

The Adverb Hierarchy in Jordanian Arabic: A Cinquean Approach

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ABSTRACT

This study explores the adverb/adverbial hierarchy in Jordanian Arabic (JA), appealing to Cinque's (1999) Universal Adverb Hierarchy (UAH), a cross-linguistically attested model of the structural placement of adverbs/adverbials. The study examines the extent to which JA relevant data is amenable to the UAH. The main findings generally corroborate the presence of the UAH in JA, supplying empirical evidence in favor of the validity of the UAH. More specifically, the study shows that some adverbs/adverbials (belonging to a specific semantic category) should occur to the left of (and hence c-commanding (cf. Kayne 1994)) other adverbs/adverbials that belong to a different semantic category, exactly in the same fashion that the UAH expects. Another important finding of this study is that the categorial status of an adverb vs. an adverbial is immaterial to the UAH, implying for an underlying structure of the UAH which is not affected by the type of the category (i.e. an adverb vs. an adverbial) that fills the designated Specifier positions of the UAH.

Keywords: Universal Adverb Hierarchy (UAH), negation, tense, Arabic.

1. Introduction

In contrast to other grammatical categories, adverbs had relatively received a little attention from researchers, given their syntactic behavior (i.e., being adjuncts which are not significant, e.g., to decide argument realization).¹ Jackendoff (1972) mentions that "adverbs are the least studied and most maligned part of speech. This is to some extent understandable, considering the variety of semantic and syntactic roles adverbs play in English" (p. 47). In recent years, adverbs have increasingly become one important aspect of syntactic (and semantic) investigation. The anatomy of adverbs and their placement and relationship to other sentential elements (especially verbs) have been thoroughly explored (see, e.g., Baker 1981; Bellert 1977; Ernst 1984, 2002; Costa 1996; Alexiadou 1997; Cinque 1999; Haider 2000; Cinque and Rizzi 2008).

There are two main approaches, among many others, that explore the distribution of adverbs in natural languages. The first approach is Cinque's (1999) Universal Adverb Hierarchy (UAH) which is a syntax-based theory which argues that adverbs are distributed in a sentence according to a specific hierarchy that is built-in (i.e. part of Universal Grammar, UG; cf. Chomsky 1957); any deviation from this hierarchy (e.g., an adverb which is expected to occur in a high position in the clause, but appears very low, nonetheless) is accounted for through movement (of either other sentential elements or even the adverb itself). On the other hand, the second approach, which is a semantics-based theory, proposes that the structural positions of adverbs inside the sentence are semantically forced, due to scope and other semantic aspects (Ernst 2002). In this approach, adverbs occur in a fixed order because of their interaction first with meaning of each other and second with sentential heads including Tense, Aspect, etc. This implies that there is no UG-given procedure through which adverbs are structurally ordered. However, this approach has been criticized due to its few typological gains and weaker force to account for the stark similarities that hold across languages with respect to adverbs' hierarchy. Additionally, as Cinque (2004) mentions, this approach "falls short [...] of accounting for certain

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¹ We are very much grateful to the anonymous reviewer of DIRASAT, whose remarks and comments considerably enhanced the quality of the paper. The following symbols are used in this study. 1,2, and 3 = Person; ACC = Accusative; DEF = Definite; F = Feminine; GEN = Genitive; JA = Jordanian Arabic (JA); IND = Indicative Mood; M = Masculine; MSA = Modern Standard Arabic; NOM = nominative; PL = Plural; SG = Singular; UAE = Universal Adverb Hierarchy.

crucial properties of adverbial syntax" (p. 684). In this paper, the former approach, the UAH is used as the theoretical framework and a departure point of this study.²

The UAH has received much interest from researchers who work on different languages. The UAH is widely considered a successful model of adverbs' distribution (see Haegeman 2012, Wiltschko 2014, Alexiadou, et al. 2015). The UAH is based on one main assumption, namely Adverb Phrases (AdvPs) have a universal rigid order. Each adverb occupies the specifier (Spec) position of a functional projection whose c-commanding relations with other functional (adverb-related) projections is fixed and invariant across languages. The UAH is also supported by the omnipresent situation that different types of functional head morphemes (e.g. mood, modality, tense, aspect and voice) occur in a fixed universal order (Chomsky 1957; Comrie 1976; Cinque 1994). Cinque argues that the order of adverbs and functional heads corresponds to each other; hence, it is an essential part of the UG. Cinque assumes that the UAH is barely affected by whether or not functional morphemes are morphologically realized or how they are materialized (i.e. being a suffix, an auxiliary or a particle). Furthermore, Cinque argues that morphological agreement and sentential negation have no impact whatsoever on the universally-fixed order of adverbs (i.e., the UAH). This implies that agreement and negation are not diagnostics of the adverb hierarchy. The UAH is schematized in (1).

(1)

MoodP_{speech act} > MoodP_{evaluative} > MoodP_{evidential} > ModP_{epistemic} >
 TP(Past) > TP(Future) > MoodP_{irrealis} > ModP_{alethic} > AspP_{habitual}
 > AspP_{repetitive(I)} > AspP_{frequentative(I)} > ModP_{volitional} > AspP_{celerative} >
 TP (Anterior) > AspP_{terminative} > AspP_{continuative} > AspP_{retrospective} >
 AspP_{promixative} > AspP_{durative} > AspP_{generic/progressive} > AspP_{prospective}
 > Mod_{obligation} > ModP_{permission/ability} > AspP_{completive} > VoiceP >
 AspP_{celerative(II)} > AspP_{repetitive(II)} > AspP_{frequentative (II)}

This study aims to examine these assumptions against data from JA, an Arabic dialect that belongs to Semitic languages where the structural positions of adverbs are still under-investigated, while most available arguments are almost stipulative.

This study is structured as follows. Section 2 provides a general background about JA, with particular focus on the word order, subject-verb agreement patterns, and its pro-drop property. Section 3 examines the distribution of JA adverbs and adverbials that are located under Tense Phrase (low adverbs in our terminology). Section 4 discusses high adverbs/adverbials (located above TP). Section 5 is the conclusion.

2. Jordanian Arabic: An overview

Jordanian Arabic (JA) is a variety of Arabic which belongs to the Semitic language family, (see Jarrah 2017a,b). JA is spoken by roughly 9 million people in the Hashemite Kingdom of Jordan. It has a rich morphological system which comprises affixes such as inflectional markers for gender, person and number and clitics which include conjunction, prepositions and determiners (see El-Yassin 1985; Omari 2011; Al-Momani 2011; Jarrah 2017b, c). The unmarked word order in JA is SVO. However, like other Arabic varieties, JA permits, yet under certain situations, almost all possible word order permutations including VSO, SOV, VOS, OVS and OSV. Each permutation has its own independent structural properties.

In JA, overt pronouns get their morphological case due to their position in the sentence. For instance, NOM(inative)-case is assigned to free-standing pronouns that mostly occur sentence initially, (see (2a)); whereas,

² This does not imply that UAH received no criticism. However, its success in being a plausible approach for the study of adverb placement makes it a viable tool to explore adverbs and their structural positions in world's languages.

3. The distribution of low adverbs in JA

This section examines the distribution of low adverbs/adverbials in JA. It first explores the position of low adverbs with reference to negation in JA, showing that all low adverbs/adverbials c-command negation, contrary to what Cinque (1999) argues for Italian and French in that negation c-commands low adverbs in these two languages. This disparity between JA on the one hand and Italian and French on the other is attributed to the base position of negation in the said languages. Unlike the case in French and Italian, (low)³ negation in JA is generated above VP, but under TP as well as all related functional phrases, following the general lines of Benmamoun (2000). Afterwards, the relative order of low adverbs in relation to each other is discussed. The discussion reveals that JA low adverbs are ordered in a similar fashion that is predicted in Cinque's (1999) UAH. This strongly speaks for the applicability of this hierarchy to JA grammar (and hence to natural languages as a whole), as it furnishes typological evidence in favour of this hierarchy. One important note to emphasis here is that this paper follows Kayne' (1994) antisymmetric approach to linearization and c-command. An element that precedes another element, it (the former) should c-command it (the latter). This means that rightward is downward.

3.1. Low adverbs ad negation

It is found that most low adverbs in JA precede negation. This apparently is inconsistent with Cinque's analysis for negation in Italian and French where negation is base-generated in a high position, relative to low adverbs. However, this contradiction dissolves if Benmamoun's (2000) approach for negation in Arabic is adopted. Benmamoun provides evidence that negation is generated in a very low projection that is c-commanded by all material between TP and VP. This is shown to be true for JA. For example, habitual adverbs such as *ʕaadatan* 'usually' should occur to the left of the negative particle *maa* 'not; if *ʕaadatan* follows *maa*, the resulting sentence would become ungrammatical, Consider the following pair, (*ʕaadatan* > *ma*).⁴

- (5)
- | | | | | | | |
|----|--|----------|----------|--------------|---------|-----------|
| a. | ʔahmadd | ʕaadatan | maa | bisaafer | fi-ha:ð | ʔil-wagit |
| | Ahmad | usually | not | travel.3SG.M | in-this | DEF-time |
| | "Ahmad usually does not travel this time." | | | | | |
| b. | *ʔahmadd | maa | ʕaadatan | bisaafer | fi-ha:ð | ʔil-wagit |
| | Ahmad | not | usually | travel.3SG.M | in-this | the-time |

Additionally, the negative particle *maa* 'not' occurs with the tense anterior adverb *lessa* 'yet' which expresses negative information, providing that the latter precedes the former, as shown in the following examples.

- (6)
- | | | | | |
|----|---------------------------|-------|-------|------------|
| a. | ʔahmadd | lessa | maa | ʔadza |
| | Ahmad | yet | not | come.3SG.M |
| | "Ahmad has not come yet." | | | |
| b. | *ʔahmadd | maa | lessa | ʔadza |
| | Ahmad | not | just | come.3SG.M |

Another JA adverb which has the properties of *lessa* 'yet' is *ʕumr* 'ever.' This adverb necessarily precedes the negative particle *maa* 'not' and optionally follows *lessa*. Consider (7a) versus the ungrammatical example in (7b).

³ Alqassas (2015) argues that there are two positions for negation in JA: low and high, depending on whether the relevant negation is bipartite or not (i.e. single). In this study, we show that low negation is preceded by all adverbs/adverbials, whereas high negation is preceded by high adverbs.

⁴ We do not provide English translation of ungrammatical examples.

- (7)
- a. ʔaħmadd lessa ʕumr-uh maa
 Ahmad yet ever-3SG.M not
 sa:farr ʕala mas^{er}
 travelled.3SG.M to Egypt
 “Ahmad has never been to Egypt.”
- b. *ʔaħmadd ʕumr-uh lessa maa
 Ahmad ever-3SG.M yet not
 sa:far ʕala mas^{er}
 travelled.3SG.M to Egypt

On the basis of the data presented above, it appears that habitual adverbs like *ʕaadatan* and the tense anterior adverbs *lessa* and *ʕumr* should precede the negative particle *maa*.

The examples above (5-7) are not consistent with Cinque’s proposal for Italian and French where negation necessarily precedes tense anterior adverbs. For instance, in Italian, the adverb *mica* ‘not’ precedes *gia* ‘already’ (see the examples in (8)), which in turn, precedes *piu* ‘any longer’ (see the examples in (9)).

- (8)
- a. Non hanno *micagia* chiamato, che io sappia.
 “‘They have not already telephoned, that I know.’”
- b. *Non hanno *giamica* chiamato, che io sappia.
 “‘They have already not telephoned, that I know.’”
- (9)
- a. AH'epoca non possedeva *giapiu* nulla.
 “‘At the time (s)he did not possess already any longer anything.’”
- b. *All'epoca non possedeva *piugia* nulla.
 “‘At the time (s)he did not possess any longer already anything.’”

Although JA relative examples speak against Cinque's proposal of the position of negation, relative to low adverbs/adverbials, they provide credence to his proposal that natural languages differ from each other with respect to the structural position of the negation which is proposed by Cinque not to be a diagnostic of the UAH. This is the reason why Cinque excludes negation from his hierarchy as it is subject to language-internal rules. JA provides evidence to this effect. This supports the view that negation might be part of the UG; however, its structural position may not (Kayne 1994 and Cinque 1994).

3.2. Order of low adverbs with respect to each other

The next task to conduct concerns the order of various low adverbs with reference to each other. After examining the relevant data, it turns out that habitual adverbs in JA precede frequentative adverbs which, in turn, precede volitional adverbs and celerative adverbs. In addition, JA perfective adverbs necessarily precede durative adverbs which precede completive adverbs.

To begin, the habitual adverb *ʕala tʕuul* ‘regularly’ commonly precedes the frequentative adverbial *yaaliban* ‘often,’ as is clearly shown in the following pair, (*ʕaadatan* > *yaaliban*). (Note that should be an intonational pause between *ʕala tʕuul* and *yaaliban* for the sentence to be accepted).⁵

⁵the adverbial *ʕala tʕuul* has two meanings: habitual with meaning *regularly* and manner with meaning *directly*.

(10)

- | | | | | | | |
|----|---------|-------------|----------|--------------|------|--------|
| a. | ʔaħmadd | ʕala tʕuul, | yaaliban | bisaafer | ʕala | masʕer |
| | Ahmad | regularly | often | travel.3SG.M | to | Egypt |

“Ahmad regularly often travels to Egypt.”

- | | | | | | | |
|----|----------|----------|------------|--------------|------|--------|
| b. | *ʔaħmadd | yaaliban | ʕala tʕuul | bisaafer | ʕala | masʕer |
| | Ahmad | often | regularly | travel.3SG.M | to | Egypt |

The adverb *yaaliban* ‘often’ necessarily precedes the volitional adverb *ʕammdan* ‘intentionally;’ otherwise, the resulting sentence would crash, as evidenced by the following examples, (*yaaliban*>*ʕammdan*).

(11)

- | | | | | | |
|----|---------|----------|-----------|-----------|---------------|
| a. | ʔaħmadd | yaaliban | bidʕrub | ʔal-walad | ʕammdan |
| | Ahmad | often | hit.3SG.M | DEF-boy | intentionally |

“Ahmad often hits the boy intentionally.”

- | | | | | | |
|----|----------|---------------|-----------|-----------|----------|
| b. | *ʔaħmadd | ʕammdan | bidʕrub | ʔal-walad | yaaliban |
| | Ahmad | intentionally | hit.3SG.M | DEF-boy | often |

Sentences in (11) clearly show that the adverb *yaaliban* appears to the left of *ʕammdan*, whether it occupies a sentence-final position (separated from *ʕammdan* by other sentential elements) or is directly adjacent to *ʕammdan*. The situation that when the latter appears to the left of the former, the sentence would crash demonstrates that frequentative adverbs precede volitional adverbs in JA. This sequential order between the two adverbs advocates Cinque’s hierarchy.

Likewise, the adverb *ʕammdan* necessarily precedes the high celerative adverbial *ʔibsurʕa* ‘quickly/fast,’ (see (12a)). If the order of these adverbs is switched, the resulting sentence would be ungrammatical, (see (12b)), (*ʕammdan* > *ʔibsurʕa*).

(12)

- | | | | |
|----|-----------|---------------|----------------|
| a. | ʔaħmadd | ʕammdan | ʔibsurʕa |
| | Ahmad | intentionally | quickly |
| | bidʕrub | ʔal-walad | (ʔibsurʕa) |
| | hit.3SG.M | DEF-boy | (quickly/fast) |

“Ahmad intentionally quickly hit the boy.”

- | | | | |
|----|----------|-----------------------|-------------------|
| b. | *ʔaħmadd | ʔibsurʕa ʕammdan | bidʕrub ʔal-walad |
| | Ahmad | quickly intentionally | hit.3SG.M DEF-boy |

Cinque differentiates between the celerative adverbs ‘quickly/rapidly’ and ‘fast’ in English. He shows that the former should precede the latter. As a result, it is located in a higher position in the hierarchy. Consider the following examples.

(13)

- | | |
|----|------------------------------|
| a. | He <i>quickly</i> ran away. |
| | He ran away <i>quickly</i> . |
| b. | *He <i>fast</i> ran away. |
| | He ran away <i>fast</i> . |

ʔibsurʕa is used for the two meanings in JA (this is why this adverbial leads sometimes to sentence ambiguity). However, if *ʔibsurʕa* ‘quickly/rapidly’ occurs to the left of the verb, it manifests the interpretation of a subject-oriented adverb (i.e. the way Ahmad hits the boy was quick); whereas, if *ʔibsurʕa* ‘fast’ appears to the right of the verb, it gives

the interpretation of a manner adverb, (i.e., Ahmad hits the boy in a quick manner). This clearly abides by the UAH. Evidence for this comes from sentences where *ʔibsurʕa* is used in conjunction with the perfective adverb *daajman* ‘always.’ The two adverbs can follow or precede each other, manifesting nonetheless different interpretations. In (14a) below, *daajman* falls within the domain of *ʔibsurʕa*; therefore, it shows the interpretation that Ahmad is quick in eating apple, but not necessarily always. By contrast, in (14b), *ʔibsurʕa* falls within the domain of *daajman*. In this case, the sentence has the interpretation that Ahmad always eats apple in a quick way.⁶

- (14)
- a. ʔaħmadd ʔibsurʕa daajman bɔ:kel tuffaaħ
 Ahmad quickly always eat apple
 “Ahmad quickly always eats apples.”
- b. ʔaħmadd daajman ʔibsurʕa bɔ:kel tuffaaħ
 Ahmad always quickly eat apple
 “Ahmad always quickly eats apple.”

On the other hand, when *ʔibsurʕa* means ‘fast,’ (i.e. bears an interpretation of a manner adverb), it can only occupy a sentence-final position, as shown in the following example.

- (15)
- ʔaħmadd daajman bɔ:kel tuffaaħ ʔibsurʕa
 Ahmad always eat apples fast
 “Ahmad always eats apples fast.”

At this point, the discussion reveals the following relative order of JA low adverbs

- (16)
- ʕaadataŋ* ‘usually’/ *ʕala tʕuul* ‘regularly’ > *yaaliban* ‘often’ > *ʕammɗan* ‘intentionally’ > *ʔibsurʕa* ‘quickly’ > *ʔibsurʕa* ‘quickly/fast’

Let us examine the relative order of the perfective adverb *daajman* ‘always’ against the durative adverbial *fawwran* ‘immediately.’ The perfective *daajman* should precede *fawwran*; otherwise, the resulting sentence would become ungrammatical. This fact is shown in the following examples: (*daajman* > *fawwran*).

- (17)
- a. ʔaħmadd daajman fawwran birudd ʕala ʔat-telefɔ:n
 Ahmad always immediately answer.3SG.M on DEF-phone
 “Ahmad always immediately answers the phone.”
- b. *ʔaħmadd fawwran daajman birudd ʕala ʔat-telefɔ:n
 hmad immediately always answer.3SG.M on DEF-phone

Likewise, the prospective adverb *taʔri:ban* ‘almost’ in JA should precede the perfective adverb *daajman* ‘always,’ as explained in the following pair, (*taʔri:ban* > *daajman*).

- (18)
- a. ʔaħmadd taʔri:ban daajman biʃʃrab ʔahwe
 Ahmad almost always drink.3SG.M coffee
 “Ahmad almost always drinks coffee.”
- b. *ʔaħmadd daajman taʔri:ban biʃʃrab ʔahwe
 Ahmad always almost drink.3SG.M coffee

⁶Note the pair in (14) should be accompanied by appropriate intonational patterns to be accepted as noted by all of the informants.

The resulting hierarchy of JA low adverbs is structured in a way that clearly advocates for Cinque's argument about adverbs being sequenced in a universal order.

(19)

ʕaadatan / ʕala tʕuul > yaaliban > ʕammadan > ʔibsorʕa > taʔri:ban > daajman > fawwran >

This discussion indicates that adverbs (and corresponding adverbials) in JA are constrained with respect to their distribution inside the sentence. Adverbs are not free but follow a strict order between them, taking into consideration Cinque's (1999) assumption that adverbs have one base-position; though, they may occur in different positions, given the movement of the elements around them.

In the following section, we examine the distribution of high adverbs with relation to negation (hence providing evidence for their relatively high position) and with each other (hence supplying evidence for their strict order between them).

4. Distribution of higher adverbs in JA

In this section, we provide evidence that high adverbs are generated above TP, providing support from JA in favour of Cinque's (1999) AUH. This section begins by discussing the position of high adverbs with reference to negation and tense in JA. It is found that negation (even if its projects above VP; see Alqassas 2015) is preceded by all high adverbs. Afterwards, the relative order of high adverbs is tackled, with respect to low adverbs. Finally, the relative order of high adverbs is explored with respect to each other.

4.1. High adverbs with respect to tense and negation

This section examines the distribution of two adverbials and one marker that are argued to be base-generated in the high portion of the clause, as representative examples of high adverbs/adverbials. These elements include the speech act adverb *ʔibsʕara:ħa* 'frankly', *lħusn lħaðʕ* 'fortunately' and the evidentiality marker *fikal* 'evidently'. The structural positions of these three elements is examined with respect to their positions to negation and tense.

Firstly, the speech-act adverbial *ʔibsʕara:ħa* 'frankly' should precede the negative particle *maa* 'not' which generates above VP (cf. Alqassas 2015). Consider the following pair.

(20)

- | | | | | | |
|----|----------------------------------|--------------------|--------------------|--------------------|-----------------|
| a. | <i>ʔibsʕara:ħa</i> | <i>ʔaħmadd</i> | <i>maa</i> | <i>sa:far</i> | |
| | frankly | Ahmad | not | travelled.3SG.M | |
| | "Frankly, Ahmad did not travel." | | | | |
| b. | * <i>maa</i> | (<i>ʔaħmadd</i>) | <i>ʔibsʕara:ħa</i> | (<i>ʔaħmadd</i>) | <i>sa:far</i> |
| | not | Ahmad | frankly | Ahmad | travelled.3SG.M |

Now consider the relative order of *ʔibsʕara:ħa* with respect to negation and the past tense copula *kaan* 'was.' The adverbial *ʔibsʕara:ħa* occurs to the left of tense and negation, as shown in (21a); otherwise, the sentence would crash, as shown in (21b).

(21)

- | | | | | | | |
|----|--|----------------|------------------|----------------|----------------|---------------------|
| a. | <i>bsʕaraaħa</i> | <i>ʔaħmadd</i> | <i>maa</i> | <i>kaan</i> | <i>miftari</i> | <i>ʔas-sajjaara</i> |
| | frankly | Ahmad | not | was | bought | DEF-car |
| | "Frankly, Ahmad was not buying the car." | | | | | |
| b. | * <i>maa</i> | <i>kaan</i> | <i>bsʕara:ħa</i> | <i>ʔaħmadd</i> | <i>miftari</i> | <i>ʔas-sajjaara</i> |
| | not | was | frankly | Ahmad | bought | DEF-car |

Additionally, *ʔibsʕara:ħa* remains in a sentence-initial position even if the subject appears post-verbally. In such

instances, the negative particle *maa* ‘not’ followed by *kaan* is argued to move to a position to the left of the subject.

(22)

ʔibs ^ʕ ara:ha	maa	kaan	ʔahmadd	mɪftari	ʔas-sajjaara
frankly	not	was.3SG.M	Ahmad	buying	DEF-car

“Frankly, Ahmad was not buying the car.”

This indicates that *ʔibs^ʕara:ha* occupies a very high position in the sentence.⁷

Similarly, the evaluative adverbial *lihusn lhað^ʕ* ‘fortunately’ should precedes the negative particle *maa*, as shown in (23a); otherwise the resulting sentence would crash, as evidenced in (23b).

(23)

a.	lihusn lhað ^ʕ	ʔahmadd	maa	sa:far	ʕala	mas ^ʕ er
	fortunately	Ahmad	not	travelled	to	Egypt

“Fortunately, Ahmad did not travel to Egypt.”

b.	*maa	lihusn lhað ^ʕ	ʔahmadd	sa:far	ʕala	mas ^ʕ er
	not	fortunately	Ahmad	travelled	to	Egypt

The sentences in (23) provide evidence that *lihusn lhað^ʕ* is base-generated in a high position. This is also supported by the following examples that show *lihusn lhað^ʕ* should precede the sequence of *maa* and *kaan*.

(24)

a.	lihusn lhað ^ʕ	ʔahmadd	maa	kaan	mssafer	ʕala	mas ^ʕ er
	fortunately	Ahmad	not	was	travelling	to	Egypt

“Fortunately, Ahmad was not travelling to Egypt.”

b.	*maa	kaan	lihusn lhað ^ʕ	ʔahmadd	mssafer	ʕala	mas ^ʕ er
	not	was	fortunately	Ahmad	travelling	to	Egypt

This essentially implies that the two adverbials *ʔibs^ʕara:ha* and *lihusn lhað^ʕ* c-command tense and negation. This strongly confirms Cinque's AUH that high adverbs/adverbials are positioned in a very high in their clauses.

Consider now the relative order of negation and tense with reference to the evidentiality marker *fikil* ‘evidently’ which is argued to head the Mood_{evidential} Phrase that is originated above TP in JA clauses (Jarrah and Alshamari 2017).⁸The marker *fikil* should precede the negative particle *maa*, as showing in the following pair.

(25)

a.	fikil	ʔiz-zalamah	maa	dʒawwaz
	evidently	DEF-man	not	married

“Evidently, the man did not get married.”

b.	*maa	fikil	ʔiz-zalamah	dʒawwaz
	not	evidently	DEF-man	married

As for tense, the evidentiality marker *fikil* ‘evidently’ *fikil* should precede the past tense copula *kaan*, as shown by the following sentence.

⁷The anonymous reviewer points out that the adverbial *ʔibs^ʕara:ha* ‘frankly’ can appear in different positions inside the sentence, including the position at the very end of the sentence. Cinque (1999) argues that such cases are resulted not because this adverbial is mobile (or has not a fixed position, but because of movement of the elements (located to its right) to some position in the CP. However this analysis does not exclude the possibility that some adverbials in JA obtain a freer distribution, we leave this matter open pending further research.

⁸According to Jarrah and Alshamari (2017), *fikil* is an evidentiality marker that is used when the speaker relies not on first-hand evidence as a source for the proposition of his/her utterance. They argue that it means *evidently* not *surely*.

- (26)
- | | | | | |
|-----------|-------------|-----|------|-----------|
| fikl | ʔiz-zalamah | maa | kaan | midʒawwez |
| evidently | the-man | not | was | married |
- “Evidently, the man was not married.”

The discussion reveals that what is classified as a high adverb (originated above TP) in Cinque's model of AUH is also positioned high in JA, as they precede negation and tense.

In the next subsection, the relative order of high adverbs in JA with reference to low adverbs is explored. We will argue that high adverbs necessarily precede low adverbs. This clearly adds typological credence to Cinque's universal hierarchy, as JA, a Semitic language that belongs to a different language family of those investigated by Cinque, affirms this hierarchy.

4.2 The relative order of high adverbs with respect to low adverbs

In this subsection, we show that JA high adverbs maintain a rigid order with respect to low adverbs. JA high and low adverbs can be compared together; each high adverb can be paralleled sequentially with another low adverb. If the two high and low adverbs exhibit a rigid order, then by transitivity, the next paralleled adverbs are examined, and so on.

At first, the speech act adverb *ʔibsʿara:ħa* ‘frankly’ necessarily precedes the habitual adverb *ʕaadatan* ‘usually,’ as can be shown in (27a). If the order is reversed the sentence crashes, (see 27b), (*ʔibsʿara:ħa* > *ʕaadatan*).

- (27)
- | | | | | | |
|----|-------------|----------|------|----------|--------|
| a. | ʔibsʿara:ħa | ʕaadatan | ʔana | baʕʕtari | ħali:b |
| | frankly | usually | I | buy.1SG | milk |
- “Frankly, usually I buy milk.”
- | | | | | | |
|----|-----------|-----------|------|----------|--------|
| b. | *ʕaadatan | bsʿara:ħa | ʔana | baʕʕtari | ħali:b |
| | usually | frankly | I | buy.1SG | milk |

Consider now the relative order of the evaluative adverbial *liħusn lħaðʿ* ‘fortunately’ with the frequentative adverb *yaaliban* ‘often.’ The former should precede the latter, (*liħusn lħaðʿ* > *yaaliban*).

- (28)
- | | | | |
|----|--------------|----------|------------|
| a. | liħusn lħaðʿ | yaaliban | ʔaħmadd |
| | fortunately | usually | Ahmad |
| | bistaxxdem | ʔaħzaam | ʔal-ʔamaan |
| | use.3SG.M | belt | DEF-safety |
- “Fortunately, usually Ahmad uses the seatbelt.”
- | | | | |
|----|------------|--------------|------------|
| b. | *yaaliban | liħusn lħaðʿ | ʔaħmadd |
| | usually | fortunately | Ahmad |
| | bistaxxdem | ʔaħzaam | ʔal-ʔamaan |
| | use.3SG.M | belt | DEF-safety |

Another example that shows that high adverbs precede low adverbs comes from the distribution of the evidentiality marker *fikil* ‘evidently’ with respect to the volitional adverb *ʕammdan* ‘intentionally,’ (*fikil* > *ʕammdan*).

- (29)
- | | | | | | |
|----|-----------------|---------------|-----------|------------|----------|
| a. | fikil-uh | ʕammdan | ʔal-walad | biftaħ | ʔal-baab |
| | evidently-3SG.M | intentionally | DEF-boy | open.3SG.M | DEF-door |
- “Evidently, intentionally the boy opens the door.”

b.	*ʕammdan	ʕikil-uh	ʔal-walad	biftah	ʔal-baab
	intentionally	evidently-3SG.M	DEF-boy	open.3SG.M	DEF-door

Likewise, the epistemic adverb *jemkin* ‘probably’ should precede the celerative adverbial *ʔibsorʕa* ‘quickly.’ (*jemkin* > *ʔibsorʕa*).

(30)

a.	jemkin	ʔibsorʕa	ʔahmadd	rah	ji:dʒɪ
	probably	quickly	Ahmad	will	come.3SG.M
	“Probably, quickly Ahmad will come.”				
b.	*ʔibsorʕa	jemkin	ʔahmadd	rah	ji:dʒɪ
	quickly	probably	Ahmad	will	come.3SG.M

By the same token, the past-tense high adverb *zamaan* ‘once’ should precede the low perfective adverb *daajman* ‘always;’ otherwise, the resulting sentence would crash. (*zamaan* > *daajman*).

(31)

a.	zamaan	daajman	ʔahmadd	kaan
	once	always	Ahmad	was.3SG.M
	jsaafer	ʕala	mas ^ʕ er	
	travelling	to	Egypt	
	“Once, always Ahmad was used to travel to Egypt.”			
b.	*daajman	zamaan	ʔahmadd	
	always	once	Ahmad	
	kaan	jsaafer	ʕala	mas ^ʕ er
	was.3SG.M	travel	to	Egypt

Other two JA adverbs which comply with Cinque’s approach include the high future-tense adverbial *baʕdem* ‘then’ and the low durative adverbial *fawwran* ‘immediately.’ The adverbial *baʕdem* should precede *fawwran*, as shown in (32a). The opposite word order between these two adverbs is not accepted, as it leads to the sentence being ungrammatical, as shown in (32b), (*baʕdem* > *fawwran*).

(32)

a.	baʕdem	fawwran	ʔahmadd	ʔeʕftara	sajjaara
	then	immediately	Ahmad	bought.3SGM	car
	“Then, immediately Ahmad bought a car.”				
b.	*fawwran	baʕdem	ʔahmadd	ʔeʕftara	sajjaara
	immediately	then	Ahmad	bought.3SGM	car

Similarly, the high irrealis adverb *ʔihtmaal* ‘perhaps’ should precede the generic/prospective adverbial *bidaat* ‘characteristically,’ (*ʔihtmaal* > *bidaat*).

(33)

a.	ʔihtmaal	bidaat	ʔahmadd	jsaafer	ʕala	mas ^ʕ er
	perhaps	characteristically	Ahmad	travel.3SG.M	to	Egypt
	“Perhaps, characteristically Ahmad travels to Egypt.”					
b.	*bidaat	ʔihtmaal	ʔahmadd	jsaafer	ʕala	mas ^ʕ er
	perhaps	characteristically	Ahmad	travel.3SG.M	to	Egypt

The fact that irrealis adverbs precede the generic/prospective adverbial complies with the UAH.

Finally, the high possibility adverbial *ʕala ʔalʔaylab* ‘possibly’ should precede the low voice adverb *mni:ħ* ‘well,’ (see 34a). The opposite word order between these two adverbs is not accepted, as it leads to the sentence being ungrammatical, (see 34b). (*ʕala ʔalʔaylab* > *mni:ħ*).

(34)

- | | | | |
|-----|---|-----------------------|------------------|
| a. | <i>ʕala ʔalʔaylab</i> | <i>mni:ħ</i> | <i>ʔaħmadd</i> |
| | possibly | well | Ahmad |
| | <i>fiħem</i> | <i>ʔad-dars</i> | (<i>mni:ħ</i>) |
| | understood.3SG.M | DEF-lesson | (well) |
| | “Possibly, well Ahmad understood the lesson.” | | |
| b.* | <i>mni:ħ</i> | <i>ʕala ʔalʔaylab</i> | <i>ʔaħmadd</i> |
| | well | possibly | Ahmad |
| | <i>fiħem</i> | <i>ʔad-dars</i> | (<i>mni:ħ</i>) |
| | understood.3SG.M | DEF-lesson | (well) |

Note that *mni:ħ* ‘well’ can occupy a final sentence position as a manner adverb; yet, it can move to the left of the subject to express the interpretation of the voice.

4.3 relative order of high adverbs with respect to each other

In this section, the word order of high adverbs is explored with reference to each other. Based on the comparison of JA high adverbs; it is found that high adverbs/adverbials have a rigid order between themselves which strictly complies with the UAH.

The speech act adverb *ʔibsʕara:ħa* ‘frankly’ should precede the evaluative adverb *liħusn lħaðʕ* ‘fortunately.’ This fact is evidenced by the following pair, (*ʔibsʕara:ħa* > *liħusn lħaðʕ*).

(35)

- | | | | | | |
|----|--|---------------------|----------------|-----------------|-----------------|
| a. | <i>ʔibsʕara:ħa</i> | <i>liħusn lħaðʕ</i> | <i>ʔaħmadd</i> | <i>ʔiʃʃtara</i> | <i>sajjaara</i> |
| | frankly | fortunately | Ahmad | bought.3SG.M | car |
| | “Frankly, fortunately Ahmad bought a car.” | | | | |
| b. | * <i>liħusn lħaðʕ</i> | <i>bsʕara:ħa</i> | <i>ʔaħmadd</i> | <i>ʔiʃʃtara</i> | <i>sajjaara</i> |
| | fortunately | frankly | Ahmad | bought.3SG.M | car |

Let us, at this point, examine the relative order of *liħusn lħaðʕ* ‘fortunately’ with the evidentiality marker *ʃikil* ‘evidently.’ According to Cinque’s UAH, the former should precede the latter; otherwise, the resulting sentence would be ungrammatical, which is the case (*liħusn lħaðʕ* > *ʃikil*).

(36)

- | | | | | | |
|----|---|---------------------|------------------|-------------------|-----------------|
| a. | <i>liħusn lħaðʕ</i> | <i>ʃikil</i> | <i>ʔal-binet</i> | <i>ʔiʃʃtara-t</i> | <i>sajjaara</i> |
| | fortunately | evidently | DEF-girl | bought-3SG.F | car |
| | “Fortunately, the young girl evidently bought a car.” | | | | |
| b. | <i>ʃikil</i> | <i>liħusn lħaðʕ</i> | <i>ʔal-binet</i> | <i>ʔiʃʃtara-t</i> | <i>sajjaara</i> |
| | fortunately | evidently | the-girl | bought-3SG.F | car |

By transitivity, it can be proposed *ʔibsʕara:ħa* ‘frankly’ is higher in the tree than the two adverbs *ʃikil* ‘evidently’ and *liħusn lħaðʕ* ‘fortunately.’

The evidentiality marker *ʃikil* ‘evidently’ precedes the epistemic adverb *jemkin* ‘probably’ which appears right under Mood_{Evidential} Phrase in Cinque’s AUH. Consider the following pair, (*ʃikil* > *jemkin*).

(37)

a. *ʃikil-hum jemkin jsaafer-u ʃala masʕer*
 evidently-3PL.M probably travel-3PL.M/F to Egypt

“Evidently, probably they travel to Egypt.”

b. **jemken ʃikil-hum jsaafer-u ʃala masʕer*
 probably evidently-3PL.M travel-3PL.M to Egypt

Let us now compare the order of *jemkin* ‘probably’ with the past-tense high adverb *zamaan* ‘once.’ The adverb *jemkin* mainly precedes *zamaan*; otherwise, the resulting sentence would be ungrammatical, which is the case (*jemkin*>*zamaan*).

(38)

a. *jemkin zamaan ʔiz-zalamah sa:far ʃala masʕer*
 probably once DEF-man travelled.3SG.M to Egypt

“Probably, once the man travelled to Egypt.”

b. **zamaan jemkin ʔiz-zalameh sa:far ʃala masʕer*
 once probably DEF-man travelled.3SG.M to Egypt

Consider now the relative order of the past tense *zamaan* ‘once’ and the future-tense adverbial *baʃdem* ‘then.’ The adverb *zamaan* should precedes *baʃdem*, as shown in the following examples, (*zamaan* >*baʃdem*). (Note that there is a short pause between *zamaan* and *baʃdem*).

(39)

a. *zamaan, baʃdem ʔahmadd*
 once then Ahmad
ʔitxxarradʒ min ʔil-dʒaamʕa
 graduated.3SG.M from DEF-university

“Once, then Ahmad graduated from the university.”

b. **baʃdem zamaan ʔahmaddʔitxxarradʒ min ʔil-dʒaamʕa*
 then once Ahmad graduated.3SG.M from DEF-university

Additionally, the future-tense adverbial *baʃdem* ‘then’ should precede the irrealis adverb *ʔihtmaal* ‘perhaps’, something that attests Cinque’s model. Consider the following examples, (*baʃdem*>*ʔihtmaal*).

(40)

a. *baʃdem ʔihtmaal (ʔahmadd) sa:far ʃala masʕer*
 then perhaps Ahmad travelled.3SG.M to Egypt

“Perhaps, then Ahmad travelled to Egypt.”

b. **ʔihtmaal baʃdem (ʔahmadd) sa:fara ʃala masʕer*
 perhaps then Ahmad travelled.3SG.F to Egypt

Furtehrore, the irrealis adverb *ʔihtmaal* ‘perhaps’ should precede necessity adverb *laazem* ‘necessarily’ (*ʔihtmaal* >*laazem*).

(41)

- | | | | | | |
|----|----------|-------------|---------|--------------|----------|
| a. | ʔiħtmaal | laazem | ʔaħmadd | jsaafer | bukra |
| | perhaps | necessarily | Ahmad | travel.3SG.M | tomorrow |
- “Perhaps, necessarily Ahmad travels tomorrow.”
- | | | | | | |
|----|-------------|----------|---------|--------------|----------|
| b. | *laazem | ʔiħtmaal | ʔaħmadd | jsaafer | bukra |
| | necessarily | perhaps | Ahmad | travel.3SG.M | tomorrow |

Finally, compare the necessity adverb *laazem* ‘necessarily’ with the modal possibility adverbial *ʕala ʔalʔaylab* ‘possibly’ which are the last low adverbs/adverbials among the high adverbs of AUH. In JA, it appears that the necessity adverb *laazem* ‘necessarily’ precedes *ʕala ʔalʔaylab* otherwise, the resulting sentence would be ungrammatical, as clearly shown in the following instances, (*laazem*>*ʕala lʔaylab*).

(42)

- | | | | | | |
|----|-------------|----------------|-------|---------------|----------|
| a. | laazem | ʕala ʔalʔaylab | Salma | ttaafer | bukra |
| | necessarily | possibly | Salma | travel. 3SG.F | tomorrow |
- “Necessarily, possibly Salma will travel tomorrow.”
- | | | | | | |
|----|-----------------|-------------|-------|--------------|----------|
| b. | *ʕala ʔalʔaylab | laazem | salma | ttaafer | bukra |
| | possibly | necessarily | Salma | travel.3SG.F | tomorrow |

The order of JA high adverbs/adverbials is presented in the following hierarchy:

(43)

ʔibsʕara:ħa > *liħusn lħaðʕ* > *fikil* > *jemkin* > *zamaan* > *baʕdem* > *ʔiħtmaal* > *laazem* > *ʕala ʔalʔaylab*.

The hierarchy in (43) demonstrates clearly that Cinque's proposal is amenable to JA facts as it predicts successfully the actual order between high adverbs in JA.

Based on the facts discussed above, a hierarchy that comprises JA high and low adverbs is schematized in (44).

(44)

ʔibsʕara:ħa Mood_{speech act} > *liħusn lħaðʕ* Mood_{evaluative} > *fikil* Mood_{evidential} > *jemkin* Mod_{epistemic} > *zamaan* once T (Past) > *baʕdem* T (Future) > *ʔiħtmaal* Mood_{irrealis} > *laazem* Mod_{necessity} > *ʕala ʔalʔaylab* Mod_{possibility} > *ʕaadatan* / *ʕala tʕuul* Asp_{habitual} > *yaaliban* Asp_{frequentative} > *ʕammdan* Mood_{vollitional} > *ʔibsʕa* Asp_{celerative (I)} > *daajman* Asp_{perfect} > *fawwran* Asp_{durative} > *biðaat* Asp_{generic/progressive} > *tamaaman* Asp_{completive} > *mni:ħ* Voice > *bsʕa* Asp_{celerative (II)}.

The hierarchy in (44) confirms that adverbs (or corresponding adverbials) in JA are sequenced in a relative fixed order as they do not occur in the sentence randomly. This observation is clearly consistent with Cinque's AUH. This fixed order between high adverbs and low adverbs indicate that JA is a configurational language as the high functional area of a clause does not intersect with the low functional area.

5. Conclusion

This study has examined the hierarchy of adverbs and adverbials in JA, using Cinque's (1999) UAH, as the theoretical framework. It has provided evidence that, in JA, there are low and high adverbs which follow the UAH, as proposed by Cinque. This study has shown that low adverbs c-command the negative particle *maa*. Although this fact runs counter to corresponding facts in Italian and French, it shows that negation does not have a rigid position in natural languages, but it is subject to language-internal rules. Additionally, this study has explored the relative order of JA low adverbs with respect to each other. The discussion has revealed that low adverbs comply rigidly with the universal order as proposed by Cinque. The same assumption has been drawn to high adverbs in JA whose order is also consistent with Cinque's proposal.

The findings of this study have supported Cinque's (1999) UAH which is shown to be data-motivated. JA provides

typological support to this hierarchy whose UG-status is thus strengthened. Moreover, this study has provided evidence that the form of the elements that fill Spec positions of the functional phrases of Cinque's model does not affect the hierarchy itself. JA adverbials are ordered in the same way corresponding with adverbs in other languages are. This indicates that adverbials can be used to replace adverbs and their functions in natural languages (see Larson 1985, along these lines).

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هرمية الظروف في اللهجة الأردنية: منهج تشنك

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ملخص

تناقش هذه الدراسة هرمية الظروف في اللهجة الأردني، اعتماداً على هرمية الظروف الكلية للعالم الإيطالي تشنكوا (Cinque's (1999) Universal Adverb Hierarchy (UAH)). وتتناول الدراسة بالتحديد مدى اتساق اللهجة الأردنية بهذه الهرمية التي تعد منهجاً معتمداً في مجال البحث في موقع الظروف في لغات العالم، وتشير نتائج هذه الدراسة إلى صحة الهرمية، إذ من الواضح أنه يوجد ترتيب محدد بين الظروف في اللهجة الأردنية، وتشير نتائج هذه الدراسة أيضاً إلى أن الهرمية لا تتأثر بالشكل الصرفي للكلمة/التعبير الذي يملأ طرف (Specifier position) التراكيب الوظيفية (Functional Projections) إلي تشكل مجموعها هرمية الظروف الكلية.

الكلمات الدالة: هرمية الظروف، النفي، الزمن، العربية.

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