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 categorical 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

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.  

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).

\[
\begin{align*}
&MoodP_{\text{speech acc}} > MoodP_{\text{evaluative}} > MoodP_{\text{evidential}} > ModP_{\text{epistemic}} > \\
&TP(Past) > TP(Future) > MoodP_{\text{irrealis}} > ModP_{\text{alethic}} > AspP_{\text{habitual}} > \\
&> AspP_{\text{repetitive(I)}} > AspP_{\text{frequentative(I)}} > ModP_{\text{volitional}} > AspP_{\text{celerative}} > \\
&TP (\text{Anterior}) > AspP_{\text{terminative}} > AspP_{\text{continuative}} > AspP_{\text{retrospective}} > \\
&AspP_{\text{proximate}} > AspP_{\text{durate}} > AspP_{\text{generic/progressive}} > AspP_{\text{prospective}} > \\
&> Mod_{\text{obligation}} > ModP_{\text{permission/ability}} > AspP_{\text{completive}} > VoiceP > \\
&AspP_{\text{celerative(II)}} > AspP_{\text{repetitive(II)}} > AspP_{\text{frequentative(II)}}
\end{align*}
\]

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, 

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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.
ACC(usative)- and GEN(itive)-cases are assigned to bound pronouns that occur as clitics attached to the verb, (see (2b-c)).

(2)

a. hu: ?iʃʃtara ?al-bert
he.NOM bought-3SG.M DEF-house

“He bought the house.”
b. ?aħmad faaf-ha fi-ʔas-sajjaara
Ahmad saw.3SG.M-her.ACC in-DEF-car

“Aḥmad saw her in the car.”
c. ?al-binat faaf-at-u fi-ha
DEF-girl saw-3SG.F-him.ACC in-it.GEN

“The girl saw him in it.”

JA is considered a null-subject language. The morpho-syntactic features of the subject (i.e. Person, Number and Gender) are realized by certain inflections attached to the main verb. For instance, in (2a) above the emphatic subject pronoun hu: ‘he’ can be safely dropped without distorting the grammaticality of the sentence. Moreover, in JA, the verb expresses full agreement with its subject, irrespective of the word order used, as shown in the following examples (taken from Jarrah 2017a, p. 7).

(3)

a. wisl-u l-wlaad
arrived-3PL.M DEF-boys

“The boys arrived.”
b. l-wlaad wisl-u
DEF-boys arrived-3PL.M

“The boys arrived.”

By contrast, Modern Standard Arabic (MSA) shows differences between SVO/VSO with respect to the subject-verb agreement. In VSO clauses, the verb agrees with its subject only in Person and Gender, while in SVO clauses the verb agrees with its subject in all of the grammatical features (i.e. Person, Number, and Gender (Fassi Fehri 1993, 2012; Benmamoun 2000; Jarrah 2019a,b). Consider the examples in (3a-b) from MSA (the examples are taken from Musabhien 2009, p. 23).

(4)

a. wasal-a ?al-ʔawlaad-u
arrived.3SG.M-IND DEF-boys-NOM

“The boys arrived.”
b. ?al-ʔawlaad-u wasal-u:
DEF-boys-NOM arrived-3PL.M

“The boys arrived.”

In the following section, we discuss the distribution of low adverbs (i.e., adverbs that are base-generated in a position lower than Tense Phrase (TP)) in Jordanian Arabic (JA). It should be noted that all JA examples in this study are based on the first researcher’s idiolect. This researcher comes from Amman. Some other JA speakers coming from other parts of Jordan might find some grammatical examples marginal. It should be noted nonetheless that all (un)grammatical examples in this paper are judged by other 30 JA speakers who similarly come from Amman.
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. Benamamoun 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 > maa).\(^4\)

(5)

a. ʔahmadd ṣaadatan maa bistafer fi-haːð ?il-wagit
Ahmad usually not travel.3SG.M in-this DEF-time

“Ahmad usually does not travel this time.”

b. *ʔahmadd maa ṣaadatan bistafer fi-haːð ?il-wagit
Ahmad not usually travel.3SG.M in-this DEF-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 ?adʒa
Ahmad yet not come.3SG.M

“Ahmad has not come yet.”

b. *ʔahmadd maa lessa ?adʒa
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).

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\(^3\) 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. ʔahmadd 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. *ʔahmadd 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 ʕʊmr 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. All’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.
The adverb hierarchy…

(10)
a. ʔaḥmadd ʕala tˤuul, ɣaaliban bissaafər ʕala masˤer
Ahmad regularly often travel.3SG.M to Egypt
“Ahmad regularly often travels to Egypt.”
b. ʔaḥmadd ɣaaliban tˤuul bissəafər ʕala masˤer
Ahmad often regularly travel.3SG.M to Egypt

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

(11)
a. ʔaḥmadd ɣaaliban badˤrub ʔal-walad ʕammdan
Ahmad often hit.3SG.M DEF-boy intentionally
“Ahmad often hits the boy intentionally.”
b. ʔaḥmadd ʕammdan badˤrub ʔal-walad ɣaaliban
Ahmad intentionally hit.3SG.M DEF-boy often

Sentences in (11) clearly show that the adverb ɣaaliban 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 ʔibsˤurʕa ‘quickly/fast,’ (see (12a)). If the order of these adverbs is switched, the resulting sentence would be ungrammatical, (see (12b)), (ʕammdan > ʔibsˤurʕa).

(12)
a. ʔaḥmadd ʕammdan ʔibsˤurʕa
Ahmad intentionally quickly
badˤrub ʔal-walad (ʔibsˤurʕa)
hit.3SG.M DEF-boy (quickly/fast)
“Ahmad intentionally quickly hit the boy.”
b. ʔaḥmadd ʔibsˤurʕa ʕammdan badˤrub 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 quickly ran away.
   He ran away quickly.
b. *He fast ran away.
   He ran away fast.

ʔibsˤurʕa is used for the two meanings in JA (this is why this adverbial leads sometimes to sentence ambiguity). However, if ʔibsˤurʕa ‘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 ʔibsˤurʕa ‘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 \( \text{ʔibs} \text{ʊr} \text{ʕa} \) is used in conjunction with the perfective adverb \( \text{daajman} \) ‘always.’ The two adverbs can follow or precede each other, manifesting nonetheless different interpretations. In (14a) below, \( \text{daajman} \) falls within the domain of \( \text{ʔibs} \text{ʊr} \text{ʕa} \); therefore, it shows the interpretation that Ahmad is quick in eating apple, but not necessarily always. By contrast, in (14b), \( \text{ʔibs} \text{ʊr} \text{ʕa} \) falls within the domain of \( \text{daajman} \). In this case, the sentence has the interpretation that Ahmad always eats apple in a quick way.\(^6\)

(14)

a. \( \text{ʔahmadd} \ \text{ʔibs} \text{ʊr} \text{ʕa} \ \text{daajman} \ bɔː\text{kel} \ \text{tuffaah} \)

Ahmad quickly always eat apple

“Ahmad quickly always eats apples.”

b. \( \text{ʔahmadd} \ \text{daajman} \ \text{ʔibs} \text{ʊr} \text{ʕa} \ bɔː\text{kel} \ \text{tuffaah} \)

Ahmad always quickly eat apple

“Ahmad always quickly eats apple.”

On the other hand, when \( \text{ʔibs} \text{ʊr} \text{ʕa} \) 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)

\( \text{ʔahmadd} \ \text{daajman} \ bɔː\text{kel} \ \text{tuffaah} \ \text{ʔibs} \text{ʊr} \text{ʕa} \)

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)

\( \text{ʕaadatan} \ ‘usually’/\text{ʕala tˤuul} \ ‘regularly’/\text{yaaliban} \ ‘often’/\text{ʕammdan} \ ‘intentionally’/\text{ʔibs} \text{ʊr} \text{ʕa} \ ‘quickly’ > \text{ʔibs} \text{ʊr} \text{ʕa} \ ‘quickly/fast’ \)

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

(17)

a. \( \text{ʔahmadd} \ \text{daajman} \ \text{fawwran} \text{brudd} \ ʕala \ ?at-\text{telefːn} \)

Ahmad always immediately answer.3SG.M on DEF-phone

“Ahmad always immediately answers the phone.”

b. \*\( \text{ʔahmadd} \ \text{fawwran} \ \text{daajman} \ \text{brudd} \ ʕala \ ?at-\text{telefːn} \)

Hmad immediately always answer.3SG.M on DEF-phone

Likewise, the prospective adverb \( \text{taʔriːːban} \) ‘almost’ in JA should precede the perfective adverb \( \text{daajman} \) ‘always,’ as explained in the following pair, \((\text{taʔriːːban} > \text{daajman}).\)

(18)

a. \( \text{ʔahmadd} \ \text{taʔriːːban} \ \text{daajman} \ \text{bʊfjrab} \ \text{ʔahwe} \)

Ahmad almost always drink.3SG.M coffee

“Ahmad almost always drinks coffee.”

b. \*\( \text{ʔahmadd} \ \text{daajman} \ \text{taʔriːːban} \ \text{bʊfjrab} \ \text{ʔahwe} \)

Hmad always almost drink.3SG.M coffee

\(^{6}\)Note 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 /ʕalaʕul> yahlanb >ʔammdan >ʔibsorʔa >ʔaribban> daajman >rawrwan>

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 ʔibsʔara:ha ‘frankly’, lhusn lhaḍ ‘fortunately’ and the evidentiality marker fikl ‘evidently’. The structural positions of these three elements is examined with respect to their positions to negation and tense.

Firstly, the speech-act adverbial ʔibsʔara:ha ‘frankly’ should precede the negative particle maa ‘not’ which generates above VP (cf. Alqassas 2015). Consider the following pair.

(20)
a. ʔibsʔara:ha ?ahmadd maa sa:far
   Frankly Ahmad not travelled.3SG.M
   “Frankly, Ahmad did not travel.”
b. *maa (ʔahmadd) ʔibsʔara:ha (?ahmadd) sa:far
   not Ahmad frankly Ahmad travelled.3SG.M

Now consider the relative order of ʔibsʔara:ha with respect to negation and the past tense copula kaan ‘was.’ The adverbial ʔibsʔara:ha occurs to the left of tense and negation, as shown in (21a); otherwise, the sentence would crashes, as shown in (21b).

(21)
a. bsʔaraaha ?ahmadd maa kaan mu:?ari ?as-sajjaara
   frankly Ahmad not was bought DEF-car
   “Frankly, Ahmad was not buying the car.”
b. *maa kaan bsʔara:ha ?ahmadd mu:?ari ?as-sajjaara
   not was frankly Ahmad bought DEF-car

Additionally, ʔibsʔara:ha 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)
ʔibsˤara:ḥa maa *kaan *ʔahmadd muṭlari *ʔas-sajjaara
frankly not was.3SG.M Ahmad buying DEF-car

“Frankly, Ahmad was not buying the car.”

This indicates that ʔibsˤara:ḥa occupies a very high position in the sentence.7

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

(23)
a. *lḥusn lḥaḍˤ *ʔahmadd maa sa:far ʕala masˤer
   fortunately Ahmad not travelled to Egypt
   “Fortunately, Ahmad did not travel to Egypt.”
b. *maa lḥusn lḥaḍˤ *ʔahmadd sa:far ʕala masˤer
   not fortunately Ahmad travelled to Egypt

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

(24)
a. *lḥusn lḥaḍˤ *ʔahmadd maa *kaan msaafɛr ʕala masˤer
   fortunately Ahmad not was travelling to Egypt
   “Fortunately, Ahmad was not travelling to Egypt.”
b. *maa *kaan lḥusn lḥaḍˤ *ʔahmadd msaafɛr ʕala masˤer
   not was fortunately Ahmad travelling to Egypt

This essentially implies that the two adverbials ʔibsˤara:ḥa and *lḥusn lḥaḍˤ 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 ʃɪkɪl ‘evidently’ which is argued to head the Mood evential Phrase that is originated above TP in JA clauses (Jarrah and Alshamari 2017).8The marker ʃɪkɪl should precede the negative particle *maa, as showing in the following pair.

(25)
a. ʃɪkɪl ʔiz-zalamah maa dʒawwaz
evidently DEF-man not married
   “Evidently, the man did not get married.”
b. *maa ʃɪkɪl ʔiz-zalamah dʒawwaz
   not evidently DEF-man married

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

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7The anonymous reviewer points out that the adverbial ʔibsˤara:ḥa ‘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), ʃɪkɪl 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 sure.
(26)
ʃɪ kɿ lʔɪz-zalamah maa kaa n midʒawwez
“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 ʔɪbs'ara:ha ‘frankly’ necessarily precedes the habitual adverb ŋaadatan ‘usually,’ as can be shown in (27a). If the order is reversed the sentence crashes, (see 27b), (ʔɪbs'ara:ha: ŋaadatan).

(27)
a. ʔɪbs'ara:ha ŋaadatan ŋa ʔaŋ  bɑʃʃɪjɪrɪ hɪlɪ: b  
  frankly usually I buy.1SG milk
  “Frankly, usually I buy milk.”
b. *ŋaadatan bʃs'ara:ha ŋa ʔaŋ  bɑʃʃɪjɪrɪ hɪlɪ: b  
  usually frankly I buy.1SG milk

Consider now the relative order of the evaluative adverbial lɪḥus n lḥaːdī ‘fortunately’ with the frequentative adverb yɑalɪbɑn ‘often.’ The former should precedes the latter, (lɪḥus n lḥaːdī>yɑalɪbɑn).

(28)
a. lɪḥus n lḥaːdī yɑalɪbɑn ŋa ʔaḥmɑdd  
  fortunately usually Ahmad
  bʃstɑxɑxdem ŋa hɑzɑɑm ŋa l-ʔɑmɑɑn  
  use.3SG.M belt DEF-safety
  “Fortunately, usually Ahmad uses the seatbelt.”
b. *yɑalɪbɑn lɪḥus n lḥaːdī ŋa ʔaḥmɑdd  
  usually fortunately Ahmad
  bʃstɑxɑxdem ŋa hɑzɑɑm ŋa l-ʔɑmɑɑn  
  use.3SG.M belt DEF-safety

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

(29)
a. fɪkl-uh ŋammdan ŋa-l-wɑlɑd bʃftɑh ŋa-l-baab  
  evidently-3SG.M intentionally DEF-boy open.3SG.M DEF-door
  “Evidently, intentionally the boy opens the door.”
b. *ʕammadan ʃikil-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 > *ʔbsorʕa).

(30)

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

b. *ʔibsorʕa jemkin ʔahmadd rah ji:dgį
   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
   jṣaafer ʕala masʻer
   travelling to Egypt
   “Once, always Ahmad was used to travel to Egypt.”

b. *daajman zamaan ʔahmadd
   always once Ahmad
   kaan jṣaafer ʕala masʻer
   was.3SG.M travel to Egypt

Other two JA adverbs which comply with Cinque’s approach include the high future-tense adverbial *baʃdem ‘then’ and the low durative adverbial *fawwran ‘immediately.’ The adverbial *baʃdemshould 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), (*baʃdem>*fawwran).

(32)

a. *baʃdem fawwran ʔahmadd ʔefʃlara sajjaaara
   then immediately Ahmad bought.3SGM car
   “Then, immediately Ahmad bought a car.”

b. *fawwran baʃdem ʔahmadd ʔefʃlara sajjaaara
   immediately then Ahmad bought.3SGM car
   “Perhaps, characteristically Ahmad travels to Egypt.”

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

(33)

a. *ʔhtmaal bọaat ʔahmadd jṣaafer ʕala masʻer
   perhaps characteristically Ahmad travel.3SG.M to Egypt
   “Perhaps, characteristically Ahmad travels to Egypt.”

b. *bọaat *ʔhtmaal ʔahmadd jṣaafer ʕala masʻer
   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 ʕalaʔal ‘possibly’ should precede the low voice adverb mniːħ‘well,’ (see 34a). The opposite word order between these two adverbs is not accepted, as it leads to the sentence being ungrammatical, (see 34b). (ʕalaʔal> mniːħ).

(34)

a. ʕalaʔal mniːħ ?ahmadd
   possibly well Ahmad
   fihem ʔad-dars (mniːħ)
   understood.3SG.M DEF-lesson (well)
   “Possibly, well Ahmad understood the lesson.”

b.*mniːħ ʕalaʔal ?ahmadd
   well possibly Ahmad
   fihem ʔad-dars (mniːħ)
   understood.3SG.M DEF-lesson (well)

Note that mniːħ ‘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 ʔibs’ara:ha ‘frankly’ should precede the evaluative adverb lihusn lhað‘fortunately.’ This fact is evidenced by the following pair, (ʔibs’ara:ha >lihusn lhað).

(35)

a. ʔibs’ara:ha lihusn lhað ?ahmadd ʔ[iʃʃtara sajjaara
   frankly fortunately Ahmad bought.3SG.M car
   “Frankly, fortunately Ahmad bought a car.”

b.*lihusn lhað bs’ara:ha ?ahmadd ʔ[iʃʃtara sajjaara
   fortunately frankly Ahmad bought.3SG.M car

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

(36)

a. lihusn lhað ʃɪkl ʔal-bnnet ʔ[iʃʃtara-t sajjaara
   fortunately evidently DEF-girl bought-3SG.F car
   “Fortunately, the young girl evidently bought a car.”

b. ʃɪkl lihusn lhað ʔal-bnnet ʔ[iʃʃtara-t sajjaara
   fortunately evidently the-girl bought-3SG.F car

By transitivity, it can be proposed ʔibs’ara:ha ‘frankly’ is higher in the tree than the two adverbs ʃɪkl ‘evidently’ and lihusn lhað ‘fortunately.’

The evidentiality marker ʃɪkl ‘evidently’ precedes the epistemic adverb jemkin ‘probably’ which appears right under MoodEvidential Phrase in Cinque’s AUH. Consider the following pair, (ʃɪkl > jemkin).
“Evidently, probably they travel 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).

“Probably, once the man travelled to Egypt.”

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

Once, then Ahmad graduated from the university.”

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

“Perhaps, then Ahmad travelled to Egypt.”
The Adverb Hierarchy…

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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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**ملخص**

تناقش هذه الدراسة هرمية الظروف في اللغة الأردنية، اعتمادًا على هرمية الظروف الكلية للعالم الإيطالي تشيكل (Cinque’s (1999) Universal Adverb Hierarchy (UAH)) وتناول الدراسة بالتحديد مدى اتساق اللغة الأردنية بهذه الهرمية التي تعد منهجًا معتمدًا 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 اللغة الأردنية، وتشير نتائج هذه الدراسة أيضاً إلى أن الهرمية لا تتأثر بالشكل الصرفي لكلمة/التعبير الذي يملأ طرف (Specifier position) الوظائفية (Functional Projections) إلى تشكل بمجموعة هرمية الظروف الكلية، الكلمات الدالة: هرمية الظروف، النفي، الزمن، العربية.