phase cannot undergo further A-movement, and can only undergo further $\bar{\text{A}}$-movement. Because locality alone does not rule out A-movement from a phase edge, an additional ban on improper movement has been invoked.

(79) **Based on May (1979: 720)**

$$\text{who}_2 \; [_\text{S} \; e_2 \; \text{decided} \; [_{\bar{\text{S}}} \; e_2 \; [_\text{S} \; \text{Bill would hit} \; e_2 \;]]\;]$$

with arrows labeled A and $\bar{\text{A}}$.

While maintaining that locality and the well-formedness requirement of chains (*$\bar{\text{A}}\rightarrow$A) hold in English and Mongolian alike, I would like to argue that these restrictions do not end up achieving the same effect in Mongolian, due to differences in clausal architecture. In particular, suppose that in Mongolian a DP moving out of CP must stop at the edge of CP; from the perspective of locality, the DP need not stop at ForceP or Th(eme)P, which are lower than CP. Unlike the English configuration in (79), in which the intermediate $\bar{\text{A}}$-landing site cannot be skipped, in Mongolian, subject raising to CP, skipping the lower *wh*-positions (ForceP) or thematic topic positions (ThemeP), does not violate any locality restriction. Stated in more general terms, the scenario in Mongolian is that since its clausal periphery has the shape $[[\; ... \; _\text{A}] \; _{\bar{\text{A}}}] \; _\text{A}]$, movement can in principle directly target the A-edge of the clause, skipping the lower $\bar{\text{A}}$-domain.

(80) a. **One-fell-swoop movement to CP obeys locality**

$$[_\text{CP} \; ... \; [_\text{CP} \; [_{\bar{\text{C}}} \; [_{ForceP/ThP} \; ... \; [\; \text{SUBJECT} \; ... \; ... \;] \; ... \;] \; C \;]\;]\;]$$

  b. **Movement to A-edge-position skips intermediate $\bar{\text{A}}$-domain**

$$[_\text{CP} \; ... \; [_{\text{CP (A)}} \; [_{\bar{\text{A}}} \; ... \; [\; \text{SUBJECT} \; ... \; ... \;] \; ... \;] \; C \;]\;]$$

If this is on the right track, the resemblance of the Mongolian phenomena and the canonical English improper movement cases is only superficial; and whatever constraints in the syntax rule out English (78) cannot be used to rule out the Mongolian cases without further stipulations. Since locality does not force the Mongolian A-movement under examination to have an intermediate $\bar{\text{A}}$-stop, invoking a ban on

improper movement becomes difficult. In addition, under the current account, Mongolian *wh*-licensing does not involve covert or overt movement. The proposal that the *wh*-phrase does not move adds further technical challenge to approaches that rely on a ban on improper movement. In the current account, the Mongolian derivation depicted in (80) results directly from the Agree mechanism. The embedded subject moves to Spec CP in response to the ϕ-probe on C^0. Since ϕ-agreement is involved, subject raising to Spec CP behaves like A-movement. In addition, since the intermediate Ā-domain is skipped, the subject never gets properly licensed by $Force^0$ or thematic topic head. Finally, this account also shares with previous Agree-based approaches in that no inherent A/Ā-distinction is invoked.

7 Conclusion

To sum up the discussion in this paper, I have proposed that interactions between A/Ā-operations at the Mongolian embedded clausal periphery are due to different features involved in Agree relations, combined with the clausal architecture. My proposal is motivated on the basis of two scenarios in Mongolian embedded constructions with ECM. The first scenario is that ECM is degraded when the embedded subject is a *wh*-phrase taking embedded scope. The second scenario is that ECM is also degraded when the embedded subject is an embedded thematic topic. Since both *wh*-licensing and topicalization are Ā-operations, their interactions with ECM suggest a unified account. Based on the distribution of complementizers in embedded *wh*-questions and embedded topicalization, I concluded that there exists an intermediate Ā-domain between TP and CP in Mongolian, resulting in a $[[[\ \dots\ _A]_{\bar{A}}]_A]$ clausal periphery. I proposed that Mongolian subject raising to Spec CP takes place in response to a ϕ-probe on C^0, feeding accusative case assignment on the subject. If raising happens, the subject essentially skips over the intermediate Ā-domain, which fails to satisfy conditions for *wh*- or thematic topic licensing.

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