

ABSTRACT

HIERARCHY OF ADVERBS IN GHAMDI ARABIC

Adverbs are one of the most understudied categories in linguistics. The structure of adverbs, their relationships, and their behavior in terms of an overall theory of clausal architecture have received intensive attention in the generative grammar literature (Ernst, 2004; Costa, 2000; Cinque, 1999; Cinque, 2004). Two prominent hypotheses that were put forward to explain the positions of adverbs in diverse languages have appeared in generative studies in recent decades.

According to the feature-based theory, adverbs occur in a fixed relative order. Cinque (1999) came to this conclusion after collecting and comparing data from the English, French, Hebrew, and Chinese languages. This view presupposes that adverbs are specifiers of various functional projections. In contrast, the scope-based theory, the main representative of which is Ernst (2002), relies heavily on the semantics of adverbs. Ernst considers adverbs to be adjuncts. In Ernst's approach, the distribution and licensing of adverbs is governed by Fact Event Object calculus, which is active on the LF side of grammar where the lexicosemantic requirements of adverbs must be taken into consideration.

Although both hypotheses have been widely used in languages such as English, French, and German, there is a lack of studies that investigate the order of adverbs in Modern Standard Arabic. Moreover, Ghamdi Arabic, one of the most diffuse Modern Standard Arabic (MSA) dialects, did not receive the attention of linguists until recently (Alghamdi, 2016; Al-Shurafa, 2005; AlDahri, 2013). The existing studies on Ghamdi Arabic investigate phonological or sociolinguistic peculiarities, but they do not consider syntax and semantics. The aim of this study is to provide

the first comprehensive investigation of adverb positioning in Ghamdi Arabic and to test the validity of the feature-based and scope-based hypotheses against the language data collected. The two hypotheses will be tested on examples that differ in their structure and nature. The findings of the study suggest that neither of the two hypotheses provides an adequate explanation of the order of adverbs in Ghamdi Arabic. Instead, a free adjunction analysis of the position of adverbs is explored here, and some ramifications for the Universal Grammar (UG) parameters that govern their placement are discussed.

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CHAPTER 1: INTRODUCTION

1.1. Background and Motivation

Like many other languages, Arabic consists of dialects that can be divided into several main groups: Najdi, Hijazi, Shargi, Shamali, and Janubi. Ghamdi Arabic (GA), which is spoken in the southwestern region of Saudi Arabia, belongs to one of the most diffuse Janubi dialects. Specifically, the dialect is spoken by the large Bani Ghamed tribe, whose members live in the small city of Al-Baha (Alghamdi, 2016). Regrettably, academic communities have little information about GA, and few linguistic scholars have focused on this dialect in their research. The extensive literature review conducted for this thesis revealed that only a few researchers (Al-Shurafa 2005; Alghamdi 2016) have investigated the linguistic peculiarities of GA. Their primary focus was on the phonological system and various sociolinguistic aspects. The syntax and semantics of GA are still extremely understudied. This lack of descriptive attention is one of the main reasons for conducting this current research. Al-Shurafa (2005) claimed that in GA, adverbs and their specific position in sentences have never been studied in an appropriate manner. Furthermore, other linguists (Al-Aqad, 2013; Fassi, 1998, 2013) have noted that even in Modern Standard Arabic (MSA), the order of adverbs has rarely been investigated. Therefore, the specific linguistic category of adverbs was chosen as the topic of this thesis because of the complete absence of studies on the placement of adverbs in GA. Another reason for choosing this topic is the scarcity of such studies in standard Arabic. Because of the scarcity of academic studies, this research is descriptive and exploratory in nature.

This study was also motivated by changes in traditional linguistic theories. New approaches (Cinque 1999; Ernst 2002) have appeared regarding the

phenomenon of adverbs. Specifically, in linguistics, opposing views as to whether adverbs are adjuncts or specifiers in functional projections have become the subject of heated debates. Researchers are now seeking new sources of linguistic material to support or refute the existing theories and concepts. Semantic and syntactic analyses of adverbs in languages such as English, German, and French have received much attention over the last two decades (e.g., Jackendoff, 1972; Cinque, 2004; Ernst, 2002). These two approaches (the semantic versus the syntactic analyses of adverbs) are used to understand the nature of adverbs and their appearance and movement in clauses as well as to highlight controversial issues in modern theoretical frameworks in linguistics. Although semantic and syntactic hypotheses can explain much about the nature of adverbs, they still leave many issues unanswered.

1.2. Purpose of the Research

This paper investigates the placement of adverbs in Ghamdi Arabic (GA). The ultimate outcome of the research is to arrive at the ordering of adverbs in GA and test the data against patterns of the position of adverbs, which Cinque (1997, 1999) proposed to be universal. Cinque (1997, 1999) suggested that adverbs have a fixed relative order. I use Cinque's hypothesis in order to reveal and discuss cases in which GA adverbs did not follow the universal order. This approach can be contrasted with Ernst (2002), who referenced the semantics of adverbs and provides a different perspective about the order of adverbs. Ernst (1982) showed that it is possible to place several adverbs in one position, directly contradicting one of the fundamental pillars of Cinque's theory, which assumes that each adverb takes a single position. In this study, the application of Ernst's and Cinque's

approaches to the data offer insight as to their value for theoretical considerations by contrasting the two approaches in GA.

The goals of this paper are twofold: 1) to reveal the placement of adverbs in GA; and 2) to test the placement of these adverbs according to Cinque's and Ernst's predictions. In order to fulfill these objectives, I did the following: 1) an analysis of linguistic material in GA; 2) an investigation to determine whether the placement of adverbs wholly falls under the predictions offered by either Cinque or Ernst; and 3) an analysis of and discrepancies found with a proposed solution. The results of the research will be a valuable asset in the development of a better understanding as to the theoretical footing in Universal Grammar by testing Cinque's approach of the hierarchy of adverbs and comparing it to Ernst's approach.

CHAPTER 2: LITERATURE REVIEW

2.1 Studies on Adverbs

Prior to the 1970s, studies on adverbs were rare and can be summed up by Jackendoff's (1972) statement, "the adverb is perhaps the least studied and most maligned part of speech" (p. 47). Subsequently, several comprehensive studies were conducted on the semantic and syntactic aspects of adverbs. Baltin (1982) assumed that adverbs have flexible positions, a theory that led to the development of the so-called Transportability Convention. According to this proposal, adverbs first appear to the right of the clause, and only then can they move to any other position to the left periphery of VP, IP, or CP. In contrast, Pollock (1989) examined adverbs in English and French and adopted an approach to the structure of IP. Later works advocated that adverbs play the role of adjuncts; examples are the anti-symmetric structure of adjunction by Kayne (1994) or the investigation of CP structure by Rizzi (1997). The first attempt to analyze the positions of adverbs using cross linguistic data was completed by Cinque (1999), who used data from English, French, Hebrew, and Chinese. Cinque's research is based on the idea that adverbs are base-generated specifiers that have a fixed universal hierarchy with a single underlying position. When the adverb appears in two different positions with different meanings, movement has occurred (Cinque 1999).

Despite the ability of Cinque's theory to explain most positions of adverbs in many languages, some researchers sought to refute his proposed universal hierarchy of adverbs. One such proposal focuses on the existence of semantic classes of adverbs. Semantic classes are distinguished based on semantic peculiarities (i.e., meanings) of adverbs. Semantically, adverbs have been divided into two major groups: predicative operators and sentence operators, which

correspond to the familiar categories VP-adverbs and S-adverbs (Delfito 2006). For example, Costa (2000, 2004) provided examples from Italian to show the possibility of coordinating adverbs of different semantic classes:

- (1) O Paulo lê frequentemente e simpaticamente
 Paul read.3SG.PRES often and nicely
 o livro à avó
 the book to grandmother
 “Paul often and nicely reads the book to the grandmother” (Costa 2000, p.739)

Costa (2000, 2004) explained this phenomenon by a semantic property that often imposes limitations on the use of adverbs. For instance, in (1), *frequentemente* is a temporal adverb while *simpaticamente* is a manner adverb. While the use of adverbs complies with Cinque’s hypothesis of adverb placement, which will be discussed in the next section, the combination of adverbs shown in (1) is non-standard and unnatural in English. According to Cinque (1999, p. 211, fn. 72), Costa’s analysis may be fundamentally wrong. Costa (2000) assumed that in (1), the coordination of adverb phrases (AdvPs) occurs. However, Cinque (1999) suggested that the sentence may go beyond AdvPs, and the coordination of larger constituents¹ occurs with the reduced second conjunct and “Right Node Raising.”

¹ Cinque proposed that adverbs belonging to (positionally) distinct classes should not be able to be coordinated. The sentence final position of the second AdvP opens the possibility that this is not a coordination of AdvPs, but of larger constituents, with a reduced second conjunct. This is confirmed by the impossibility of coordinating the two Advps when some other constituent follows (which rules out the coordination of two larger constituents).

2.2 Cinque's and Ernst's Theories of the Hierarchy of Adverbs

The existing literature highlights two main approaches to identifying the placement of adverbs: 1) adverbs as specifiers of functional projections; and 2) adverbs as adjuncts. Cinque (1997, 1999) suggested that adverbs have a fixed relative order. Specifically, Cinque (1999) stated that adverbs have one key position. When one adverb with the same meaning appears in a different position, movement within the derivation has occurred. In cases when the same adverb is in different positions with different meanings, Cinque (1999) believed that these are two different adverbs with the same phonological form. According to Cinque's theory, adverbs appear in the specifier position of functional projections. According to Cinque (1997), the hierarchy of adverbs is directly related to clausal functional heads. Moreover, the functional heads in the clauses have functional projections that are specifiers. Presented below in (2) is Cinque's universal hierarchy of clausal functional projections with example adverbs. The hierarchy reflects Tense-Modal-Aspect heads and corresponding adverbs in their Spec positions.

2.2.1 Cinque's Universal Hierarchy of Clausal Functional Projections

The proposed universal hierarchy of functional projections correlating with adverb positions is given below:

[frankly Mood_{-speech act} [fortunately Mood_{-evaluative} [allegedly Mood_{-evidential} [probably Mod_{-epistemic} [once T(Past) [then T(Future) [perhaps Mood_{-irrealis} [necessarily Mod_{-necessity} [possibly Mod_{-possibility} [usually Asp_{-habitual} [again Asp_{-repetitive(I)} [often Asp_{-frequetative (I)} [intentionally Mod_{-volitional} [quickly Asp_{-celerative(I)} [already T(Anterior) [no longer Asp_{-terminative} [still Asp_{-continuative} [always Asp_{-perfect} [just Asp_{-retrospective} [soon Asp_{-proximative} [briefly Asp_{-durative} [characteristically Asp-

generic/progressive [almost Asp-prospective [completely Asp-SgCompletive(I) [tutto Asp-PlCompletive [well Voice [fast/early Asp-accelerative(II) [again Asp repetitive (II) [often Asp-frequentative(II) [completely Asp-SgCompletive(II) (Cinque, 1999, p. 106).

In simple terms, Cinque (1999) proposed a model that reflects the rigid order of adverbs. Lower adverbs are in the lower part of a clause—typically before verbs (pre-VP). Higher adverbs have higher positions in the clause, closer to functional elements related to clausal inflection. The simplified pattern of “lower” (pre-VP) adverbs is as follows (adapted from Cinque, 1999, p. 11):

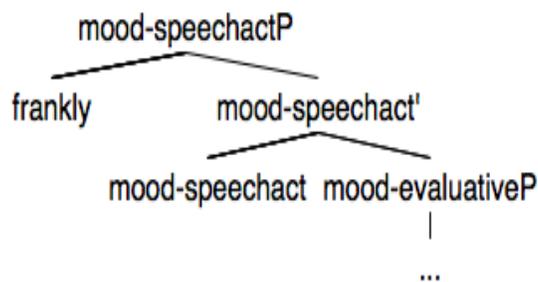
- (2) habitual > negation > already > any longer > always > completely > everything > manner

Sentence adverbs (‘higher’) follow the pattern below (adapted from Cinque, 1999, p.13):

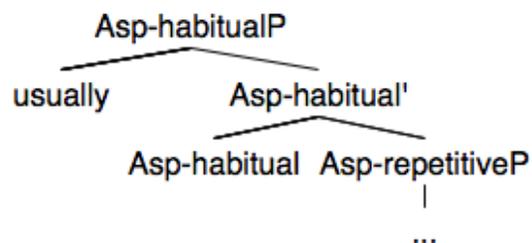
- (3) speech act > evaluative > evidential > epistemic > temporal > ‘perhaps’ > subject-oriented

The following two trees reflect Cinque’s rigid order of adverbs:

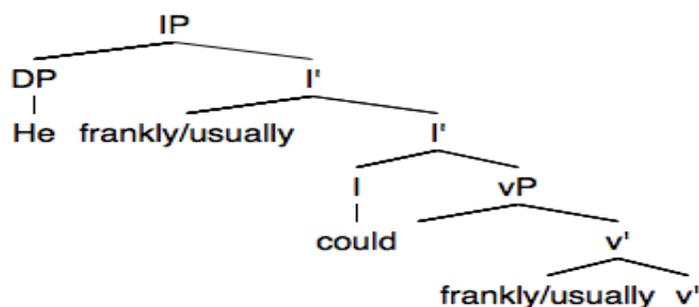
Higher adverbs



Lower adverbs



While the previous trees indicate how adverbs appear in Cinque's hierarchy, the following tree indicates how adverbs appear in GA. I used IP to collapse mood, tense, and aspect:



One of the biggest critics of Cinque's theory is Ernst (2002, 1982). Ernst (1982) showed that the flexible placement of adverbs is possible, thus directly contradicting a fundamental pillar of Cinque's theory, which assumes that each adverb can take only one single position. Ernst's argument is supported by evidence from German provided by Haider (2000). According to Haider, one limitation of Cinque's approach is the stacking of adverbials in an adverbial cluster. The two examples below illustrate this issue:

- (4) a. [Letztes Jahr in Juni an einem Sonntag kurz
last year in June on a Sunday shortly
vor Mittag] rief er alle an
before noon phone.PAST he all up
“Last year in June on a Sunday shortly before noon he phoned all up”

b. [In der Küche neben dem Tisch auf dem Boden
 in the kitchen beside the table on the floor
 unter einem Tuch] fand er es
 under a cloth found he it

“In the kitchen beside the table on the floor under a cloth he found it”

The stacking of adverbs is particularly noticeable in (b). Both examples consist of time, locative, and conditional adverbs and make up a cluster in the [SPEC, CP] position, which precedes that finite verb (Haider, 2000).

As an alternative to Cinque’s specifier-based analysis of adverbs, Ernst (2002) offered a semantics-driven, adjunction-based approach to identifying the position of adverbs. According to Ernst, the position of adverbs is semantically motivated, and adverbs are licensed as adverbial adjuncts. Ernst (2002) stated that the semantic potential of the head is directly related to the ability of the head to license an adverb. In this approach, lexicosemantic features determine the pre-V or post-V position of adverbs. Ernst identified the following groups of adverbs in three ranges (cited in Rauh, 2015, p. 40):

L-syntax, event-internal – predicational adverbs in the Low range
 Event external – predicational adverbs in the Comp- or AuxRange
 Event external – functional adverbs in the Comp- or AuxRange

However, Ernst’s (2002) hypothesis has drawbacks. Cinque (2004) argued that Ernst does not have a semantic explanation of the reason that the amount, type, and ordering of adverbs across several languages could match the number, type, and relative order of functional heads. One constraint of adverb distribution is scope, as assumed by the Fact Event Object calculus, which is defined in (5):

(5) FEO Calculus (adapted from Ernst 2002, p. 50, 53)

Speech act > Fact > Proposition > Event > Specified Event

- a. Any FEO type may freely be converted to any higher FEO type, but not lower.
- b. Any (sub)type may be converted to another FEO (sub)type as required by lexical item or coercion operators.
- c. Events may be interpreted as Specified Events (SpecEvents) within PredP.

This set of rules is referred to as a Fact Event Object calculus. These rules are used to build events and propositions, starting at the basic event and constructing more complex FEOs by adding “layers of adverbials, quantificational operators, aspectual operators, modality, and so on, each one either shifting the type or subtype of FEO” (Ernst, 2002, p. 50). This set of rules presupposes that any event can be converted into other types of events or facts (higher FEO type). Ernst (2002) defined an event as “a state, process, accomplishment, or achievement” (p. 8). The requirements for various types of adverbs arise to reflect the diversity of positions “starting from the lowest (rightmost) position where it is a sister of its required FEO and upward (leftward) from there in a contiguous range, unless something forces the FEO to change” (Ernst 2002, p. 114). Ernst’s approach largely echoes Baltin’s analysis of transportability, which is discussed in the beginning of chapter (2). According to Baltin, “adverbs first appear to the right of the clause, and only then can they move to any other position to the left periphery of VP, IP, or CP” (Baltin 1982). However, unlike Baltin (1982), Ernst (2002), attempted to incorporate alterations in semantic scope.

Ernst used the following two examples to explain predication adverbs:

- (6) (a) Sally had (*cleverly*) opened the letter *cleverly*.
 (b) (*Cleverly*) Sally *cleverly* had opened the letter.

Ernst (2002, p. 58) posited that *cleverly* adjoins at different levels in the syntax. The first example (6.a) requires a manner reading. This suggestion is derived from the second sentence (6.b) and implies that the two instances of *cleverly* differ. The second example (6.b) of *cleverly* is speaker-oriented and refers to the class of events in general adverbs to express the property denoted by the adjectival base from which the adverb is formed. In this case, the meaning of *cleverly* and *clever* ‘the adjectival base’, coincide and the adverb identifies the degree to which the property is obtained. In (6.a) *cleverly* indicates manner; this class of adverbs includes all events of Sally opening letters. In other words, it means, for instance, that Sally did not cut the envelope in which the letter was placed, but used scissors to cut the top edge of the envelope, so that the letter is not damaged. Thus, Sally opened the envelope in a clever manner. Therefore, *cleverly* in (II) indicates a set of actions that Sally used to open the letter in that manner (but not *carelessly*). Consider that when someone opens a letter *cleverly* or *carelessly* – each of the two examples imply different sets of events and actions.

Ernst’s (2002) hypothesis does not provide for the universal understanding of the semantics of adverbs. Some questions cannot be answered by this approach, such as why speaker and subject-based adverbs have a strict hierarchy while the ordering of adverbs of quantification and aspect may vary according to different meanings. The drawbacks of an adjunct-based approach are particularly evident when the same adverb changes positions and meanings:

- (7) a) **Honestly**, John has spoken the truth to his mother. (speech act/
*manner)
b) John has spoken the truth to his mother **honestly**. (*speech act/
manner)

According to Ernst, the input and output of these adverbs' adjoining projections are strongly related. The adverb can adjoin to a projection that matches its input type, such as in this example:

- (8) *Honestly*, he had *probably* had his own opinion of the matter.

In the scope-based analysis, the order of adverbs in the sentence above is grammatical because *probably* takes a proposition as its argument, which is within the scope of the speech act taken as the argument of *honestly* (recall: Speech Act > Fact > Proposition > Event > Specified Event (Ernst 2002)). The output of this process either has the same type as the projection or is higher in the hierarchy. From this perspective, Ernst's approach is strongly limited by output and input types that determine the position of an adverb. One question that remains unanswered concerns the reason for why (7a) *honestly* cannot be treated as an adverb of manner as in (7b). Ernst's theory presupposes that an adverb can only be categorized as a manner adverb when it is left-adjoined to PredP (Ernst, 2002, p. 269).

Frey and Pittner (1999, p. 15) also pursued a semantic approach to adverb positioning. They distinguished several semantic classes of adverbs:

- a. Process-related adverbials (e.g. manner) minimally c-command the verb (or its trace).
- b. Event-internal adverbials (e.g. spatial, instrumental, subject-attitude) are minimally c-commanded by the argument they are related to.

- c. Event-related adverbials (e.g. temporal, causal) c-command the base position of the highest argument and the base position of event-internal adverbials.
- d. Proposition-related adverbials (e.g. aspectual, subject-oriented) c-command the finite verb and the base position of event-related adverbials.
- e. Frame adverbials (e.g. temporal and spatial scene-setters) c-command the base position of S-adverbials.

This classification is important for two reasons: 1) it reflects semantic relations between any class of adverbs and the rest of the clause: and 2) their use depends on their structural position. Unlike Cinque, Frey and Pittner (1999) pointed to the greater importance of the semantics of adverbs that direct their ordering restrictions. Their approach uses a structural analysis as a secondary feature and they claim that the semantic properties of adverbs can also determine the order of adverbs in a clause.

I believe that this literature review has shown that theoretical approaches to the hierarchy of adverbs presented above do not provide an adequate answer to the position of adverbs in a clause or sentence. Cinque's and Ernst's theories leave many questions unanswered. Although both hypotheses might seem contradictory, they are also mutually comprehensive because one approach covers gaps missed by the other one. The polemics involved in semantic and syntactic points of view of adverbs are the impetus for further theoretical development. Because Cinque's and Ernst's approaches are mutually exclusive in many aspects, the application of the approaches to the same language material will be helpful to test the effectiveness of each and determine any disadvantages one may have over the other.

2.3 Adverbs in Arabic

The role of adverbs in MSA is important because they are elemental in forming sentences. Al-Shurafa (2005), who investigated the Palestinian and Hijazi dialects of Arabic, distinguished verb phrase adverbs and sentence adverbs. Moreover, Al-Shurafa (2005, pp. 87-88) pointed out that both dialects are characterized by the free order of adverbs in the sentence.

(9) VP -> (ADV) V (NP) ADV)

(?anaa)	ʔa ʃrif-u	-huu	tamaam	-an	(NP/manner)
I	know-Nom	-him	completely	-Acc	
“I know him perfectly.”					

(10) S -> (S-ADV) S' (S-ADV)

(tab ʃ-an) ,	(?anaa)	ʔa ʃrif -u	-huu	(tab ʃ-an)	(SA)
(evidently-ACC.) ,	I	know-Nom	-him	(evidently-ACC.)	
“Evidently, I know him.”					

Rejecting Baltin’s (1982) view that an adverb’s initial position is fixed to the right of the sentence, Al-Shurafa (2005) claimed that adverbs can be either left-adjoined or right-adjoined to the verb phrase.

Following Cinque’s hierarchy, Fassi’s (1998) analysis suggests that adverbs are left-branching specifiers of functional heads. This suggestion explains the possibility of moving adverbs to a higher position in a clause. Based on the potential of adverbs to move, Fassi (1998) identified three groups of adverbs:

1) adverbs that cannot move higher than the IP or the left periphery of the clause; such adverbs can only move higher than the object or the complement of the PP:

- a. ?a'rifu **jayyid-an** l-jawaab-a
 know.1.SG.PRES **perfect-acc** the-answer-acc
 “I know the answer perfectly”
- b. ***jayyid-anya** 'rifu r-rajul-u l-jawaab-a
 perfect-acc knows the-man-nom the-answer-acc
 “Perfectly, the man knows the answer”

Example (b) is considered ungrammatical because the adverb “*jayyid-anya*” moves to the pre-verb position.

2) adverbs that can be placed higher than the participle IP or ModP,

- c. lamyakun r-rajulu **qablu qad?** akala t-tuffaah-a
 not is the-man.nom **before indeed** eat.PAST the-apples.acc
 “The man had not really eaten apples before.”

The adverb *qable* (before) precedes the modal particle *quad* “indeed,” which, in turn, precedes IP. Consequently, such use of adverbs is allowed.

3) sentential adverbs – that can precede the negation phrase and appear in the left periphery of the clause.

- d) **tab'anlam** ya? kul r-rajul-u t-tuffaah-a
 evidently, eats.3.SG.PRES not the-man. nom the-apples-acc
 “Evidently, the man did not eat apples.”

Fassi (1998) also investigated the ordering of adverbs in MSA clauses. Following Cinque (1997), Fassi found evidence of a rigid order and provided a hierarchy of adverbs in MSA.

Lower adverbs in MSA are used in the following order (Fassi 1998, p. 17):

ʕumuuman > baʕdu (qaṭṭu) > daaʕim-an > haqiiqat-an > tamaam-an > jayyidan
generally > after (ever) > always > really > completely > well

In contrast, higher adverbs have the following order (Fassi, 1998, p. 18):

saraaḥatan > ṭabʕ-an > duuna šakk (ḥtimaal-an, taʕkiid-an) > l-ʔaana
frankly > evidently > without doubt (probably, certainly) > now

(yad-an) > rubbamaa > ʕamd-an, qasd-an
(tomorrow) > perhaps > deliberately

According to a description of Modern Arabic grammar, the “placement of adverbs within an Arabic sentence is flexible to a certain extent, but sometimes particular adverbs have preferred positions. Several adverbs or adverbial expressions may occur in the same sentence” (Ryding 2005, p. 277). Al-Shurafa (2005) applied a minimalist framework to analyze the positions of adverbs in both of the Palestinian and Hijaz dialects. Al-Shurafa used functional properties to group adverbs into several different categories. These categories include verb adverbs (VP-adverbs) that “are adjoined to the existing projection of the verb as optional or secondary elements,” sentence adverbs (S-adverbs) that are related to the context of the whole sentence, and “are structurally constituents of the VP,” and coordinated adverbs that have the potential to modify the entire sentence in cases when “more than one adverb can be found in a single phrase or sentence” (Al-Shurafa, 2005, pp. 88-91). Al-Shurafa concluded the following:

[T]he major problem when comparing Arabic adverbs with English ones, or attempting to study the former through the latter, is that in contrast with English, Arabic does not have a heterogeneous group of

adverbs, which actually means that Arabic adverbs do not have structural identity. (Al-Shurafa 2005, p. 86)

Another linguist, Al-Aqad (2013, pp. 70–74), applied X-bar theory to the analysis of adverbs in Arabic. Interestingly, Al-Aqad concluded that “Arabic is a free word order language, where ‘four forms of word order’ might occur, namely SVO, VSO, VOS, and OVS.” Using the X-bar theory, Al-Aqad also showed that in Arabic sentences the positions of adverbs are changeable. A broad comparative study across several languages, such as the one conducted by Cinque (1997), reveals a universal hierarchy of adverbs. However, neither Al-Shurafa (2005) nor Al-Aqad (2013) referred to Cinque, who has proposed that there is a relative order of adverbs that is shared across all languages. This notion is supported by the results of studies on adverbs in other languages (See (2015) on the Hmong language; Bhatia (2006) on the Hindi language). See (2015) applied Cinque’s hierarchy to data collected from Hmong and concluded that the hierarchy is capable of predicting many properties of predicate-level and clause-level modification in that language.

Another example in which Cinque’s approach was shown to be effective is a study on Hindi conducted by Bhatia (2006). This study tested adverbs collected from Hindi against Cinque’s placement of adverbs. Based on the results, Bhatia stated “in most cases Hindi adverbs follow the universal order patterns suggested by Cinque, some discrepancies might occur, especially in relation to several adverbs’ groups, which are not compatible with each other” (Bhatia 2006, p. 23).

CHAPTER 3: METHODOLOGY

The design of this thesis is exploratory. The rationale for selecting an exploratory research design is the scarcity of sources pertaining to adverbs and their positions in MSA and the lack of such studies on Al-Ghamdi Arabic. It is expected that linguistic data collected from GA will help in testing the universality of both feature-based and scope-based hypotheses of the order of adverbs in a sentence. This thesis relies heavily on the theoretical framework provided by these two hypotheses and on that primary data that I collected. Using a qualitative approach, the thesis conducts an in-depth investigation of adverb order. Secondary data were collected from peer-reviewed articles and books that focused on similar or related topics in studies of other languages.

Although the topic of adverb positioning has received significant attention in languages such as English, German, and French, few studies have focused on this issue in MSA. Two objectives underscore the importance of the literature review: 1) the need to clearly define the nature and mechanisms of both theories as well as their key postulates, fundamental ideas, drawbacks, and differences; and 2) the scarcity of similar studies in MSA and the need to gain a knowledge baseline to make thorough, well-organized, and logical assumptions in order to provide adequate explanations of contradictory examples.

My main aim in this research is to test feature-based and scope-based hypotheses of adverb positioning against data collected from GA. In order to test these hypotheses using these data, I used diverse examples. Because I was born in the southern region of Saudi Arabia and I have spoken GA from childhood, there were no obstacles to identifying, collecting, and recording relevant examples.

This study includes 26 different examples. Initially, the categories of adverbs were identified following Cinque's hypothesis. I then investigated the relations between the adverbs, their order, and the possibility of exchanging their positions. For this reason, sentences with examples are presented in pairs. As soon as I identified one example with the order of adverbs that matched the requirements (following Cinque's prediction), the existence of another variant in which adverbs exchanged positions was tested against Cinque's hypothesis and GA rules. In many cases, Cinque's hypothesis allowed the existence of only one of the two variants. However, in cases where GA allows the existence of both sentence variants, a hole in Cinque's hypothesis was indicated.

The data analysis revealed that many examples followed the same pattern where one sentence followed Cinque's rigid order of adverbs, and another variant of the same sentence (in which adverbs exchanged positions) that contradicted it. Moreover, the existence of these examples in GA could be three-fold: 1) both examples existed in GA, and one example contradicted the rigid order of adverbs (most sentences belonged to this category); 2) neither of the two variants of the same sentence occurred in GA although Cinque's theory allowed the existence of at least one of these variants (I discovered a single case of this); and 3) Both examples existed in GA and were allowed by Cinque's system (i.e., examples with temporal adverbs where the order was flexible). An extensive analysis was conducted on at least one set of examples from each of the three categories above. Because the first category is the biggest, I provided explanations for several of these examples.

Although initially it was not predicted, further research showed that there was a need to account for the positions of adverbs that followed Cinque's prediction but were not allowed in GA. When these cases were revealed, the

examples were simply reconstructed for the purpose of illustration. A separate study might focus on the reasons that such examples do not exist in GA but are grammatical under Cinque's prediction.

Hence, the universality of Cinque's approach was tested against various adverb positions in GA. Because the majority of examples had the same structure, there was no need to apply a scope-based approach to test each example. Instead, this approach was used in cases that differed to some extent from the rest of the examples. This study used a comparative methodology to reveal the outputs of two different hypotheses about adverb order. It was hoped that the discussion about the universal rigid order of adverbs would lead to the design of alternative explanations, thus providing more answers to questions about the positions of adverbs in various languages.

CHAPTER 4: DATA ANALYSIS

4.1 Lower (pre-VP) Adverbs

Cinque (1999, p. 4) defined lower adverbs as those that appear in the portion of a clause, which is “in the ‘space’ delimited on the left by the leftmost position that an (active) past participle can come to occupy and on the right by a complement (or the subject of past participle).” He offered the following hierarchy of lower pre-VP adverbs:

- (11) habitual > negation > already > any longer > always > completely > usually > not > already > any longer > always > completely > everything > manner;
 everything > good.

According to the hierarchy, habitual adverbs such as *usually* are the leftmost of all other categories of adverbs. In GA, this assumption is partially supported:

4.1.1 Habitual adverb ‘usually’ with negation

- (12) a. **blʕadah** **ma** anam bdri
 usually NEG sleep.PRES early
 “I am usually not sleeping early”
- b. **mo** **blʕadah** anam bdri
 NEG **usually** sleep.PRES early
 “I don’t usually sleep early”

The particle *ma-* ‘not’ is used to create the negative form of verbs or active participles that behave like verbs. It is the reduced form of *maa*, which is rarely used. Most commonly, *ma-* occurs as a prefix. The example in (12a) falls under

Cinque's prediction as the negative particle follows the habitual adverb *usually*. However, (12b) shows that in GA, negative adverbs can precede habitual adverbs, which contradicts Cinque's prediction. (12b) illustrates a rare phenomenon sentence-initial negation (Dahl 1979, p. 93). According to Dryer (1988), there are three principles based on where negation is positioned in a sentence: 1) the *branching direction principle*—the tendency in a language to employ right- or left-branch negation; 2) *negative before verb principle*—negation precedes verb; 3) *negative plus VO principle*—negation becomes part of the VO complex and has the potential for the following orderings: NegOV, OVNeg, NegVO, and VONeg.

Another explanation for this deviation from Cinque's prediction is the close connection between the sentence-initial negative element and the verb, which could indicate inversion. Specifically, Rissanen (1999, p. 206) reported that “expressions with a sentence-initial negative adverb may have been felt to be more emphatic” (p. 206). In the case of (12b), the sentence-initial position of the negative adverb indicates inversion. Therefore, Rissanen's (1999) view presupposes that inversions where negation is placed in the sentence-initial position serve stylistic purposes (e.g., emphasize negation, create emphasis, etc.).

Another perspective on sentence-initial adverb negation was provided by Ouhalla (1990, p. 191). Ouhalla argued that the NegP category reflects sentence negations and consists of two elements: head and specifier. Depending on which of these elements was realized lexically, Ouhalla identified three types of languages. In the first group of languages, the head of NegP is realized lexically while the specifier is an empty operator. This rule is typical of Turkish and Berber. Second, the specifier is realized lexically, and the head can be an abstract morpheme. This phenomenon occurs in languages such as Swedish and German. Finally, both the head and the specifier are realized lexically (e.g., Standard

French) (Ouhala, 1990). Based on my own knowledge of GA and the data presented in this study, I propose that GA belongs to the group of languages that express sentential negation by a pre-verbal lexical element. The pre-verbal negation is an X^0 , which is the head of NegP. In other words, the sentential negative marker is the highest element (X^0) of NegP above TP.

An interesting point about sentence-initial negation is the scope of its influence (Beck, 1997). There are two types of negation: 1) sentence negation achieved by “existential” negatives that deny the whole entity and perform the function of the syntactic predicate; and 2) local negation that “serves to negate the identification of the predicate with the subject and involves placement of a negative adverb in sentence initial position” (Beck, 1997, p. 106). In (12b), sentence-initial negation does not deny the entity or truth of the entire sentence, but is more local in its effect, that is, it denies the regularity of habit expressed by the adverb *usually*.

4.1.2 Negation with the adverb 'already'

- (13)
- | | | | |
|----|--------------------------|----------------|------------|
| a. | ma | qd | nmt |
| | NEG | already | sleep.PAST |
| | “I didn’t already sleep” | | |
| | | | |
| b. | *qd | ma | nmt |
| | already | NEG | sleep.PAST |
| | “I already didn’t sleep” | | |

Cinque’s rule suggests that negation should precede *already*. This prediction is fulfilled in (13a); (13b) is not grammatical in GA. Therefore, the universal hierarchy of adverbs is followed in this case.

4.1.3 The adverb ‘*already*’ with the adverb ‘*any longer*’

In the following example, the relative ordering of *already* and *any longer* is tested against Cinque’s approach.

- (14)
- | | | | | |
|-----------------------------------------|------------------|-------------------|-------------------|-------|
| a. *ma | ʕad | gd | mafi:h | flo:s |
| NEG | 1- SG –have.PRES | already | any longer | money |
| “I don’t have already any longer money” | | | | |
| | | | | |
| b. ma | ʕad | mafi:h | flo:s | |
| NEG | 1- SG –have.PRES | any longer | money | |
| “I don’t have any longer money” | | | | |

The above examples suggest that the universal hierarchy of adverbs is not followed. According to the hierarchy, adverb *already* should precede *any longer*. Although this order is followed in (14a), the sentence is considered ungrammatical. In GA, the use of both adverbs *already* and *any longer* in one sentence is ungrammatical. However, Cinque’s rule suggests that both adverbs can co-exist in one sentence provided that their ordering is followed. Example (14.b) is grammatical because the adverb *any longer* typically can occur alone in GA sentences with the negative preceding it.

4.1.4 The adverb ‘*any longer*’ with the adverb ‘*always*’

The following examples show the possible order of the adverbs *any longer* and *always*. The case is complicated by the presence of a negative adverb.

- (15)
- | | | | | | |
|-------------------------------------|---------------|-----------|------------------|------------------|--------|
| a. mōhammad | ma | ʕad | mafi:h | daim | jifo:z |
| Mohammad | NEG | has | no longer | always | win |
| “Mohammad has no longer always won” | | | | | |
| | | | | | |
| b. mōhammad | daim | ma | ʕad | mafi:h | jifo:z |
| Mohammad | always | NEG | has | no longer | win |
| “Mohammad has always no longer won” | | | | | |

Cinque's hierarchy is followed in (15.a). Negation is followed by *always*, which in turn follows *no longer*. However, although (15.b) does not follow the hierarchy, it remains grammatical. The close examination of the structure of (15.b) shows that *always* precedes negation and *any longer*. Cinque (1999, p. 33) mentioned that there are instances when such a phenomenon can occur across languages: "while in Italian (Romance) (*non..*) *piu* '(not) any longer' was seen to precede *sempre* 'always,' English would seem to show the opposite order. . . . The appearance is however deceiving." Data from English suggest that the deviation occurs between *always* and *any longer* when the two adverbs are separated by the verb and its complements. In other words, if *always* precedes the verb and *any longer* follows it, deviation from the hierarchy occurs and such sentences are allowed to occur:

(16) John doesn't *always* win his games *any longer*

When both adverbs precede V, deviation from the predicted order does not occur. Following this explanation, (15.b) should be ungrammatical because *always* and *any longer* precede the verb. However, this order is allowed in GA.

Such examples are common in GA. For instance, in (17) the relations between *completely* and *always* are the same as in (15), that is, the adverbs can exchange their positions. Consequently, Cinque's theory is supported only partially in (17.a) where *always* precedes *completely*. However, in (17.b) where the order is reversed (*completely* precedes *always*), the rigid order of adverbs is not followed.

Fukui (1986). Fukui argued that adverbs have relative freedom in positioning and can exchange their positions via the adjunction to other categories (e.g., VP). There is also relative freedom in the scrambling of internal arguments within VP in (18) (i.e., indirect and direct objects).

With the exception of (12), (13), where Cinque's prediction is met, a notable tendency in the movement of adverbs in GA is revealed. In the rest of the examples, the adverbs exchange their position such that the order of other elements in the sentence does not alter. One exception to this observation is in (15) where *always* moves left before negation, and thus shifts all other elements to the right. Cinque's postulated existence of different spaces for adverbs raises the question how these spaces relate. One explanation suggests that adverbs are independently generated, that is, pre-VP and VP-final positions are equally available to generate adverbs at these positions. In contrast, the existence of the two positions of "lower" adverbs could be explained by the movement of the verb (Cinque 1999). However, it is not clear how the adverb is optionally positioned between V and its complement before the VO sequence and after VO. Crucially, there is no accounting for why the adverb can occur after the verb but before the complement of the verb (Costa 2004).

If we accept Cinque's argument that adverbs can move from their base position to another position and still follow the rigid order, the properties of the A-bar chains connecting the two positions must be discussed. However, this discussion would not provide a full explanation of examples where adverbs exchange their positions. Moreover, assuming that the derived position of the adverb in the COMP "space" can be assimilated to a (nonoperator) A-bar position with the same features as the (nonoperator) A-bar position of "base generation,"

the principle of Relativized Minimality (Rizzi, 1997) is violated each time another A-bar position intervenes.

The principle of Relativized Minimality presupposes that a variable of a given kind must be bound by the closest operator of the same kind. For instance, in **Sally is easy [Op_x to decide whether to please t_x]*, “whether” is a specifier in the A-bar position, creating an island for A-bar movement. In other words, the operator Op_x is not able to bind the variable *x* across another A-bar element. According to Relativized Minimality, a variable of a given kind must be bound by the closest available operator of the same kind (Rizzi, 1997). In the example above the variable *x* cannot be bound by the operator Op_x because there is a closer operator of the same kind, that is, *whether*. This consideration should block adverbs that are assumed to occupy A-bar positions from moving across other adverbs to higher positions. We are therefore led to the conclusion that adverbs are directly generated in their surface positions, in which case Relativized Minimality does not apply (Rizzi 1997).

Example (19) shows a case where the adverb is internal to VP and in an alternate position with the direct object.

4.1.7 The adverb ‘everything’ with the adverb ‘completely’

- (19)
- | | | | |
|--------------------------------------|------------|-------------------|-------------------|
| a. ana | afhm | kɔlʃi? | tamam |
| I-1- SG | understand | everything | completely |
| “I understand everything completely” | | | |
| | | | |
| b. ana | afhm | tamam | kɔlʃi? |
| I-1- SG | understand | completely | everything |
| “I understand completely everything” | | | |

In (19.b), *completely* precedes the direct object. The adverb *completely* can either precede or follow the direct object, which is significant because the direct object remains within VP in GA. There is no evidence of object shift to a position outside of the VP. Consequently, the adverb, in order to alternate with the direct object, must also be VP internal and not above VP as Cinque's hierarchy would require.

In addition to (19), let us consider the di-transitive verb in the following example:

- (20)
- | | | | | |
|--------|--------|-------------------|-------------------|----------------------|
| a. Ana | ʕatʕit | albnt | kəlʃiʔ | tamam |
| I [| gave | the girl | <i>everything</i> | <i>completely.</i>] |
| b. Ana | ʕatʕit | albnt | tamam | kəlʃiʔ |
| I [| gave | the girl | <i>completely</i> | <i>everything.</i>] |
| c. Ana | ʕatʕit | tamam | albnt | kəlʃiʔ |
| I | [gave | <i>completely</i> | the girl | <i>everything.</i>] |

The above examples reinforce the VP-internal placement of *completely*.

4.1.8 The adverb *completely* with *always* and *everything*

This discussion above in Section 4.1.7 raises another context for (21a) and (21b):

- (21)
- | | | | | |
|---------|---------------------------------------------|-------------------|-----------------|-------------------|
| a. ana | daim | tamam | afhm | kəlʃiʔ |
| I-1- SG | always | completely | understand.PRES | everything |
| | ‘I always completely understand everything’ | | | |
| b. ana | tamam | daim | afhm | kəlʃiʔ |
| I-1- SG | completely | always | understand.PRES | everything |
| | ‘I completely always understand everything’ | | | |

In (21a), *always completely* indicates the extent of *always* that the speaker understands (in this context *everything completely* is equal to *everything fully*) and *completely* is under the scope of *always*. In (21b), *completely always* refers to the degree of speaker's understanding (in its semantic meaning, it is equal to *each time without exception*). Cinque also reported this as a feature in Italian: "The AdvP in the lower 'space' takes the scope over the AdvP(s) in the higher 'space'" (Cinque, 1999, p. 21). Interestingly, Cinque focused on the discussion of the relation between COMP and the Pre-VP position of adverbs. However, if we consider the evidence from (18) and (19), then the adverbs *always* and *completely* are free to alternate positions inside the VP relative to the direct object. Fukui (1986) explained that such movement is motivated by the adjunction to particular categories (VP and perhaps CP), which allows for freedom in other areas, such as the relative freedom of the scrambling of internal arguments (indirect and direct objects in the case of VP). This evidence contradicts Cinque's hypothesis of a rigid order.

In this context, it should be mentioned that Kayne (1994) and later Cinque (1999) proposed that right adjunction is not available. If so, then it must have been *daim* 'always' that moved leftward. However, the movement of *daim* 'always' would not be blocked by Relativized Minimality, which would block movement of an adverb over another adverb (Rizzi 1997).

In cases where one adverb has the same interpretation in two different positions, Cinque (1999, p. 20) offered three possible explanations:

1. Adverb movement does not occur. The adverb remains in the same position, and some other element is moved.
2. The adverb moves to another position, but it retains the interpretation from the initial position.

3. The interpretation remains deceptively the same in two different positions.

4.2 Summary of the Previous Section

Cinque's approach presupposes that the hierarchy of adverbs is based on the analysis of their one-to-one linear relations. As a result, the rigid hierarchy of adverb positioning allows almost no possibility of flexible deviations. However, in GA, there are several variants in which adverbs can be positioned in the same sentence. As a rule, one sentence has adverbs that follow the rigid universal order of adverbs, while another sentence offers an alternative that goes beyond the proposed hierarchy but remains grammatical. Therefore, the evidence in GA clearly indicates that Cinque's approach does not cover all examples universally.

In my view, one of the fundamental misconceptions in Cinque's approach is the unique base position of strong variants. In this view, a strong adverb that is modified, coordinated, or focused can appear in a unique base position, which is a clearly defined position of a certain category of adverbs. This statement lies at the core of Cinque's hierarchy of adverbs. However, according to Ernst, "if adverbs are licensed in a one-to-one relation with a functional head, we restrict the possible types of licensing relations for them in Universal Grammar (UG)" (Ernst 2001, p. 3). He further criticized the idea of a unique base position because the same adverb would require either movements or different base positions due to the different positions and meanings linked to changes in positions. In this perspective, Ernst (2005) advocated that adverbs can have multiple base-generated positions. However, this view does not support adverbs as a purely semantic phenomenon. Clearly, adverbs are subject to syntactic constraints that should be taken into consideration in studying their ordering. Ernst's argument offers a broad

view of adverbs, and it provides tools for explaining phenomena that cannot be covered by a syntactic approach alone. However, Ernst did not deny the importance of syntax in adverb positioning. In contrast, he suggested that the analysis of adverbs should be based not only on syntax but also on the semantics of adverbs. This view may be used to explain the discrepancies in the predictions made by Cinque's hierarchy and the data collected in GA. Ernst's approach provides a solution for the cases shown in (12.a) and (14.b) where Cinque's approach fails to provide an adequate account.

4.3 Higher (Sentence) Adverbs

Sentence adverbs are defined as “a class of syntactically dispensable lexemes that affect/modify in various ways the content of the sentence in which they occur” (Rammat & Ricca, 1998, p. 189). According to the functional grammar approach, the categorization of sentence adverbs is based on three semantic layers of an utterance: 1) the event (or state of affairs); 2) the propositional content of the sentence (content-oriented, event oriented and participant-oriented adverbs); and 3) the speech act related to the sentence (speaker-oriented and speech-act oriented) (Swan, 1988). According to Swan (1988), there are four main groups of sentence adverbs:

- (22) 1. Evaluative adverbs (for instance, *naturally*, *luckily*);
 2. Modal adverbs (probably, evidently);
 3. Subject-disjuncts (cleverly, intelligently);
 4. Speech act adverbs (*frankly*, *precisely*).

This categorization is close to those offered by Cinque (1999) and Ernst (2002). According to Cinque (1999), the hierarchical order of sentence adverbs is as follows:

(23) a. speech act > evaluative > evidential > epistemic > temporal > perhaps > subject-oriented (adapted from Cinque, 1999, p 13).

Ernst (2002, p. 45) suggested a similar categorization:

(24) b. discourse-oriented > evaluative > modal > evidential > subject-oriented > negative > manner.

The analysis revealed that Cinque's approach has fine-grained hierarchies inside each different category of adverbs. In his universal hierarchy, speech-act adverbs have the highest position and cannot be preceded by adverbs in any other category. This assumption is correct for (25.a) where the evaluative adverb *luckily* follows the speech-act adverb *frankly*:

4.3.1 The adverb 'frankly' with the adverb 'luckily'

- (25) a. **bis'arah** **ʕala-hað'ik** int inqabalt
frankly **luckily** you were accepted.PAST
 "Frankly Luckily you were accepted"
- b. **ʕala-hað'ik** **bis'arah** int inqabalt
luckily **frankly** you were accepted.PAST
 "Luckily Frankly you were accepted"

In (25.b), the adverbs exchange their positions, but the sentence remains grammatical, which contradicts Cinque's prediction. However, the specifier analysis failed to provide an adequate explanation for the alternating positions of pre-verbal adverbs because the interpretation of the adverbs was difficult to observe. Although the interpretations of adverbs may remain the same, they certainly modify the proposition. The following example is a simpler form of (25):

- (26) a. **ʕala-hað'ik** int inqabalt
luckily you were accepted.
 “Luckily you were accepted”
- b. int **ʕala-hað'ik** inqabalt
 you were **luckily** accepted.
 “You were luckily accepted”
- c. **bis'arah** int inqabalt **ʕala-hað'ik**
frankly, you were accepted **luckily.**
 “Frankly, you were accepted luckily”

Example (26.a) suggests that the person to whom the speaker is referring was accepted because of their skill only. The adverb in this case denotes the speaker's own expression and attitude toward the fact that the person was accepted (e.g., perhaps the speaker is a relative of a person who got accepted to the university). In contrast, (26.b) is only true when the person to whom the speaker is referring was accepted because of luck (the manner reading). Even (26.c) is grammatical from semantic and syntactic points of view. In (26.c) *frankly* does not modify the proposition expressed by their complement. Instead, it preforms the function of the speaker's comment on the speech act realized through this complement. Therefore, in (26.c), *frankly* does not relate to the fact that you are lucky to be accepted, but instead expresses my statement of this fact. However, it does not explain (25), where two pre-verb adverbs alternate positions, and it remains in the pre-VP space.

4.3.2 The adverb ‘*luckily*’ with the adverb ‘*evidently*’

A similar tendency to that presented in the above section was observed among one-step lower sentence adverbs. According to the rules of the hierarchy,

evidential adverbs should follow evaluative adverbs. However, consider the examples (27.a) and (27.b):

- (27) a. **ʕalahaðʕi** **wadʕ** ma raḥ afɔːz
 luckily **evidently** 1- SG –not will win
 “Luckily evidently I will not win”
- b. **wadʕ** **ʕalahaðʕi** ma raḥ afɔːz
 evidently **luckily** 1- SG –not will win
 “Evidently luckily I will not win”

In the previous examples, it is clear that both adverbs have no rigid order and can move freely, thus contradicting Cinque’s system in which the evaluative adverbs can precede the evidential adverbs. In (27.a), *luckily* expresses the overall speaker’s attitude that he will not win evidently. At the same time, *evidently* refers to manner and suggests that the chances are high that the speaker will not win, referring to the event rather than expressing the speaker’s attitude.

However, in this case, I also apply Ernst’s approach. Let us first consider a simple sentence:

- (28) ana **wadʕ** ma raḥ afɔːz
 I evidently not will win.
 “ I will evidently not win”

According to Ernst (2002), the adverb *evidently* is a two-place predicate which selects two arguments: *I* on the one hand and the event on the other hand. This selection requirement presupposes that the adverb *evidently* first combines with the event of not winning. Next, in order to create a self-sufficient semantic representation, the FEO calculus discussed in Chapter (2) is used to convert this into the proposition expressed in (28). Ernst (2002) also suggested a rigid order of adverbs in which evaluative adverbs must precede evidential ones. A detailed explanation of (27) is presented below. The scope-based approach presupposes

that *luckily* chooses an event as a semantic argument to create an event. The FEO calculus then converts the event into a proposition. Considering a semantically motivated selection, Cinque’s approach suggests the following order of adverbs. In (27.a), the adverb *evidently* initially combines with the event *will win*. The FEO calculus again transforms the event into a proposition, which is then combined with the adverb *luckily*, producing the correct order in (27.a). In contrast, in (27.b), *luckily* initially combines with the proposition. The FEO calculus should convert this proposition. However, at this point, the rules in (6) suggest that one proposition can be converted to another proposition, but not to an event. Therefore, the FEO calculus receives a proposition as its semantic object. The subsequent combination of this proposition with the adverb *evidently* leads to a semantic clash in which *evidently* should choose an event as an argument under semantic rules. In the approach proposed by Ernst (2002), *evidently* cannot precede *luckily* and (27.b) is ungrammatical. The ungrammaticality of this example “results from one adverb requiring a particular FEO at a specific point in structure, which prevents the second adverb from fulfilling its own scope requirements” (Ernst, 2002, p. 217). One advantage of the scope-based theory is that it excludes the possibility of homonyms in cases with ambiguous adverbs. A similar case is observed in the next example.

4.3.3 The adverb ‘*evidently*’ with the adverb ‘*probably*’

- (29) a. * **wad^ʕ** **ihtimal** bokrah ma adawim alkolijah
 evidently **probably** tomorrow NEG 1- SG –go.FUT school
 ‘Evidently, probably tomorrow I will not go to school’
- b.* **ihtimal** **wad^ʕ** bokrah ma adawim alkolijah
 probably **evidently** tomorrow NEG 1- SG –go.FUT school
 ‘Probably, evidently tomorrow I will not go to school’

In GA, it is ungrammatical to use both adverbs in the same sentence because of semantic features. Because the meaning of these adverbs is mutually exclusive, this phenomenon is most likely universal, that is, spread across different languages. Thus, these two adverbs do not follow Cinque's prediction. However, (29) provides evidence that in GA, adverbs are semantically motivated rather than syntactically motivated. Semantically, the meanings of the two adverbs are mutually exclusive: if one of them is used in the sentence, then another one cannot be used. This is the only example so far that shows a direct relation to semantics and where the explanation of adverb use is based on semantic notions.

4.3.4 The adverb 'probably' with the adverb 'now'

- (30) a. **ih̄timal** **alhin** ad̄ʒi
 probably **now** 1- SG –come.PRES.CONT
 'Probably, now I am coming'
- b. **alhin** **ih̄timal** ad̄ʒi
 now **probably** 1- SG –come.PRES.CONT
 'Now, probably, I am coming'

In the previous examples, there is no rigid order of the two classes of adverb because the temporal adverbs have a partially free distribution. However, Cinque (1999) mentioned that temporal adverbs preferably should precede subject-oriented adverbs and *perhaps* and that temporal adverbs can either precede or follow modal, evaluative, and pragmatic adverbs. Therefore, in (30), both examples are correct, which is the first instance when two variants of the same sentence follow Cinque's theory.

4.3.5 The adverb ‘*perhaps*’ with the
adverb ‘*now*’

- (31) a. **jimkin** **alhin** adzi
 perhaps **now** 1-SG-come.PRES.CONT
 ‘Perhaps, now I am coming’
- b. **alhin** **jimkin** adzi
 now **perhaps** 1-SG-come.PRES.CONT
 ‘Now, perhaps, I am coming’

Cinque claimed that temporal adverbs preferably should precede *perhaps* although this rule is not mandatory. Cinque (1999, p. 12) provided examples in which temporal adverbs were anchored to speech time following *perhaps*. Therefore, (31) is another example that suits Cinque’s hierarchy.

Regarding the relation between temporal adverbs and other classes of adverbs (excluding subject-oriented and *perhaps/probably*), the data suggested that their positions are even more flexible. I may, therefore, conclude that temporal adverbs can either precede or follow all other types of adverbs.

4.3.6 The adverb ‘*perhaps*’ with the
adverb ‘*intelligently*’

- (32) a. ana **jimkin** **biðakaʔi** at^ɲf
 I-1-SG **perhaps** **intelligently** ignore it
 ‘I am perhaps intelligently ignored it’
- b. ana **biðakaʔi** **jimkin** at^ɲf
 I-1-SG **intelligently** **perhaps** ignore it
 ‘I am intelligently perhaps ignoring it’

It is clear that these two classes of adverbs can either follow or precede each other, which does not support Cinque’s hierarchy of adverbs.

4.4 Interaction Between Lower and Higher Adverbs

Cinque's universal hierarchy of adverbs includes the strong prediction that a host of elements will occur in a rigid order across languages. Cinque (1999) implied that adverb ordering is not semantically motivated but is driven by syntactic features in the form of linear correlations between adverb classes and the positions of functional heads. In applying this universal hierarchy of adverb ordering to the linguistic data collected from GA, several limitations were discovered.

First, Cinque (1999) did not provide an explanation for cases where adverbs can exchange their positions. The evidence from GA suggested that such cases are very common. In this study, I provided two variants of the same sentence: one in which the rigid order was followed and another in which the rigid order was not followed. In the majority of examples, both variants of the sentence were grammatical, suggesting a limitation in the universal hierarchy of adverbs. Of thirteen pairs of examples in GA, two pairs of examples did not follow Cinque's approach. Eight pairs of examples followed Cinque's hierarchy only partially, that is, one variant of the same sentence followed the rigid order, but when the adverbs exchanged positions, it went beyond the scope of the universal hierarchy of adverbs. There were only two examples where Cinque's hierarchy was fully followed. Based on these results, I assume that the universal hierarchy is not universal at all. The adverbs in GA are subject to relative flexibility, which allows the free movement and exchange of positions.

Another restriction in Cinque's approach, which was discovered during the analysis of adverbs in GA, is the lack of explanation for interactions between adverbs. Cinque's universal hierarchy does not answer two important questions.

First, the motivation for adverbs of the same class to exchange their positions is not clear. Consider the example in (33):

- (33) a. ana ʕindi flo:s **kɔlaha** **daim** laha
 I-1-SG have -POSS money **completely-POSS** **always** for her- PRO
 “I have money completely always for her”
- b. ana ʕindi flo:s **daim** **kɔlaha** laha
 I-1-SG have – POSS money **always** **completely-POSS** for her-PRO
 “I have money always completely for her”

In Cinque’s hierarchy, *always* should follow *completely*. This rule is true in the sentence in (33a). The sentence in (33b) also exists in GA and it is grammatical even though it contradicts the universal hierarchy principle. One explanation for the exchange of positions is the different interpretation of the adverbs. In other words, the exchange of the positions of the adverbs is semantically motivated. However, Cinque’s approach restricts this interaction between adverbs of the same class by virtue of his proposed universal hierarchy. The only exceptions are temporal adverbs that have relatively free movement according to Cinque (1999).

The second question that Cinque’s theory fails to address concerns adverbs of different classes: How do lower and higher adverbs interact? In fact, the evidence in Cinque’s work (1999) revealed the order of adverbs of the same class. By default, it is assumed that if A (higher adverb) outranks B (another higher adverb), and B outranks C (lower adverb), then A outranks C, making the investigation of higher and lower adverb interaction unnecessary. Cinque investigated lower and higher adverbs separately, claiming only that lower adverbs follow higher adverbs. However, no further investigation has focused on the interactions between adverbs in different classes as defined by Cinque. The data

collected from GA provides examples in which interactions between adverbs of various classes do occur:

- (34)
- | | | | |
|----|----------------------------|-----------------|--------------|
| a. | *ihtimal | bɬadɑh | asawi:h |
| | probably | usually | 1-SG-do.PRES |
| | ‘Probably usually I do it’ | | |
| | | | |
| b. | bɬadɑh | ihɬimal | asawi:h |
| | usually | probably | 1-SG-do.PRES |
| | ‘Usually probably I do it’ | | |

The example (34.a) suggests that Cinque’s prediction is not followed: in Cinque’s hierarchy, *probably* precedes *usually*. In contrast, in (34.b) the reverse order holds, and Cinque’s predicted order is ungrammatical. Such anomalies indicate a gap in Cinque’s theory and call for further studies on the subject. Furthermore, in Cinque’s system, there is no possibility for adverbs in different classes to exchange their positions. Another implication of this finding is that adverbs in the same class have more flexible ordering, which was shown in most examples where the adverbs could exchange their positions (e.g., lower adverbs; see section 4.1)

Another example indicates the exchange of positions between two adverbs of different classes: *usually*—a low habitual adverb—and *early*—a high temporal adverb. Cinque (1999, p. 12) stated that temporal adverbs have relatively free ordering and can exchange their positions. However, his data were based on examples that used adverbs in the same class (i.e., high adverbs). The example from GA in (35) shows that temporal adverbs can also exchange positions when they interact with lower adverbs. Thus, (35.a) and (35.b) are considered grammatical and follow Cinque’s prediction. However, this tendency is only true if both adverbs occur after VP. In cases where both adverbs occur in pre-VP

positions, the sentences are ungrammatical although (35.d) follows Cinque's prediction.

- (35)
- | | | | | |
|----|-------------------------|--------------|----------------|------------------|
| a. | anam | bdri | blʕadah | |
| | 1-SG-sleep.PRES | early | usually | |
| | 'I sleep early usually' | | | |
| | | | | |
| b. | anam | | blʕadah | bdri |
| | 1-SG –sleep.PRES | | usually | early |
| | 'I sleep usually early' | | | |
| | | | | |
| c. | *bdri | | blʕadah | anam |
| | early | | usually | 1-SG –sleep.PRES |
| | 'Early usually I sleep' | | | |
| | | | | |
| d. | *blʕadah | | bdri | anam |
| | usually | | early | 1-SG –sleep.PRES |
| | 'Usually early I sleep' | | | |

Further examples illustrate the interaction between lower and higher adverbs:

- (36)
- | | | | | | | | |
|----|---------------------------------------------------|----------------|---------------------|----------------|----------------|---------------------|------|
| a. | ma | qd | ze:t, | jimkin | alhin | adzi | |
| | NEG | already | come | perhaps | now | 1-SG-come.PRES.CONT | |
| | 'I didn't already come, perhaps, now I am coming' | | | | | | |
| | | | | | | | |
| b. | *jimkin | alhin | adzi, | | ma | qd | ze:t |
| | perhaps | now | 1-SG-come.PRES.CONT | NEG | already | come | |
| | 'Perhaps now I am coming, I didn't already come' | | | | | | |
- (37)
- | | | | | | | |
|-----|---------------------------------------------------|-----------------|----------|-----------------|-----------------|----------|
| a. | daim | aħl | wazibati | ihtimal | atyjir | |
| | always | 1-SG do | homework | probably | 1-SG-change.FUT | |
| | "Always I do my homework, probably I will change" | | | | | |
| | | | | | | |
| b.* | ihtimal | atyjir | | daim | aħl | wazibati |
| | probably | 1-SG-change.FUT | | always | 1-SG do | homework |
| | 'Probably I will change, always do my homework' | | | | | |

- (38) a. mōhamad **ma** ʕad **mafi:h** jifɔ:z ,
mohammad **NEG** has **no longer** win,
ihtimal jɣsr
perhaps 1-SG-lose.FUT
“Mohammad has no longer win, perhaps he will lose”
- b. ***ihtimal** jɣsr mōhamad **ma** ʕad
perhaps 1-SG-lose.FUT mohammad **NEG** has
mafi:h jifɔ:z
no longer win
“Perhaps he will lose, Mohammad has no longer win”

Another restriction of the universal hierarchy approach that is revealed in this study aligns with Ernst’s (2003) view: the notion of the base position in which adverbs initially occur. The feature-based theory advocates that variable positioning of the same functional heads is not allowed and the licensing of one subclass is restricted to only one position. Although this argument applies to the rigid order of adverbs, it does not apply when adverbs exchange their positions. In cases where adverbs exchange their positions, Cinque’s approach (1999) does not provide an answer to the question of whether the base-generated position of adverbs changes or whether it remains in the same place, but the adverb moves. If movement occurs, the reason that it does not give rise to Relativized Minimality effect is unclear.

4.5 An Argument for Free Adjunction

The findings showed that the feature and scope hypotheses have considerable limitations in their application in GA. Cinque’s rigid order of adverbs failed to clarify the interaction between adverbs of the same or different classes. Furthermore, his hypothesis cannot be applied to base-generated positions. Although Ernst’s approach suggested the relatively free ordering of adverbs, the FEO calculus rules are overly restrictive (as in the case of higher adverbs; see

section 4.3). The data clearly indicated the free positions of adverbs and their projections. A theoretical framework that explains these findings was proposed by Fukui (1986). His approach is based on several fundamental postulates that were suitable in the current research because they have the potential to address concerns that are covered by the feature and scope hypotheses. Fukui (1986) assumed that functional heads have a single (non-iterable) specifier, whereas lexical heads might include iterable ‘adjuncts’. Second, the specifiers of functional heads are moved from their complement. Third, although all functional heads are required to have specifier positions, it is not clear whether specifier positions are present among lexical heads. Although Fukui (1986) based his approach on X-bar theory, he observed an important distinction between two new types of categories: functional categories that license a unique specifier, and lexical categories that “iterate.” More importantly, Fukui (1986) claimed that only the specifiers of functional categories have the potential to close their projections. This approach explains the potential of GA adverbs to exchange their linear positions in the sentence: they belong to lexical categories and their projections are iterative.

Fukui (1986) postulated that adjunction is free and iterative. The relative freedom of adverb positioning in cases where alternations are possible may involve the adjunction to particular categories (VP and perhaps CP), which allows for freedom in other areas, such as the relative freedom of the scrambling of internal arguments (indirect and direct objects in the case of VP) and the position in front of CP (Fukui, 1986). These two places may allow for the relative freedom of adjunction, whereas NegP/TP may not when some rigid order is evident. The principle of free adjunction accounts for the data in GA:

- (39)
- | | | | |
|----|-----------------------------|------------------------|-------------------------|
| a. | ʕatʕit | Afnan | albare:d |
| | I-1-SG –give.PRES | Afnan.OBJ | a.DET.I- package |
| | ‘I give Afnan a package’ | | |
| | | | |
| b. | ʕatʕit | albare:d | Afnan |
| | I-1-SG –give.PRES | a.DET.I-package | Afnan.OBJ |
| | ‘I give a package to Afnan’ | | |

The data in (39) indicate VP internal scrambling (the ability of indirect and direct objects to exchange their positions within VP shows that VP allows for relative freedom).

4.6 Cases of Rigid Order in Ghamdi Arabic

Among the 26 examples of GA sentences, 13 followed the rigid order proposed by Cinque. In this study, the data are presented in pairs in order to show the high potential of GA adverbs to exchange their linear positions. In 20 of the examples, both pairs of sentences were grammatical in GA. However, both the feature and scope hypotheses were able to categorize only one sentence as grammatical. For instance, consider the following sentences:

- (40)
- | | | | | | |
|----|------------------------------------|------------------|-----|------|-------|
| a. | ʕalahaðʕi | wadʕ | ma | rah | afɔ:z |
| | luckily | evidently | NEG | will | win |
| | “Luckily evidently I will not win” | | | | |
| | | | | | |
| b. | wadʕ | ʕalahaðʕi | ma | rah | afɔ:z |
| | evidently | luckily | NEG | will | win |
| | “Evidently luckily I will not win” | | | | |

Both variants are grammatical in GA. However, according to Cinque’s approach, evidential adverbs follow evaluative adverbs. Furthermore, the FEO calculus restrictions in the scope approach do not allow *evidently* to precede *luckily*. Consequently, the two approaches reject the validity of (40.b) but confirm

the grammaticality of (40.a). Such examples are very common in GA. In this study, I have paid particular attention to instances when *both* variants of the same sentence support the hypothesis. In fact, there are only three examples of such cases, which are shown below in examples (41) to (43):

(41) a. **ma** **qd** nmt
 NEG **already** sleep.PAST
 ‘I didn’t already sleep’

b. ***qd** **ma** nmt
 already NEG sleep.PAST
 ‘I already didn’t sleep’

The first example complies with the predictions of rigid order. In (41.a), negation precedes *already* and there is no possibility for a reverse order. Consequently, Cinque’s universal hierarchy is followed. However, consider the following example, which differs only in the class of adverbs (temporal class with epistemic class, and *perhaps* class):

(42) a. **ih̄timal** **al̄hin** ad̄zi
 probably **now** 1-SG-come.PRES.CONT
 ‘Probably, now I am coming’

b. **al̄hin** **ih̄timal** ad̄zi
 now **probably** 1-SG-come.PRES.CONT
 ‘Now, probably, I am coming’

(43) a. **jimkin** **al̄hin** ad̄zi
 perhaps **now** 1-SG-come.PRES.CONT
 ‘Perhaps, now I am coming’

b. **al̄hin** **jimkin** ad̄zi
 now **perhaps** 1-SG-come.PRES.CONT
 ‘Now, perhaps, I am coming’

The last two examples comply with predictions using the feature and scope approaches, which postulate that temporal adverbs have greater flexibility and free movement in clauses.

CHAPTER 5: CONCLUSION

This study is one of the first investigations of adverb placement in GA. Unfortunately, neither the feature-based nor the scope-based hypotheses were supported by the positions of adverbs in sentences that were grammatical in GA. Of the 26 examples analyzed in this study, 13 met the criteria for the rigid order of adverbs proposed by Cinque (1999). However, the other half contradicted this approach by demonstrating grammaticality in GA. Ernst's scope-based hypothesis and semantic approach were not completely suitable in GA especially with regard to changes in the pre-VP positions of adverbs. The findings call for the development of new theories that are capable of explaining most, if not all, uses of adverbs in GA.

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