Temporal/locative inversion in Arabic

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Abstract

This research scrutinizes the observation that when the thematic subject is extracted (i.e. questioned) in Jordanian Arabic, temporal/locative inversion may occur. Temporal inversion occurs irrespective of the verb being transitive or intransitive, whereas locative inversion is limited to contexts with an unaccusative verb. This research argues that this distinction correlates with the base-generation of temporal/locative adjuncts; temporal adjuncts are base-generated adjoining to TP, whereas locatives are base-generated adjoining to VP. Temporal but not locative adjuncts resist fronting with vP, demand the use of a tense copula (or a tensed verb), and are not subject to deletion along with the lexical verb. With the assumption that Spec, SubjP must be filled with a non-silent copy due to the effects of the so-called Subject Criterion (Rizzi and Shlonsky 2007), a temporal or locative adjunct, if any, fills this position instead of the extracted thematic subject. Given its low position, a locative adjunct is accessible to $Subj^0$ only when there is no v*P, hence the account of the correlation between locative inversion and the type of the verb. Furthermore, this research explores the existence of temporal/locative inversion in other two Arabic dialects (Najdi Arabic and Iraqi Arabic), arguing for a micro-parametric view of this strategy across Arabic dialects.

Keywords: Arabic: Phase Theory: subject extraction: temporal/locative inversion.

1. Introduction

In Jarrah (2017), I argue that the extracted subject in Jordanian Arabic (JA) does not land in Spec, SubjP (a mnemonic for Subject Phrase, a separate layer dominating TP but c-commanded by CP; cf. Cardinaletti 2004) through its journey to the left periphery.[1,2] I argue that Spec, SubjP in this Arabic variety is a criterial

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[1] I would like to thank two anonymous reviewers of *Yearbook of the Poznan Linguistic Meeting* for their valuable feedback. I would also like to thank my postgraduate fellows Eisa Al-Rasheedi and Murdhy Al-Shamari for Najdi Arabic data and Ekhlas Ali Mohsin for Iraqi Arabic data.

[2] Subject extraction refers here to cases where the subject is questioned as in *Who left home late?*.

position in the sense of Rizzi (2005, 2010, 2014) and Rizzi and Shlonsky (2007). As such, any phrase occupying this position is trapped in place and becomes unable to escape. I further argue that in order to facilitate subject extraction, Spec, SubjP is filled with either the D(iscourse)-linking particle *ʔilli,* a deictic locative/temporal, or a pro, depending on whether the subject wh-word is D-linked or not. Consider the following examples:

(1a) miin *(ʔilli) ʔaχað-t   ʔal-mafatiiħ?
       who   Prt   took-3SG.F   DEF-keys
       'Who took the keys?'

(1b) miin ʔimbaariħ ʔaχað-t   ʔal-mafatiiħ?
       who   yesterday took-3SG.F   DEF-keys
       'Who took the keys yesterday?'

(1c) miin   bi-d-dukaanah   wigʕ-at?
       who   in-DEF-shop   fall down-3SG.F
       'Who fell down in the shop?'

(1d) miin   ʔaχað   ʔal-mafatiiħ?
       who   took.3SG.M   DEF-keys
       'Who took the keys?'

In all examples in (1), the subject is extracted to the left periphery.[3] In (1a), Spec, SubjP is filled with *ʔilli,* whereas it is filled with the deictic temporal adjunct *ʔimbaariħ* in (1b) and the locative adjunct *biddukaanah* in (1c). Spec, SubjP is filled with a non-referential (i.e. expletive) pro in (1d).[4] The subject wh-word in (1a–c) is D-linked as it implies the existence of a set of contextually determined entities from which the speaker is asking for a choice (see Fernández 2009), hence the use of *ʔilli* or a temporal/locative adjunct in Spec, SubjP.[5] Most relevant here is the observation that temporal inversion is indifferent to the

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[3] See, Jarrah (2017) for several pieces of evidence that the subject is actually in the left periphery in examples like (1).

[4] Note here that the assumption that an expletive pro occupies Spec, SubjP in (1d) is consistent with Rizzi and Shlonsky's (2007) proposal that Spec, SubjP may be filled with an expletive pro in pro-drop languages like Italian. There is no obvious reason that this proposal should not carry over to JA, another true instance of a pro-drop language.

[5] In Jarrah (2017), I argue that the use of the D-linking particle *ʔilli* or a deictic temporal/locative adjunct follows from a condition operating in JA that demands Spec, SubjP be filled with an element with the same D-linking status as the Subject wh-word.

type of the verb (i.e. transitive vs. intransitive), whereas locative inversion is subject to the type of the verb, i.e. just occurs in questions with unaccusative predicates. In Jarrah (2017), I suggest that this follows from the base-generation of temporal and locative adjuncts. Temporal adjuncts are VP-external adjuncts (i.e. TP-adjuncts), whereas locatives are VP-internal adjuncts. This assumption was adopted with no evidence corroborating it. Furthermore, there is no examination of relevant facts from other Arabic dialects. Against this background, the current research aims to provide empirical evidence from three Arabic dialects supporting the view that temporal adjuncts in Arabic are base-generated adjoining to TP, whereas locatives are based-generated adjoining to VP.

Section 2 provides a background overview of subject extraction in Arabic in addition to my (2017) account of the main observations related to this phenomenon in JA. Section 3 provides empirical evidence to the effect that temporal adjuncts are adjoined to TP, while locatives are adjoined to VP. The evidence draws on facts from dislocation, coordination, and ellipsis. Section 4 explores to what extent other Arabic dialects behave similarly with respect to temporal/locative inversion with the presence of subject extraction. This section shows that temporal/locative inversion is subject to micro-parametric variation across Arabic dialects. Section 5 concludes the research.

2. Subject extraction in Arabic

Several works have shown that when the subject is extracted (questioned) in Arabic, there are certain effects that occur in response to subject extraction. One of these effects is the (optional) use of the word *ʔilli* that appears between the subject wh-word and the verb. Consider the following examples from Palestinian Arabic, reported in Shlonsky (2002: 142), as in (2).[6]

(2a)   miin   ħall   l-muʃkile?
        who   solved   the-problem
        'Who solved the problem?'

(2b)   miin   ʔilli   ħall   l-muʃkile?
        who   that   solved   the-problem
        'Who solved the problem?'

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[6] The gloss in examples (2) and (3) are Shlonsky's.

Shlonsky argues that *ʔilli* in (2b) is prompted because the speaker presupposes that there is one having solved the problem. (2a) does not imply such presuppositional effects. Furthermore, Shlonsky states that when the question lacks presupposition, the verb of the interrogative clause can only bear default [3SG.M] agreement. He indicates that this pattern holds true also of Moroccan Arabic, as in (3).[7]

(3a)   ʃkun   mʃa?
        who   left(3MS)
        'Who left?'

(3b)   *ʃkun   mʃat/   mʃaw?
        who   left.3FS left.3MPL
        'Who left?'

(3c)   ʃkun   lli   mʃa/   mʃat/   mʃaw?
        who   that left.3MS left.3FS   left(3MPL)
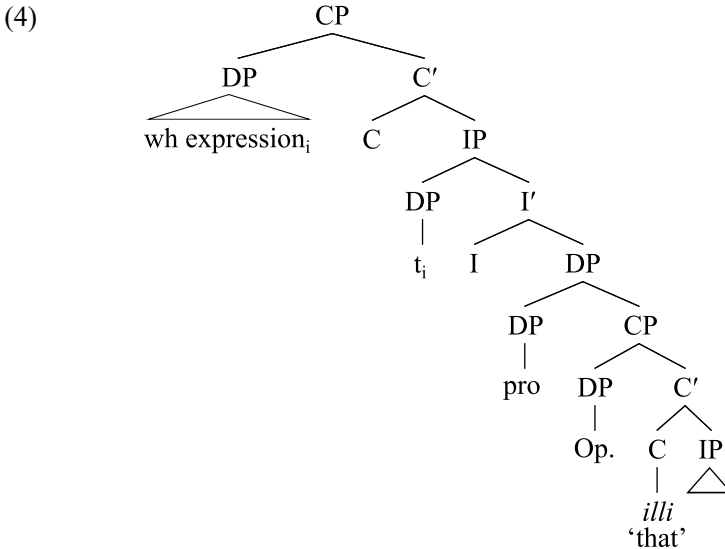   'Who left?'

The question in (3a) is grammatical even if *ʔilli* is not used, given that the verb shows default agreement. (3b) is ungrammatical as the verb is inflected for agreement, and *ʔilli* is not used. When the verb is inflected for agreement, *ʔilli* must be used as (3c) demonstrates.

Shlonsky (2002) proposes a bi-clausal analysis of such questions. He claims that questions with *ʔilli* are copular clauses that consist of a subject DP and a predicate, which is here a free relative clause that functions as a nominal predicate providing a definite description, a statement of identity. The wh-phrase is base-generated in Spec TP of the copular clause and then moves to Spec of the higher CP. Consider the schematic representation in (4) (Shlonsky 2002: 152).

Under this proposal, *ʔilli* is treated as C^0 that heads the lower CP (see, Cheng 1997 for a different approach and Algryani 2012, among others, for discussion of the two proposals).[8]

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[7] In Moroccan Arabic *ʔilli* appears reduced as *lli*.

[8] Several researchers carry over Shlonsky's analysis to other Arabic varieties, while others argue against it, advancing their own proposals. For the former team, see, e.g. Algryani (2012) for Libyan Arabic and Sulaiman (2016) for Syrian Arabic. As for the latter team, see, among others, Gad (2011) and Soltan (2011) for Egyptian Arabic.

(4)

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                        CP
              ┌──────────┴──────────┐
             DP                     C′
          ┌──┴──┐             ┌──────┴──────┐
      wh expression_i         C             IP
                                      ┌──────┴──────┐
                                     DP             I′
                                      │        ┌────┴────┐
                                     t_i       I         DP
                                                    ┌─────┴─────┐
                                                   DP           CP
                                                    │      ┌────┴────┐
                                                   pro     DP        C′
                                                            │     ┌──┴──┐
                                                           Op.    C    IP
                                                                  │    △
                                                                 illi
                                                                'that'
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On the other hand, in Jarrah (2017) I take a different tack for JA. I observe that the use of a fronted (non-topicalized) locative or temporal adjunct militates against the use of *ʔilli* in JA even if the verb is inflected for agreement, as exemplified in the following pair.

(5a) miin *(ʔilli) ʔaχað-at   ʔal-mafatiiħ ʔimbaariħ?
      who   Prt   took-3SG.F   DEF-keys   yesterday
      'Who took the keys yesterday?'

(5b) miin ʔimbaariħ ʔaχað-at   ʔal-mafatiiħ?
      who   yesterday took-3SG.F   DEF-keys
      'Who took the keys yesterday?'

I propose that *ʔilli* in (5a) fills Spec, SubjP to meet the requirement of the so-called Subject Criterion to have Spec, SubjP filled. Drawing on evidence from several unrelated languages, Rizzi and Shlonsky (2007) argue that Spec, SubjP is a criterial position that it is paired with a criterial property of aboutness, and hence any movement out of this criterial position is barred, a constraint that is known as the Subject Criterion. Due to the effects of this criterion, the extracted subject cannot land in Spec, SubjP en route to the left periphery, as it would

otherwise get frozen in place and becomes unable to move further. With the presence of mounting evidence that the extracted subject is in the left periphery in JA (e.g. its occurrence to the left of topicalized elements as well as the use of an expletive *fiih* in existential questions), I propose that the demands of the Subject Criterion is met using *ʔilli* in Spec, SubjP when the thematic subject is extracted. Under this analysis, *ʔilli* is an XP element, given its complementary distribution with the expletive *fiih* as well as its obligatory occurrence to the right of all de facto left periphery material. Furthermore, I propose that Spec, SubjP can be alternatively filled with a deictic temporal/locative or a pro. This accounts for the lack of *ʔilli* in the presence of inverted locative/temporal adjunct as in (5b) (where the preposed deictic temporal adjunct *ʔimbaariħ* is argued to occupy Spec, SubjP, attracted by Subj°) or the absence of *ʔilli* or a fronted temporal/locative when the verb shows default agreement (i.e. Spec, SubjP is filled with an expletive pro). Furthermore, I observe that locative adjuncts unlike temporal adjuncts can only replace *ʔilli* in questions with unaccusative verbs.[9]

(6a)   miin   bi-ddukaanah   *(ʔilli)   ʔaχað-at   ʔal-mafatiiħ?
        who   in-DEF-shop   Prt   took-3SG.F   DEF-keys
        'In the shop, who took the keys?'

(6b)   miin   bi-d-dukaanah   wigʕ-at?
        who   in-DEF-shop   fall down-3SG.F
        'Who fell down in the shop?'

I assume that this follows from the base-generation of temporal and locative adjuncts. Temporal adjuncts are VP-external adjuncts (i.e. TP-adjuncts), whereas locatives are VP-internal adjuncts. Nevertheless, this proposal was taken for granted with no empirical evidence for the position of temporal and locative adjuncts in the clause. From here the current research emerges. Examining facts from left-dislocation, coordination, and ellipsis, this research corroborates the view of the discrepancy between locative and temporal adjuncts with respect to base-generation and hence the difference between them with respect to accessibility to $Subj^0$. Additionally, this research is significant as it shows that this type of inversion is subject to a micro-parametric variation across some Arabic dialects.

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[9] Locatives are disallowed to replace *ʔilli* in questions with unergative verbs. That should follow from the assumption that vP in such questions is a phase.

3.   The position of temporal and locative adjuncts

In this section, I provide evidence from left-dislocation (Section 3.1), coordination (Section 3.2), ellipsis and cross-linguistic evidence (Section 3.3), for the high position of temporal adjuncts and the low position of locatives in the clause whereby they merge.

3.1. Left-dislocation

The first piece of evidence that temporal adjuncts are high in the clause and adjoin to TP comes from the observation that such elements are not preposed along with the verb and its object in, among others, sentences with the past tense copula *kaan* 'was' that occupies mainly T^0 in the Arabic sentence (cf., Fassi Fehri 1993, 2012). Consider the following examples from JA (7a represents the unmarked case of the word order in JA).

(7a)   ʔibin ʕamm-i   kaan   jiʕmal   buʃaar   ʔimbaarih
       son   uncle-my was.3SG.M   make.3SG.M   popcorn   yesterday
       'My cousin was making popcorn yesterday.'

(7b)   jiʕmal   buʃaar   ʔibin ʕamm-i   kaan   ʔimbaarih
       make.3SG.M   popcorn   son   uncle-my was.3SG.M   yesterday
       'Make popcorn is what my cousin did yesterday.'

(7c)   *jiʕmal   buʃaar   ʔimbaarih ʔibin ʕamm-i   kaan
       make.3SG.M   popcorn   yesterday son   uncle-my   was.3SG.M
       Intended: 'Make popcorn is what my cousin did yesterday.'

In (7b), the temporal adjunct *ʔimbaarih* 'yesterday' is not pied-piped along with the verb *jiʕmal* 'making' and the object *buʃaar* 'popcorn', whereas the temporal adjunct is preposed in (7c), something that leads to the sentence being ungrammatical. This observation can be accounted for suggesting that the complex V+O moves to the left periphery (Spec, Focus Phrase, cf. Rizzi 1997) as one unit. Given that the lexical verb in Arabic moves to little *v* in narrow syntax (V^0 head-adjoins v^0, Fassi Fehri 2003, 2012; Balushi 2011; and Alshamari and Jar-

rah 2016, among many others), it is most likely that the whole phase v*P in (7b) is what moves to the left periphery. If the temporal adjunct *ʔimbaarih* 'yester-day' adjoins to vP/VP, it would be preposed all along with the fronted VO, con-trary to fact. The evidence that fronted VO is one unit occupying one slot in the left periphery comes from the observation that the object cannot appear to the left of the preposed V, as asserted by the ill-formedness of the following sen-tence.

(8)   *buʃaar jiʕmal(uh)   ʔibin ʕamm-i   kaan   ʔimbaarih
        popcorn make.3SG.M(3SG.M)   son   uncle-my was.3SG.M yesterday
        'Make popcorn is what my cousin did yesterday.'

It is hard to account for the ban against the object to appear preverbally in such situations if the two categories would move singly to the left periphery. Notice that *jiʕmal* is a head that does not block the movement of an XP category such as the DP object *buʃaar*, given relativized minimality (Rizzi 1990, 2013). On the other hand, the ungrammaticality of sentence (8) is automatically explained un-der the proposal that VO moves to CP as one unit. By extending the proposal that there is no sub-extraction out of a previously moved domain (Stepanov 2001: 52, following Wexler and Culicover's (1980) Freezing Principle) to JA, the ungrammaticality of sentence (8) follows. The object is sub-extracted out of the v*P phase which already moves to the left periphery. Consider the schematic representation in (9).[10]

      The object is not allowed to move out of the v*P, while the latter occupies Spec, Focus Phrase. As shown in tree (9), the temporal adjunct *ʔimbaarih* 'yes-terday' adjoins to TP. Hence, the ban against its movement along with v*P mate-rial is motivated.[11] Given that moves to the left periphery is the whole phrase (vP), the linear order between the verb and the object remains intact in their new position in the left periphery. Additionally, the assumption that verb and the ob-ject in (7b) are not part of one phrasal unit in the left periphery is undermined by the fact that VO material is not discontinuous. Consider the following exam-ple, where the locative adjunct *ʔibdaarna* 'at our house' intervenes between the verb and the object, a matter that yields ungrammaticality.

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[10] Note that Spec, SubjP is filled with the thematic subject *ʔibin ʕamm-i*.

[11] I depart here from Kayne's (1994) *Linear Correspondence Axiom* and follow, instead, Abels and Neeleman's (2006) proposal that allows for right adjunction (resulted from base-generation).

(9)
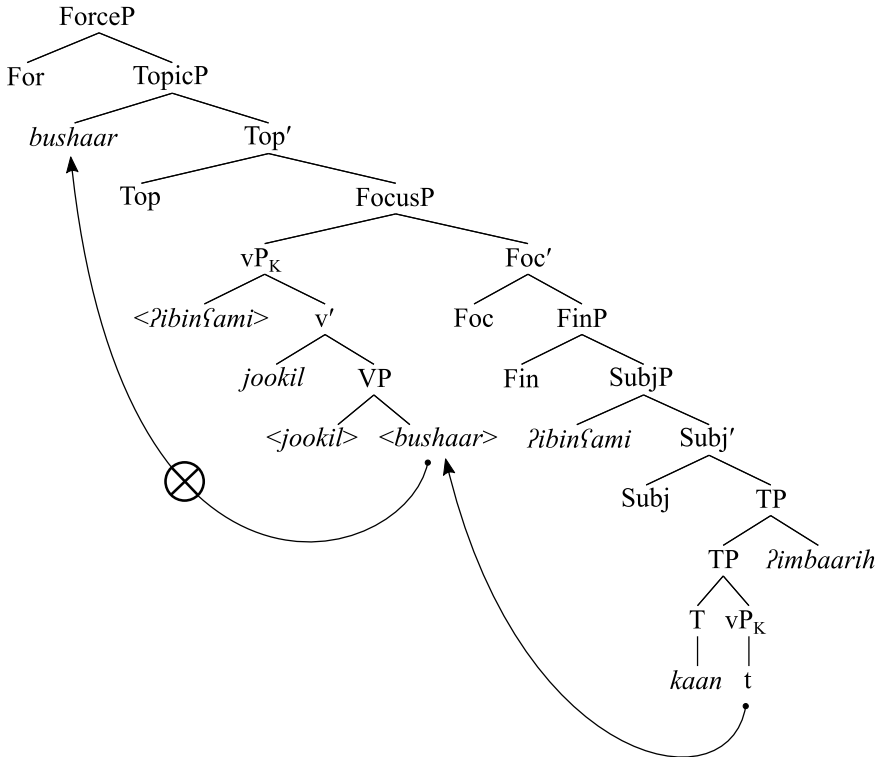
(10) *jiʕmal   ʔib-daar-na   buʃaar   ʔibin ʕamm-i   kaan*
       make.3SG.M at-house-our popcorn son   uncle-my was.3SG.M

ʔimbaarih
yesterday

'Make popcorn at our house is what my cousin did yesterday.'

Along these lines, there exists strong evidence that sentences with VOST word order (where T stands for Tense) involve VO phrasal movement to the left pe-

riphery. Had temporal adjuncts adjoined to VP, they would have preposed along with v*P rather than being stranded, contrary to fact.

On the other hand, the situation in (7a,b) appears not to be the case with respect to the locative adjunct *ʔibdaarna* 'at our house'. The situation is actually reversed, as demonstrated in the following examples.

(11a) ʔibin ʕamm-i   kaan   jiʕmal   buʃaar   ʔib-daar-na
       son   uncle-my was.3SG.M make.3SG.M popcorn at-house-our
       'My cousin was making popcorn at house our.'

(11b) *jiʕmal   buʃaar   ʔibin ʕamm-i   kaan   ʔib-daar-na
       make.3SG.M popcorn son   uncle-my was.3SG.M at-house-our
       'Making popcorn at our house is what my cousin did.'

(11c) jiʕmal   buʃaar   ʔib-daar-na   ʔibin ʕamm-i   kaan
       make.3SG.M popcorn at-house-our son   uncle-my was.3SG.M
       'Making popcorn at our house is what my cousin did.'

Sentence (11b) is ill-formed as the locative adjunct *ʔibdaarna* appears to the right of the past tense copula *kaan*, while sentence (11b) is grammatical with the dislocation of the locative along with verb and the accompanying object. The behaviour of the locative adjunct *ʔibdaarna* in the aforesaid examples in (11) is strongly indicative of the fact that locatives adjoin to VP and thus should be preposed when the vP is fronted as one unit (to the left periphery).[12] In view of this, it can be concluded that temporal adjuncts adjoin to a different projection than locative adjuncts. I argue that temporal adjuncts adjoin to TP, while locatives adjoin to VP.

In the following section, I provide a further line of evidence from coordination in favour of the view that locatives adjoin to VP, whereas temporal adjuncts adjoin to TP.

3.2. Coordination

Empirical support to the proposal that temporal adjuncts adjoin to TP can also be offered by facts from coordination in JA. When two constituents (i.e. con-

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[12] It is worth noting here that a locative cannot also occur to the left of the fronted verb, an observation that supports our proposal that the locative is part of the moved material and hence lends credence to Wexler and Culicover's (1980) Freezing Principle.

juncts) involve each a temporal adjunct, they must consist of at least as much structure as TP. This observation becomes clearer again in the context of the past tense copula *kaan*. Consider the example in (12).

(12)   Ɂaboo-i   kaan   Ɂiwaddi   Ɂaχoo-i   Ɂiz-zaʁiir
       father-my was.3SG.M   send.3SG.M brother-my DEF-young

       ʕa-l-midrasih   Ɂissaaʕah sabʕah Ɂisˤubuħ w-*(kaan)
       to-DEF-school hour   seven morning and-was.3SG.M

       jigraɁ   Ɂidʒdʒariidah Ɂissaaʕah tisʕah Ɂisˤubuħ
       read.3SG.M newspaper   hour   nine   morning

       'My father was taking my younger brother to the school at 7 AM and was reading the newspaper at 9 AM.'

Here the second *kaan* is obligatory as long as the temporal adjunct *Ɂissaaʕah tisʕah Ɂisˤubuħ* 'at 9 AM' is used in the second conjunct. This observation bears implication for the position of temporal adjuncts in the clause. Suppose that temporal adjuncts are only licensed if they adjoin to TP; their occurrence in the clause thus requires the projection of TP which in turn can house *kaan*.[13] Following Williams's (1978) Law of Coordination of Likes (a constraint that demands the conjuncts be of the same syntactic category),[14] sentence (12) involves two coordinated TP's, each headed by the past tense copula *kaan.* If *kaan* had been dropped out of the second conjunct, the coordination conjunction *w-* would conjoin two vP's in the presence of *kaan* in the first conjunct. It is a well-established assumption across Arabic dialects that the imperfective does not head-move to T^0; the mere presence of this form of the verb in the second conjunct is thus never indicative of TP (cf. Benmamoun 1999, 2000). Accordingly, the second conjunct must project TP to license the temporal adjunct (and should be in the past to be felicitously equivalent of the first conjunct).

    Now, let's throw light on cases with locatives. Consider the example in (13).

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[13] This discussion gives rise to Eisele's (1988) old assumption that temporal adverbs/adjuncts are anchored in the sentence by tense. See also Shlonsky (1997: 31) for a similar argument.

[14] See van Koppen and Rooryck (2008) for a feature-based reinterpretation of Williams's (1978) Law of Coordination of Likes.

(13) ʔaboo-i   kaan   jitfarradʒ   ʔal-l-mubraha bi-l-beet
      father-my was.3SG.M watch.3SG.M at-DEF-match in-DEF-house

      w-(kaan)   yigraʔ   ʔidʒdʒariidah bi-l-maħall
      and-was.3SG.M read.3SG.M newspaper   in-DEF-supermarket

      'My father was taking watching the match at home and (was) reading
      the newspaper at the supermarket.

That *kaan* is optional in (13) is supportive evidence that locatives are not licensed in their clauses by TP. Following the proposal that locatives adjoin to VP, their presence is not tied to TP, and hence whether *kaan* is present or not becomes irrelevant for their licensing, unlike the case of temporal adjuncts. Actually, this discussion provides us with an answer of why some verbs, e.g. *put*, sub-categorize for locatives, while there are no verbs, to the best of my knowledge, that subcategorize for temporal adjuncts. A verb does not subcategorize for an element which it does not license.

        In the following section, I present further evidence from ellipsis for the low position of locatives and the high position of temporal adjuncts.

3.3. Ellipsis

Another case in favour of the proposal on locative vs. temporal base-generation has to do with ellipsis. Consider the following two examples where the second conjunct undergoes VP deletion.

(14a) Balqees kaan-t   tursum   Sarah ʔimbaarih w-hashem
       Balqees was-3SG.F draw.3SG.F Sarah yesterday and-Hashem

       kaan   ʔawal   ʔimbaarih
       was.3SG.M   First   yesterday

       'Balqees was drawing Sarah yesterday, and Hashem was doing so the
       day before yesterday.'

(14b) *Balqees kaan-t   tursum   Sarah bi-l-beet   w-hashem
       Balqees   was-3SG.F draw.3SG.F Sarah at-DEF-house and-Hashem

kaan   bi-l-ħadiigah
was.3SG.M at-DEF-garden
Intended: 'Balqees was drawing Sarah at our house, and Hashem was
doing so in the garden.'

As the temporal adjunct *Ɂawal Ɂimbaarih* 'the day before yesterday' adjoins to
TP, its occurrence is not affected by deletion of VP, as illustrated in (14a). On
the other hand, sentence (14b) is ill-formed because of the presence of the loca-
tive adjunct *bilħadiigah* 'in the garden', which is expected not to appear when
VP deletes.

    A similar observation is reported in Moroccan Arabic (MA). Kortobi (2002)
shows that when the adverb in MA is a TP-adverb, it is adjoined to TP, which is
higher than Aspect Phrase (AspP). It follows that when AspP deletes, time ad-
verbials can stay, as it is unaffected by deletion (see 15a below). On the other
hand, manner adverbs are affected by deletion, given that they are anchored by
AspP (see 15b). (The two examples are adapted from Kortobi 2002: 233–234.)

(15a) ?Yasin kan ka-yᶜum   lbarəħ   w-Yousre   kan əwwel lbarəħ.
      Yasin   was PROG-swim yesterday and-Yousre was __   day before
       'Yousef was swimming yesterday, and Yousre was doing so the day be-
       fore.'

(15b) *Yasin kan ka-yakul bəzzərba w-Yousre   kan __ bʃswiya.
      Yasin   was PROG-eat fast   and-Yousre was __ slowly
       'Yasin was eating fast and Yousre was doing so slowly.'

It is therefore reasonable to conclude that temporal adjuncts adjoin to TP,
whereas locative adjuncts adjoin to a lower position, i.e. VP.

    From a cross-linguistic point of view, one finds a plethora of examples from
natural languages (unrelated to Arabic) advocating this view. A case in point
here is Modern Greek. Rivero (1992: 291) correctly notes that a clear dichotomy
between adverbs that function as VP-modifiers internal to the VP and those that
are external to the VP can be established in Modern Greek. She argues that the
former includes locatives and adverbs that are related to the modification of the
action expressed by the verb or *Aktionsart*,[15] whereas the latter includes time

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[15] Traditional European structuralist studies of languages establish a semantic division between *As-
pect* and *Aktionsart* or 'kind of action' (see Bache 1982). Rivero (1992: 304) states that *Aspect* re-

adverbs. Rivero's argumentation hinges on the observation that the former class of adverbs may incorporate into the verb (i.e. the adverb occurring strictly before the verb forming a grammatical morphological unit), whilst the latter class of adverbs fail to incorporate, as evidenced by the contrast in the following examples from Modern Greek:

(16a)   I   Maria tha to girisi anapoda
        the Mary will it turn   upside+down
        'Mary will turn it upside down.'

(16b)   I   Maria tha to anapodo-   girisi
        The Mary will it upside   + down-turn
        'Mary will turn it upside down.'
                                (The two examples are from Rivero 1992: 289.)

(16c)   I   ginekes den kapnizun tora
        the women not smoke   now
        'Women do not smoke now.'

(16d)   *I ginekes den tora-kapnizun
        the women not now-smoke
        'Women do not smoke now.'
                                (The two examples from Rivero 1992: 314.)

In (16b), the adverb *anapoda* 'upside-down' incorporates with the verb *girisi* 'turn', both forming one morphological unit. On the other hand, (16d) is indicative of the impossibility of incorporation of time adverb into the verb. The time adverb *tora* 'now' is prohibited to occur strictly before the verb *kapnizun* 'smoke', failing to incorporate, i.e. to form one grammatical morphological unit with the verb. The same observation extends to other time adverbs that refer to deictic points in time, including *xthes* 'yesterday' and *avrio* 'tomorrow'. For Rivero, the examples in (16) are strong evidence that time adverbs are base-

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fers to the dichotomy often labelled Perfective/Imperfective. On the other hand, *Aktionsart* refers to the characteristics of the inherent meaning of verbs and the internal properties of States of Affairs as expressed by predicates. Distinction between states (e.g. *know*), achievements (e.g. *reach the summit*), activities (e.g. *run*) are under *Actionsart* (see Vendler 1967; Comrie 1972; and Grimshaw 1990).

generated VP-externally, and they modify inflectional layers that encode Tense (p. 296).[16, 17]

　　With this being the case, it can be concluded that temporal adjuncts occupy a high position in the clause, whereas locative adjuncts adjoin to their clause in a lower position. Said this, the restriction against locatives to occupy Spec, SubjP in transitive (and unergative) clauses can be accounted for. Chomsky (2001, and 2008) argues that clause derivation proceeds by phases. Typical phases are the propositional categories: CP and v*P. Consider the following representation:

(17)
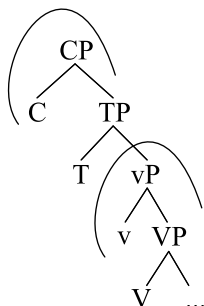
Most relevant here is the so-called Phase Impenetrability Condition (PIC), which is a constraint that contributes to efficient computation (see Müller 2011). This condition constrains accessibility of phase materials to higher probes; only the head and the edge of the phase are accessible to a higher probe. The PIC is formulated as follows.

(18)　　The domain of a head X of a phase XP is not accessible to operations outside XP; only X and its edge are accessible to such operations. (Chomsky 2001: 13).

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[16] See Koster (1986) and Ojea Lopez (1994) for similar arguments in Italian and Spanish, respectively. See also Stroik (1990) for further evidence that locatives are VP-internal entities.

[17] Cinque (1999) does not postulate a specific "fixed" position for temporal adjuncts. He just mentions that deictic temporal adverbs such as *now* and *then* are base-generated in a position different from that of other temporal adverbs (Cinque 1999: 87). However, see Frey (2000: 113) and Ernst (2001: ch. 7) for counterarguments to Cinque's (1999) proposal. These two authors argue that temporal adjuncts are base-generated in positions high in the clause structure.

For instance, due to the PIC, the edge of v*P and the head v are accessible to Subj^0, as schematically presented in (19).[18]

(19)
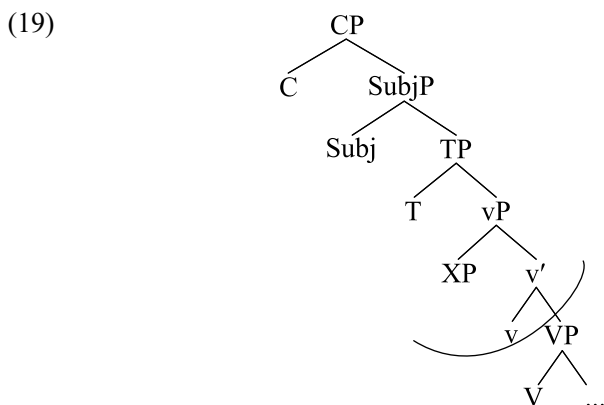
Let's explore how this line of analysis accounts for locative/temporal inversion when the subject is extracted. In case of temporal adjuncts, they are adjoined to TP. It follows that they are always accessible to Subj^0 to fill Spec, SubjP following the demands of the Subject Criterion. In other words, the temporal adjuncts' high position being adjoined to TP makes them impervious to the type of the verb (transitive vs. intransitive). On the other hand, locatives being adjoined to VP are subject to the effects of the PIC. Subj^0 cannot attract them in the presence of v*P unless they are at the edge of v*P. This amounts to saying that locatives must vacate their base-generation position and raise to the edge of v*P to be within the accessible domain of Subj^0. The question that arises here is why locatives do not raise to the edge of v*P, so they can be an accessible strategy to fill Spec, SubjP. The answer to this questions lies in the lack of motivation to do so. That Spec, SubjP must be filled does not demand a matching feature on the category that occupies it. There is no [SUBJ] feature, unlike [TOP] or [FOC]

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[18] Note here that Chomsky (2001) argues that XP becomes a phase once the next phase head is introduced. Following this, the whole spectrum of attractors located between v and C (including Subj°) would be allowed to reach VP-adjoined adjuncts before C enters the derivation, as noted by an anonymous reviewer. My answer to this problem is the hypothesis that the [EPP] feature on Subj° is passed down from C°, being a phase head. See Chomsky (2007) for that EPP, agreement and Tense features (among others) are not a property of T or other heads but C°. Following this hypothesis, Subj° can only attract adjuncts which are adjoined to the v*P edge, i.e. Subj° is an attractor only when C° appears in the derivation.

that must be part of the featural bundle of the element that fills Spec, Topic Phrase or Spec of Focus Phrase, respectively. This line of analysis, if correct, accounts for why locative/temporal inversion yields no change in the interpretation of the question at issue.[19] By contrast, when there is no phrase boundary between Subj[0] and the locative, a state of affairs found with unaccusative predicates, nothing can prevent the former from attracting the latter, a mater that leads to locative inversion.

Having discussed the evidence that temporal adjuncts adjoin to TP, whereas locative adjoin to VP, let's explore whether temporal/locative inversion is used in other Arabic dialects.

4.   Temporal/locative inversion across Arabic dialects

The question that suggests itself here is whether temporal/locative inversion is an idiosyncratic property of JA or a permissible strategy whose effect can be discerned in other Arabic dialects. In order to answer this question, I examine data from two Arabic varieties: Iraqi Arabic (IA) and Najdi Arabic (NA). Data reveals that temporal/locative inversion is used in IA, whereas it is not allowed in NA. As a step prior to this investigation, it is instructive to note that temporal and locative adjuncts merge in the same position in IA and NA in comparison to JA, as they give rise to the same (un)grammaticality. Consider first the examples from left-dislocation (examples in (20) from NA, and examples in (21) from IA).

(20a)   ʔibin ʕamm-i kaan   jʕamil   fuʃaar   ʔams
        son   uncle-my was.3SG.M make.3SG.M popcorn yesterday
        'My cousin was making popcorn yesterday.'

(20b)   jʕamil   fuʃaar ʔibin ʕamm-i kaan   ʔams
        make.3SG.M popcorn son   uncle-my was.3SG.M yesterday
        'Making popcorn is what my cousin did yesterday.'

(20c)   *jʕamil   fuʃaar ʔams   ʔibin ʕamm-i kaan
        make.3SG.M popcorn yesterday son   uncle-my was.3SG.M
        Intended: 'Making popcorn is what my cousin did yesterday.'

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[19] This discussion gives rise to the question whether filling Spec, SubjP occurs at PF rather than in narrow syntax. The subject criterion demands Spec, SubjP be filled with some category, irrespective of its content, whence the use of pleonastic elements.

(21a)   ʔibin ʕamm-i   tʃaan   jsʰaawi   ʃaamijjah ʔil-baarha
        son   uncle-my was.3SG.M make.3SG.M popcorn   yesterday
        'My cousin was making popcorn yesterday.'

(21b)   jsʰaawi   ʃaamijjah ʔibin ʕamm-i   tʃaan   ʔil-baarha
        make.3SG.M popcorn   son   uncle-my was.3SG.M yesterday
        'Making popcorn is what my cousin did yesterday.'

(21c)   *jsʰaawi   ʃaamijjah ʔil-baarha ʔibin ʕamm-i   tʃaan
        make.3SG.M popcorn   yesterday son   uncle-my was.3SG.M
        Intended: 'Making popcorn is what my cousin did yesterday.'

In the two dialects, the given temporal adjunct must remain to the right of the past tense copula; otherwise the resulting sentence would be ungrammatical. When the temporal adjunct is replaced with a locative adjunct; the situation is switched. Consider the following examples (the examples of (22) from NA; examples of (23) from IA).

(22a)   *jiʕmal   fuʃaar ʔibin ʕamm-i   kaan   ʔib-daar-na
        make.3SG.M popcorn son   uncle-my was.3SG.M at-house-our
        'Making popcorn at our house is what my cousin did.'

(22b)   jʕamil   fuʃaar ʔib-daar-na ʔibin ʕamm-i   kaan
        make.3SG.M popcorn at-house-our son   uncle-my was.3SG.M
        'Making popcorn at our house is what my cousin did.'

(23a)   *jsʰaawi   ʃaamijjah ʔibin ʕamm-i   tʃaan   ʔib-daar-na
        make.3SG.M popcorn   son   uncle-my was.3SG.M at-house-our
        'Making popcorn at our house is what my cousin did.'

(23b)   jsʰaawi   ʃaamijjah ʔib-daar-na ʔibin ʕamm-i   tʃaan
        make.3SG.M popcorn   at-house-our son   uncle-my was.3SG.M
        'Making popcorn at our house is what my cousin did.'

The ungrammaticality of sentences (22a and 23a) on the one hand and the grammaticality of (22b) and (22b) on the other hand are evidence that locatives are VP-internal adjuncts. In addition, NA and IA behave identically with respect to the coordination facts in comparison to JA. Consider the following examples ((24) – NA; (25) – IA).

(24a) Ɂaboo-i   kaan   Ɂiwaddi   Ɂaχoo-i   Ɂisˤ-sˤiʁiir
father-my was.3SG.M sent.3SG.M brother-my DEF-young

la-l-madrisah   Ɂassaaʕah sabʕah Ɂasˤubuħ w-*(kaan)
to-DEF-school hour   seven   morning and-was.3SG.M

yagraɁ   Ɂal-dʒiriidah Ɂassaaʕah tisʕah Ɂasˤubuħ
read.3SG.M newspaper   hour   nine   morning

'My father was taking my younger brother to the school at 7 AM and was reading the newspaper at 9 AM.'

(24b) Ɂaboo-i   kaan   jitfarradʒ   Ɂal-almubraha bi-l-beet
father-my was.3SG.M watch.3SG.M DEF-match-my in-DEF-house

w-(kaan)   yigraɁ   Ɂidʒariidah bi-l-maħall
and-was.3SG.M read.3SG.M newspaper in-DEF-supermarket

'My father was taking watching the match at home and (was) reading the newspaper at the supermarket.'

(25a) waald-i   tʃaan   jaaχað   Ɂaχoo-i   Ɂisˤ-sˤiʁiir
father-my was.3SG.M sent.3SG.M brother-my DEF-young

ʕal-l-madrisah   Ɂassaaʕah sabʕah Ɂasˤubuħ w-*(ʃaan)
to-DEF-school hour   seven   morning and-was.3SG.M

yiqrə   Ɂal-dʒiriidah   Ɂassaaʕah tisʕah Ɂasˤubuħ
read.3SG.M DEF-newspaper hour   nine   morning

'My father was taking my younger brother to the school at 7 AM and was reading the newspaper at 9 AM.'

(25b) waald-i   tʃaan   jitfarradʒ   Ɂal-almubraha bi-l-beet
father-my was.3SG.M watch.3SG.M DEF-match-my in-DEF-house

w-(kaan)   yiqrə   Ɂal-dʒiriidah   bi-l-maħall
and-was.3SG.M read.3SG.M DEF-newspaper in-DEF-supermarket

'My father was taking watching the match at home and (was) reading the newspaper at the supermarket.

I extend my analysis of JA sentences to the examples in (24) and (25). The past tense copula is obligatory when the conjunct includes a temporal adjunct, im-

plying that temporal but not locative adjuncts are licensed in the clauses being adjoined to TP. Ellipses behaves similarly, as asserted from the examples below. (The examples of (26) from NA; examples of (27) from IA.)

(26a)   Balqees kaan-t   tarsum Sarah ʔams   w-hashem
        Balqees was-3SG.F painting Sarah yesterday and-Hashem

        kaan   qabul ʔams
        was.3SG.M first   yesterday

        'Balqees was painting yesterday, and Hashem was doing so the day be-
        fore yesterday.'

(26b)   *Balqees kaan-t   tarsum Sarah ba-l-beet   w-hashem
        Balqees   was-3SG.F painting Sarah at-DEF-house and-Hashem

        kaan   ba-l-ħadiigah
        was.3SG.M at-DEF-garden

        Intended: 'Balqees was painting at our house, and Hashem was doing
        so in the garden.'

(27a)   Balqees tʃaan-it   tirsim   Sarah ʔalbaarhə w-hashem
        Balqees was-3SG.F painting Sarah yesterday and-Hashem

        tʃaan   ʔawal ʔalbaarhə
        was.3SG.M first   yesterday

        'Balqees was painting yesterday, and Hashem was doing so the day be-
        fore yesterday.'

(27b)   *Balqees tʃaan-it   tarsum Sarah ba-l-beet   w-hashem
        Balqees   was-3SG.F painting Sarah at-DEF-house and-Hashem

        tʃaan   ba-l-ħadiigah
        was.3SG.M at-DEF-garden

        Intended: 'Balqees was painting at our house, and Hashem was doing
        so in the garden.'

As it appears, JA, NA, and IA all behave the same way with the respect to the position of locative and temporal adjuncts. Locative adjuncts are low elements adjoin to VP, whilst temporal adjuncts are high elements adjoin to TP. The ques-

tion now is whether temporal locative inversion occurs also in these dialects. The data reveal that IA is similar to JA in that temporal/locative inversion militates against the use of *ʔilli*, whereas NA behaves differently in that temporal/locative inversion results in ungrammaticality (25 – NA; 26 – IA).

(28a)   *man *(ʔilli) ʔams   ʔiχað-t   ʔal-mafatiiħ?
        who   Prt   yesterday took-3SG.F DEF-keys
        'Who took the keys yesterday?'

(28b)   b.   miin *(ʔilli)   bi-d-dukaanah wigʕ-at?
        who Prt   in-DEF-shop fall   down-3SG.F
        'Who fell down in the shop?'

(29a)   menu ʔil-baarha ʔiχað-t   ʔal-mafatiiħ?
        who   yesterday took-3SG.F DEF-keys
        'Who took the keys yesterday?'

(29b)   menu bi-d-dukaanah wigʕ-at?
        Who in-DEF-shop fall   down-3SG.F
        'Who fell down in the shop?'

The example in (28a) demonstrates that the temporal inversion does not salvage the ungrammaticality of the question, hence the obligatory use of the D-linking particle *ʔilli*. On the other hand, IA lines up with JA in that temporal inversion can fill Spec, SubjP. It can be concluded that temporal/locative inversion is not always a legitimate strategy to fill Spec, SubjP in all Arabic dialects. NA does not avail itself of this strategy. Temporal/locative inversion is as such subject to a micro-parametric inversion across Arabic dialects. This might be related to some restriction on the element occurring in Spec, SubjP in the dialects that do not allow for temporal/locative inversion. It is the task of any future work addressing this point to reveal the exact nature of this restriction. This would essentially be a step closer to understanding the cross-linguistic aspects of the phenomenon of subject extraction.

5. Conclusion

The aim of this research was twofold. First, it has attempted to provide empirical evidence supporting the view that temporal adjuncts adjoin to their clause in

a position different from that of the locative adjuncts. All facts from left-dislocation, coordination and ellipsis point to the conclusion that temporal adjuncts adjoin to TP, whereas locatives adjoin to VP. Such a difference between these two types of adjuncts with respect to base-generation accounts for their nuanced behaviour concerning filling Spec, SubjP. Given their high position, temporal adjuncts are accessible strategy to fill Spec, SubjP, regardless of the verb transitivity. On the contrary, locatives adjuncts are limited to fill Spec, SubjP when the verb is unaccusative as there is no phase boundary that prevents $Subj^0$ from attracting it, given the effects of the PIC. Second, this research has explored examples from other two Arabic dialects, namely NA and IA to examine whether temporal/locative inversion is a strategy used across other dialects. The examination reveals that NA does not pattern with JA and IA in using this strategy even though the types of adjuncts behave the same way as in JA and IA. This points to the conclusion that temporal/locative inversion is subject to a micro-parametric variation across Arabic dialects.

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