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A Criterial Freezing approach to subject extraction in Jordanian Arabic

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Abstract

Using the Criterial Freezing approach to movement and chain formation (Rizzi 2005, 2006, 2014; Rizzi and Shlonsky 2006, 2007), this study explores the strategies Jordanian Arabic makes available for subject extraction. I argue that subject extraction in this variety of Arabic is constrained by the postulated *D-linking condition of the Subject Criterion* – i.e., [spec,SubjP] is filled by an element with the same D(iscourse)-linking status as that of the subject wh-word (D-linked vs. non-D-linked). In case of questions with a D-linked wh-word, [spec,SubjP] can be filled by the D-linked particle *illi* or a deictic (time-point/place-point) adjunct. Unlike time-point adjuncts, the use of place-point adjuncts to fill [spec, SubjP] is subject to the effects of the Phase Impenetrability Condition (Chomsky 2001), given their low base positions. In contrast, in case of questions with a non-D-linked wh-word, I assume that [spec,SubjP] is filled by an expletive *pro*.

Keywords: D-Linking, Criterial Freezing, subject extraction, Phase Theory, Jordanian Arabic

Résumé

La présente étude s'appuie sur l'approche dite *Criterial Freezing* (Immobilité critériale) appliquée au mouvement et à la formation des chaînes (Rizzi 2005, 2006, 2014, Rizzi et Shlonsky 2006, 2007), pour analyser les stratégies que rend disponibles l'arabe jordanien afin effectuer l'extraction du sujet. Je soutiens que l'extraction du sujet, dans cette variété d'arabe, est contrainte par le postulat de la *condition de la liaison-D du Critère du Sujet* – c-à-d. que [spec,SubjP] est rempli par un élément ayant le même statut de liaison-D(iscursive) que le sujet Qu- (soit D-lié, soit non D-lié). Dans le cas des questions contenant un 'mot Qu-' qui est D-lié, le Spec de SubjP peut être rempli par la particule D-liée *illi*, ou alors par un adjoint

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déictique (point-temps/point-lieu). Contrairement aux adjoints point-temps, l'utilisation des adjoints point-lieu pour remplir [spec,SubjP] est sujette aux effets de la Condition d'Impénétrabilité des Phases (Chomsky 2001), étant donné leurs basses positions de base. Par contre, dans le cas des questions avec un 'mot Qu-' non D-lié, j'affirme que [spec, SubjP] est rempli par un *pro* explétif.

Mots clés: Liaison-D, Immobilité critériale, extraction du sujet, théorie des phases, arabe jordanien

1. INTRODUCTION

This article investigates subject extraction in Jordanian Arabic[1] (henceforth, JA) within the Criterial Freezing approach (Rizzi 2005, 2006, 2014; Rizzi and Shlonsky 2006, 2007).[2] It is clear that JA has different ways of satisfying the Subject Criterion when the subject is extracted. These strategies include the use of the particle *illi*, time-point adjuncts, place-point adjuncts, and an expletive *pro*. The choice between them is shown not to be random, but follows from strict conditions, most notably D(iscourse)-Linking. [Spec,SubjP] must be filled by an element whose D-linking status is identical to that of the subject wh-word, a state of affairs that I formulate as *the D-linking condition of the Subject Criterion.* The word *illi*, being a D-linked particle, fills [spec,SubjP] in questions with a D-linked subject wh-word. Time-point adjuncts like *yesterday* and place-point adjuncts (though those are limited to intransitive questions) can also fill [spec,SubjP] in such cases. This is possible because they are D-linked, by virtue of, first, containing a nominal TIME/PLACE element (cf. Kayne 2005, Stanton 2016) and second, referring to a particular point in discourse. This gives rise to the free variation between *illi* and such adjuncts with regard to filling [spec,SubjP]. On the other hand, when the subject wh-word is not D-linked, [spec,SubjP] is filled by an expletive *pro*, a non-D-linked element. All of these ways instantiate Rizzi and Shlonsky's (2007) skipping strategies where the subject is moved directly from its thematic position, and [spec,SubjP] is filled by a different element.

The article is organized as follows. Section 2 discusses subject extraction as well as the theoretical approach taken, namely the Criterial Freezing approach with special reference to the Subject Criterion. Section 3 introduces subject extraction in JA, and section 4 sketches out the main previous approaches to *illi*, casting doubt on their findings with regard to the grammatical function of *illi* in questions. Following Criterial Freezing, it is argued that *illi* is a D-linked XP element that fills [spec,SubjP]. Section 5 elaborates on the assumption that *illi* is a D-linked element and discusses why *illi* is sometimes optional when the verb shows [3SG.M] agreement. Section 6 explains the reason why time-point adjuncts and place-point adjuncts

[1]Existing only as a spoken variety of Arabic, Jordanian Arabic belongs genetically and typologically to the Semitic language family (cf. Al-Sarayreh 2013: 11). It is spoken by the population of the Hashemite Kingdom of Jordan, with approximately seven million speakers.

[2]1,2,3: Person; ACC: Accusative Case; AGR: Agreement; D-PRT: Discourse Particle DEF: Definite; EPP: Extended Projection Principle; EXP: Expletive; F: Feminine; IMP: Imperfective; M: Masculine; NMLZ: Nominalizer; PASS: Passive; PIC: Phase Impenetrability Condition; PL: Plural; Q: Question marker; SG: Singular; TOP: Topic.

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can replace *illi* and the conditions that constrain this replacement. Section 7 examines the use of *illi* in questions with object extraction, and section 8 is a conclusion.

2. Subject extraction and Criterial Freezing

In this section, I provide a brief background on subject extraction as well as the Criterial Freezing approach.

2.1 Subject extraction

Subject extraction has been the focus of a great deal of synchronic work cross-linguistically (e.g., Taraldsen 1986, Campos 1997, Rizzi and Shlonsky 2007, Shlonsky 2014, Abe 2015). A challenge with subject extraction is that it is not straightforward to determine the extraction site of the subject. Is the subject extracted from a postverbal position where it is thematically merged, or from a preverbal position to which it moves for EPP? See Demuth 1995, Potsdam 2006, and Rizzi 2014 for more discussion. For present purposes, I limit discussion to cases where the subject is questioned, as in the examples in (1) from English and Québec French).

(1) a. Who saw John?

b. Qui qui est venu?
who QUI has come
'Who has come?' (Rizzi and Shlonsky 2007: 130)

Note that in Québec French the particle QUI is used, whereas no similar particle is used in English. The presence of QUI indicates that the subject wh-word (also *qui*) moves to the left periphery in Québec French, while there is no apparent evidence for movement of *who* in English, (for instance, there is no subject-verb inversion). This difference between English and Québec French is indicative of the fact that the two languages use different strategies to extract the subject. This variability in subject extraction strategies follows from the so-called Subject Criterion which requires each language to resort to some strategy when the subject is extracted. In the following subsection, I discuss this Criterion as well as the Criterial Freezing Approach under which the Subject Criterion is operative.

2.2 Criterial Freezing

Criterial Freezing, first formalized and labelled by Rizzi (2006), is defined as a constraint on movement and chain formation. It ensures a three-way mapping between a syntactic phrase, a particular syntactic position, and a particular scope-discourse interpretation (Shlonsky 2014: 59). The basic idea behind Criterial Freezing is that an element is first merged in a position in which it is semantically selected, and then it may be internally merged in a position that is dedicated to scope-discourse semantics, resulting in a chain that must terminate in the latter 'criterial' position. This restriction on any further movement of the element attracted by criterial features is attributed to what Rizzi (2006) calls Criteria, which are defined as configurations in which a head shares a major interpretable feature with its specifier. These features

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include [Q], [TOP], [FOC], and [R] for questions, topics, foci, and relatives, respectively (Rizzi 2015). When a criterion is satisfied by a phrase with the matching criterial feature, the relevant phrase is frozen in place (Rizzi 2006: 110). Criterial Freezing is thus "an economy condition that ensures a unique correlation of heads of chains, syntactic positions, and specific interpretative properties" (Shlonsky 2014: 79). Note that Criterial Freezing is different from a probe-goal relation (Chomsky 2001) in requiring a spec-head relation between the criterial head and a phrase with a matching criterial feature. Additionally, again unlike probe-goal relations, movement is not a reflex of φ-Agree in Criterial Freezing.

As an example of Criterial Freezing, Rizzi (2006: 112) argues that (2b) below is ungrammatical because the same wh-element *which book* cannot fulfil the requirements of the indirect question and the main question, even if both are included in the same sentence. (2a) is an intermediate step in the derivation of (2b).[3]

(2) a. Bill wonders [which book C_Q [she read <which book>]]

b. * Which book C_Q does Bill wonder [<which book> C_Q [she read <which book>]]?

Once the wh-element *which book* satisfies the Question Criterion in the embedded C-system, it becomes frozen in place in the specifier of Focus Phrase of the embedded question. *Which book*'s movement to the main C-system is consequently prohibited. Note here that the wh-element *which book* cannot move to the main C-system, unless it moves first to the embedded C-system, given locality considerations which force successive-cyclic movement. Criterial Freezing is formulated as in (3).

(3) *Criterial Freezing* (Rizzi 2010: 149)
A phrase meeting a criterion is frozen in place.

In view of this, Criterial Freezing is thought of as an economy condition that minimizes movement and determines optimally simple chains with unique occurrences of the fundamental ingredients: unique θ-role and unique scope-discourse marking (Rizzi 2006). A direct consequence of Criterial Freezing is that criteria cannot be satisfied in passing with unpronounced copies; if it could, (2b) would be grammatical because the copy of the wh-element *which book* would satisfy the Question Criterion in the lower C-system.

I now turn to the Subject Criterion (Rizzi 2005, 2006, 2014; Rizzi and Shlonsky 2006, 2007), a criterion responsible for movement of lexical items to [spec,SubjP].

2.3 The Subject Criterion

Rizzi and Shlonsky (2007) formulate the Subject Criterion, drawing on the observation that subjects have a particular interpretive property, on a par with topics. This interpretive property is the 'aboutness' relation that links subjects with predicates as it links topics with comments. Movement to the subject position thus has interpretive consequences: the argument selected as the subject is the starting point in the description of an event, which is presented as being about the selected argument

[3]Unpronounced lower occurrences are shown in angle brackets.

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(Rizzi 2010: 151). Subjects, especially when they appear preverbally, correspond to *given* information. This interpretive property of preverbal subjects gives rise to the assumption that the subject position cannot be filled by copies of moved elements. This constraint on any movement out of the subject position and the requirement to fill it is implemented as the Subject Criterion, which is satisfied once the specifier position of a dedicated functional phrase, namely Subject Phrase (SubjP) is filled. SubjP forms a bridge between the C-domain and the T/I-domain. Rizzi and Shlonsky (2007: 149) formulate the Subject Criterion as in (4).

(4) *Subject Criterion*:

The functional head Subj attracts a nominal to its specifier and determines the subject-predicate articulation.

Any phrase that occupies [spec,SubjP] therefore meets a Criterion; hence this phrase resists any further movement to a distinct and higher criterial position (Rizzi and Shlonsky 2007: 149). In this regard, Rizzi and Shlonsky (2007) propose that the classical EPP can be advantageously reanalysed as the Subject Criterion. As a result, expletives of various kinds are taken as direct evidence for the Subject Criterion. In structures where there is no external argument of the verb, the subject position must be expressed by a non-referential pronominal element in non–null-subject languages. This is shown for English in (5) and for French as in (6).

(5) a. There came a man.
b. It seems that John left.

(6) Il semble que Jean est parti.
It seems that Jean is left
'It seems that Jean has left.' (adapted from Rizzi 2006: 119)

On the other hand, the Subject Criterion poses a problem for subject extraction. That is because the Subject Criterion is normally satisfied by the thematic subject. Once the thematic subject satisfies this criterion, it cannot move farther to an upper position with a different criterial property, such as [spec,FocP] (Abe 2015: 159). What this implies is that when the subject meets the requirement of the Subject Criterion by moving to [spec,SubjP], the subject cannot be extracted, as in fact it can be in questions. This is a state of affairs that every language must deal with (Biberauer et al. 2009: 20). In this respect, Rizzi and Shlonsky (2007) show that different languages use different strategies to deal with this problem. They argue that such strategies fall into two broad categories:

(7) a. Fixed-subject strategies:

The subject does not move but remains in its freezing position in [spec,SubjP], and a well-formed A′-construction involving the subject is obtained, either with no movement at all (i.e., resumption, as in Hebrew) or by movement of a larger constituent, including the frozen subject (i.e., clausal pied-piping, as in Imbabura Quechua).

b. Skipping strategies:

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The subject moves, but it is allowed to skip the freezing position and is extracted directly from its thematic position or from some other predicate-internal position, as in Italian and French.

Examples of these strategies are given below.

In Hebrew, a resumptive pronoun can satisfy the Subject Criterion as in (8a) below. Any further movement of the resumptive pronoun renders the respective sentence ungrammatical, as in (8b, c) (The resumptive pronoun that fills [spec,SubjP] is in boldface. Examples are adapted from Rizzi and Shlonsky 2007: 120):

(8) a. kaniti et ha-šulxan še xana amra še dalya ta'ana še
(I) bought ACC the-table that Hannah said that Dalya claimed that
hu ya'ale harbe kesef.
he will cost a lot money
'I bought the table that Hannah said that Dalya claimed that will cost a lot of money.'

b. * kaniti et ha-šulxan še xana amra še **hu** Dalya ta'ana
(I) bought ACC the-table that Hannah said that he Dalya claimed
še <**hu**> ya'ale harbe kesef.
that he will cost a lot money

c. * kaniti et ha-šulxan še **hu** xana amra še <**hu**> Dalya
(I) bought ACC the-table that he Hannah said that he Dalya
ta'ana še <**hu**> ya'ale harbe kesef.
claimed that he will cost a lot money

Hebrew resorts to the resumptive strategy to fill [spec,SubjP] when the subject is extracted or relativized. On the other hand, Imbabura Quechua employs clausal pied-piping of the whole CP that contains [spec,SubjP] when the subject satisfies another criterion. Consider the following examples, adapted from Rizzi and Shlonsky (2007: 124):

(9) a. * pi -taj Maria -ka chayamu-shka -ta kri -n?
who Q Maria TOP arrive-NMLZ ACC believe AGR
'Who does Maria believe (that) has arrived?'

b. [pi chayamu-shka -ta -taj] Maria kri -n?
who arrive-NMLZ ACC Q Maria believe AGR
'Who does Maria believe (that) has arrived?'
Lit. '[Who has arrived] does Maria believe?'

The question in (9a) is ungrammatical because the subject wh-word *pi* 'who' satisfies the Subject Criterion in the embedded clause *pi chayamu-shka-ta-taj* 'who has arrived'. Then *pi* moves to [spec,FocP] in the main clause C-system, violating as such the Subject Criterion. On the other hand, in the grammatical (9b), the Subject Criterion is not violated because the whole embedded clause is pied-piped when the subject wh-word *pi* moves to the upper C-system. The pied-piping option allows the subject to bypass Criterial Freezing. Hebrew and Imbabura Quechua represent cases of fixed subject strategies: resumptive and clausal pied-piping, respectively.

On the other hand, in null-subject languages, the subject is extracted directly from its thematic position to the left periphery, and [spec,SubjP] is filled by an expletive *pro*. Consider the Italian example in (10).

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(10) Chi credi che vincerà?
who think COMP will.win
Who do you think will win? (adapted from Rizzi and Shlonky (2007: 126)

An expletive *pro* is assumed to merge in [spec,SubjP], allowing the thematic subject to escape the effects of Criterial Freezing.[4]

Few studies have been conducted on subject extraction in Arabic and related dialects, despite the fact that Arabic is a null-subject language with two apparently unmarked word orders – SVO and VSO – which makes subject extraction more complicated to account for. The surveyed literature related to subject extraction in Arabic focused largely on a different specific issue: the agreement discrepancies between these two unmarked word orders (Kenstowicz 1989, Mohammad 1990, Soltan 2006, and Aoun et al. 2010). No comprehensive study has directly examined how the subject is extracted in Arabic. Along these lines and set within the cartographic framework (cf. Rizzi 1997, Cinque 1999; Belletti 2002, among many others), the present study provides a theoretical account of subject extraction in JA, a language that has never been investigated in this regard. It will become clear that JA appeals to a set of skipping strategies in avoiding violations of the Subject Criterion, that is, the subject is allowed to skip the freezing position (i.e., [spec,SubjP]) and is extracted directly from its thematic position, as in French and Italian. [spec,SubjP] is filled by either the particle *illi*, a time-point adjunct, a place-point adjunct or an expletive *pro*, depending on whether the subject wh-word is D-linked. It is the role of D-linking that makes JA special, as JA imposes D-linking-related restrictions on the category occupying [spec,SubjP].

I turn now to the basic facts of subject extraction in JA.

3. Subject extraction facts in JA

In JA, subject extraction is sensitive to a series of factors, including:

i. the form of the verb (overtly inflected for agreement or not);

ii. the presence of a time-point adjunct or a place-point adjunct between the subject wh-word and the verb;

iii. the type of the question (existential vs. non-existential).

When the verb shows [3SG.M] agreement, the particle *illi* is optionally used when the subject is extracted (I will show in section 4 that *illi* is a D-linked particle with an XP categorial status). Consider the examples in (11), where the verb shows [3SG.M] agreement:[5]

[4]The Subject Criterion helps to explain two observations: that subjects are harder to move than objects – there is no Object Criterion – and that the subject position is an obligatory component of the form of clauses (Diercks 2010, Polinsky et al. 2013).

[5]JA examples in this paper depended on the researcher's intuition and were verified by 25 JA speakers. Note that *illi* is glossed as 'ILLI' up to the point it is made clear that it is a D-linked particle.

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(11) a. miin (illi) ʔaχað l-mafatiiħ imbaariħ?
who ILLI took.3SG.M DEF-keys yesterday
'Who took the keys yesterday?'

b. miin (illi) rawwaħ?
who ILLI went home.3SG.M
'Who has gone home?'

On the other hand, when the verb is inflected for agreement other than [3SG.M], *illi* is obligatorily used, unless there is a time-point adjunct or a place-point adjunct between the subject wh-word and the main verb, as in (12).

(12) a. miin *(illi) ʔaχað-at l-mafatiiħ imbaariħ?
who ILLI took-3SG.F DEF-keys yesterday
'Who took the keys yesterday?'

b. miin imbaariħ ʔaχað-at l-mafatiiħ?
who yesterday took-3SG.F DEF-keys
'Who took the keys yesterday?'

c. miin illi rawwaħ-at bakiir imbaariħ?
who ILLI went.home-3SG.F early yesterday
'Who went home early yesterday?'

d. miin imbaariħ rawwaħ-at bakiir?
who yesterday went.home-3SG.F early
'Who went home early yesterday?'

In (12a) and (12c), the subject is extracted, and the verb is inflected for agreement other than [3SG.M]; *illi* is therefore required. On the other hand, there is no need for *illi* in (12b) and (12d) as the time-point adjunct *imbaariħ* 'yesterday' shows up between the subject wh-word *miin* and the main verb *ʔaχaðat* and *rawwaħat*, respectively. It should be noted here that in transitive sentences, the fronted adjunct that replaces *illi* must be a time-point adjunct; otherwise the question is ungrammatical. For instance, if the time-point adjunct *imbaariħ* is replaced with the locative adjunct *biddukaanah* 'in the shop', the resulting question is ungrammatical, unless *illi* appears to the right of the locative adjunct, as shown in (13).

(13) miin *bi-ddukaanah* *(illi) ʔaχað-at l-mafatiiħ?
who in-DEF-shop ILLI took-3SG.F DEF-keys
'In the shop, who took the keys?'

This restriction does not hold of intransitive sentences, as can be seen in (14), where *illi* is optional.

(14) miin bi-d-dukaanah (illi) wigʕ-at?
who in-DEF-shop ILLI fell down-3SG.F
'Who fell down in the shop?'

Note that *illi* is obligatory with other adjuncts, such as frequency or manner adjuncts, even in intransitive sentences. This is illustrated in (15).

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(15) a. miin ʕaadatan * (illi) ʔibtagaʕ bi-l-midrasih?
who usually ILLI fall down. 3SG. in-DEF-school
'Who usually falls down at the school?'

b. miin ʔibwagaaħa *(illi) ħakat?
who rudely ILLI spoke.3SG.F
'Who spoke rudely?'

It can also happen that *illi* and a fronted time-point adjunct or a place-point adjunct occur together following the subject wh-word, provided that *illi* shows up to the right of the fronted adjunct, forcing a topicalization reading of the adjunct, as in (16).

(16) miin imbaariħ illi ʔaχað-at l-mafatiiħ?
who yesterday ILLI took-3SG.F DEF-keys
'Yesterday, who took the keys?'

Finally, when the subject is extracted in an existential sentence, *illi* is prohibited in the presence of the expletive *fiih*. In clauses without *fiih*, *illi* or a time-point or place-point adjunct is required. Consider the declarative example in (17a), and the possible questions in (17b–d).

(17) a. fiih zalamih bi-daar-na.
EXP man in-house-our
'There is a man in our house.

b. miin (*illi) fiih bi-daar-na?
who ILLI EXP in-house-our
'Who is in our house?'

c. miin *(illi) bi-daar-na?
who ILLI in-house-our
'Who is in our house?'

d. miin hala bi-daar-na?
who now in-house-our
'Who is in our house right now?'

All facts related to the use of *illi* while the subject is extracted can be summarized in Table 1, below.

In what follows, I develop an account of these observations, proposing a unified analysis from which all of them follow.

4. *ILLI* AND THE SUBJECT CRITERION

In this section, I capitalize on the assumption that *illi* fills [spec,SubjP] in JA, beginning with some background information, and a brief summary of what previous approaches have said about *illi* in connection with subject extraction.

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Condition	Use of *illi*	Example
Verb inflected for [3SG.M] agreement	+/–	(11a, 11b)
Verb inflected for other than [3SG.M] agreement	+	(12a, 12c)
Fronted time-point adjunct, intransitive sentence	–	(12d)
Fronted time-point adjunct, transitive sentence	–	(12b)
Fronted place-point adjunct, intransitive sentence	–	(14)
Fronted place-point adjunct, transitive sentence	+	(13)
Other fronted adjuncts (frequency, manner, etc.)	+	(15a, 15b)
Existential sentences with *fiih*	–	(17b)
Existential sentences without *fiih*	+	(17c)

Table 1: The use of *illi* in questions with subject extraction

4.1 The grammatical function of *illi*

As shown in section 3, one way a subject can be extracted in JA is for *illi* to appear to the left of the verb. Several studies on some Arabic dialects, including Egyptian Arabic (Wahba 1984, Gad 2011), Gulf Arabic (Holes 1990), Palestinian Arabic (Shlonsky 1992, 2002), and Najrani Arabic (Fakih 2014), discussed the function of *illi* in questions and relative clauses.[6] As can be seen from looking at these studies, no consensus has been reached on the actual syntactic function of this particle. In general, there are two approaches to the function of *illi*. Several researchers take *illi* to be a complementizer, occupying the head position of the CP (i.e., the head of the Force Phrase in the sense of Rizzi's 1997 split CP hypothesis), while others assume that *illi* heads the Focus Phrase. In what follows, a sketch of these two approaches is provided.

4.1.1 Previous approaches to illi

Treating *illi* as a complementizer is by and large the most commonly held view. For instance, Osman (1990: 50) characterizes *illi* as an invariant complementizer when it is used in questions in Egyptian Arabic. He claims that *illi* has no morphology and heads the CP complement of a relative clause. He refers to questions with *illi* as relativized wh-questions. Shlonsky (1992: 451) differentiates between two complementizers in Palestinian Arabic: *ʔinno* and *ʔilli*. He assumes that *ʔinno* is a complementizer that signals regular subordination, whereas *ʔilli* only heads CPs that serve as predicates. Thus, the use of *illi* in relative clauses of all kinds, clefts, and interrogative clauses is, for him, justified. In addition, following Rizzi's (1990) feature system for classifying complementizers, Shlonsky (1992) postulates that *ʔinno* is a [-predicational] C°, while *ʔilli* is a [+ predicational] C°.

[6]Some Arabic dialects have different phonological variants of *illi*. For instance, *halli* and *yalli* are variants of *illi* in Syrian Arabic, whereas the phonetic alternants of *illi* in Moroccan Arabic are *bəlli* and *lli* (cf. Galal 2004: 46).

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The same view is reiterated by Shlonsky (2002: 139) commenting on the strategies employed in the formation of constituent questions (e.g., *which man…?*) in Palestinian Arabic. There, Shlonsky asserts that in forming constituent questions, a fronted wh-constituent is followed by the complementizer *ʔilli*. He introduces the following example:

(18) ʔani bint ʔilli l-ʔasad ʔakal-ha mbaarih?
which girl COMP DEF-lion ate.3SG.M-3SG.F yesterday
'Which girl did the lion eat yesterday?'

In (18), the fronted wh-constituent *ʔani bint* 'which girl' is followed by *ʔilli*, which is assumed to be a complementizer.

Illi has been treated as a complementizer in questions and relative clauses in many studies of other Arabic dialects such as Syrian Arabic (Brustad 2000), Moroccan Arabic (Benmamoun 2000), Modern Standard Arabic (Soltan 2010), Jordanian Arabic (Al-Momani 2015) and Najdi Arabic (Lewis 2013). For these studies, *illi* is a phonologically reduced counterpart of Modern Standard Arabic's relative complementizer *ʔallaði*.

On the other hand, neither Osman (1990) nor Shlonsky (1992) provides a theoretical motivation for using *illi* in direct questions. Treating *illi* as a complementizer seems ad hoc without independent evidence. For example, although some studies treat *illi* as a complementizer in questions, no argument has been advanced explaining why it is obligatory in questions with subject extraction but optional in questions with object extraction.[7] Likewise, it is clearly evident from the data, some of the abovementioned studies, especially in Palestinian Arabic and Egyptian Arabic, that *illi* is optional in questions with subject extraction when the verb shows [3SG.M] agreement. However, none of the studies cited provide an account of this pattern. Rather, the main emphasis has been placed on the pragmatic motivations of such questions (Shlonsky 2002: 141).

These reasons, along with other arguments (mentioned below) have led some authors to question the assumption that *illi* is a complementizer when it is used in questions. These studies have argued that *illi* is a focus particle heading the Focus Phrase, a separate layer within the Split CP domain (cf. Rizzi 1997).

For example, Gad (2011: 173) argued that *illi* is not a complementizer in Egyptian Arabic, due to the difference in distribution between *illi* and other complementizers. Gad bases her argument on two interrelated observations. First, the complementizer *inn* precedes the clausal complements of some verbs, as shown in (19a) below, while *illi* introduces headless relative clauses which occur in an argument position, as shown in (19b), and is used in questions, as in (19c).[8]

(19) a. Mona sadda'i-t inna-ha faaz-t bi-l-gayza
Mona believed-3SG.F that-3SG.F won-3SG.F with-DEF-prize
'Mona believed that she won the prize.'

[7]In JA, *illi* can be used in question with object extraction, an observation I return to later in section 7.

[8]The glosses in (22) are Gad's.

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b. illi ʕirif ħall il-fazuura kisib filuus.
that knew.3SG.M answer DEF-puzzle won.3SG.M money
'The one who knows the answer of the puzzle won money.'

c. miin illi Mona itgawwiz-t-uh?
who FOCUS Mona married-3SG.F-3SG.M
'Who did Mona marry?'

Second, Gad argues that *inn* and *illi* cannot be used interchangeably. If *illi* and *inn* are substituted for each other in (19), the resulting sentences are sharply ungrammatical. Although such differences can be accommodated with Shlonsky's (1992) analysis following Rizzi's (1990) feature system (–predicational vs. + predicational), they are nonetheless taken by Gad (2011) to be an argument against *illi* being a complementizer. Furthermore, following Cheng (1997), Gad rejects the possibility that *illi* is a wh-particle when it is used in questions, on the assumption that a wh-question cannot have both a wh-phrase and a wh-particle. She assumes instead that *illi* is a relative pronoun heading the Focus Phrase in wh-questions. Under her proposal, there is a strong Focus feature that forces wh-movement to occur before Spellout, causing the wh-phrase to appear to the left of *illi*. Additionally, in order to account for the restriction that adjunct wh-phrases cannot co-occur with *illi*, she claims that *illi* and the argumental wh-phrases carry [+nominal] features, and that *illi* and the wh-word have to agree in categorial features. See Fakih (2014) for a similar analysis of Najrani Arabic, arguing that *illi* is a morphological realization of the strong Focus feature in the Focus Phrase.

However, this proposal for *illi* leaves several questions unanswered. For example, why is *illi* as a Focus head not used (or not realized) in clauses with argument focalization? Why is *illi* optional in questions with object extraction but obligatory in most questions with subject extraction? Is the *illi* used in questions different from the one that introduces relative clauses? If so, what are the differences? If not, then relative clauses would effectively be derived by focalization, contrary to current generative reasoning on the derivation of relative clauses. In recent syntactic theory, relative clauses are marked by the feature [REL] on the head of the Force Phrase whose specifier serves as a host for overt *wh*-pronouns or a null relative operator (Vries 2002, Arsenijević 2009, Sullivan 2016, among others). In contrast to these two alternatives, I propose that *illi* is used in questions with subject extraction in order to obviate the effects of Criterial Freezing. This proposal is argued for in the following subsection.

4.1.2 illi *as a [spec,SubjP] element*

I argue that *illi* is obligatorily used in questions with subject extraction in order to satisfy the requirement of the Subject Criterion that [spec,SubjP] be filled. This amounts to saying that *illi* as an XP rather than X^0. The Subject Criterion forces [spec,SubjP] to be filled by some constituent. In declarative sentences, the normal occupant of [spec,SubjP] is the thematic subject, hence the unmarked word order is SVO. Since the verb in JA bears rich inflectional morphology, it follows that it

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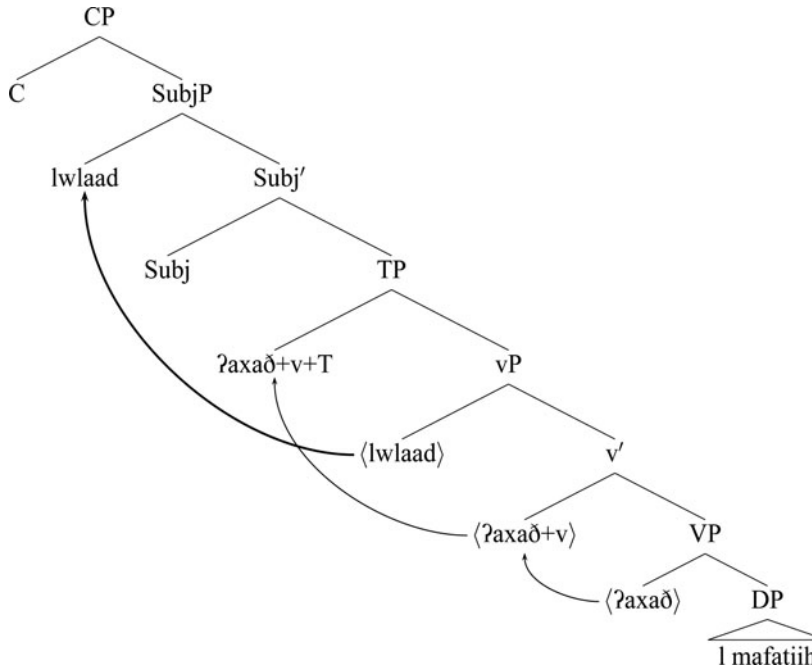
moves to T° (Bobaljik 2000, Holmberg and Roberts 2013).[9] The appearance of the subject to the left of the tensed verb as well as the strict adjacency required between them is indicative of a spec–head relation between them. The verb moves to T°, while the subject moves to [spec,SubjP]. This being so, the declarative sentence in (20) has the derivation in (21).

(20) l-wlaad ʔaχað-u l-mafatiiħ.
DEF-boys took.3M.PL DEF-keys
'The boys took the keys.'

(21)



The subject *lwlaad* 'the boys' moves to [spec,SubjP] to satisfy the Subject Criterion.

On the other hand, in cases of subject extraction, the subject would not move to [spec,SubjP]. If it did, it would resist any further movement due to the effects of Criterial Freezing. As indicated above, [spec,SubjP] is a criterial position, and criterial requirements cannot be satisfied in passing (Rizzi 2006). If the Subject Criterion could be satisfied in passing, a question like the one in (22) would be grammatical, contrary to fact:

[9]Benmamoun (2000) argues that the main verb raises to T° in the past and future tenses in the Arabic sentence, given the specification of these two tenses with [+D] and [+V] features. On the other hand, the main verb remains in v° in the present tense, which is specified only for [+D]. For Benmamoun, movement of the verb to T° depends on whether tense bears a [V] feature. However, see Al-Balushi (2012) for refutation of this assumption.

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(22) * miin ʔaχað-u l-mafatiiħ?
who took-3M.PL DEF-keys
'Who took the keys?'

One way of rescuing (22) is by inserting *illi* after the subject wh-word:

(23) miin illi ʔaχað-u l-mafatiiħ?
who ILLI took-3M.PL DEF-keys
'Who took the keys?'

I propose that *illi* acts as a facilitator for the subject *lwlaad*, enabling it to move directly to the left periphery directly from its thematic position. The requirement that [spec,SubjP] be filled is then satisfied by *illi*, and there is no need for the subject to move to [spec,SubjP].

The question that arises at this point concerns the presence of agreement suffixes on the verb. If, as proposed here, the subject wh-word *miin* in (23) does not move to [spec,SubjP], why does the agreement suffix *–u* [3M.PL] appear on the verb *ʔaχað*? According to much related literature on Modern Standard Arabic and some other Arabic dialects, this suffix is a morphological manifestation of spec-head agreement between the subject and T°, because the subject moves to [spec,TP] (here [spec, SubjP]) (Benmamoun 1998, Harbert and Bahloul 2002). Under this approach, the present analysis does not predict any agreement, since the subject does not move to [spec,SubjP]. Abstracting slightly from the specific assumptions made by Benmamoun (1998) and Harbert and Bahloul (2002), and following Chomsky (2001 et seq.), I propose that this suffix is a morphological manifestation of agreement between T° and the subject in [spec,vP]. This proposal is compatible with the notion that agreement between the subject and T° takes place before subject extraction. No spec-head agreement happens between the subject and T°, because if it did, the subject would have had to remain frozen in [spec,SubjP] due to the Subject Criterion. It would thus have been unable to move to left periphery to satisfy the Question Criterion.

Following Chomsky (2000, 2001) on agreement, I argue that agreement between the subject and T° is established while the former is in situ through a probe-goal relation. Chomsky (2000, 2001) reformulates Agree so that movement is seen as a last resort. Instead of viewing Move as the basic tool for valuing uninterpretable features, Move is only triggered to save a derivation that would otherwise be doomed to failure. Instead, uninterpretable/unvalued features are valued by the operation Agree, as formulated in (24).

(24) The probe α agrees with the goal ß providing that:

a. α has uninterpretable Φ-features;

b. ß has matching interpretable Φ-features;

c. ß is active by virtue of having an unvalued Case feature;

d. α c-commands ß;

e. there is no potential goal ϒ intervening between α and ß. (Chomsky 2001: 122)

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With this reasoning of the operation Agree in place, the presence of the agreement suffixes attached to the verb directly follows. With reference to the question in (23), reproduced below as (25), let's start from the point where the subject wh-word *miin* enters the derivation.

(25) miin illi ʔaχað-u l-mafatiiħ?
who ILLI took-3M.PL DEF-keys
'Who took the keys?'

The wh-word *miin*, bearing interpretable φ-features, merges externally with little *v*′, forming the v*P. Next, v*P merges with T°, yielding TP. TP then merges first with Subj^0 and then with C°, which comes with a set of unvalued φ-features, an EPP feature, and an interpretable tense feature, projecting CP. Following Chomsky's (2007) proposal of feature inheritance, C°'s features are inherited by T°.[10] T° then searches for an element with matching interpretable φ-features. This search is triggered by the fact that T°'s uninterpretable features are inherently unvalued, but need to be assigned a value in the course of the derivation. They play no role in semantic interpretation and consequently must be deleted before convergence at LF (Chomsky 2007: 18). T°'s search is limited in domain because it is governed by the so-called the Phase Impenetrability Condition, is stated in (26).

(26) *The Phase Impenetrability Condition (PIC)*
In Phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations (Chomsky 2001: 14).

The terms of the PIC can be diagrammed as follows:

(27) [ZP Z … [HP (SPEC) H [… XP …]]]
----EDGE---- COMPLEMENT
1.1.1 (Gallego and Uriagereka 2007: 47)

T° searches for elements with interpretable φ-features within its visible domain as defined by the PIC, i.e., its complement, the edge of the v*P phase, and the head v*. The domain of T°'s search extends only as far as the v head; the boxed material in (28) has been transferred and is no longer accessible.

[10]Commenting on the conceptual importance of feature inheritance, Richards (2007: 569) claims that feature inheritance is the only way of ensuring that C°'s uninterpretable features can indeed be valued at the same time that it is transferred. He adds that since C° will not be spelled out until the following phase level, its uninterpretable features must descend onto its complement, namely T°.

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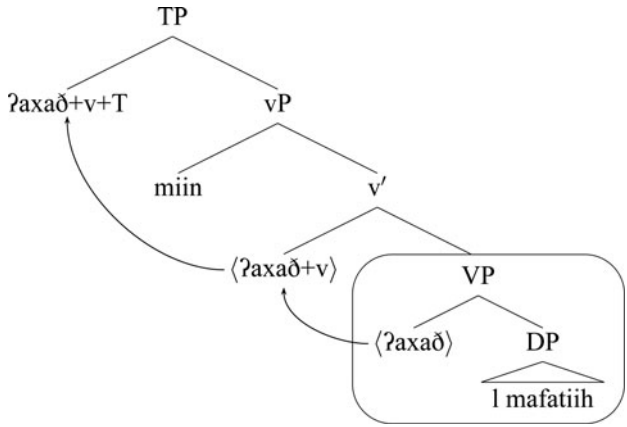
(28)



Probing down, T° finds the subject, *miin*, as an active goal with matching interpretable features and unvalued structural Case. A probe-goal relation is established between T° and *miin*. As a result, the uninterpretable features of T° are valued as [3M.PL], determining the form of the verb at PF; at LF, such features are deleted. As an outcome of this valuation, the agreement marker *–u* [3M.PL] is realized on the verb *ʔaχað*.[11]

One remark on the φ-features of the subject wh-word is in order. As is clear from all examples above, the subject wh-word *miin* occurs invariably with all agreement markers.[12] The actual specification of interpretable φ-features of *miin* can be made overt once a probe-goal configuration is established between it and T°. In question (29a) below, the speaker asks about the girl who took the keys. This is shown by the agreement marker *–t* [3SG.F] suffixed to the verb. In (29b) the speaker asks about the girls who took the keys, resulting in the [3 F.PL] agreement marker –n.

(29) a. miin illi ʔaχað-at l-mafatiih?
who ILLI took-3SG.F DEF-keys
'Who took the keys?'

b. miin illi ʔaχað-n l-mafatiih?
who ILLI took-3F.PL DEF-keys
'Who took the keys?'

Note that it is not sufficient, for the derivation to converge, that the uninterpretable φ-features on T° be valued. The demands of the Subject Criterion must also be satisfied. As shown above, in declarative clauses the Subject Criterion is normally satisfied by movement of the subject to [spec,SubjP]. Nonetheless, such a derivation is not available with subject extraction, because the subject wh-word *miin* would resist movement from [spec,SubjP], as indicated in (30).

[11]It should be noted that JA does not exhibit SVO/VSO agreement interactions like those in Standard Arabic. The verb fully agrees with the subject, whichever word order is used.

[12]When the subject is intended to be non-human, the subject wh-word used is either *fuu* or *eef* which are interchangeably used with all inflected forms of the verb.

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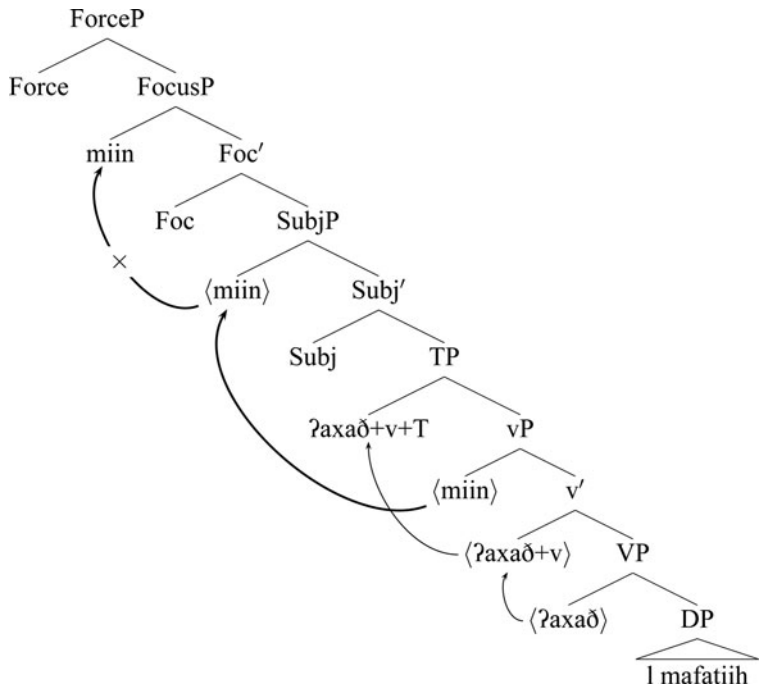
(30)



Given that *miin* has an uninterpretable [Q] feature, it must raise to [spec,FocP], attracted by the [Q] feature on Foc° to satisfy the Question Criterion (cf. Rizzi 2006). Accordingly, at one point of the question derivation, the Subject Criterion and Question Criterion both need the subject wh-word *miin* to meet their requirements at the same time. This state of affairs can be seen as a conflict, since both criteria are active and must be satisfied. One might entertain the possibility that *miin* satisfies the Subject Criterion and hence does not undergo a CP-related movement satisfying the Question Criterion. However, this possibility is ruled out. On the basis of JA data, the Question Criterion *wins* in attracting the subject wh-word. This indicates that JA employs some strategy to satisfy the Subject Criterion.

Some empirical evidence for movement of *miin* to the CP-system comes from its position relative to the CP-particle *ʃikil*. Current research on particles such as *ʃikil*, which signals the speaker's attitude toward the sentence, confirms the CP-related status of such particles (Struckmeier 2014). As shown from the contrast between the two sentences in (31), *miin* must appear to the left of the CP-particle *ʃikil*, indicating that *miin* indeed moves to the left periphery, satisfying the Question Criterion.[13]

[13]The discourse particle *ʃikil* indicates that the speaker is not certain of the truth of the propositional content of his/her utterance, though he/she has indirect evidence for it. I translate it as *apparently* (as opposed to *surely*).

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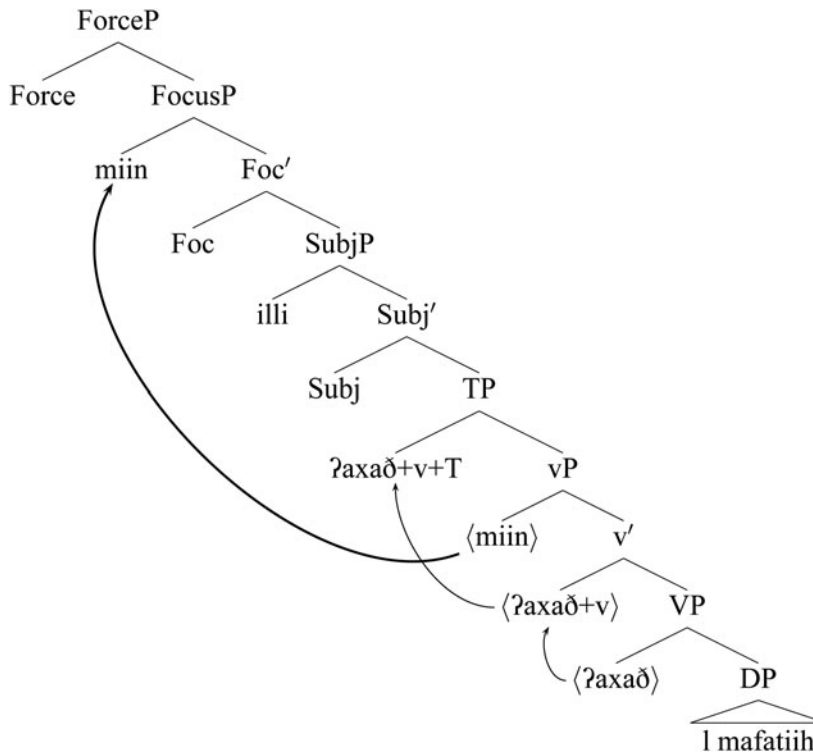
(31) a. miin ʃikil-hum illi ʔaχað-u l-mafatiih?
who PRT-3M.PL ILLI took-3M.PL DEF-keys
'Who has apparently taken the keys?'

b. * ʃikil-hum miin illi ʔaχað-u l-mafatiih?
PRT-3M.PL who ILLI took-3M.PL DEF-keys
Intended: 'Who has apparently taken the keys?'

The subject wh-word *miin* must appear in a position to the left of the discourse particle *ʃikil*, implying its movement to CP. This discussion does not imply that the requirements of the Subject Criterion need not be met. Rather, they must be satisfied by some other mechanism ensuring that [spec,SubjP] is filled. If the subject wh-word cannot meet the requirements of the Subject Criterion, *illi*, as an XP, is used instead. Under this analysis, the question in (25), reproduced below as (32), has the structure in (33).

(32) miin illi ʔaχað-u l-mafatiih?
who ILLI took-3M.PL DEF-keys
'Who took the keys?'

(33)



Some evidence for *illi* being in [spec,SubjP] can be induced similarly by its position relative to the CP-particle *ʃikil*. Under no circumstances can *illi* appear to the left of *ʃikil*. Consider the following ill-formed example:

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(34) * miin illi ʃikil-ha ʔaχað-at l-mafatiiħ?
who ILLI PRT-3SG.F took-3SG.F DEF-keys
Intended: 'Who has evidently taken the keys?'

As a discourse-related particle, *ʃikil* occupies a discourse-related position. If this position is the lower Topic Phrase (in the sense of Rizzi 1997), then *illi* is positioned below the lower Topic Phrase. Further evidence that *illi* is below CP comes from its position relative to the position of topicalized elements that appear in JA to the left of *illi*. For instance, in (35) the topicalized time-point adjunct *imbaariħ* 'yesterday' appears to the left of *illi* but to the right of the displaced subject wh-word *miin*, indicating that *imbaariħ* is fronted to the Topic Phrase, below the Focus Phrase (Rizzi 1997).

(35) miin imbaariħ illi ʔaχað-at l-mafatiiħ?
who yesterday ILLI took-3SG.F DEF-keys
'Yesterday, who took the keys?'

The same adjunct *imbaariħ* can appear to the left of *miin*, landing in the upper Topic Phrase, above the Focus Phrase (Rizzi 1997).

(36) Imbaariħ miin illi ʔaχað-at l-mafatiiħ?
yesterday who ILLI took-3SG.F DEF-keys
'Yesterday, who took the keys?'

Additionally, *miin* can be sandwiched between two topicalized elements, both of which must precede *illi*, as in (37).

(37) Imbaariħ miin ʔibsurʕah illi ʔaχað-at l-mafatiiħ?
yesterday who quickly ILLI took.3SG.F DEF-keys
'Yesterday, who quickly took the keys?'

Following the assumption that there is a single Focus Phrase in a single clause (É. Kiss 1995, Rizzi 1997), examples (35)–(37) are bone fide evidence for the lower position that *illi* occupies. Assuming that *miin* is in [spec,FocP], *imbaariħ* 'yesterday' is positioned in the upper Topic Phrase (labelled as TopP (1) in (38)), and *ʔibsurʕah* is in the lower Topic Phrase (labelled as TopP (2)).

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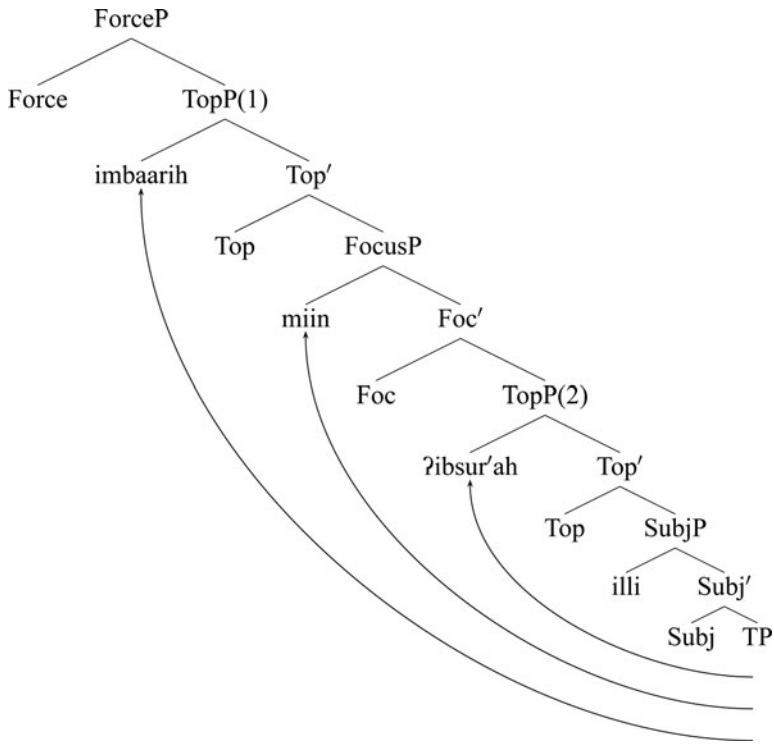
(38)



Further evidence that *illi* occupies [spec,SubjP] comes from the observation that the fronted direct object *lmafatiiħ* 'the keys' does not appear between *illi* and the verb. This shows that there is no syntactic position available for the fronted direct object between *illi* and the verb, as demonstrated by the ill-formed question in (39a). The direct object can be preposed to a position directly to the left of *illi,* as in (39b), or even to the left of the subject wh-word *miin*, as in (39c).

(39) a. * miin illi l-mafatiiħ ʔaχað-u-hin?
who ILLI DEF-keys took-3M.PL-3F.PL
'Who took the keys?'

b. miin l-mafatiiħ illi ʔaχað-u-hin?
who DEF-keys ILLI took-3M.PL-3F.PL
'The keys, who took them?'

c. l-mafatiiħ miin illi ʔaχað-u-hin?
DEF-keys who ILLI took-3M.PL-3F.PL
'The keys, who took them?'

In view of this, *illi* is situated below CP but above T^0. One conclusive piece of evidence for *illi* being in [spec,SubjP] comes from its complementary distribution with the expletive *fiih* in existential questions. When *fiih* is present, *illi* is no longer required. Consider the sentence in (40).

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(40) miin fiih bi-daar-na?
Who EXP in-house-our
'Who is in our house?'

If *illi* is inserted either to the left or to the right of *fiih*, the resulting question is ungrammatical.

(41) miin (*illi) fiih (*illi) bi-daar-na?
who ILLI EXP ILLI in-house-our
'Who is in our house?'

However, *illi* can replace *fiih* in existential questions, a reliable sign that *illi* fills the same position as *fiih*. Thus, *illi* and *fiih* compete for the same structural position, complying with the strong requirements of the Subject Criterion.[14]

(42) miin illi bi-daar-na?
who ILLI in-house-our
'Who is in our house?'

Further evidence that *illi* occupies [spec,SubjP] is that it appears in embedded clauses when long-distance subject extraction occurs. Consider the sentence in (43).

(43) miin ʔaboo-i fakkar illi sarag ʔis-siyaarh
who father-my believed.3SG.M ILLI stole.3SG.M DEF-car
'Who did my father believe that stole the car?'

In (43), the embedded subject *miin* undergoes long extraction from its base position to the left periphery of the matrix clause, moving successive-cyclically via [spec, ForceP] in the embedded C-system, which is not a criterial position. Following the Criterial Freezing approach, the embedded subject can move no farther if it occupies [spec,SubjP] of the embedded clause. In order for the subject wh-word *miin* to move out of the embedded clause, the embedded [spec,SubjP] must be filled by another element, leaving the subject free to be extracted. It is thus clear that *illi* in (43) is used to escape the effects of Criterial Freezing.

Gad's (2011) proposal that *illi* is a focus particle is therefore not borne out, as far as JA is concerned. Rather, *illi* is used to satisfy the requirements of the Subject Criterion. In addition, the findings for JA thus far contradict the long-standing view (Shlonsky 2002) that *illi* is an overt complementizer in questions.

The question that now arises is why *illi* is optional in questions if the verb displays [3SG.M] agreement. I argue that the answer to this question lies in the assumption that *illi* is a D-linked element that satisfies the Subject Criterion only when the subject wh-word is D-linked, a proposal I discuss in the next section.

5. *ILLI* AS A D-LINKED PARTICLE

As shown in section 3, *illi* is more or less optional when the verb bears [3SG.M] agreement, as shown in (44).

[14]Note that examples (40–42) imply that *illi* not a head, since it alternates with the expletive *fiih*, which clearly occupies the subject position,

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(44) a. miin (illi) ʔaχað l-mafatiih imbaariħ?
who ILLI took.3SG.M DEF-keys yesterday
'Who took the keys yesterday?'

b. miin (illi) rawwah?
who ILLI went home.3SG.M
'Who has gone home?'

The sentences in (44), in which the main verb displays [3SG.M] agreement, contrast sharply with cases where the verb shows agreement other than [3SG.M] and *illi* cannot be omitted. Why does the absence of *illi* not make the question ungrammatical, even without a time-point or place-point adjunct? First and foremost, note that we cannot assume that the subject wh-word in such cases does not move to CP, but moves only to [spec,SubjP]. In (45), *miin* must appear to the left of the CP-particle *ʃikil,* and must therefore itself be in the left periphery.

(45) a. miin ʃikil-uh ʔaχað l-mafatiiħ?
who PRT-3SG.M took.3SG.M DEF-keys
'Who has apparently taken the keys?'

b. * ʃikil-uh miin ʔaχað l-mafatiiħ?
PRT-3SG.M who took.3SG.M DEF-keys
'Who has apparently taken the keys?'

It is clear that the Question Criterion is satisfied by the subject wh-word *miin*, even when *illi* does not appear, as in (44). The question to ask here is how the Subject Criterion is met under such cases. One possibility is that since JA is a *pro*-drop language, [spec,SubjP] is filled by an expletive *pro*, which satisfies the Subject Criterion. Under that view, the question then is why expletive *pro* seems to be available only when the verb shows only [3SG.M] agreement. I assume that the wh-word used in such cases has no φ-features (being non-D-linked, i.e., non-referential, as will be shown later). The uninterpretable φ-features of T° are accordingly valued as default, namely [3SG.M]. In line with this possibility, (44a) has the derivation shown in (46).

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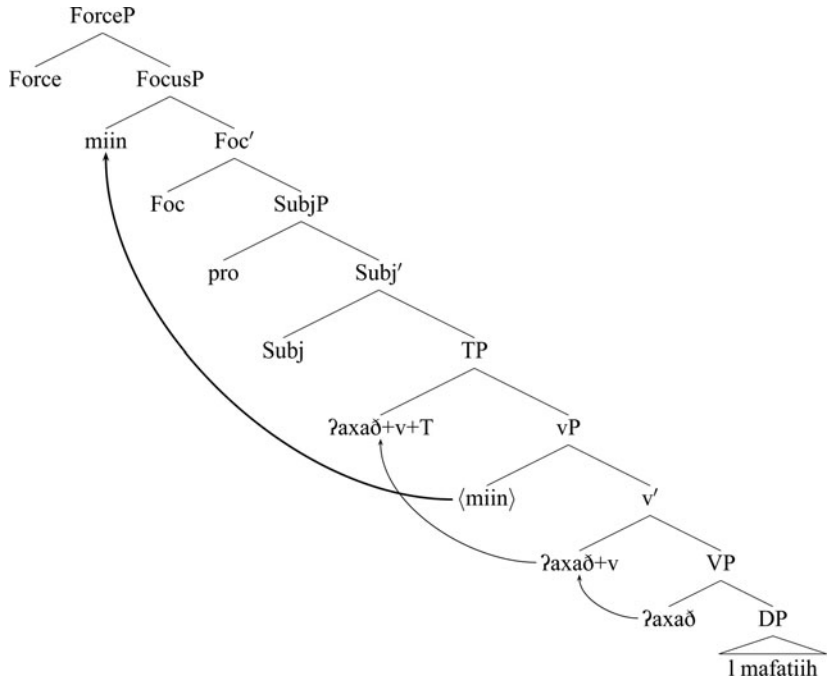
(46)



Now, we must ask why *illi* is still available as a means of satisfying the Subject Criterion when the verb shows [3SG.M] agreement. Once this issue is resolved, a better account of subject extraction in questions will be possible. I begin with the observation that *questions with* illi *differ in meaning from questions without it*. When *illi* is present, there is a presupposition that is not made when *illi* is absent (cf. Shlonsky's 2002 similar assumptions about Palestinian Arabic). With *illi*, the speaker implies that the entity doing the action belongs to a set whose members are known to him/her. Consider the examples in (47).[15]

(47) a. miin illi ʔaχað-at l-mafatiih?
who D-PRT took-3SG.F DEF-keys
'Who took the keys?'

b. miin illi ʔaχað-u l-mafatiih?
who D-PRT took-3M.PL DEF-keys
'Who took the keys?'

The speaker in (47a) presupposes that the person who took the keys is female rather than male, while in (47b) the speaker implies that who took the keys is a plurality of male people. In both cases, the speaker implies some discourse knowledge that forms the basis of the presupposition. One piece of evidence that questions with *illi*

[15]Henceforth, I gloss *illi* as D-PRT, a shorthand for discourse particle.

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indicates a presupposition comes from the fact that they cannot be used in out-of-the-blue contexts (Frey 2004, Rizzi 2005, Adger 2007). Consider the example in (48).

(48) ʃuuh (*illi) sˤaar?
what D-PRT happened.3SG.M
'What happened?'

The question in (48) is ungrammatical with *illi* despite the observation that *illi* is in most cases optional when the verb bears [3SG.M] agreement. The ungrammaticality of (48) with *illi* is readily accounted for if the use of *illi* requires a context in which the speaker presupposes some discourse. Following this line of thought and assuming that presupposition is a discourse effect (Boeckx and Grohmann 2004), I propose that *illi* is used in questions only where the subject wh-word is D-linked, that is, *illi* implies the existence of a set of contextually determined entities from which the speaker is asking the hearer to choose (Fernández 2009: 119).

Some convergent evidence for this contention can also be found with subject extraction of wh-constituents such as *which boy*, *whose car*, etc. (following Shlonsky's 2002 terminology). Wh-constituents are necessarily D-linked by virtue of their complement noun, which determines the set of relevant entities from which the speaker is asking the hearer to choose. When the subject is a D-linked constituent, *illi* must be inserted (or a time-point or place point adjunct must appear between the wh-phrase and the verb, an observation I return to in section 6) even if the verb bears [3SG.M] agreement. Consider the sentences in (49).

(49) miin z-zalamah *(illi) ʔaχað l-mafatiiħ imbaariħ?
who DEF-man D-PRT took.3SG.M DEF-keys yesterday
'Which man took the keys yesterday?'

Although the verb in (49) shows [3SG.M] agreement, *illi* is required. Here, the speaker asks about a man (not a woman, a child, etc.) who took the keys yesterday. Using the D-linked wh-constituent *miin zzalamah* 'which man', the speaker specifies the set of the entities (i.e., men) from which he/she asks the hearer to choose.

Further evidence for the correlation between D-linking and the use of *illi* comes from cases where the wh-word used is modified. In such cases, *illi* must again be used even if the verb shows [3SG.M] agreement. Consider (50), where the wh-word is modified by tˤawiil 'tall'.

(50) miin l-tˤawiil *(illi) ʔaχað l-mafatiiħ imbaariħ?
who DEF-tall D-PRT took.3SG.M DEF-keys yesterday
'Which tall one took the keys yesterday?'

In (50), the speaker delimits the set of candidates for the answer to the question. With an appropriate context in mind (e.g., the speaker is addressing schoolboys) the speaker assumes that a tall person must have taken the keys, perhaps presupposing that they are kept in a place accessible only to tall people. The use of the nominal modifier *tˤawiil* thus presupposes the place where the keys are placed and thus provides some discourse background on the given question.

Another piece of evidence that D-linking forces the use of *illi* in question with subject extraction comes from answers to questions with *illi* when the verb bears

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[3SG.M] agreement. For instance, it is only felicitous to answer the question in (51) (containing *illi)* with a [3SG.M] entity, whereas the answer for the question in (52) (without *illi*) can be any entity irrespective of its φ-content.

(51) miin illi ʔaχað l-mafatiiħ?
who D-PRT took.3SG.M DEF-keys
'Who took the keys?'

a. ibin ʕamm-i
son uncle-my
'my male cousin'

b. ?? binit ʕamm-i
daughter uncle-my
'my female cousin'

c. ?? ʔisʕħaab-i
friends-my
'my friends'

(52) miin ʔaχað l-mafatiiħ imbaariħ?
who took.3SG.M DEF-keys yesterday
'Who took the keys yesterday?'

a. ibin ʕamm-i
son uncle-my
'my male cousin'

b. binit ʕamm-i
daughter uncle-my
'my female cousin'

c. ʔisʕħaab-i
friends-my
'my friends'

In (51), which includes *illi* and where the verb displays [3SG.M] agreement, the answers with [3SG.M] content are more felicitous than the answers with any other φ-content. That is because the speaker presupposes that whoever took the key is a [3SG.M] element. In contrast, in (52) which does not include *illi* and where the verb again displays [3SG.M] agreement, answers with any content are felicitous. That is because the speaker does not presuppose the existence of a contextually determined set of entities from which the speaker is asking the hearer to choose. The [3SG.M] form of the verb is in such cases the result of a lack of agreement, where the verb has been assigned the default form.

In view of these pieces of evidence (subject extraction with D-linked wh-constituents, subject extraction with D-linked modified wh-words, and the possible answers for questions with *illi* whose verb bears [3SG.M] agreement), I argue that SubjP is still projected in questions where the verb displays default agreement. The requirement that [spec,SubjP] be filled is satisfied by an expletive *pro* whose null PF content does not affect its licensing in [spec,SubjP]. These observations

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constitute '*The D-linking condition on the Subject Criterion*', which I formulate as in (53).

(53) *D-linking condition on the Subject Criterion*:
[Spec,SubjP] is filled by an element with the same D-linking status as the subject wh-word (D-linked vs. non-D-linked)

JA appears to be unique among null-subject languages in obeying the D-linking condition on the Subject Criterion.[16] Additionally, due to the requirement of matching D-linking between [spec,SubjP] and the wh-word, I propose that the condition in (53) is implemented in the derivation as agreement.

Along these lines, we can now see why *illi* seems to be optional when the verb displays [3SG.M] agreement. Logically speaking, when asking a question, the speaker has two options, depending on the discourse context. It could be that he/she is really asking about a male singular entity. If so, *illi* is required since the subject wh-word is D-linked, and the [3SG.M] form of the verb is an agreement-produced form. Alternatively, it could be that the speaker does not have in mind any particular set of entities from which he/she is asking the hearere to choose. The subject wh-word is therefore non-D-linked, and lacks agreement features. The [3SG.M] form of the verb in this case is the PF reflex of invariant default agreement. Here, *illi* is not an available strategy, given the D-linking condition on the Subject Criterion. [spec,SubjP] is filled by an expletive *pro*, a non-referential, non-D-linked element.

It is clear that the interaction with D-linking does not arise when the verb displays agreement other than [3SG.M]. In such cases the wh-word is always D-linked. The speaker here refers to a contextually identified set. For instance, when the verb is marked as [3F.PL], the speaker has identified girls as a set from which the hearer is being asked to choose a subset. Even if the speaker does not have a specific girl in mind, he/she singles out girls from the whole context, which might also include men. Thus, when the verb shows any inflected (i.e., non-default) agreement, the speaker narrows down the options from which the hearer must choose, presupposing some discourse-related background to the question.

A major line of evidence for the relation between D-linking and satisfaction of the Subject Criterion comes from the other mechanism JA provides to satisfy the Subject Criterion; that is, a time-point or place-point adjunct, to which I now turn.

6. Place-point and time-point adjuncts

A crucial observation for my analysis is the fact that the need for *illi* is obviated in cases like (54), even if the verb is inflected for non-default agreement:

(54) miin imbaariħ ʔaχað-at l-mafatiiħ?
who yesterday took-3SG.F DEF-keys
'Who took the keys yesterday?'

[16] I set aside the question of whether D-linking condition on the Subject Criterion is a language-specific lexical property.

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In such cases, a time-point or place-point adjunct appears to the left of the verb. As shown in section 3, this adjunct must be a time-point adjunct if the sentence is transitive. For instance, if *imbaariħ* 'yesterday' is replaced with a locative PP like *min l-xzaanih* 'from the closet' as in (55) below, *illi* must be used if the verb is inflected for non-default agreement. Note that the locative in (55) is construed as a topicalized element when it precedes *illi*.[17]

(55) miin min l-xzaanih *(illi) ʔaχað-at l-mafatiiħ?
who from DEF-closet D-PRT took-3SG.F DEF-keys
'Here/from the closet, who took the keys?'

In intransitive questions, on the other hand, replacing *imbaariħ* 'yesterday' with a locative adjunct as in (56b) preserves grammaticality even if the verb shows non-default agreement. This implies that the restriction on the use of locative adjuncts without *illi* is relaxed in intransitive questions. Note that the locative adjunct is not construed as a topicalized element in such cases, but rather has an unmarked interpretation with no topicalization or focalization.

(56) a. miin imbaariħ wigʕ-at?
who yesterday fell down.3SG.F
'Who fell down yesterday?'

b. miin min sʕ-sʕatʕiħ wigʕ-at?
who from DEF-floor fell down.3SG.F
'Who fell down from the (upper) floor?'

Following Holmberg (2000) and Rizzi and Shlonsky (2006), I assume that adjuncts in JA might play a subject-like role.[18] When there is a subject gap, adjuncts can move

[17]An anonymous reviewer asks why the locative can escape the inner phase boundary and then move to a higher topic position in (55), but cannot fill [spec,SubjP] in transitive clauses. I think that answering this question will require viewing A′-chain formation as a consequence of agreement plus attraction. For instance, why does the Topic criterion attract the topicalized element rather than some other element in the sentence? One possibility is that the attracted element has a feature that matches the attractor. Such a feature would be uninterpretable; thus the attracted element can move to a higher position if the feature is not deleted/valued in situ. This might be why locatives move to the edge of the v*P phase when they are topicalized, since their proposed *u*TOP feature cannot be valued/deleted in situ by a higher Topic probe, given the effects of PIC. The locative would then be attracted to the left periphery by the Topic Criterion. If they do not have such a feature, they have no reason to leave their position, and thus are inaccessible to probes from higher phases (recall that Subject Criterion does not require a specific feature on a par with topics/foci, etc.). If the Subject Criterion attracted the topicalized locative when the locative moves to [spec,*v**P], the locative would be unable to move subsequently to [spec,TopP], given Criterial Freezing. The derivation would then crash, because the Topic Criterion is not satisfied. I leave this issue open pending further research.

[18]Cross-linguistically, an increasing number of authors argue that [spec,SubjP] can be filled by adjuncts (Bobaljik 2002, Holmberg and Hróarsdóttir 2004, Landau 2007, among many others).

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out of their base position, filling [spec,SubjP]. There is no need thus for *illi*, as the Subject Criterion is satisfied by a fronted adjunct.

One piece of evidence that the fronted adjuncts in (56) above are not in CP but rather in [spec,SubjP] comes from the fact that they do not have a discourse-scope reading (i.e., topicalization) in these examples. No intonational break is required after the time-point adjunct *imbaariħ* in questions like (56a) above, nor does the adjunct have a discourse-scope reading (i.e., it is not a topic nor a focus). This suggests that the adjunct *imbaariħ* is not in CP. Furthermore, the direct object cannot appear between the fronted adjunct and the main verb, as in (57).

(57) * miin imbaariħ l-mafatiiħ ʔaχað-at-hin?
who yesterday DEF-keys took-3SG.F-3F.PL
Intended: 'Yesterday, who took the keys?'

If *imbaariħ* 'yesterday' is in [spec,SubjP], then there is no structural position between it and the main verb *ʔaχað*.

However, this discussion does not imply that such adjuncts cannot be topicalized. They can be fronted directly to the left periphery if *illi* occupies [spec, SubjP]. Consider the examples in (58), where the adjunct *imbaariħ* is construed as a topicalized entity.

(58) a. imbaariħ, miin *(illi) ʔaχað-at l-mafatiiħ?
yesterday who D-PRT took-3SG.F DEF-keys
'Yesterday, who took the keys?'

b. miin imbaariħ *(illi) ʔaχað-at l-mafatiiħ?
who yesterday D-PRT took-3SG.F DEF -keys
'Yesterday, who took the keys?'

If topicalized *imbaariħ* 'yesterday' is positioned either to the right or to the left of the subject wh-word *miin*, *illi* must be used. Apart from the slight interpretive differences between the questions in (58), in both questions the time-point adjunct *imbaariħ* is construed as a topicalized entity. In (58a), an intonational break is required, represented by a following comma. In (58b), the speaker is concerned about the person who took the keys yesterday, not another day, implying, for instance, that whoever took the keys yesterday is different from the person who usually takes them.

At this point, there are two questions that deserve consideration; (1) why can only a time-point adjunct or a place-point adjunct replace *illi* in intransitive questions and (2) why can only a time-point adjunct replace *illi* in transitive questions? As for the first question, recall that other types of adjuncts (manner, frequency, etc.) do not behave like time-point or place-point adjuncts with respect to *illi*, as illustrated in (59).

(59) miin ʔibwagaaħa/ ʕaadatan *(illi) ħakat?
who rudely/usually D-PRT spoke.3SG.F
'Who rudely/usually spoke?'

The grammaticality of the question in (59) with *illi* suggests that time-point and place-point adjuncts have special properties that license them in [spec,SubjP], unlike other types of adjuncts. I assume that time-point and place-point adjuncts

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can occupy [spec,SubjP] because they contain some nominal category PLACE and TIME, respectively (Kayne 2005, Stanton 2016). Note here that I distinguish time-point adjuncts and place-point adjuncts from other types of temporal/locative adjuncts, because when other temporal/locative replace *illi*, the result is ungrammatical. As can be seen in (60), *illi* must be used in conjunction with the fronted durational temporal adjunct *l-χamsat ʔayyaam 'during/for five days'*, and with the locative adjunct *l-χamsat ʔimtaar* 'for five meters'.

(60) a. miin l-χamsat ʔayyaam *(illi) ʔaχað-at l-mafatiiħ?
who for-five days D-PRT took-3SG.F DEF-keys
'During/for five days, who took the keys?'

b. miin l-χamsat ʔimtaar *(illi) ʃaal l-kursi?
who for-five meters D-PRT carried-3SG.F DEF-chair
'For five meters, who carried the chair?'

What the examples in (60) show is that in order to replace *illi*, an adjunct must have a nominal category and be referential (i.e., it must refer to a specific point in the discourse).

As for the second question – why fronted time-point adjuncts replace *illi* in transitive and intransitive questions, while place-point adjuncts do so only in intransitive questions – I propose that time-point adjuncts can function as fillers of [spec,SubjP] because they are visible to Subj°. Subj° attracts the adjuncts that are located within its accessible domain to fill [spec,SubjP]. Since time-point adjuncts are, by definition, adjoined to TP, they are visible to Subj° regardless of the valency of the lexical verb. On the other hand, locative adjuncts are low, most probably adjoined to VP, which is contained within a lower phase, that is, v*P. The complement of v* undergoes transfer when C° enters the derivation (Felser 2004). Locative adjuncts are thus inaccessible to Subj° because phase impenetrability prevents Subj° from attracting phrases located lower than [spec,v*P]. In contrast, in intransitive questions where there is no lower v*P phase, all adjuncts adjoined to VP are accessible to Subj°. In order to adopt this approach, however, we need to show evidence that first, there is no v*P phase in intransitive sentences in JA, and second, place-point adjuncts are base-generated in the lower v*P in transitive sentences.

The first of these can be supported by the behaviour of so-called floating quantifiers. As has been demonstrated cross-linguistically, floating quantifiers are diagnostics of movement (Sportiche 1988, Speas and Yazzie 1996, Costantini 2010). Consider the examples in (61), which include the quantifier *kull* in two different positions within the same question.

(61) a. eeʃ l-wadʒbih illi ʔakal-ha l-walad kull-ha
what DEF -meal D-PRT ate.3SG.M-3SG.F DEF-boy all-3SG.F
'Which meal did the boy eat all of?'

b. eeʃ l-wadʒbih illi ʔakal-ha kull-ha l-walad
what DEF-meal D-PRT ate.3SG.M-3SG.F all-3SG.F DEF-boy
'Which meal did the boy eat all of?'

In (61a) *kull* surfaces in the canonical position of the direct object, as a complement of VP. In (60b), it appears in the intermediate position where the direct object lands en

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route to the left periphery. This position is the outer [spec,v*P] which is positioned to left of the subject and to the right of verb in T^0. The direct object must land in [spec, *v*P] because of the PIC, which prevents movement from the non-edge of a phase. Evidence that this position is the outer [spec,v*P] comes from questions with an overt auxiliary in T^0, such as *kaan* 'was' in (62). When T^0 contains *kaan*, the main verb surfaces to the right of *kull*, indicating that it has not raised to T^0.

(62) eeʃ l-wadʒbih illi kaan kull-ha l-walad yookil-ha
what DEF-meal D-PRT was all-3SG.F DEF-boy ate.3SG.M-it
'Which meal did the boy eat all of it?

In contrast, in passive sentences, *kull* cannot appear between the auxiliary and the verb, as shown in (63).

(63) a. eeʃ l-wadʒbih illi kaant titaakal kull-ha
what DEF-meal D-PRT was ate.3SG.M.PASS all-3SG.F
'Which meal was eaten all?'

b. * eeʃ l-wadʒbih illi kaant kull-ha titaakal
what DEF-meal D-PRT was all-3SG.F ate.3SG.M.PASS
'Which meal was all eaten?'

The ungrammaticality of (63b) suggests that there is no syntactic position between T^0 and the verb, filled by a copy of the direct object and available to host *kull*. I interpret this as evidence that there is no v*P phase in passive questions in JA.

The same pattern is found in questions with unaccusative verbs. Consider (64), where the quantifier *ʃwai* 'some' cannot appear between the auxiliary and the main verb, in what would be the inner phase edge if there were an inner phase.

(64) a. eeʃ l-gitʔaar illi kaan yaʔħtaraq ʃwai minn-uh
what train D-PRT was burn.3SG.M.IMP some from-it
'Some of which train was burning?'

b. * eeʃ l-gitʔaar illi kaan ʃwai minn-uh yaħtariq
what train D-PRT was some from-it burn.3SG.M.IMP
Some of which train was burning?

I conclude that there is no v*P in unaccusative or passive questions in JA.[19] As for the second question, some evidence that place-point adjuncts are base-generated in v*P

[19] An anonymous reviewer notes that Legate (2003) has argued for a v*P phase in passive, unaccusative, or raising constructions. Legate (2003) drew on reconstruction effects, quantifier raising, and parasitic gaps to argue that unaccusative and passive VPs are phases. However, Legate later argues that the reconstruction data do not demonstrate the existence of passive, unaccusative, and raising vP phases (Legate 2012). As for quantifier raising, JA data suggests that there is no v*P phase in passive, unaccusative, and raising constructions. I set parasitic gaps aside, because such gaps are not allowed at all in JA, as shown in (i).

i. eeʃ l-ktaab illi l-walad giriih gabul-maa yiʃtaari-*(h)
which DEF-book D-PRT DEF-boy read.3SG.M before-that bought.3SG.M- it
Intended: 'Which book did the boy read before he bought?'

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in transitive sentences comes from the observation that place-point adjuncts must be construed as topicalized when they appear pre-verbally in transitive questions. I appeal here to evidence from double-complements constructions. In such constructions, the verb takes two internal arguments (normally a direct object and a PP), as in (65).

(65) l-walad ħatˤtˤ l-muʁallaf ʔa-tˤ-tˤaawlih
DEF-boy put.3SG.M DEF-envelope on-DEF-table
'The boy put the envelope on the table.'

The place-point locative PP *ʔatˤtˤaawlih* 'on the table' in (65) is base-generated as a complement of the verb *ħatˤeet* 'put'. If the locative PP *ʔatˤtˤaawlih* 'on the table' is deleted in (65), the resulting sentence is ungrammatical, given that the selectional requirement of the verb *ħatˤeet* 'put' for a locative internal argument is not met. If the locative PP *ʔatˤtˤaawlih* 'on the table' is fronted to the left periphery, *illi* must be used when the subject is questioned, as shown in (66).

(66) miin ʔ-atˤ-tˤaawlih *(illi) ħatˤtˤ l-muʁallaf
who on-DEF-table D-PRT put.3SG.M DEF-envelope
'On the table, who put the envelope?'

The fronted PP *ʔatˤtˤaawlih* 'on the table' is construed as a topic, attracted by the Topic Criterion. If the topicalized locative PP *ʔatˤtˤaawlih* 'on the table' satisfies the Subject Criterion, then the Topic Criterion will be violated, and vice versa. As such, fronted locatives in transitive questions have a discourse-bound reading. This contrasts with locative PPs in intransitive questions where the locative can intervene between the subject wh-word and the verb without forcing the locative to have a topicalization construal. The asymmetry between the behaviour of time-point and non-time-point adjuncts in questions with subject extraction is thus of key importance as a diagnostic of phases in JA.

Having investigated the main facts of subject extraction in JA, we now turn to cases where *illi* is used in questions with object extraction. This exploration is important, given that under the analysis developed in the previous sections, *illi* is not expected to appear in questions with object extraction, since the subject is still available to fill [spec,SubjP].

7. *ILLI* AND OBJECT EXTRACTION[20]

In the previous sections, I argued that *illi* is an XP element that occupies [spec,SubjP] and, hence, facilitates subject extraction. It is therefore not expected that *illi* should occur in questions with object extraction. That is because there is no Object Criterion and, most importantly, the subject is available to move to [spec,SubjP] to satisfy the Subject Criterion, eliminating any need for *illi.* However, JA data indicates

[20]It is beyond the scope of the current article to provide a detailed account of object extraction in JA. I discuss here only the cases where *illi* is used in object extraction. There are several other observations which need further research and which are set aside due to limitations of space.

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that *illi* might appear in questions with object extraction. The sentence in (67) is an example of object extraction; notice that *illi* appears before the verb.

(67) miin illi ʃaaf-ha l-walad imbaariħ
who D-PRT saw.3SG.M-3SG.F DEF-boy yesterday
'Who did the boy see yesterday?'

This sentence might look like a counterargument to the analysis of *illi* as a D-linked element occupying [spec,SubjP]. However, on closer examination of sentences like these, the use of *illi* can be shown to follow from the proposed analysis of *illi*, and even to support it. Before showing how (67) is consistent with my analysis of *illi*, I first explore the status of the pronominal clitic (which marks the φ-content of the extracted object) on the verb. This clitic is required when *illi* is used. Questions with object extraction can be formed without *illi* only if there is no clitic, as illustrated in (68).

(68) miin (*illi) l-walad ʃaaf(*-ha)?
who D-PRT DEF-boy saw.3SG.M-3SG.F
'Who did the boy see?'

There seems to be a connection between the object clitic appearing on the verb and the use of *illi*. To make this connection explicit, I argue that the object clitic appears on the verb when the extracted object wh-word is D-linked. Evidence for this assumption comes from the observation that object questions with *illi* (and a clitic) must be used when the object wh-word is a D-linked constituent (*which man*) or modified (*which tall one*) which were argued in section 5 to be D-linked. This is illustrated in (69).

(69) a. miin l-binit *(illi) ʃaaf*(-ha) l-walad imbaariħ
who DEF-girl D-PRT saw.3SG.M-3SG.F DEF-boy yesterday
'Which girl did the boy see yesterday?'

b. miin tˤ- tˤawiilih *(illi) ʃaaf*(-ha) l-walad imbaariħ
who DEF-tall D-PRT saw.3SG.M-3SG.F DEF-boy yesterday
'Which tall one(F) did the boy see yesterday?'

Given the observation that D-linked object wh-words require a clitic on the verb, it can be postulated that the clitic is a copy of the D-linked object wh-word with reduced PF content. I propose that *illi* is required in such sentences because the subject is forced to remain in situ. This is because of the intervention of the object wh-word. Given the effects of the PIC, the object wh-word first moves to the outer [spec,v*P] and then moves to [spec,FocP]. Assuming the Copy Theory of movement (Chomsky 1995), when the object moves to [spec,FocP] it leaves a copy in the outer [spec,v*P]. This copy blocks the movement of the subject to [spec,SubjP]. The object wh-word carries, among others, [WH] and [D-LINK] features, which I assume block the movement of the subject to [spec,SubjP]. If the subject is D-linked, the copy of the object in [spec,v*P] invokes a (feature-based) Relativized Minimality violation against the subject movement to [spec,SubjP] (Rizzi 2004), since the object wh-word is also D-linked. One might ask here why the D-linked subject does not

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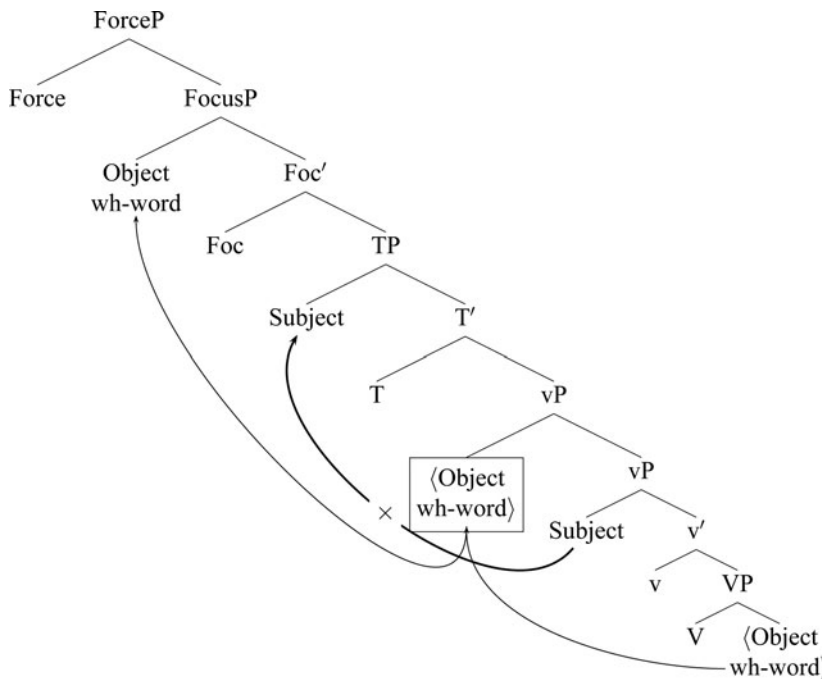
block movement of the object wh-word to [spec,v*P]. I appeal here to Starke's (2001) proposal that the intervention effect induced by α can be overcome if the moved constituent has an additional feature (see Landau 2008, Lahne 2008 for similar arguments). The extracted object has an additional [WH] feature that the subject lacks. As a result, the object wh-word overcomes any intervention effect caused by the subject.

On the other hand, if the subject is not D-linked, the copy of the object in [spec, vP] still invokes an intervention effect against the subject, since its featural make-up is richer than that of the non-D-linked subject (Haegeman 2010, Belletti and Rizzi 2013). One consequence of this analysis is that the subject must remain in situ. Since the verb moves to T^0 in JA, the subject is expected to surface in postverbal position, as it does in (67) and (69). The structure in (70) (irrelevant details omitted) shows the intervention effect caused by the boxed object wh-word, blocking the subject from moving to [spec,SubjP].

(70)



Since the subject cannot move to [spec,SubjP], that position is instead filled by the D-linked element *illi* to secure. Following this line of analysis, the generalization is that *illi* appears when the subject is unable to occupy [spec,SubjP].

On the other hand, when the object wh-word is not D-linked, the object no longer invokes an intervention effect against the subject, which is now able to move to [spec,

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SubjP], eliminating the need for *illi*. In such cases, as illustrated in (68), repeated here as (71), the subject surfaces to the left of the tensed verb, which has moved to T^0.[21]

(71) miin (*illi) l-walad ʃaaf(*-ha)?
who D-PRT DEF-boy saw.3SG.M-3SG.F
'Who did the boy see?'

The subject *lwalad* appears in a pre-verbal position which is, according to my analysis, [spec,SubjP]. Note that the use of *illi* makes the question ungrammatical.[22]

Everything else being equal, the main strategies used in JA to satisfy the Subject Criterion can be reported in Table 2 (uninterpretable features of $T^0 = uT^0$).

uϕ spelled out on T^0	Subject wh-word	*illi*	Time/Place adjunct	*Pro*
[3SG.M]	D-linked	+	+	–
	non-D-linked	–	–	+
non-[3SG.M]	D-linked	+	+	–

Table 2: Strategies used in JA to satisfy the Subject Criterion

In view of the subject extraction facts in JA, it can be argued that JA makes use of certain skipping strategies in order to escape the Subject Criterion effects (Rizzi and Shlonsky 2007). What is special about JA is that these strategies are sensitive to the D-linking status of the subject wh-word. [spec,SubjP] can only filled by an element whose D-linked status is identical to that of the subject wh-word. When the subject wh-word is D-linked, [spec,SubjP] must be filled by a D-linked element, which can be the D-linked particle *illi* or a time-point or place-point adjunct whose inner structure contains a nominal TIME/PLACE category that makes it D-linked. On the other hand, if the subject wh-word is not D-linked, an expletive *pro* is used to escape the Subject Criterion effects.

[21]One might wonder why the subject does not block the movement of the object to the left periphery when the latter is not D-linked. I suggest that the subject does not block object wh-word movement because they are different in featural make-up, so no relativized minimality violation arises, and neither the subject nor the object has a richer featural make-up. The subject has [D-LINK], whereas the object has [WH].

[22]A reviewer asks where JA *illi* stands with regard to the much-discussed contrast of complementizers in Québec French and whether there is a link between the two (unrelated) languages in terms of subject extraction. Given the observation that in Québec French, *que* turns into *qui* when the subject is extracted, it appears that *illi* and *qui* are both skipping strategies that provide a way around criterial freezing effects. On the other hand, *illi* but not *qui* is restricted to D-linked questions.

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8. Conclusion

I have shown that subject extraction in Jordanian Arabic is consistent with Criterial Freezing and the Subject Criterion. The main claim made here is that *illi* is used in JA to escape the Subject Criterion effects in cases where the subject wh-word is D-linked, under the D-linking condition on the Subject Criterion. *Illi* is base-generated in [spec,SubjP], ensuring convergence when the subject is extracted from its thematic position. Discourse particles, topicalized elements, direct objects, and the expletive *fiih* were all used to show that *illi* is in [spec,SubjP]. Additionally, I have argued that [spec,SubjP] in JA can be filled by a time-point or place-point adjunct instead of *illi* in transitive questions. I argue that these two types of adjuncts contain a nominal referential category, which qualifies them as D-linked elements. I also explored why time-point adjuncts, unlike place-point adjuncts, can replace *illi* in (in)transitive questions with a D-linked subject wh-word. The answer boils down to the Phase Impenetrability Condition, which prevents Subj° from attracting locative adjuncts from the lower, v*P phase. Furthermore, I proposed that in questions where the subject wh-word is not D-linked (in which verbs display the default form, i.e., [3SG.M]), [spec,SubjP] is filled by a non–D-linked expletive *pro*, in compliance with D-linking condition of the Subject Criterion.

References

Abe, Jun. 2015. The EPP and subject extraction. *Lingua* 159: 1–17.

Adger, David. 2007. Stress and phasal syntax. *Linguistic Analysis* 33(3/4): 238–259.

Al-Balushi, Rashid. 2012. Why verbless sentences in Standard Arabic are verbless. *The Canadian Journal of Linguistics* 57(1): 1–30.

Al-Momani, Islam. 2015. Overt and null subject pronouns in Jordanian Arabic. *Advances in Language and Literary Studies* 6(4): 1–10.

Al-Sarayreh, Atef. 2013. The licensing of negative sensitive items in Jordanian Arabic. Doctoral dissertation, University of Kansas.

Aoun, Joseph E., Elabbas Benmamoun, and Lina Choueiri. 2010. *The syntax of Arabic*. Cambridge: Cambridge University Press.

Arsenijević, Boban. 2009. Clausal complementation as relativisation. *Lingua* 119(1): 39–50.

Belletti, Adriana. 2002. Aspects of the low IP area. In *The structure of IP and CP. The cartography of syntactic structures* Vol. 2, ed. Luigi Rizzi, 16–52. Oxford: Oxford University Press.

Belletti, Adriana, and Luigi Rizzi. 2013. Ways of avoiding intervention: Some thoughts on the development of object relatives, passive and control. In *Rich languages from poor inputs*, ed. Massimo Piattelli-Palmarini and Robert C. Berwick, 115–126. Oxford: Oxford University Press.

Benmamoun, Elabbas. 1998. Spec-head agreement and overt case in Arabic. In *Specifiers: Minimalist approaches*, ed. David Adger, Susan Pintzuk, Bernadette Plunkett, and George Tsoulas, 110–125. Oxford: Oxford University Press.

Benmamoun, Elabbas. 2000. *The featural structure of functional categories: A comparative study of Arabic dialects*. Oxford: Oxford University Press.

Biberauer, Theresa, Anders Holmberg, Ian Roberts, and Michelle Sheehan. 2009. *Parametric variation: Null subjects in minimalist theory*. Cambridge: Cambridge University Press.
Bobaljik, Jonathan David. 2000. The rich agreement hypothesis in review. Ms., McGill University.
Bobaljik, Jonathan David. 2002. A-chains at the PF-interface: Copies and covert movement. *Natural Language and Linguistic Theory* 20(2): 197–267.
Boeckx, Cedric, and Kleanthes Grohmann. 2004. 'SubMove: Towards a unified account of scrambling and D-linking. in *Peripheries*, ed. David Adger, Cécile de Cat, and George Tsoulas, 241–257. Dordrecht: Kluwer.
Brustad, Kristen E. 2000. *The syntax of spoken Arabic: A comparative study of Moroccan, Egyptian, Syrian, and Kuwaiti dialects*. Georgetown: Georgetown University Press.
Campos, Héctor. 1997. On subject extraction and the anti-agreement effect in Romance. *Linguistic Inquiry* 28(1): 92–119.
Cheng, Lisa Lai-Shen. 1997. *On the typology of wh-questions*. New York: Garland Publishing.
Chomsky, Noam. 1995. *The minimalist program*. Cambridge, MA: MIT Press.
Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.
Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.
Chomsky, Noam. 2007. Approaching UG from below. In *Interfaces + recursion = language? Chomsky's minimalism and the view from syntax-semantics*, ed. Hans-Martin Gärtner and Uli Sauerland, 1–30. Berlin: Mouton de Gruyter.
Cinque, Guglielmo. 1999. *Adverbs and the universal hierarchy of functional projections*. Oxford: Oxford University Press.
Costantini, Francesco. 2010. On infinitives and floating quantification. *Linguistic Inquiry* 41(3): 487–496.
Demuth, Katherine. 1995. Questions, relatives, and minimal projection. *Language Acquisition* 4(1/2): 49–71.
Diercks, Michael J. K. 2010. Agreement with subjects in Lubukusu. Doctoral dissertation, Georgetown University.
É Kiss, Katalin, ed. 1995. *Discourse configurational languages*. Oxford: Oxford University Press.
Fakih, Abdul-Hafeed Ali. 2014. Subject Wh-Movement in Najrani Arabic and Minimalism. *International Journal of Linguistics* 6(5): 89–108.
Felser, Claudia. 2004. Wh-copying, phases, and successive cyclicity. *Lingua* 114(5): 543–574.
Fernández, Ángel Luis. 2009. On the composite nature of subject islands: A phase-based approach. *SKY Journal of Linguistics* 22: 91–138.
Frey, Werner. 2004. Notes on the syntax and the pragmatics of German left-dislocation. In *The syntax and semantics of the left periphery*, ed. Horst Lohnstein and Susanne Trissler, 203–233. Berlin: Mouton de Gruyter.
Gad, Rehab Farouk. 2011. A syntactic study of WH-Movement in Egyptian Arabic within the Minimalist Program. Doctoral dissertation, University of Leeds.
Galal, Mohamed. 2004. Relativizer *illi* in Arabic dialects. *Kansas Working Papers in Linguistics* 27: 44–65.
Gallego, Ángel J., and Juan Uriagereka. 2007. Conditions on sub-extraction. In *Coreference, Modality, and Focus*, ed. Luis Eguren and Olga Fernández-Soriano, 45–70. Amsterdam: John Benjamins.
Haegeman, Liliane. 2010. The internal syntax of adverbial clauses. *Lingua* 120(3): 628–648.

Harbert, Wayne, and Maher Bahloul. 2002. Postverbal subjects in Arabic and the theory of agreement. In *Themes in Arabic and Hebrew syntax*, ed. Ur Shlonsky and Jamal Ouhalla, 45–70. Dordrecht: Kluwer.

Holes, Clive. 1990. *Gulf Arabic*. London: Routledge.

Holmberg, Anders. 2000. Scandinavian stylistic fronting: How any category can become an expletive. *Linguistic Inquiry* 31(3): 445–483.

Holmberg, Anders, and Thorbjörg Hróarsdóttir. 2004. Agreement and movement in Icelandic raising constructions. *Lingua* 114(5): 651–673.

Holmberg, Anders, and Ian Roberts. 2013. The syntax–morphology relation. *Lingua* 130, 111–131.

Kayne, Richard S. 2005. *Movement and silence*. Oxford: Oxford University Press.

Kenstowicz, Michael. 1989. The null subject parameter in modern Arabic dialects. In *The null subject parameter*, ed. Osvaldo Jaeggli and Kenneth J. Safir, 263–275. Dordrecht: Kluwer.

Lahne, A. 2008. Local modelling of long distance agreement. Paper Presented at the 31st GLOW Conference, University of Newcastle, 26–28 March 2008.

Landau, Idan. 2007. EPP extensions. *Linguistic Inquiry* 38(3): 485–523.

Landau, Idan. 2008. Two routes to control: Evidence from case transmission in Russian. Paper Presented at the 31st GLOW Conference, University of Newcastle, 26–28 March 2008.

Legate, Julie Anne. 2003. Some interface properties of the phase. *Linguistic Inquiry* 34(3): 506–515.

Legate, Julie Anne. 2012. The size of phases. In *Phases: Developing the framework*, ed. Ángel J. Gallego, 233–250. Berlin: De Gruyter Mouton.

Lewis, Robert. 2013. Complementizer Agreement in Najdi Arabic. Doctoral dissertation, University of Kansas.

Mohammad, Mohammad. 1990. The problem of subject-verb agreement in Arabic: Towards a solution. In *Perspectives on Arabic Linguistics*, ed. Mushira Eid and John McCarthy, 95–127. Amsterdam: John Benjamins.

Osman, Mariam Hussein. 1990. The Syntax and logical form of wh-interrogatives in Cairene Egyptian Arabic. Doctoral dissertation, University of Washington.

Polinsky, Maria, Carlos Gómez Gallo, Peter Graff, Ekaterina Kravtchenko, Adam Milton Morgan, and Anne Sturgeon. 2013. Subject islands are different. In *Experimental syntax and island effects*, ed. Jon Sprouse and Norbert Hornstein, 286–310. Cambridge: Cambridge University Press.

Potsdam, Eric. 2006. The cleft structure of Malagasy wh-questions. In *Clause structure and adjuncts in Austronesian languages*, ed. Hans-Martin Gärtner, Paul Law, and Joachim Sabel, 195–232. Berlin: Mouton de Gruyter.

Richards, Marc. 2007. On feature inheritance: An argument from the Phase Impenetrability Condition. *Linguistic Inquiry* 38(3): 563–572.

Rizzi, Luigi. 1990. *Relativized Minimality*. Cambridge, MA: MIT Press.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar*, ed. Liliane Haegeman, 281–337. Dordrecht: Kluwer.

Rizzi, Luigi. 2004. Locality and the left periphery. In *Structure and Beyond*, ed. Adriana Belletti, 223–251. Oxford: Oxford University Press.

Rizzi, Luigi. 2005. On some properties of subjects and topics. In *Contributions to the XXX Incontro di Grammatica Generativa*, ed. Laura Brugè, Giuliana Giusti, Nicola Munaro, Walter Schweikert, and Giuseppina Turano, 203–224. Venice: Cafoscarina.

Rizzi, Luigi. 2006. On the form of chains: Criterial positions and ECP effects. In *Wh-movement: Moving on*, ed. Lisa Lai-Shen Cheng and Norbert Corver, 97–134. Cambridge, MA: MIT Press.

Rizzi, Luigi. 2010. On some properties of criterial freezing. In *The complementizer phase: Subjects and operators*, ed. E. Phoevos Panagiotidis, 17–32. Oxford: Oxford University Press.

Rizzi, Luigi. 2014. Some consequences of Criterial Freezing. In *Functional structure from top to toe: The cartography of syntactic structures 9*, ed. Peter Svenonius, 19–46. New York: Oxford University Press.

Rizzi, Luigi. 2015. Cartography, criteria, and labeling. In *Beyond the functional sequence: The cartography of syntactic structures 10*, ed. Ur Shlonsky, 314–338. New York: Oxford University Press.

Rizzi, Luigi, and Ur Shlonsky. 2006. Satisfying the subject criterion by a non-subject: English locative inversion and Heavy NP shift. In *Phases of interpretation*, ed. Mara Frascarelli, 341–361. Berlin: Walter de Gruyter.

Rizzi, Luigi, and Ur Shlonsky. 2007. Strategies of subject extraction. In *Interfaces + recursion = language? Chomsky's minimalism and the view from syntax-semantics*, ed. Hans-Martin Gärtner and Uli Sauerland, 115–160. Berlin: Mouton de Gruyter.

Shlonsky, Ur. 1992. Resumptive pronouns as a last resort. *Linguistic Inquiry* 23(3): 443–468.

Shlonsky, Ur. 2002. Constituent questions in Palestinian Arabic. In *Themes in Arabic and Hebrew syntax*, ed. Jamal Ouhalla and Ur Shlonsky, 137–159. Dordrecht: Kluwer.

Shlonsky, Ur. 2014. Subject positions, subject extraction, EPP and the Subject Criterion. In *Locality*, ed. Enoch Oladé Aboh, Maria Teresa Guasti, and Ian Roberts, 58–85. New York: Oxford University Press.

Soltan, Usama. 2006. Standard Arabic subject-verb agreement asymmetry revisited in an Agree-based minimalist syntax. In *Agreement systems*, ed. Cedric Boeckx, 239–265. Amsterdam: John Benjamins.

Soltan, Usama. 2010. On strategies of question-formation and the grammatical status of the Q-particle *huwwa* in Egyptian Arabic wh-questions. *University of Pennsylvania Working Papers in Linguistics* 17(1): 1–10.

Speas, Margaret, and Evangeline Parsons Yazzie. 1996. Quantification and the position of noun phrases in Navajo. In *Athabaskan language studies: Essays in honour of Robert W. Young*, ed. Eloise Jelinek, Victor Golla, Sally Midgette, Keren Rice, and Leslie Saxon, 35–80. Albuquerque: University of New Mexico Press.

Sportiche, Dominique. 1988. A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic inquiry* 19(3): 425–449.

Stanton, Juliet. 2016. Wholesale late merger in Ā-movement: Evidence from preposition stranding. *Linguistic Inquiry* 47(1): 89–126.

Starke, Michal. 2001. Move dissolves into Merge: A theory of locality. Doctoral dissertation. University of Geneva.

Struckmeier, Volker. 2014. *Ja doch wohl* C? Modal particles in German as C-related elements. *Studia Linguistica* 68(1): 16–48.

Sullivan, Michael D., Sr. 2016. Relativization in Ojibwe. Doctoral dissertation, University of Minnesota.

Taraldsen, Knut Tarald. 1986. *Som* and the binding theory. In *Topics in Scandinavian syntax*, ed. Lars Hellan and Kirsti Koch Christensen, 149–184. Dordrecht: Reidel

de Vries, Mark. 2002. *The syntax of relativization*. Utrecht: LOT.

Wahba, Wafaa Aabdel-Faheem Batran. 1984. Wh-Constructions in Egyptian Arabic. Doctoral dissertation, University of Illinois, Urbana-Champaign.