FINITENESS IN JORDANIAN ARABIC: A SEMANTIC AND MORPHOSYNTACTIC
APPROACH

By

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Abstract

Previous research on finiteness has been dominated by the studies in tensed languages, e.g. English. Consequently, finiteness has been identified with tense. The traditional definition influences the morphological, semantic, and syntactic characterization of finiteness which has also been equated with tense and its realization. The present study investigates finiteness in Jordanian Arabic (JA), a spoken variety of Arabic that lacks tense marking and which marks agreement in all contexts. Such a language presents a challenge to the previous research on finiteness.

I adopted a multi-level analytical approach in studying finiteness in JA that corresponds to the multi-faceted nature of the finiteness category. I enumerated the morphological, semantic, and syntactic properties commonly correlated with finiteness in the literature. In order to control for the clausal status of finiteness, I explored finiteness in JA in the context of complement clauses, a context that licenses finite as well non-finite clauses. To meet this goal, I adopted Noonan's (1985/ 2005) typological classification of complement clauses in which he classified clauses in terms of the matrix complement-taking-predicates. I then examined whether JA exhibits a distinction in regards to the traditional morphological, semantic, and syntactic properties of finiteness.

I found that predicates in JA can be classified morphologically in terms of realis marking. Complement clauses encode different semantic interpretations which can also be captured by the realis distinction. Specifically, realis marked predicates encode distinctive aspectual interpretations in the real world. Conversely, realis unmarked predicates encode unrealized events. Nonetheless, the complement clauses are not distinguished syntactically in terms of realis marking. An alternative denominator is whether the clause is a Complementizer Phrase (CP) or

not. Based on the mismatch between the morphological and semantic distinction, on the one

hand, and the syntactic distinction, on the other, I argue that the finiteness notion cannot be

extended to JA. This conclusion has significant implications for current linguistic research on

finiteness. The study suggests that finiteness is a language-specific unification of

morphosyntactic features rather than a core property of Universal Grammar.

I say you mean everything to me in life. When I was here alone physically, you were with me psychologically with you warm words and feelings.

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List of abbreviations

1, 2, and 3 = first, second, and third person

ACC = Accusative

AgrP = Agreement Phrase

AgrsP = Subject Agreement Phrase

AgroP = Object Agreement Phrase

AP = Active Participle

AST = Assertion

C^o = complementizer head

CFC = Core Functional Categories

C_{HL} = computational system in the language faculty

CLAS = classifier

COMP = complementizer

Compl. = complement clause

CP = Complementizer Phrase

CS = construct state

CTP = Complement-Taking-Predicate

DAT = dative

dl = dual

DP = Determiner Phrase

e = event

ECM = Exceptional Case Marking

EPP = Extended Projection Principle

ET = Event Time

f = feminine

FinP = Finiteness Phrase

Fut = future tense operator

G = Goal

GB = Government and Binding Theory

I^o = Inflectional head

IP = Inflectional phrase

impf = Imperfective

impr = Imperative

IND = Indicative

INFL = Inflection

JUSS = Jussive

JA = Jordanian Arabic

LF = Logical Form

m = masculine

MA = Moroccan Arabic

ModP = Mood Phrase

MP = Minimalist Program

NegP = Negative Phrase

NOC = non-obligatory control

NOM = Nominative

NP = Noun Phrase

NPI = Negative Polarity Item

OC = obligatory control

P = probe

PRT = particle

perf = Perfective

PF = Phonetic Form

PIC = Phase Impenetrability Condition

pl = plural

PP = Passive Participle

RT = Reference Time

S = sentence

SA = Standard Arabic

SAAA = Standard Arabic Agreement Asymmetry

sg = singular

Spec = specifier

ST = Speech Time

SUBJ = Subjunctive

SVO = Subject-Verb-Object

t = time

TP = Tense Phrase

TopP = Topic Phrase

TT = Topic Time

V2 = verb second

VP = Verb Phrase

VSO = Verb-Subject-Object

w = real world

w' = hypothetical world

0 = zero

Ǝ = existential quantifier

List of phonetic symbols

Symbol	IPA	Description
'	ʔ	glottal stop
th	ð	voiced dental fricative
<u>th</u>	ɵ	voiceless dental fricative
j	ʤ	voiced palato-alveolar affricate
tsh	ʧ	voiceless palato-alveolar affricate
9	ʕ	voiced pharyngeal fricative
H	ħ	voiceless pharyngeal fricative
gh	γ	voiced velar fricative
x	x	voiceless velar fricative
dh	ðˤ	voiced dental fricative
sh	ʃ	voiceless postdental fricative
D	dˤ	voiced postdental fricative (emphatic)
S	sˤ	voiceless postdental fricative (emphatic)
T	tˤ	voiceless postdental stop (emphatic)
q	G	voiceless uvular stop
y	j	voiceless palatal approximant
w	w	voiceless palatal velar

Chapter One

Introduction

Finiteness is traditionally defined as a morphosyntactic property of clauses whereby finite

clauses have inflections for tense, aspect, mood, and person agreement, whereas non-finite

clauses lack these inflections (Huddleston 1988, Hogg 1992, Trask 1993, Matthews 1997). This

long-standing definition is inherited mostly from studies of European languages, especially Latin

(Sauter et al. 1968). The notion of finiteness is commonly addressed and investigated in

descriptive and theoretical linguistics. Nonetheless, the finiteness category is among the least

understood. The problem is basically definitional. Although several recent studies have explored

finiteness, many of its aspects are still unclear. For example, the relevance of tense and

agreement and their interaction with finiteness are still debatable.

Most research on finiteness has been devoted to languages with tense inflections. Little

research on finiteness exists on languages which lack overt tense inflections (Hu, Pan, and Xu

2001). Languages without overt tense inflection pose obvious definitional problems for the

concept of finiteness defined by overt tense marking. A better approach would be to explore if

something like finiteness is present in non-European languages, and if it is what features

finiteness has. To the extent that clauses in non-European languages do not share the same

finiteness features with clauses in European languages, the concept of a shared finiteness

projection is unsupported.

In the present study, I investigate the clausal features in Jordanian Arabic (JA), a language

with a rich morphology. JA deviates from the traditional clausal properties associated with tense

and agreement inflections in European languages; JA is a language which marks aspect and not

tense. Agreement is marked in all clauses. The conceptual approach that I adopt in the present

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study is enumerating the morphological, semantic, and syntactic properties associated with tense and agreement in European languages. Then, I use these properties as the basis for the morphological, semantic, and syntactic description of complement clauses in JA. The underlying motivation for this approach is to establish whether the notion of finiteness as applies to European languages can be extended to JA. The degree to which the properties under investigation align in European languages and JA will give indication regarding the universality of the finiteness notion.

The conclusions drawn from the present study show that temporal reference in JA is established pragmatically or lexically, and is discourse-dependent. Complement clauses in JA are classified into two sets in terms of the overt realis marking and not tense. This poses problems for the accounts of finiteness which are based on tense and agreement features. At the semantic level, these sets are further divided according to whether predicates contribute distinctive aspectual interpretations in the real world or not. This semantic distinction further supports the morphological realis distinction. However, the syntactic properties of complement clauses do not correlate with the morphological and semantic classification. Complement clauses are classified syntactically in terms of the presence or absence of the CP. These results bring into question the validity and possibility of extending the finiteness notion to JA because of the mismatch between the morphological marking and the syntactic properties of clauses. This mismatch is unpredictable if the finiteness notion is adopted.

The significance of the present study rests upon the approach adopted to explore the notion of finiteness in JA and the implications it bears for the research on finiteness in Arabic. By adopting the multi-level approach alluded to earlier to address finiteness in JA, the present study diverges from the prevailing accounts of finiteness in Arabic that implemented one level of

analysis only. Additionally, the present study brings into question the universality of a finiteness distinction by arguing that it cannot be extended to an Arabic variety contrary to the previous research, which extends the English model to Arabic by overlooking the latter's properties. Hence, the present study demonstrates with concrete evidence that these linguistic phenomena have to be investigated under the constraints and properties of the language itself, rather than framing it within the properties of other languages.

1.1 Background information of Jordanian Arabic

Jordanian Arabic is a spoken variety of Arabic that is used in Jordan in the east bank of the River Jordan in Western Asia. JA is one of the Levant languages. Genetically, it belongs to the South-Central Semitic language family (Comrie 1987). Like many other Arab countries, Jordan exhibits a diglossic situation where two varieties co-exist; a spoken variety for informal setting, and Standard Arabic (SA), which is used in formal settings, e.g. schools, media (Ferguson 1959, El-Hassan 1977, Mitchell 1978, among others). Since JA is a spoken language, I collected the data for the study by means of recording the native speakers in informal settings. Moreover, I employed a grammaticality judgment task in order to elicit the informants' intuition regarding the grammaticality of the examples used as the basis of the present study.

1.2 Methodology

I collected the data for the present study by recording the speech of native speakers of the language in natural settings. I used this data for the semantic analysis in Chapters Four and Six. I also used a sentence completion task and a grammaticality judgment task in order to arrive at the intuition of the native speakers of the language. This is the data I employed for the morphosyntactic analysis throughout the dissertation. The excerpts I cited in the study are taken

under the permission of the informants. In what follows I demonstrate in more details how these tasks were conducted.

1.2.1 Language informants

The language informants of the present study are native speakers of JA. In order to propose an account that applies to JA regardless of the region in which the language is used, I included informants from different regions of Jordan. The demographic distribution of the informants includes the southern (Karak and Ma'an), central (Amman and Salt), and northern (Irbid) parts of the country as shown in Table 1. I originally contacted 152 informants, but only include data from 142 informants because the other 12 informants were not serious in participating in the tasks due to their tight schedules or their tendency to accept all the examples as grammatical. All language informants are between twenty and forty years old as shown in Table1.

Table 1: the demographic information of all the study informants

Age range	Gender	Region			Total
		South	center	north	
20s	Female	15	10	5	30
	Male	17	7	3	27
30s	Female	11	2	10	23
	Male	9	8	8	25
40s	Female	10	1	6	17
	Male	8	4	6	18

1.2.2 Data collection

The present study involves data from SA as well as JA. The data from SA is mainly collected from references such as traditional Arabic grammar books and well-known books including Wright (1859), Holes (1994), Ryding (2005). I used the examples cited in linguistic research, including Fassi Fehri (1993, 2004), Ouhalla (1994), Benmamoun (1992, 2000, 2008), Mohammad (2000) among others. I collected the JA data by recording some short discourse

texts. I also conducted a sentence completion task and an elicited grammaticality judgment task. These procedures were undertaken in the summer of 2010. To ensure acceptability and accuracy, all the collected data were checked by the informants.

Since the focus of the present study is the structure of complement clauses in JA, the sentence completion task involves 30 sentences in which I provide the informants with sentences to complete orally. Each sentence is given within a context. An illustrative example is stated below. (The conversation is all in JA, but I write the situation in the equivalent English translation for space limitations.)

(1) 'Imagine you entered the room (yesterday) and Ali was writing a letter, how would you complete this sentence ….

shif-it   9ali   …………………
perf.see-1.sg   Ali   …………………
'I saw Ali ………….'

I changed the form and type of the Complement-Taking-Predicates (CTPs) to explore the potential effects its form might have on the predicate of the complement clause. I used temporal adverbs in some clauses, but not in all of them in order to track any effect they may have on the verb form used in the matrix or complement clauses. All the informants participated in this task.

The data were collected naturally in that the informants were asked to say what came to their minds without receiving any feedback from me regarding my own intuition. The task was conducted in two sessions each covered 15 sentences.

The other task I implemented was a grammaticality judgment task. As a native speaker of the language, I came up with my own list of examples that ranged from acceptable, acceptable but under certain interpretations, and unacceptable. The task involves 77 sentences, including the example in (2).

(2) a. 9ali   bi-yi-ktub   i-risalih
      Ali   realis-3-play.sgm   the-letter
      'Ali is writing the letter.'

  b. i-risalih   9ali   bi-yi-ktub-ha
     the-letter   Ali   realis-3-write.sgm-it
     'The letter, Ali is writing it.'

  c. *9ali   yi-ktub   i-risalih
     Ali   3-play.sgm   the-letter
     'Ali write the letter.'

I checked the acceptability of the 77 sentences. I included all the informants who are in their 20s in this pre-task evaluation. I found that they only disagree in their acceptability of 5 sentences. The example below shows a sentence that raised disagreement among the participants.

(3) 9ali   bi-yi-sma9   il-banaat   bi-yi-Hki-an
    Ali   realis-3-hear.sgm   the-girls   realis-3-talk-plf
    'Ali is listening to the girls' talk.'

This sentence should be acceptable according to my discussion of the complement clauses selected by the Immediate Perception predicates which allow aspectual predicates. This example is regarded as acceptable grammatically, but 10 participants found it pragmatically unacceptable under any interpretation. Based on this pre-task judgment, I included the 72 examples that are agreed on by all the informants in this age-group.

     All the informants were involved in the elicited grammaticality judgment task, which was held in two sessions with 36 sentences being judged in each session. Only the sentences that were agreed on by all the participants are included in the present study.

     The data for the semantic analysis in Chapters Four and Six are based on discourse texts. The excerpts used in these chapters were recorded in people's conversation during, prior to, and after graduation ceremonies in Summer 2010. Only 75 informants were included in this task

because the other informants refused to record their conversations. The table below demonstrates the relevant demographic information regarding the participants in this task.

Table 2: Demographic information of the participants in the recording task

Age range	Gender	Region			Total
		South	center	north	
20s	Female	22	2	3	27
	Male	7	4	0	11
30s	Female	7	0	0	7
	Male	2	7	5	14
40s	Female	3	4	3	10
	Male	0	2	4	6

The relevant excerpts were transcribed and analyzed for their discourse properties in the chapters designated for the semantic analysis.

1.3 Organization of the dissertation

The dissertation is organized as follows. Chapter One introduces the main research problem. It presents background information regarding the language under investigation and the methodology used to collect the data.

Chapter Two is divided into three main sections. The first section sketches the traditional definition of finiteness that underscores the main properties traditionally associated with finiteness, e.g. tense and agreement. The second part provides a detailed review of the literature written on finiteness within generative theory highlighting the approaches that are used to account for the morphological, syntactic, and semantic properties of finiteness. Specifically, this section lays down the approaches adopted in the analysis of finiteness in JA in the present study. The Chapter concludes with a synopsis of the previous studies conducted on finiteness in other Arabic varieties.

Chapter Three addresses the inflectional classes in JA by classifying the predicates that exhibit agreement in JA into verbal and nonverbal. The Chapter explores the inflectional

morphology each predicate type shows. The description is enhanced by a discussion of the feature content of these inflections. The importance of this discussion stems from the common association between finiteness and the availability of a Person feature. The last section in this chapter illustrates the contexts in which agreement morphology is licensed. This is important for later chapters because it shows that agreement is marked in all contexts and it is not affected by the type of the clause.

Chapter Four addresses the other crucial issue regarding whether the verb forms in JA morphologically encode tense, aspect, or both. In order to answer this research question, the chapter begins with a detailed explanation of the difference between tense and aspect in adherence to the literature. Then, the last section sketches the four proposals in the literature on Arabic and examines the appropriateness of each proposal to account for JA data. The chapter concludes that the verb forms in JA mark aspect. The temporal interpretation is established from the context.

Chapter Five begins with a classification of complement clauses according to the predicates they allow. Complement clauses are thereby classified into Set 1 complements with realis marked predicates and Set 2 complements with realis unmarked predicates. Additionally, the modality of these clauses is established as the former Set is realis and indicative; the Set 2 complements are irrealis and subjunctive in modality. The chapter demonstrates that complement clauses in JA are morphologically classified according to the overt realis marking.

Chapter Six focuses on the semantic contributions of realis marked and unmarked predicates in JA. It first establishes that the realis marked predicates contribute distinctive aspectual interpretations when used in root clauses. I use them in discourse contexts. Temporal ordering of events is established by the aspect on these predicates. It is not established by the

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verb forms themselves. In the literature on the semantics of finiteness, the main test is that the temporal reference is independent in finite clauses. However, the temporal reference of non-finite clauses is dependent. I show that this diagnostic is not appropriate to account for the semantics of finiteness in JA because temporal adverbs and aspect operate independently. I elaborate on this claim by adopting the Davidson's (1967) framework. In this chapter, I discuss the main interpretative contributions of predicates in Set 1 complement clauses as well as Set 2. I conclude that the main semantic distinction between complement clauses is that realis forms contribute distinctive aspectual interpretations and asserts the realization of events in the real world; realis unmarked predicates do not encode distinctive aspectual interpretations. They, rather, encode the event as unrealized. Temporal interpretations are implicated from the contexts.

In Chapter Seven, I survey the traditional syntactic properties of finiteness in generative syntax. These properties include: clause structure, verb movement, syntactic transparency or opacity, subject licensing, and structural Case on subjects. I discuss each property in accordance with complement clauses of Sets 1 and 2 in JA with realis marked and unmarked predicates, respectively. I found out that there is a syntactic distinction that can be attributed to the aspectual specification of the clause. I found out that the clauses are split syntactically according to whether they are full CPs or not. This entails a mismatch between the morphology and syntax. This mismatch is the key factor for the conclusion that the notion of finiteness cannot be extended to JA.

Chapter Eight is the concluding chapter. I summarize the findings drawn from the previous chapters. I establish in the dissertation that there are morphological and semantic distinctions in the complement clauses in JA that is realis-based. There is a mismatch between the morphology

and the syntax. Therefore, I propose in this chapter that the finiteness notion cannot be extended

to JA, which in turn, calls into question the universality of the notion.

Chapter Two

Previous studies on finiteness

The present chapter surveys the morphological, syntactic, and semantic approaches to finiteness in the literature. It highlights the main properties of finiteness along with the theoretical approaches that address them. Research on finiteness in Arabic is scarce. There is no previous in-depth study that explores finiteness in Jordanian Arabic (JA), the language under investigation. The limited number of studies leaves the notion of finiteness with respect to Arabic varieties, e.g. JA, virtually unexplored.

To offer a synopsis of the previous studies on finiteness, this chapter is organized as follows. Section 1 presents some traditional definitions of finiteness that cover a battery of the morphosyntactic properties that correlate with finiteness. Section 2 reviews the literature written on finiteness from morphological, syntactic, and semantic perspectives. This literature review is combined with the theoretical framework within which JA data pertinent to finiteness will be analyzed. Section 3 presents the previous studies on finiteness in other Arabic varieties revisited in light of the literature reviewed and the theoretical framework for the analysis of finiteness in JA in the coming chapters. Section 4 concludes the chapter.

2.1 Traditional notion of finiteness

Finiteness is not precisely defined due to the diversity of linguistic perspectives. The term finiteness harks back to the Latin term *finitus* which means determined or definite by referring to a particular person (Sauter et al. 1968). The Latin definition of finiteness still influences the way it is defined in modern linguistic research. More precisely, finiteness has partly been correlated with Person and Number agreement features. Then, the definition extends to verbs and the defining property of finiteness becomes tense. Hitherto, verbs inflected for tense are defined as

finite. This inflectional-based definition influences the traditional definition of finiteness in the

current linguistic research. In what follows, I cite examples of these definitions.

There are several traditional definitions of finiteness (Huddleston 1988, Hogg 1992, Tarks

1997; Mathews 1997); for example, Tarks (1997: 103) defines finiteness as:

> Denoting a form of a verb or auxiliary which can in principle serve as the only verb
> form in a sentence and which typically carries the maximum in morphological marking for
> such categories as tense and agreement permitted in a language.

Tarks' definition captures the traditional defining properties of finiteness in terms of tense and

agreement inflections on verbs. Tarks pinpoints an additional distributional property of finiteness

which attributes to finite verbs the ability to stand alone in a sentence. This distributional

property dominates other definitions as the one proposed by Matthews (1997: 29) who defines

finiteness as:

> Traditionally, a verb, e.g. in Latin and Greek, inflected for person and number. Now more
> generally of any verb whose form is such that it can stand in a simple declarative
> sentence.

Matthews contends that the defining distributional property of finite verbs is to stand-free in

declarative clauses and inflect for tense and agreement.

Standing alone or being licensed in a declarative clause are two faces of the same coin,

namely, licensed in an independent clause. A clause is commonly considered independent if it

can free-stand as a root clause (1a), a property that dependent clauses lack. Consider the

following examples.

(1) a. John works hard.
    b. *John to work hard.
    c. Mary convinced John to work hard.

In (1a), the clause is independent because it can occur as a root clause. However, (1b) is

ungrammatical because it is a dependent clause. It lacks a finite verb, a verb inflected for tense

and agreement. This clause can only be licensed if attached to an independent clause with a finite verb as illustrated in (1c).

This association between finiteness and licensing sentencehood appears in definitions such as Jespersen's (1924: 87):

> The sentence-building power is found in all those forms which are often called 'finite' Verb forms, but not in such forms as *barking* or *eaten* (participles), nor in infinitives like *to bark, to eat….*

Jespersen claims that a finite verb gives the sentence the power to stand on its own as an independent clause. Such definitions are confusing in the sense that they provide a circular definition of the term in that a finite verb is the one that can be used in independent clauses and the independent clause is the clause that has a finite verb. This circularity weakens the validity of considering the independence of the clause or root clauses as the core criterion for finiteness.

In a nutshell, finiteness is defined in terms of distinctive inflectional and distributional properties. Inflectional properties include tense and agreement features. The distributional property is the ability of verbs to form declarative clauses. Since verbs are the sentence elements which exhibit these features, e.g. tense and agreement, and encode the event, finiteness is traditionally correlated with verbs. Given these assumptions, a clause with a finite verb is defined as a finite clause; a clause that lacks a finite verb is defined as a non-finite clause. Therefore, non-finite forms are defined as lacking the traditional defining properties of finite forms. As an example, Tarks (1997: 103) defines a non-finite form as:

> a label applied to any verb form which does not carry full marking for tense and agreement and which therefore cannot possibly be the only verb form in a sentence.

Nonetheless, the aforementioned properties are not the only correlates of finiteness. There is a further association between finiteness and modality. Modality refers to the speakers' attitude towards the action invoked by the verb such as necessity. Modality can be expressed

morphologically as a mood. The indicative and subjunctive moods are among the most common moods to correlate with finiteness. More precisely, the indicative is concerned with factual and realistic statements (Kearns 2000, Palmer 2001). The subjunctive is associated with hypothetical and counterfactual statements, e.g. wishes (ibid). Below is an illustration.

(2) a. I know you *are* an engineer.
    b. I suggest you *be* an engineer.

The mood in (2a) is indicative; it is subjunctive in (2b). Roughly speaking, the indicative is commonly correlated with finite verbs; the subjunctive is often correlated with non-finite verbs.

Another defining property that is traditionally correlated with finiteness is nominative Case assignment on subjects (Hogg 1992, Cowper 2002). In languages such as English, the subject in finite clauses has a nominative Case. The subject in non-finite clauses lacks this property. This property is originally established in the literature on the syntax of finite clauses in Government and Binding and Minimalism, whereby nominative Case is licensed by the Tense head in tensed clauses (Chomsky 1980, Chomsky 1995, Marantz 1995, among many others). This property will be discussed in detail in Section 2 that addresses the role of finiteness in the syntax.

To recapitulate, finiteness is traditionally defined as a morphosyntactic property of verbs. The main criteria adopted to define finiteness are based on the observed correlation between finiteness and verbal, as well as clausal properties of: tense, agreement, mood, clausehood, and nominative Case of subjects. The extent to which these traditional properties reflect the manifestation of finiteness across languages is the subject of the next section which reviews how finiteness is realized cross-linguistically highlighting the parametric variation in finiteness features.

2.2 Literature review and theoretical accounts of finiteness

The present section surveys the literature written on finiteness at the morphological, syntactic, and semantic approaches. The survey highlights the main properties of finiteness that are addressed in these approaches bringing into light the theoretical framework within which I undertake the analysis of JA data. Besides, the review also underscores the limitations of the previous studies that I intend to control for.

2.2.1 The morphological approach to finiteness

As previously established, the traditional definition of finiteness at the inflectional and distributional levels is inherited from studies of European languages, e.g. Latin. As English is the most studied language, recent research on finiteness shows an adherence to the morphosyntactic properties of finiteness in English. Finite verb phrases in English inflect for tense and agreement. They occur in independent clauses with indicative mood. Additionally, they license nominative subjects. On the other hand, non-finite verbs in English lack all these properties. All in all, these properties have become the criteria of finiteness that scholars exploit in the classification of finiteness in languages other than English. In this section, I show that there is parametric variation across languages in terms of the morphological realization of finiteness, and that the English model does not extend to other languages without modification. The discussion is devoted to the inflectional and distributional realization leaving the nominative Case property to the syntactic section.

First and foremost, the traditional definition of finiteness reflects the morphological perspective in its inflectional and distributional levels. However, it falls short in accounting for the properties of finiteness in some other languages due to two limitations. First, the inflectional realization of finiteness across-languages is inconsistent in that not all non-finite forms across

languages lack tense and agreement inflections. For example, Tamil and Lezgian participles and Kannada participles and gerunds inflect for tense but not for Person and Number agreement (Haspelmath 1993, Sridhar 1990). The European Portuguese infinitives (Raposo 1987), West Welsh infinitives (Tallerman 1998), Brazilian Portuguese infinitives (Da Laz 1998), and Galician infinitives (Longa 1994) inflect for agreement but not for tense. In spite of being strictly inflected as predicted in the inflectional approach, they are all restricted to dependent clauses. These are some examples of the cross-linguistic parametric variation in the inflectional properties of finiteness that necessitates studying finiteness in languages that show differences to the prototypical properties of finiteness.

A further limitation of the morphological approach to finiteness is the potential contradiction between the conclusions from the distributional and inflectional approaches. There are languages such as Russian and Middle Welsh in which infinitival forms lack tense and agreement inflection, but they are licensed in root clauses (Tallerman 1998, Evans 1989). West Greenlandic infinitival forms are marked for tense and agreement, but they occur only in dependent clauses (Fortescue 1984). These are some examples of the potential contradiction in the conclusions drawn from the inflectional and distributional approaches.

In brief, the cross-linguistic variation in the morphological realization of finiteness discussed so far is summarized in Table 1. I adopt Johns and Smallwood's (1999) tabulated presentation of cross-linguistic variation in the morphological realization of finiteness. I assign the value (+) or (-) to indicate the presence or absence of the features at stake. Furthermore, the (+) sign stands for independent clauses; (-) sign stands for dependent clauses.

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Table 1: variation in morph-syntactic realization of finiteness

Tense	Agreement	Independent clauses	Languages
+	-	-	Tamil and Lezgian participles (Haspelmath 1993); Kannada participles and gerunds (Sridher 1990)
-	+	-	European Portuguese infinitives (Raposo 1987); Welsh infinitives (Tallerman 1998); Brazilian Portuguese infinitives (Da Laz 1998), and Galician infinitives (Longa 1994)
+	+	-	West Greenlandic infinitives (Fortescue 1984)
-	-	+	Russian and Middle Welsh infinitives (Tallerman 1998, Evans 1989)

Table 1 explicates that non-finite forms do not strictly match the prototypical properties of finiteness, which are basically English. It illustrates that non-finite forms can share a property with finite forms. For example, Tamil and Lazgian participles exhibit tense inflection like finite forms, but they differ from finite forms in lacking agreement inflection and the ability to stand alone in independent clauses. The same is true for the other cases summarized in the table.

The observation that non-finite forms in languages other than English may exhibit some inflectional or distributional properties characteristic of finite forms reveals that the defining criteria of finiteness in a language are not necessarily applicable to other languages. Therefore, I argue that a research on finiteness has to establish the defining properties of finite forms based on the properties of the language under investigation. The task will be more appropriate because regardless of how much the finite forms in a language match the traditional morphological properties, non-finite forms in any language exhibit a reduced morphological realization compared to finite forms in that language. This observation is robustly attested in natural languages (Noonan 2005, Nikolaeva 2007).

In conclusion, in spite of being robustly attested, the morphological approach to finiteness has some limitations. The traditional morphosyntactic properties of finiteness have actually been motivated by English properties of finiteness overlooking cross-linguistic variation in the

realization of finiteness. For instance, some languages lack inflections, e.g. Chinese or Vietnamese. The same form can be used in all contexts as in the Slave languages; however, they exhibit the finiteness distinction structurally (Huang 1984, Rice 1989, Li 1990, Tang 2000). Furthermore, the traditional accounts of finiteness are almost solely devoted to languages with tense system, e.g. English. They overlook languages which mark aspect instead, but which still show a finiteness distinction. For example, Lango, an aspectual language, exhibits an aspectual realization in finite but not in non-finite clauses (Noonan 2005). All in all, the limitations of the morphological approach to finiteness entail that there needs to be another level of analysis to supplement the morphological approach.

In the same vein, finiteness is commonly associated with verbs. There are clauses that lack verb forms such as copular sentences in Arabic varieties as illustrated in (3) from Standard Arabic (SA), but which are licensed as root clauses.

(3) a-Tariiq-u   Tawiil-un   (= (1) Ryding 2005: 59)
    the-road-NOM   long-NOM
    'The road is long.'

If finiteness is defined as a morphosyntactic property of verbs that license sentencehood, the question is: what licenses copular clauses to stand as independent clauses? Furthermore, if this clause is considered finite, a compelling question is on what basis is finiteness defined in such cases. This is a challenge to the use of verbal clauses as a diagnostic of finiteness.

To conclude this section, the traditional morphosyntactic diagnostics of finite forms include:

1. Exhibiting tense and agreement inflections on verbs,

2. Marked for realis mood, and

3. Licensing an independent clause.

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A non-finite verb lacks these properties altogether. Nonetheless, the quick review of literature presented in this section reveals that the traditional morphological framework suffers from a number of limitations including:

1. Inconsistency in morphological realization in terms of tense and agreement morphology,

2. Contradictions in the results from distributional and inflectional approaches,

3. Independent clauses with a reduced morphological inflection, and

4. Independent clauses that lack verbs.

These challenges reveal the necessity of supplementing the morphological approach to finiteness with other approaches, namely, syntactic and semantic. However, the morphological approach is crucial because the association between finiteness as a category and verbal inflections and clausehood is robustly attested in spite of the observed cross-linguistic variation. Therefore, the first building block of the analysis of finiteness in JA in the present study begins with an inflectional and distributional morphological account taking the aforementioned diagnostics into consideration. The next section reviews the studies on finiteness from a syntactic perspective concluding with the most recent syntactic theoretical framework, which constitutes the basis of the syntactic analysis of the JA data.

2.2.2 The syntactic approach to finiteness

The traditional definition of finiteness influences the theoretical treatment of the notion within generative syntax. Traditionally, finiteness is a morphosyntactic property of verbs, and the syntactic accounts address finiteness in adherence to the assumed isomorphism between syntactic structures and morphological inflections. Therefore, finiteness has an independent projection in the clause structure of the language hosting tense and agreement features and dominating the whole clause. Nonetheless, little has been said about the category itself because

finiteness is basically instantiated in syntax at the outset of an account of some morphosyntactic phenomena including: verb movement, clause structure, subject licensing, and structural case, and the transparency or opacity of the syntactic domain of the clause structure. This section reviews the main theoretical accounts of finiteness within generative syntactic theory focusing on the Minimalist Program (MP) and the empirical and conceptual supports and challenges to these accounts.

The correlation between finiteness and clause structure arises as a result of several empirical observations. One of these observations concerns the different behavior of finite and non-finite verbs. For example, finite and non-finite verbs occupy different positions in the clause structure in some languages. Consequently, syntactic accounts assume verb movement for finite but not nonfinite verbs, where the former but not the latter raises to positions in the clause structure higher than the Verb Phrase (VP), in which both originate such as French finite verbs. These observations motivated the INFL-Split hypothesis proposed by Pollock 1989. I will adopt Pollock's (1989) INFL-Split hypothesis to account for verb movement and clause structure at the inflectional domain in JA. Therefore, I will discuss this hypothesis in details below.

Motivated by the traditional inflectional definition, finiteness is syntactically assigned a clausal head that dominates the rest of the clause. It is named INFL (I), for inflection, which bears tense and agreement features (Steele 1981, Haegeman 1993, 1997; Adger 2007; Chomsky 1980, 1981; Carnie 2007). It has an independent projection within the functional domain hosting tense and agreement features that are spelled-out on the verb. The formal representation in (4) demonstrates this view that dominated the syntactic theories of the late 1970s.

(4)   IP   (= (4) Adger 2007: 26)

                 Subject   IP

                            I   VP

                   Tense   Agreement   Verb   Object
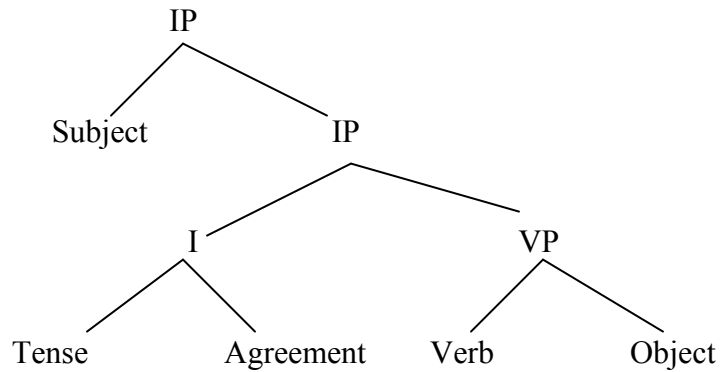
Hence, the notion of finiteness is reduced to the properties of verbs. The assumption was that the verbal tense and agreement inflectional affixes originate under this head. There were two mechanisms by which the verb gets its inflection. The verb either raises to I^o, e.g. finite verbs in French, or I^o lowers to the verb as proposed for English lexical verbs (Chomsky 1981). The latter mechanism is excluded in the theory for reasons out of the scope of this study. Nonetheless, verb movement remains as the mechanism by which finite verbs get their inflection.

As the theory develops, verb raising becomes motivated for checking features on I^o. In a way to account for the parametric cross-linguistic variation in verb movement and word order, the Checking Theory is proposed. In its simplest form, I^o is assumed to have tense and agreement features that vary in strength. The strength of these features determines the movement of the triggered constituent. More precisely, if the feature is strong, the triggered constituent should raise to check these features off. However, if the feature is weak, there is no need for movement. For example, the tense feature on I^o is strong in French finite clauses; hence, the verb raises to check the feature (Pollock 1989, 1997). However, it is weak in non-finite clauses, and so there is no verb movement.

Variation in clause structure with respect to finiteness does not include verbs only. There are other constituents, e.g. adverbs and negatives, which exhibit different order with respect to finite versus non-finite verbs. These are only some examples on the cross-linguistic variation in

word order with respect to finiteness of the clause. Compare the following examples from

English and French.

(5) **English** (6) **French**
a. *I kissed not Mary a. Je n'embrassai pas Marie
b. *I kissed hardly Mary b. J'embrassai a peine Marie
c. *kissed you Mary c. Embrassas-tu Marie?

<div align="right">(= (1-2) Pollock 1997: 237-8)</div>

In finite clauses, the main verb in English cannot precede the negative particle *not* (5a), the

adverb (5b), or the subject in questions (5c). All these are permissible with finite lexical verbs in

French as the grammaticality of (6a-c) demonstrates. To account for these empirical facts

regarding clause structure, Pollock (1989) proposes that INFL or I^{o}, the finiteness head, should

be split into independent functional heads representing its features: tense projects into TP and

agreement into AgrP. The proposed clause structure represented in (7), irrelevant data to the

present discussion are elided.

(7) CP > TP > NegP > … > AgrP > VP

The underlined motivation of this split is to account for parametric variation across languages in

the clause structure and verb movement of verbs from V-to-INFL. For example, French non-

finite verbs pattern with English lexical verbs rather than with French finite verbs regarding their

position with respect to negation and adverbs. Compare the examples in (8) and (9) below.

(8) **English** (= (6) Pollock 1997: 239)
a. *John ownsn't a car.
b. John doesn't own a car.

(9) **French** (= (7) Pollock 1997: 239)
a. *Ne posseder pas voiture en banlieue rend la vie difficile
b. Ne pas posseder de voiture en banlieue rend la vie difficile

Pollock contends that when INFL is [+finite], e.g. in French, verb movement to INFL is

obligatory. Verbs in non-finite clauses never raise to INFL, which is [-finite], because French

<div align="center">22</div>

infinitives exhibit the same behavior as English lexical verbs rather than their French finite

counterpart (8-9). Nonetheless, English lexical verbs do not raise to INFL in either case. In short,

if the INFL is [+finite], verb movement to INFL is obligatory. However, when it is [-finite], there

is no verb movement.

Finiteness has not implemented only in the account of verb movement in languages such as

French and English, but it is also used to account for the Verb Second (V2) phenomenon. The

V2 phenomenon concerns the observation that finite verbs in languages such as German, Dutch,

West Flemish, appear in the second position in root clauses (Haegeman 1997, 1997, Zwart

1997). The finite verb is preceded by the first constituent which can be an object (10a), a wh-

word (10b), or a subject (10c). This phenomenon is interpreted as 'finite verb second'

(Haegeman 1992: 32). If the sentence has an auxiliary followed by a participle, then the auxiliary

appears in the second position, whereas the non-finite verb appears in the sentence final position

as illustrated in (10d).

(10) a. EEN BOEK   kocht   ze   gisteren   (= (76c) Haegeman 1997: 55)
A   BOOK   bought   she   yesterday
'A BOOK, she bought yesterday.'

    b. Wat   heeft   ze   gisteren   gekocht?   (= (76f) Haegeman 1997: 55)
what   has   she   yesterday   bought
'What did she buy yesterday?'

    c. Het   heft   gisteren   de   hele   dag   geregend   (= (76h) Haegeman 1997: 56)
   it   has   yesterday   the   whole   day   rained
'Yesterday, it rained all day.'

    d. Dat boek heeft ze gisteren   voor JAN gekocht   (= (76d) Haegeman 1997: 55)
   this book has   she yesterday   for   Jan   bought
'That book she bought for JAN.'

The constituents that precede the verbs include a focused object (10a), a topicalized object (9d),

and a *wh*-phrase (10b). These all are A'-positions but the constituent can be a subject occupying

the first position as well (10c). Thus, it is not obvious where the finite verb lands in these languages. The most common account is that the verb is base-generated in VP, but it moves to I^o to check tense and agreement features in I^o (Zwart 1997, Haegeman 1997a). Then, it moves higher to the left periphery, in particular, to C^o. The other elements, e.g. topicalized constituents, that appear before the finite verb actually move out of their base positions into the Specifier (Spec) position of the CP.

In short, under the INFL-Split hypothesis, finiteness no longer has an independent functional projection. Instead, its tense and agreement features head their own independent functional projections. The cross-linguistic variation in verb movement and word order are then accounted for in terms of parametric variation in the strength and weakness of the feature specification of these heads. The significance of AgrP lies in accounting for subject agreement and structural case assignment. Its role will be discussed later on in this section.

The other empirical observation which motivates the assumed correlation between finiteness and clause structure concerns the selectional properties of complementizers. Some complementizers select finite clauses only, whereas others select non-finite clauses only such as Italian (Rizzi 1997). Such observations trigger the assumption that finiteness plays a role in the syntax of the clause structure of languages. I will adopt Rizzi's (1997) CP-Split hypothesis to account for the clause structure at the left periphery in JA. I will also explore whether the independent projection of finiteness as proposed by Rizzi can be supported for languages such as JA.

In the late 1990s, finiteness was assumed to have an independent functional projection in the left periphery, i.e. the CP domain, rather than the IP domain (Rizzi and Roberts 1989, Culicover 1992, Rizzi 1997, Heageman 1997). This assumption is inspired by the selectional

properties of complementizers. For example, the English complementizer *that* selects finite

clauses, whereas *for* introduces non-finite clauses (11).

(11) a. I decided that he should go.
b. I decided for him to go.

Such cases where different complementizers select clauses with different finiteness specification

have led to the assumption that finiteness belongs to the Complementizer Phrase (CP) domain

rather than the Inflectional (IP) domain (Chomsky and Lasnik 1977, Holmberg and Platzack

1995, Rizzi 1997; Adger 2003). In order to account for such cases, Rizzi (1997) proposed a CP-

Split hypothesis by which finiteness has an independent projection in the CP domain whose

finiteness specification requires the IP to be with a matching tense and agreement specification.

For example, the FinP which hosts a [+finite] feature requires the IP to be positively specified for

tense and agreement. This explains how the complementizer by being in the CP domain selects

either finite or non-finite IP.

In Rizzi's model, the CP domain or the clause structure at the left periphery consists of

several projections. The articulated clause structure of the left periphery is formally represented

below.

(12)   ForceP   (= (41) Rizzi 1997: 297)

            Force'

    Force^o TopP*

                Top'

           Top^o FocP

                      Foc'

                  Foc   TopP*

                            Top'

                      Top^o FinP

                                Fin'

                              Fin^o IP
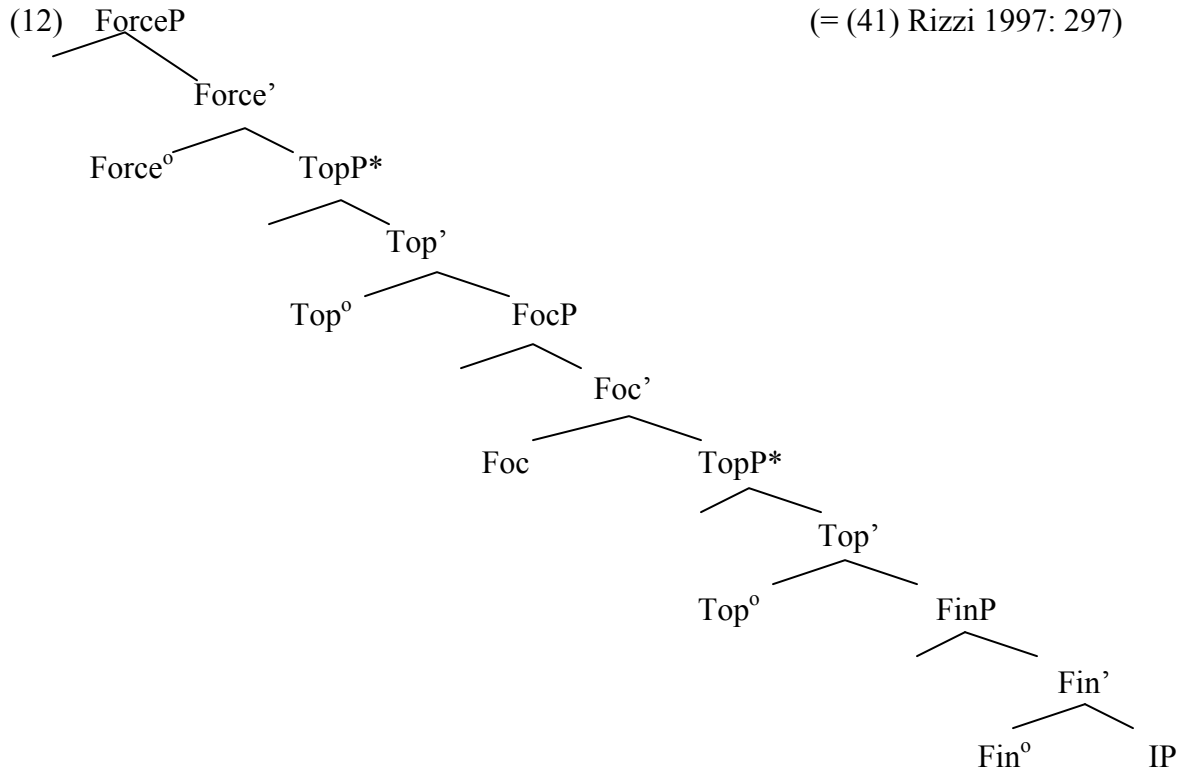
In this model, the uppermost projection is the Force Phrase (ForceP), which determines the illocutionary force or mood of the whole clause, e.g. indicative, interrogative. The lowest projection is the Finiteness Phrase (FinP), which selects an IP. In this model, the ForceP and FinP are the core positions that surround the Focus Phrase (FocP) and Topic Phrases (TopPs), which project only when needed to host focused and topicalized elements.

In his investigation of some Italian data, Rizzi (1997) observed that there are two complementizers: *che* and *di*. The former selects finite clauses and the latter selects non-finite clauses. Examples (13-14) are illustrative.

(13) a. Credo   **che** *il tuo libro,* loro lo apprezzerebbero molto (=(10) Rizzi 1997: 288)
      'I believe that your book, they would appreciate it a lot.'

    b. *Credo   *il tuo libro,* **che** loro lo apprezzerebbero   molto
      'I believe that your book, they would appreciate it a lot.'

(14) a. * Credo **di** *il tuo libro,* apprezzarlo   molto   (= (11) Rizzi 1997: 288)
      'I believe 'of' your book to appreciate it a lot.'

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b. Credo,   *il tuo libro,* **di** apprezzarlo   molto
         'I believe that, your book, 'of' to appreciate it a lot.'

Furthermore, they occupy different positions relative to other constituents in the left periphery.

The complementizer *che* can be followed by the topicalized constituent as the grammaticality of

(13a) shows compared to the ungrammaticality of (13b). On the contrary, the complementizer *di*

cannot precede a topicalized constituent as the ungrammaticality of (14a) demonstrates in

contrast to the grammaticality of (14b). The distribution illustrated in the data set (13-14)

motivated the assumption that CP is not atomic. It must be split into independent projections in

order to host the elements in the left periphery. Consequently, Rizzi claim that *che* is in Force^o

and the topicalized constituent is in Top, whereas *di* is in Fin^o that projects lower than TopP in

the clause structure.

        Rizzi assumes that finiteness has an independent projection in the left periphery of the

clause structure from which it agrees with the IP in the features which are primarily the

correlates of finiteness, e.g. tense and agreement. The head Fin^o encodes the clause as finite or

non-finite. Rizzi proposes that this head has an interpretable feature [finite: $\pm$] and its

specification of tense and agreement are rudimentary compared to the IP domain. The feature

composite proposed for finiteness is derived from two sources. First, any independent projection

is legitimate in the syntax if it has an interpretable feature. Second, tense and agreement features

that Fin^o head has reflect the traditional definition of finiteness as well as the empirical

observations which reveal that complementizers in some languages are inflected for tense or

agreement. For example, the complementizer in Irish can be inflected for tense as Cottell (1995)

pinpoints. Below is an illustration.

(15) a. Deir   se   go   dtogfaidh   se   an   peann

        say.PRS   he   that   take.FUT   he   the   pen

        'He says that he will take the pen.'

    b. Deir   se   gur   thog   se   an   peann

        say.PRS   he   that.PST   take.PST   he   then   pen

        'He says that he took the pen.'

The verb in the embedded clauses is inflected for future in (15a), but for past in (15b), and the

complementizer is marked for non-past and past, respectively.

Additionally, there are languages that allow the complementizer to carry agreement

inflections specified for phi-features as in West Flemish (Bayer 1983, Haegeman 1992).

Example (16) is illustrative.

(16) a. kpeinzen   dan-**k**   (ik)   morgen   goan   (= (9) Haegeman 1992: 49)

        I-think   that-1sg (I)   tomorrow   go

        'I think that I'll go tomorrow.'

    b. kpeinzen   dan-**j**   (gie)   morgen   goan

        I-think   that-2sg (you)   tomorrow go

        'I think that you'll go tomorrow.'

    c. kpeinzen   dan-**se**   (zie)   morgen   goan

        I-think   that-3sg (she)   tomorrow   go

        'I think that I'll go tomorrow.'

    d. kpeinzen   dan-**ze**   (zunder)   morgen   goan

        I-think   that-3pl (they)   tomorrow go

        'I think that I'll go tomorrow.'

These data motivate the assumption that Fin^o can bear some I^o features that can be doubled on

the complementizer in Haegeman's (2004) terms.

These observations motivate some accounts of the feature composite of the Fin^o. The

formal representation in (17) below demonstrates the proposed uninterpretable and interpretable

features on Fin^o.

(17) Fin [T: ; Agr: ; Finite: +]   (= (36) Adger 2007: 36)

Some scholars adopt the Agree-based approach to account for feature valuation (Adger 2007). For instance, when Fin^o Merges with IP, it gets its features valued under Agree with features in I^o giving the duplication of inflection in some languages (Agree-based approach will be discussed in details at the end of this section). The features on Fin^o have to match those on the head I^o (Pesetsky and Torrego 2001, Adger 2007, Haegeman 2004).

Rizzi's model has some conceptual and empirical problems. The first conceptual problem concerns the semantic interpretation of the FinP. This is conceptually essential due to the latest ramifications of the MP that only projections with semantically interpretable features are licensed in the syntax (Chomsky 1995, 2000, 2001; Adger 2003). Projections with solely uninterpretable features are excluded, e.g. Agr projections (Chomsky 1995, 2000, Marantz 1995). In the current syntactic theory, Fin^o has the interpretable feature [finite: $\pm$] (Rizzi 1997). Nonetheless, the content of this feature is undefined. Therefore, it is necessary to establish the semantic interpretation of finiteness prior to assuming it an independent projection in the clause structure of a language. This makes it necessary to implement a semantic account of a study on finiteness.

Another syntactic problem for Rizzi's (1997) model is how the articulated clause structure applies to verb movement in Verb Second (V2) languages (Haegeman 1997). The issue is that only one constituent appears before the finite verb, having more than one constituent results in ill-formedness as demonstrated in (18) from Dutch.

(18) *Gisteren   Jan   kocht   dat   boek   (= (56) Haegeman 1992: 32)
      yesterday   John   bought   that   book

The V2 phenomenon constitutes a challenge to the fine-grained articulated left periphery clause structure proposed by Rizzi (1997) because it is not obvious where the finite verb lands in these languages.

Another challenge to the syntactic accounts in general is that they address finiteness only in clauses with verbal predicates; they do not account for other types of predications, e.g. small clauses or copular clauses. For instance, JA allows copular clauses that lack an overt verbal copula (19).

(19) a. il-beit   nathiif
   the-house   clean
   'The house is clean.'

 b. b-a-9rif   innu   il-beit   nathiif
   realis-1-know.sg   that   the-house   clean
   'I know that the house is clean.'

Even though the copular clauses above lack an overt verbal copula, they are licensed in root clauses (19a) and complement clauses (19b). This empirical dataset suggests a number of questions that will be addressed in the present study: what is the relation between copular clauses which lack an overt verbal copula and finiteness? What implications do such clauses pose for finiteness?

To recapitulate, the theoretical treatment of finiteness in the syntactic theory is influenced by the definition of finiteness as a clausal property whose inflectional features, tense and agreement, are spelled-out on the verbs. Finiteness is assumed a clausal status, and it heads its own independent projection in the left periphery as a FinP which dominates the clause through tense and agreement features hosted under the TP in the functional domain. This review of literature reveals that the role finiteness plays in the syntax of clause structure in a language is seen through the correlated features. In what follows, I discuss the syntactic accounts of another association between finiteness and subject licensing as well as structural case on subjects. The discussion demonstrates that these two morphosyntactic properties are actually accounted for through the agreement feature associated with finiteness.

The need for finiteness in accounting for subject licensing, i.e. the subject type licensed in the clause, goes back to the Case Filter and Visibility Condition in GB by which every overt Noun Phrase (NP) has to have a structural Case to be visible to receive a theta-role (Chomsky 1981, 1986). At a first approximation, the theory implements finiteness to explain why overt NPs are licensed in finite clauses and a subset of non-finite clauses such as Raising and ECM contexts, but only null subjects are licensed in control infinitival clauses. The licensing of different types of subjects is associated with the structural Case these subjects are assigned. I will briefly survey the commonly proposed accounts for subjects in finite clauses followed by the proposals of the subjects in non-finite clauses.

Subjects in finite clauses are assigned nominative Case. This applies to overt subjects in non-Null subject languages and *pro* in Null subject languages. Nominative Case is assigned under a Spec-Head relation with a finite INFL head in main and complement clauses. Finite INFL is considered a nominative Case assigner because it has positive values of tense and agreement features (Chomsky 1980, Haegeman 1994, Carnie 2007). All in all, if INFL is positively specified for tense and agreement features, i.e. [T:+; Agr:+], the subject is assigned nominative case under Spec-Head configuration with finite INFL.

The subject licensed in non-finite clauses varies according to whether it has a structural Case or not. For instance, only overt subjects are allowed in a number of non-finite clauses including Raising constructions, ECM or Raising-to-Object, and *for* constructions because they are assigned structural Case by different mechanisms. The subject in the Raising constructions is assigned nominative Case under Spec-Head relation with the finite INFL of the matrix clause as the subject raises there. However, the subject in the remaining constructions is assigned accusative Case by the matrix verb in ECM or Raising-to-Object constructions and by the

prepositional complementizer *for* in *for* constructions. On the other hand, only a null subject is licensed in control constructions because the assumption within GB was that the subject is Caseless and hence it cannot be overt. Example (20) is illustrative.

(20) a. John tried *he/ PRO to leave.   ***Control***
      b. John$_i$ seems t$_i$/ *PRO to be sick.   ***Raising***
      c. John believes him/ *PRO to leave.   ***ECM***
      d. It is difficult for him/ *PRO to leave.   ***For-construction***

Nonetheless, the Caseless account of control constructions was challenged by the visibility condition whereby the argument must have a Case to be visible for theta-role assignment. Hence, the assumption is reformulated to argue that PRO is assigned a null Case that is peculiar to subjects in control constructions (Chomsky and Lasnik 1977). PRO is not allowed in the other constructions as demonstrated in (19b-d). Only overt DPs are allowed because they are assigned structural Case as illustrated in the example.

The difference in subject licensing and structural Case properties between finite and non-finite clauses is accounted for syntactically through the values of tense and agreement features of INFL. These features are positively assigned in finite clauses, i.e. [T: +; Agr: +], but they are negatively specified in non-finite clauses, i.e. [T:-; Agr:-]. As a result, the former head is nominative-Case assigner, whereas the latter lacks the ability to license nominative Case. Example (21) illustrates this property in English.

(21) a. He likes to travel.
      b. I would like *he/ him to travel.

The subject bears nominative Case in finite clauses as the grammaticality of (21a) demonstrates. In contrast, the nominative Case on the subject of a non-finite clause renders the clause ungrammatical as shown in (21b).

However, if the feature specification of INFL is the same in all non-finite clauses, why is there variation in subject type licensing and structural Case assignment across these clauses? This question is answered in the syntactic literature by assuming that non-finite clauses do not have uniform internal clause structures. More precisely, a control construction is a full CP and not a TP. This explains why subject raising is not allowed for the sake of Case assignment because A-movement is not allowed out of a CP. The Improper Movement constraint bans A-movement out of a CP because if the clause is a CP, the subject will then cross two nodes, i.e. the TP and CP (Rizzi 1990, Chomsky 1995, 2000, 2001, Marantz 1995, Boskovic 1997, Adger 2003). Additionally, the T^o in control constructions is tensed, i.e. [tense: +] as proposed by Stowell (1982) who argue that English control constructions have an unrealized modal future tense. Nonetheless, this head is capable only of assigning null Case. This is the standard account of control.

On the other hand, Raising is a TP with a defective T^o head in the sense that it is negatively specified for tense and agreement [tense:-, agr:-]. Therefore, it lacks the ability to assign Case; hence, the subject must raise to a higher position to receive Case (ibid). This is the only structural Case available because Raising predicates do not assign accusative Case. Nonetheless, if it is a TP, subject movement occurs with no violations of constraints such as the Improper Movement Constraint cited earlier. The same logic applies to the Raising-to-Object or ECM and *for*-constructions. They are TPs rather than CPs (Watanabe 1993, Chomsky 1995, 2000, 2001, Marantz 1995, Boskovic 1997, Adger 2003). The only difference is that the subject is assigned accusative Case by the verb or the preposition. As an illustration, consider the formal bracketed representation of these constructions.

(22) a. [$_{IP}$ John tried [$_{CP}$ PRO [$_I$ to leave]]]   ***Control***
b. It seems [$_{IP}$John/ * [$_I$to be sick]   ***Raising***

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c. [$_{IP}$ John believes him$_i$ [$_{IP}$ t_i to [$_{VP}$ t_i be poor]]]   ***ECM***
d. [$_{IP}$ It is difficult [$_{CP}$ for him$_i$ [$_{IP}$ t_i to leave]]]]]   ***for-construction***

In short, finite clauses in English license the subject with nominative case, whereas non-finite clauses lack this ability. However, this account is challenged on empirical grounds as there are languages that allow nominative subjects in non-finite clauses. For example, the subjects in inflected infinitival clauses in West Flemish (Haegeman 1986, 1992, 1997), inflected infinitival clauses in European Portuguese (Raposo 1987), and inflected gerunds in Turkish (George and Kornfilt 1981) bear nominative Case as demonstrated in (23-25), respectively.

(23) a. mee   ik   da   te   zeggen   hee-se   dat   hus   gekocht
         with   I   that   to   say   has-she   that   house   bought
      'Because of my saying that she has bought that house.'

   b. *mee   myn   da   te   zeggen   hee-se   dat   hus   gekocht
          with   me   that   to   say   has-she   that   house   bought
       'Because of me saying that she has bought that house.'
                                                                 (West Flemish; Haegeman 1986: 125)

(24) a. Sera   dificil   [else   aprovar*em*   a   proposta].
         'It will be difficult they to-approve-Agr(3pl) the proposal.'

   b. *Se-*los*-a   dificil   [e   aprovar*em*   a   proposta].
        'It will-clitic3pl-Future difficult to-approve-Agr(3pl) the proposal.'

   c. *Sera   dificil   [*contigo*   aprovar*es*   a   proposta].
        'It will be difficult you(Obl) to-approve-Agr(2sg) the proposal.'
                                                          (European Portuguese; Raposo 1987:86-7)

(25) [ayak-lar-imiz-i   masa-ya   koy-*ma*-miz]-0   anne-miz-i   uz-du
      foot-pl-1pl-Acc   table-Dat   put-GER-1pl-NOM   mother-1pl-Acc   sadden-Past
      'That we put our feet on the table saddened our mother.'
                                                          (Turkish; George and Kornfilt 1981: 109)

The non-finite forms in the datasets in (23-25) inflect for agreement, but they lack tense. Hence, the features of INFL can be specified as: [T:- ; Agr:+]. The subject bears nominative Case (Haegeman 1986, 1992, 1997, Raposo 1987, George and Kornfilt 1981). This is not predicted by the previous proposed syntactic accounts which require nominative Case to be assigned to

subjects with a tensed INFL. These empirical facts necessitated further developments in the theory.

These empirical data support the Split-INFL hypothesis proposed by Pollock (1989) and developed by Chomsky (1992) who proposes a further split in AgrPs as configured in the following fashion:

(26) CP > AgrsP > TP > AgroP > VP

The order Chomsky suggested is motivated by the theoretical assumption that nominative Case is licensed under Spec-Head configuration with AgrsP, which must be the top of the functional domain (Chomsky 1989, 1991, Pollock 1997). The ability of assigning nominative Case is devoted to the property of Agr and not T (Borer 1989, Chomsky 1995, Marantz 1995, Adger 2003). This argument is emphasized within the recent Agree-based approach in that the Agr heads bear uninterpretable phi-features. It Agrees with a matching DP that has an interpretable valued Case feature. Under the Agree relation, the Agr heads and the matching DPs have their uninterpretable features valued and deleted. This is represented in (27).

(27) Agr [agr: , case:nom] …….. DP [agr:3pl, case:]   (= (37) Adger 2007: 37)
        Agr [agr: 3pl, case: nom] …… DP [agr:3pl, case: nom]

The standard account of the subject type licensed in control non-finite clauses is null and its structural Case is null as well. This account is challenged by empirical data from languages with Case concord wherein quantifiers, adjectives, and modifiers agree in Case with the local subject. As an illustration, consider the following examples from Icelandic (Sigurthsson 1996), Russian (Neidle 1988, Bailyn 1995, Babby 1998, Moore and Perlmutter 2000), Hungarian (Toth 2000), and Greek (Philippaki-Warburton and Catsimali 1999). The examples below are cited in Landau (2004: 864).

(28) a. Strakarnir   vonast til   [ath   PRO   vanta   ekki   alla
      the boys.NOM   hope   [*for*   PRO.ACC   to-lack   not   all.ACC

      i   skolann
      in   the-school
      'The boys hope not to be all absent from school.'

                                          (Icelandic: Sigurthsson 1996)

      b. My   poprosili   Ivana   [PRO   pojti   odnomu]
       we.NOM   asked   Ivan.ACC   PRO.DAT   to-go   alone.DAT
       'We asked Ivan to go alone.'

                                        (Russian: Franks and Hornstein 1992)

      c. Illetlenseg   volt   Mari-tol   [PRO   ilyen   turelmetlen-nek   lennie]
       impoliteness   was   Mary.ABL   PRO.DAT   so   impatient.DAT   to-be.3sg
       'It was impolite of Mary to be so impatient.'

                                        (Hungarian: Toth 2000)

      d. Anangasan   tin   Eleni   [PRO   na   milisi   afti   i   idhja]
       forced.3pl   the   Eleni.ACC   PRO.NOM   PRT   speak.3sg   she   herself.NOM
       'They forced Helen to speak herself.'

                        (Greek: Philippaki-Warburton and Catsimali 1999)

The importance of these examples rests upon the recent proposals that PRO in these languages seems to bear Case that is not the proposed null case. For example, the case of PRO is quirky in Icelandic in concord with the floating quantifier *alla* 'all' in (28a). It is accusative in Russian and Dative in Hungarian on a par with the secondary predicates (28b-c), respectively. It is nominative in Greek in agreement with the reflexive (28d). Therefore, the standard assumption that PRO is only assigned null Case which is only assigned by the head T^o in control infinitival clauses is strongly challenged by data from languages that show Case concord.

Furthermore, finiteness is syntactically significant for explaining why some embedded clauses are transparent or opaque in some syntactic operations. A more concrete example comes from the distribution of referential elements, e.g. anaphors. Anaphors are licensed only if they have local antecedents within their binding domains (Chomsky 1980). The binding domain is basically determined in terms of the finiteness of the clause. Specifically, finite clauses are

binding domains; non-finite clauses are not. Therefore, anaphors in non-finite clauses can be

bound by the next available antecedent in the matrix clause as demonstrated below.

(29) a. She$_i$ washes herself$_i$.
    b. He knows that she$_i$ washes herself$_i$.
    c. *She$_i$ knows that he$_j$ washes herself$_i$.
    d. She$_i$ wants to wash herself$_i$.

In (29b), the complement clause *she washes herself* is a finite clause. Thus, the anaphor *herself*

cannot be bound outside the clause as demonstrated by the grammaticality of (29b) compared to

the ungrammaticality of (29c) in which the anaphor is coindexed with an antecedent is in the

matrix clause. Conversely, this is allowed in non-finite clauses as the grammaticality of (29d)

demonstrates. The opacity of clauses becomes associated with whether the phrase is a strong

phase or not in the Phase-theory to be addressed next.

The discussion so far highlights the three major morphosyntactic properties that have been

associated with finiteness in generative syntax. These properties include clause structure and

verb movement, subject type licensing and structural Case assignment, and the syntactic

transparency or opacity of the clause. As for the first property, I will adopt the Rizzi's (1997)

peripheral clause structure hypothesis and Pollock's (1989) INFL hypothesis to account for the

clause structure and verb movement of complement clauses in JA. The next section presents the

relevant theoretical framework to be used in accounting for the other properties in JA. I adopt the

most recent framework within the syntactic theory including the Agree-based and Phase-based

approaches.

2.2.2.1 Theoretical framework: Agree-based and Phase-based approaches

The main assumption in the recent accounts of MP is that the language faculty consists of a

lexicon and a computational system (C_{HL}). The lexicon represents the inventory of all the lexical

items along with their linguistic properties in the language. The C_{HL} is a recursive system that

operates on items numerated from the lexicon to construct structures empowered by sounds and meanings to submit to the Phonetic Form (PF) and Logical Form (LF) interface. The constructs should meet the Full Interpretation condition at the interfaces. Full Interpretation Condition requires that there be no superfluous representations or operations in the course of syntactic derivations (Chomsky 1995). As a corollary, the derivation that meets this condition converges at the interface; otherwise, it crashes.

The C_{HL} proceeds through the primitive operation Merge that takes two objects α and β and form a new object K. A rough sketch of this operation is represented in (30).

(30) α , β ———Merge———➔   K
                              /\
                            α   β
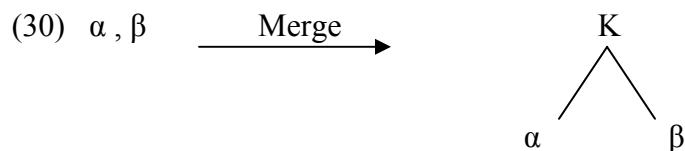
The morphosyntactic properties are at the heart of the syntactic theories. Features with semantic interpretation are interpretable, e.g. phi-features on nominal predicates; features that lack semantic interpretation are uninterpretable, e.g. phi-features on T. The presence of the uninterpretable features is problematic because if undeleted, they violate the Full Interpretation Principle. Therefore, uninterpretable features have to be licensed and checked, i.e. deleted in the course of the syntactic derivations. This can be achieved via a Spec-Head configuration or an Agree relation. In the recent ramifications of the MP, the Spec-Head relation is no longer a necessary condition for feature checking because this can be achieved in-situ via the Agree operation.

The Agree operation establishes a relationship between an element with uninterpretable feature, referred to as a Probe (P), and another element with a matching interpretable feature, known as a Goal (G), in the c-commanding domain of the Probe. P is a set of uninterpretable features on functional heads, e.g. T^o or Agr^o, which mainly serve for grammatical functions

(ibid). Interpretable features are on substantive categories, e.g. nouns, verbs, adjectives, which have idiosyncratic content (Chomsky 2000, 2001). There are three main functional categories referred to as the Core Functional Categories (CFCs) including C^o, T^o, and v^*. Every CFC has a phi-set of features which are obligatory for T and transitive v^*P. These phi-features serve as the P that searches for a matching G, i.e. a set of features, that match those of the P in identity, but it also has an uninterpretable feature that needs to be erased.

Agree relation only holds under three conditions. First, both P and G must be active. Activity refers to having an uninterpretable feature that has to be deleted for the derivation to converge. For example, the phi-set on T^o is uninterpretable making it an active P and the structural Case on DPs is uninterpretable making them active Gs. Secondly, the P and G must match in identity, namely, the choice of features regardless of the value. For instance, phi-features are uninterpretable on P, but they are interpretable on G. Third, the G has to be in the c-commanding domain of the P, i.e. the closest clause. Thus, Agree obtains between the P and the G only if the latter obeys the locality constraint of being within the closest c-commanding domain. Therefore, for matching to hold, the Gs must be local and active. Structural Case is not a probing feature, it is valued under Matching with a G with interpretable phi-features. In other words, it is a reflex of agreement (George and Kornfilt 1981, Chomsky 2000, 2001). Nominative Case is assigned under Agree with T^o and accusative Case is assigned under Agree with v^*.

The third operation that the C_{HL} involves is Move. Under the Agree-based approach, the Move operation is triggered only by the need to satisfy the Extended Projection Principle (EPP) feature. EPP is an uninterpretable feature, but it differs from phi-features in that it does not delete by valuation. It is rather licensed by means of Merging an element in the specifier of the head that bears the EPP feature. Chomsky (2001: 102) argues that '(e)ach CFC also allows an extra

Spec beyond its s-selection: for C, a raised *wh*-phrase; for T, the surface subject; for *v,* the phrase raised by object shift (OS)'. Thus, Move is dissociated from Case and agreement licensing as it is derived by the satisfaction of EPP features. The dissociation is important because it explains how subjects in the VSO order get nominative Case without the need to be in a Spec-Head relation with the TP.

The Agree relation between Ps and Gs has to be local and the search has to be minimal. The underlying motivation of this proposal is that language faculty stores only a limited structure in its active memory. Based on these assumptions, Chomsky (1999, 2000, 2001) proposes that syntactic structures proceed in phases. These phases are propositional in nature. Hence, a CP and transitive *v**P are considered phases because the former constitutes a complete illocutionary complex and the latter forms a complete argument structure complex. Structures proceed in phases in the sense that once the derivation is completed, it is transferred to the Phonetic and Logical interfaces to get forms and interpretations. The accessibility of a constituent within the phase for further syntactic operations is regulated by the Phase Impenetrability Condition (PIC) as stated below from Chomsky (2000: 108).

(31) In a phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.

This entails that any constituent with a TP in a CP phase is not accessible for further syntactic operations once it is transferred to the interfaces.

The treatment of finiteness in this framework is influenced by the traditional notion of finiteness as a morphosyntactic property of verbs. Finiteness is assumed to be a clausal property with an interpretable [finite: ±] feature which is undefined. In essence, finiteness is addressed within generative syntax in order to account for a number of syntactic phenomena including:

1. Clause structure and verb movement,

2. Subject licensing and nominative Case assignment, and

3. Syntactic opacity or transparency.

The standard accounts of these properties are influenced by English language properties. They are challenged by cross-linguistic empirical data. Nonetheless, as the present study aims at exploring the question of what role finiteness plays in the syntax of JA in order to answer the question of whether an independent projection of finiteness in the clause structure of JA as proposed by Rizzi (1997) is supported or not. All the above mentioned properties are investigated with respect to different types of complement clauses. As will be demonstrated later in this study, the MP theoretical framework will be of practical use in accounting for the JA data regarding finiteness taking the above mentioned properties into consideration. Nonetheless, any claim of the presence of an independent projection of finiteness in the clause structure needs to be motivated by a semantic analysis of the interpretation of this feature. This necessitates the inclusion of a semantic analysis of the content of finiteness in JA. Hence, the next section will shed light on the most common semantic considerations in this regard.

2.2.3 The semantic approach to finiteness

The traditional definition of finiteness as a morphosyntactic property of verbs influences the research on the semantics of finiteness. The semantic interpretation of finiteness is defined in terms of the temporal (in)dependence of the clause. A finite clause has an independent temporal reference; a non-finite clause has a dependent temporal reference. The (in)dependence of temporal reference is conflated with tense morphology in the sense that finite verbs morphologically encode tense, whereas non-finite forms do not inflect for tense (Cowper 2002, Klein 1994, Hornstein 1990, Bianchi 2000, 2001, Eide 2007, 2009). To anticipate the results, JA is a tenseless language. Verbs morphologically inflect for aspect and not tense. Tense is

established in the context. This necessitates distinguishing between tense and aspect before

exploring what potential semantic interpretation can be associated with finiteness in JA.

Roughly speaking, tense has a semantic and syntactic categorical status. As a semantic

category, Tense views the event from an external perspective locating it relative to a time in the

past, present, or future. On the other hand, the syntactic category of tense represents the

grammaticalization of tense in the form of a morpheme on the verb or an auxiliary (Reichenbach

1947, Comrie 1976, 1985, Lyons 1977, Levinson 1983, Dahl 1985, Klein 1994, Smith 1997).

Tense is investigated in terms of ordering temporal relations (ibid). Events are represented on a

timeline as points or intervals where the time of the event or situation is located in relation to a

reference time. Reichenbach (1947) developed a model of tense in which the temporal ordering

is achieved between three points on a timeline identified as Speech Time (S), Reference Time

(R), and the Event Time (E). Speech Time is the time of the utterance and the Event Time is the

time at which the target event occurs. Reference Time is crucial because it represents the

orientation point or the standpoint from which the temporal perspective of the sentence is

established (Reichenbach 1947, Comrie 1976, 1985, Lyons 1977, Levinson 1983, Dahl 1985,

Klein 1994, Smith 1997).

Absolute tense encodes the temporal relation between the Event Time and the Speech

Time by means of tense marker in the clause. I will illustrate Reichenbach's (1947) model using

sentences from English. (For more details, see Chapter 5.)

(32) a. John slept.
    b. John had slept.

Speech Time is the time of utterance, i.e. the present. In (32a), the Reference Time is located

anterior to the Speech Time, and so the sentence is viewed as past. The Event Time is

simultaneous to the Reference Time. In (32b), the Reference Time is anterior to the Speech Time

and the Event Time is anterior to the Reference Time, and so the temporal reference is past-of-the-past. This can be represented on the timeline as in (33).

(33) Temporal relations of the sentences in (32)
   a. ………. ET = RT ………….ST
   b. ………..ET………..RT…….ST

On the other hand, Relative tense encodes the temporal relation between the Event Time and Reference Time established in another clause and not by the tense marker (Comrie 1985, Lyons 1977, Levinson 1983, Dahl 1985, Smith 1997). In English, for example, non-finite verbs encode Relative rather than Absolute tense. As an illustration, consider the following example. (See Chapter 5 for more details.)

(34) When walking in the garden, I met Mary.

The Reference Time of the matrix clause is located anterior to the Speech Time, and the Event Time in the subordinate clause is located as simultaneous to the Reference Time of the matrix clause rather than to the Speech Time.

Finite forms are identified with tense. This widespread assumption of finiteness as encoding tense stems from the consideration of finiteness as a property of root clauses. More precisely, finite clauses are licensed as root clauses because they have independent temporal reference. This assumption is over-generalized to encompass the different distribution of finite clauses, e.g. embedded complement clauses. On the contrary, non-finite clauses cannot occur as root clauses because they lack independent temporal reference. The (in)dependence of temporal reference is defined in terms of Absolute-Relative tense distinction (Cowper 2002, Eide 2007, 2009). Accordingly, finite forms encode Absolute tense, whereas non-finite forms encode Relative tense. Below is an illustration.

(35) a. Ann claimed that her mother is in London.   (= (25) Cowper 2002: 27)
   b. The children thought that their teacher was mean.

Cowper (2002) argues that the Event Time of the embedded clause in (35a) holds at the time of Anna's making claim and the moment of speech as well. On the other hand, she claims that the Event Time in the matrix and embedded clauses are located anterior to the moment of speech. As far as non-finite clauses are concerned, Cowper argues that the temporal reference of the embedded clause is located relative to the Reference Time of the matrix clause or by a temporal adverb in the embedded clause itself, and not directly to the Speech Time. Consider the following example.

(36) a. We decided to cut the grass.   (= (26) Cowper 2002: 28)
        b. We decided on Tuesday to cut the grass the following/ *previous day.

She argues that the Event Time in the matrix clause is located as anterior to the Speech Time. The Event Time in the infinitival clause is located with respect to the Event Time of the matrix clause and not directly to the Speech Time. (For more examples see Haegeman 1986, Langacker 1987, Gretsch and Perdue 2007, Adger 2007, Eide 2007, 2009, Bianchi 2000, 2001.)

In the same vein, some researchers argue that the temporal reference points of finite clauses differ from those of non-finite clauses. For example, Hornstein (1990) argues that matrix clauses have three temporal points: S, R, and E. Embedded finite clauses have also the three times: S, R, and E. However, the embedded infinitival clauses lack the S time.

Hornstein (1990) hypothesizes that finite clauses always have a Speech Time. There are two possible options to achieve temporal reference and interpretation in finite embedded clauses. First, the S of the embedded clause is anchored to the E of the matrix clause. Second, the S of the embedded clause is given a default interpretation by mapping it to the time of the utterance.

(37) a. John said that Harry was leaving tomorrow.   (= (7) Hornstein 1990: 122)
        b. *Harry was leaving tomorrow.
        c. Harry is leaving tomorrow.

Hornstein argues that the future adverb *tomorrow* is incompatible with verbs in the past tense form as the illformedness of (37b) illustrates. Being acceptable in (37a) suggests that the underlying tense interpretation of the finite embedded clause is present or future as corroborated in (37c). The past tense inflection on the verb in the finite embedded clause is a morphological reflection of a shifted temporal interpretation. By the shifted temporal interpretation, he means that the S of the embedded clause is shifted from being anchored to the time of utterance to the E of the matrix clause.

The other option is the assignment of the default interpretation to the S of the finite embedded clause as being anchored to the time of the utterance. Consider Example (38) below.

(38) John heard that Mary is pregnant.   (= (14) Hornstein 1990: 127)

Hornstein argues that the present tense morphology, which the verb in the finite embedded clause carries, indicates that the shifting in temporal anchorage does not take place. Nonetheless, the clause has to be assigned temporal location. In this case, the S receives the default interpretation, and so it is mapped onto the time of utterance. Thus, Mary's pregnancy is simultaneous to the time of utterance.

Hornstein contends that finite clauses always have S time and it can anchor to the time of utterance regardless of how deeply it is embedded. Consider Example (39).

(39) a. John said that Harry believed that Frank will be here.   (= (33) Hornstein 1990: 137)
     b. John said that Harry believes that Frank will be here.

Frank's arrival has not occurred yet with respect to the time of utterance and the event time of the matrix clause. In (39a) and (39b), the second embedded finite clause is anchored to the time of utterance as manifested on the morphology of the verb which surfaces in the form of the simple present tense.

On the other hand, infinitival clauses have two properties. First, they appear only in a sub-set of embedded clauses but never as 'free-standing' matrix clauses. Second, the temporal reference and interpretation of the infinitival embedded clauses is always dependent on that of the matrix clause. Infinitival clauses never have an independent time reference. Hornstein claims that these two properties can be accounted for by assuming that the infinitival clauses have only R and E times. They lack S time. Hence, the temporal reference and interpretation of the embedded infinitival clauses are achieved by obligatorily locating the R of the embedded clause to the E of the matrix clause. He proposes that the lack of S explains why these clauses cannot occur as free-standing root clauses because they will not receive any temporal reference or anchorage whether default or relative. He illustrates his standpoint by some examples as follows.

(40) a. John wants to leave.   (= (54) Hornstein 1990: 148)
       b. John will want to leave.
       c. John wanted to leave.

In the above example, the R of the embedded infinitival clauses is located as simultaneous to the E of the matrix clauses. Hence, the embedded infinitival clauses are interpreted as simultaneous, posterior, and anterior in (40a-c), respectively.

Tense is not the only element that is assumed to correlate with finiteness. Klein (1994, 1998) argues that finiteness involves two components: tense and assertion. In more precise terms, he argues that finiteness semantically is related to the assertion the speaker makes at a time interval. He reconsiders Reichenbach's (1947) Reference Time as a Topic Time (TT) interval with respect to which an assertion is made. Klein (1998: 226) claims that the main function of finiteness is 'being the carrier of AST' [Assertion] besides involving tense. For an illustration, consider the following example.

(41) The book WAS on the table.   (= (1) Klein 1998: 226)

The verb *WAS* is marked with a contrastive stress. This contrast involves two components. First, the tense component in this sentence which is past as contrasted to the present. In other words, the book WAS and not IS on the table. The other component is the Assertion component that involves making an assertion or claim at the TT. Hence, the claim asserted is that the book was on the table in contrast to the claim that it was not on the table. All in all, Klein argues that the Finite component has two meaning components: tense and assertion. He claims that this is the semantic function of finiteness in declarative sentences.

Another semantic function of finiteness is proposed by Kearns (2000). She argues that finiteness of the proposition is associated with the property of being 'a bearer of a truth value'. Nonetheless, she argues that this function is also associated with tense. Compare the bracketed portions of the sentences in (42) to the clauses in (43) as an illustration of her claim.

(42) a. I heard [Marcia playing jazz]   (= (18) Kearns 2000: 153)
      b. He wanted [Marcia to give Peter a piano lesson]
      c. Don't let [that cat scratch the furniture]

 (43) a. Marcia is playing jazz.   (= (20) Kearns 2000: 154)
      b. Marcia gave Peter a piano lesson.
      c. The cat scratched the furniture.

The bracketed non-finite clauses in (42) have all the components of being a proposition as each clause contains a predicate with its arguments with the exception that they do not express truth value. However, the clauses in (43) express propositions because they have predicates along with their arguments, but they express a truth value because they contain tensed verbs.

In a nutshell, the proposed accounts of the semantic interpretation and function of finiteness centers around the common argument of the conflation of finiteness with tense. This argument is motivated by the ability of finite clauses to occur as free-standing root clauses. The main explanation is that tense codes finiteness. More precisely, finite but not non-finite clauses

have independent temporal reference derived from encoding Absolute tense, namely, anchoring time reference in the clause to the Speech time. Other accounts, which also involve the identification of finiteness with tense, consider finiteness as a carrier of assertion or the potential bearer of truth value.

Nonetheless, the identification of finiteness with tense is problematic in two respects. First, there are languages that lack grammatical tense such as Chinese and Vietnamese, but which have declarative sentences that assert truth value. Second, there are languages where verb morphology represents a grammaticalization of aspect rather than tense. The question arises: how to extend the notion of finiteness to languages with aspect systems? To anticipate the results, JA, the language under investigation, is a language with an aspect system. I will explore the potential correlation between finiteness, tense, and aspect in order to probe how finiteness can be defined semantically in this language. The semantic analysis in the present study will be achieved through calculating the temporal and aspectual interpretations of finite and non-finite root and complement clauses. I will adopt Reichenbach's (1947) model as well as Klein's (1994) TT to account for temporal interpretation. This will be intertwined with an account of aspectual interpretation achieved within the framework of assertion by different aspectual viewpoints. This will be discussed in detail in Chapters 5 and 6.

2.3 Previous studies on finiteness in Arabic

The literature on finiteness in Arabic is scarce. In essence, the main assumption is that Arabic varieties lack non-finite verb forms because verbs are inflected in all contexts. This assumption is influenced by comparative studies that take the English finiteness distinction as the prototypical model. The most influential study on finiteness in Arabic is conducted by Fassi Fehri (1993). He assumes that Standard Arabic lacks non-finite verb forms because verbs are

inflected in prototypical finite and non-finite clauses. His account has been extended to other Arabic varieties such as Palestinian Arabic (Mohammad 2000), Syrian Arabic (Al-Zahre and Boneh 1999). Nonetheless, the syntactic distinction has been maintained by most researchers whether their research has been devoted to finiteness (Fassi Fehri 1993, Al-Zahre and Boneh 1999) or they implemented the finiteness distinction to account for other morphosyntactic properties. To mention some, Benmamoun (1997, 2000) used the finiteness distinction to syntactically account for Negative Polarity Item licensing. Al-Haq (1992) classified complement clauses that are selected by Utterance predicates, e.g. *qaal* 'say', as finite and he labeled control clauses selected by Achievement predicates, e.g. *Hawal* 'try', as non-finite in order to account for the properties of the subject in control clauses in Jordanian Arabic. I will not discuss Al-Haq's (1992) study in my account of control constructions in Jordanian Arabic in Chapter Seven because it is conducted within the theoretical framework of the Lexical-Functional Grammar, which is out of the scope of the present study. Hallman (2011) adopts finiteness distinction of clauses in order to account for verbal complexes in Lebanese. These are only some examples in which finiteness distinction is adopted to account for some morphosyntactic properties in different Arabic varieties defining defining with tense.

The problem with the previous research in Arabic linguistics is in adopting the tense-based European finiteness-distinction to account for some morphosyntactic phenomena in Arabic without questioning whether this notion can really be extended to Arabic. The main contribution of present study lies in bringing this question into light. I hypothesize that finiteness in Arabic has to be studied within the properties of the language itself rather than defining the notion in terms of the European properties of finiteness. My claim is motivated by the existence of inflected non-finite verb forms in other languages, e.g. European Portuguese. There are mainly

two shortcomings of the few studies that have been done on finiteness in Arabic. First, there is a tendency among researchers to extend the notion of finiteness as applies to English to Arabic overlooking the peculiarities of the language under investigation. They solely identify finiteness with tense. Second, they assume that one level of analysis can account for finiteness in Arabic, which is mainly syntactic. Again, this is stemmed from the general assumption that Arabic lacks non-finite verb forms because they are inflected for tense and agreement in all contexts. The research on the semantics of finiteness in Arabic is lacking. Therefore, I will present an example on studies adopted the morphological approach (Fassi Fehri 1993). Then, I will present another example on studies adopted the syntactic approach (Al-Zahre and Boneh 1999).

First, the most influential account that Arabic lacks non-finite verb forms comes from the morphological approach because verbs in all Arabic varieties are inflected in all contexts. To support this claim, Fassi Fehri (1993) compares Arabic to English under the assumption that Arabic does not exhibit a morphological finiteness distinction in its verbal system whereas English has a clear finiteness distinction. He demonstrates that the past perfect tense in English consists of a finite verb followed by a non-finite past participial verb form as in *He had eaten*. Consider the following example.

(44) a. *Harry appears to *took* the wrong bus last night.   (= (143) Fassi Fehri 1993: 192)
     b. Harry appears to *have* taken the wrong bus last night.

The embedded past is expressed through the non-finite auxiliary *have*. The use of the simple past finite form results in the ungrammaticality of (44a).

Unlike English, Fassi Fehri contends that SA allows two consecutive finite verbs to encode past perfect tense, or past-of-the-past, illustrated in (45) below.

(45) kaana   'akal-a   (= (139) Fassi Fehri 1993: 192)
     perf.be-3.sgm   perf.eat-3sgm
     'He had eaten (but *literally* 'he was he ate')

He considers this as evidence that Arabic lacks non-finite verbal predicates because the same verb form which is inflected for tense and agreement appear in all the contexts. These contexts correspond to the canonical finite and non-finite contexts in tensed languages.

Nonetheless, he argues that Arabic varieties, i.e. SA, have non-finite forms, but this label applies only to non-verbal predicates. These predicates involve the nominalized or verbal nouns (46a) referred to in the literature on Arabic as *al-maSdar* (Wright 1859, Holes 1994), active participles (46b), and passive participles (46c).

(46) a. ʻa-radit-u   al-qira'at-a
   1-want.sg-IND the-reading-ACC
   'I want the reading.'

  b. ra'ay-it-hu   waqif-an
   perf.see-1sg-him AP.standing-ACC
   'I saw him standing.'

  c. ra'ay-it   a-jujaj-a   maksuur-an
   perf.see-1sg the-glass-ACC PP.broken-ACC
   'I saw the glass broken.'

The nonverbal predicates are classified as non-finite because they lack inflection for Absolute tense and Person agreement feature. Instead, these predicates carry nominal agreement morphology specified for Number and Gender only.

Research on finiteness in SA is the most influential regarding finiteness in Arabic varieties. As a result, I will begin by discussing the most influential account in the literature highlighting the main pieces of evidence used to assume that SA does not exhibit a finiteness distinction in verbal predicates. I will revisit this influential proposal regarding finiteness in SA in light of the aforementioned literature review in Section 2, which shows that there are inflected infinitival forms in world languages, e.g. Portuguese. This empirical fact undermines the plausibility of confining the issue of finiteness to the overt tense and agreement morphological inflections on

verbs. In this Section, I exclusively present data from SA to demonstrate that the language seems to have forms that are similar to the prototypical non-finite forms in allowing less morphological inflections compared to their finite counterpart.

I begin the discussion with some relevant background information regarding SA. First and foremost, the verb paradigm in SA consists of the Perfective (47a) and Imperfective verb forms (47b). Additionally, particles such as *sawafa* 'will' along with its shortcut *sa-* are used with the Imperfective in future tense contexts. Furthermore, the auxiliary *kaan* 'be' is used to form progressive and perfect tenses (47a).

(47) a. katab-at   al-binit-u   a-risaalat-a
     perf.write-3.sgf   the-girl-NOM   the-letter-ACC
     'The girl wrote the letter.'

    b. ta-ktub-u   al-binit-u   a-risaalat-a
     3-write.sgf-IND   the-girl-NOM   the-letter-ACC
     'The girl writes/ is writing the letter.'

    c. sa-ta-ktub-u   /sawafa   ta-ktub-u   al-binit-u   a-risaalat-a
     will-3-write.sgf-IND /will   3-write.sgf-IND   the-girl-NOM   the-letter-ACC
     'The girl will write the letter.'

    d. kaan-at   (qad)   katab-at   al-binit-u   a-risaalat-a
     perf.be-3.sgf   (mod.)   perf.write-3.sgf   the-girl-NOM   the-letter-ACC
     'The girl had written the letter.'

Second, SA has two tensed sentential negative particles *lam* and *lan* 'not,' which are used in past and future tense contexts, respectively. The language has another neutral negative particle that can be used in heterogeneous contexts that are not necessarily associated with tense such as prohibitive, or denial in the discourse. This is a well-established issue in the literature on SA as the adverb compatibility test reveals in Example (48) (Wright 1859, Holes 1994, Fassi Fehri 1993, Ouhalla 1994, Moutaouakil 1993, Benmamoun 2000, Aoun et. al. 2010 among others). Furthermore, only the Imperfective is marked for mood distinction manifested as *-u* for the

indicative, -*a* for the subjunctive, and no overt morphological realization for the jussive. These inflections are also demonstrated in Example (48) below.

(48) a. lan   ya-ktub-a   ghad-an   /*al-bariHahat-a
        not   3-write.sgm-SUBJ   tomorrow-ACC   /the-yesterday-ACC
        'He will not write tomorrow.'

   b. lam   ya-ktub-0   al-bariHah   /*ghad-an
      not   3-write.sgm.JUSS   the-yesterday   /tomorrow-ACC
      'He did not write yesterday.'

   c. laa   ya-ktub-u   a-ssa9ahat-a   /*ghad-an   /*al-bariHahat-a
      not   3-write.sgm-IND   the-hour-ACC   /tomorrow-ACC   /the-yesterday-ACC
      'He is not writing now.'

Third, there are two predominant complementizers in SA. The first is *'inna/ 'anna* 'that' which selects a clause with an indicative mood and the clause is obligatorily headed by a Noun Phrase (NP). Thus, the only allowed word order in these complement clauses is Subject-Verb-Object (SVO) as in (49a-b). Copular clauses that lack an overt verbal copula are allowed in such contexts (49c). The second complementizer is *'an* 'that' which selects a clause with a subjunctive mood, and the clause must be headed by a verbal predicate. Therefore, the only allowed word order is Verb-Subject-Object (VSO) as shown in (49c). Copular clauses are not allowed in such contexts.

(49) a. qala   'inna   al-fatat-a   t-aktub-u   qaSiidat-an
        perf.say.3sgm   that   the-girl-ACC   3-write.sgf-IND   poem-ACC
        'He said that a girl wrote a poem.'

   b. *qala   'inna   t-aktub-u   al-fatat-u   qaSiidat-an
      perf.say.3sgm   that   3-write.sgf-IND   the-girl-NOM   poem-ACC
      'He said that a girl wrote a poem.'

   c. qala   'inna   al-fatat-a   jamiilat-un
      perf.say.3sgm   that   the-girl-ACC   beautiful-NOM
      'He said that the girl is beautiful.'

d. 'a-dhunn-u   'anna   al-fatat-a   sa-ta-taHssan-u
   1-think.sg-IND   that   the-girl-ACC   will-3-improve.sgf-IND
   'I think the girl will get better.'

e. 'a-dhunn-u   'anna   a-Taqs-a   jamiil-un
   1-think.sg-IND   that   the-weather-ACC   beautiful-NOM
   'I thought that the weather is beautiful.'

f. 'a-radit-u   'an   ta-ktub-a   al-fatat-u   qaSiidat-an
   1-want.sg-IND   that   3-write.sgf-SUBJ   the-girl-NOM   poem-ACC
   'I want the girl to write a poem.'

g. *'a-radit-u   'an   al-fatat-u   ta-ktub-a   qaSiidat-an
   1-want.sg-IND   that   the-girl-NOM   3-write.sgf-SUBJ   poem-ACC
   'I want the girl to write a poem.'

Hence, if I follow the mainstream assumption that the verb forms, negative particles, the

auxiliary *kaan* 'be', encode Absolute tense, I argue that the distribution of these forms provides

independent evidence that there is a morphological finiteness distinction that reference tense. For

example, I argue that complement clauses headed by *'anna* are finite, whereas those selected by

'an are not. This is evident in the verb forms allowed in each clause type. All the verb forms are

allowed in the former, but they are disallowed in the latter. Example (50) is illustrative.

(50) a. '-a9rif-u   'anna   al-fatat-a   katab-at   /ta-ktub-u
        1-know.sg-IND   that   the-girl-ACC   perf.write-3.sgf   /3-write.sgf-IND

        sawafa   (sa-) ta-ktub-u   / kaan-at   (qad)   katab-at
        will   (will)-3-write.sgf-IND   /perf.be-3.sgf   (mod.)   perf.wirte-3.sgf

        a-daras-a
        the-lesson-ACC
        'I know that the girl wrote/ is writing/ will write/ had written the lesson.'

    b. 'a-radit-u   'an   ta-ktub-a   /*katab-at
       1-want.sg-IND   that   3-write.sgf-SUBJ   / perf.write-3.sgf

        *sawafa (sa-) ta-ktub-u   / *kaan-at   (qad)   katab-at
         will   (will)-3-write.sgf-IND   /perf.be-3.sgf   (mod.)   perf.wirte-3.sgf

  al-fatat-u   a-daras-a
  the-girl-NOM   the-lesson-ACC
  'I want the girl to write the lesson.'

Furthermore, all the negative particles are allowed in complement clauses with indicative

mood, but only the neutral negative particle *laa* 'not' is allowed in clauses with subjunctive

mood. Example (51) is delineative.

(51) a. '-a9rif-u   'anna al-fatat-a   lam   ta-ktub
   1-know.sg-IND   that the-girl-ACC   not   3-write.sgf-JUSS

   lan   ta-ktub-a   / laa ta-ktub-u   a-daras-a
   not   3-write.sgf-SUBJ   / not 3-write.sgf-IND the-lesson-ACC
   'I know that the girl did not/ will not/ does not write the lesson.'

 b. '-aradit-u   'an laa ta-ktub-a   /*lam ta-ktub
   1-know.sg-IND   that not 3-write.sgf-SUBJ / not   3-write.sgf.JUSS

   *lan   ta-ktub-a   al-fatat-u   a-daras-a
    not   3-write.sgf-SUBJ   the-lesson-NOM   the-lesson-ACC
   'I want the girl not to write the lesson.'

The assumption that SA lacks non-finite verb forms is motivated by the claim that the

Imperfective verb form encodes Absolute tense and agreement and it exhibits the same

morphology in root as well as complement clauses. I argue that this is not a peculiar property of

verbs in Arabic wherein a verb shows the same form in finite and non-finite clauses. For

example, in English, a language with finiteness distinction, the same verb form may occur in

finite and non-finite clauses in some contexts as illustrated in the following example.

(52) a. They *have* a big house.
 b. They try to *have* a big house.

The verb *have* morphologically looks identical in finite (52a) and non-finite clauses (52b).

Nonetheless, the former is considered as finite and the latter as non-finite when other forms are

taken into consideration. The distinction shows up clearly as in third person and past contexts

demonstrated in Example (53-4), respectively.

(53) a. He *has/ *have* a big house.
     b. They try to *have/ *has* a big house.

(54) a. They *had/ *have* a big house, when they were in New York.
     b. They had to *have/ *had* a big house, when they were in New York.

As Examples (53-4) enunciate, the complete verb paradigm in a language under consideration has to be investigated because a mere observation of one form may lead to an inaccuracy.

Based on the data presented above, not all verb forms and tensed negative particles are allowed in clauses with subjunctive mood. The only verb form allowed in subjunctive clauses is the Imperfective. Being inflected does not prevent it from patterning with inflected non-finite forms found in other languages such as European Portuguese (Raposo 1987). The advocates of the morphological approach to finiteness in Arabic discern that it is the only plausible criterion because it apparently shows that the finiteness distinction cannot be extended to Arabic at the morphological level. The present study concludes that finiteness cannot be extended to JA, an Arabic variety. Nonetheless, there is a conceivable morphological distinction in the verb paradigm that can better be explained in terms of the realis distinction. Thus, I argue that the advocates of this approach are on the right track in their claim that the verbs do not exhibit morphological finiteness distinction. Rather, they show a realis morphological distinction.

The aforementioned morphological perspective also influences the research on finiteness in Arabic at the syntactic level. For instance, Al-Zahre and Boneh (1999) argue that Syrian Arabic lacks non-finite verb forms because they are fully inflected for tense and agreement. Therefore, they contend that the morphological approach is unhelpful for studying finiteness in Arabic varieties. They contend that finiteness in Arabic varieties can only be syntactic. Consequently, Al-Zahre and Boneh (1999: 5) define finiteness in Syrian Arabic as 'a property attributed to an entire clause and not to an isolated form'. They studied finiteness in the context of complement

clauses. They compared finite complement clauses to control clauses, taken as a prototypical

representative of non-finite clauses. They concluded that the difference between these clauses is

only in the structural Case of their subjects. The subject carries nominative Case in finite clauses,

but accusative Case in control constructions. Consider the formal representation Al-Zahre and

Boneh (1999: 5) propose for both constructions.

(55) a. [… F… DP [$_{CP}$ 'inno [$_{TP}$ [$_T$ T [$_{XP}$ *pro* [$_X$ V$_{IMPF}$ [$_{VP}$…]]]]]   ***control***
    b. [… F… DP [$_{CP}$ 'inno [$_{TP}$ *pro/* DP [$_T$ T-V [$_{XP}$ t$_{pro/DP}$ [$_X$ t$_V$ [$_{VP}$…]]]]]   ***finite***

They explain the difference in their syntactic account in terms of verb movement in that the verb

appears in different positions in the clause structure of finite and non-finite clauses.

As demonstrated in (55a), the verb in control clauses appears in an intermediate position

X^o. They give two pieces of evidence for their claim. First, the inflected verb in control clauses

encodes modal future tense adopting Stowell's (1982) proposal, but these clauses' temporal

reference is dependent on that of the matrix clause. Being inflected, the verb has to raise to a

functional projection, but since the tense they encode is dependent, this functional projection

cannot be T^o. Thus, Al-Zahre and Boneh name this projection as X^o. They claim that the subject

is in the Spec-XP rather than Spec-TP, where it receives accusative Case because T^o is the locus

of nominative Case assignment. On the other hand, the verb in finite clauses as represented in

(55b) raises to T^o because it encodes independent temporal reference. The subject raises to Spec-

TP where it gets nominative Case.

In short, Al-Zahre and Boneh (1999) advance two proposals to account for the finiteness

distinction which clauses in Syrian Arabic exhibit. First, verbs occupy a lower position in the

clause structure of non-finite clauses than in finite clauses. This position follows from the

temporal reference each verb expresses. Second, the subject in finite clauses bears nominative

Case, whereas it bears accusative Case in non-finite clauses. However, there is not a single

example showing the different structural Case subjects in finite and non-finite clauses bear. Furthermore, it is not obvious what the X position represents. Additionally, it is not clear how the subject in non-finite clauses receive this accusative Case. Even though they claim that finiteness in Syrian Arabic can be accounted for syntactically, they draw on the semantic interpretation of finiteness in clauses which they defined in terms of the (in)dependence of temporal reference. In conclusion, the drawbacks of the research on finiteness in Arabic support my claim that a multi-level morphological, semantic, and syntactic approach is inevitable to any research on finiteness.

2.4 Conclusion

The traditional definition of finiteness identifies finiteness with tense. This definition inspires the morphological, semantic, and syntactic accounts of this phenomenon in linguistic research. As a corollary, finiteness is morphologically associated with tense inflections. It is semantically correlated with the (in)dependence of temporal reference of the clause. It is syntactically equated with the morphosyntactic properties for which tense and TP projection are responsible in generative syntax, e.g. nominative Case assignment.

These widespread accounts prove problematic when the notion of finiteness is extended to languages that do not have a tense system such as JA, which is an aspectual language. The core question that the present study aims to explore in detail is whether the notion of finiteness as traditionally defined can be extended to JA. In short, the present study calls into question the universal status of finiteness. To answer this question, I adopt the morphological, semantic, and syntactic approach.

Chapter Three

The inflectional classes in Jordanian Arabic

Morphological inflections constitute an essential criterion of finiteness in the literature. Jordanian Arabic (JA) is a language with a rich system of verbal, adjectival and nominal inflection. Predicates in JA can be either verbal or non-verbal. Distinct inflectional paradigms exist for both predicate types. In this chapter I survey the different inflectional paradigms in JA. The survey specifies the feature content of the inflectional paradigms and describes potential contextual factors that may affect their realization.

The chapter is organized as follows. Section 1 establishes the inflectional paradigms of verbal and non-verbal predicates along with the feature content of the inflections. Section 2 sheds light on different contextual factors that may affect the realization of the inflections or lead to different inflectional patterns. Section 3 summarizes these results.

3.1 Inflectional paradigms

JA has both verbal and non-verbal predicates. These predicates are defined partly by their inflectional paradigms and the feature content of these inflections. The analysis begins with verbal predicates, and then proceeds to discuss nonverbal predicates.

3.1.1 Verbal predicates

The inflectional paradigm of verbs in JA has four main forms: the Perfective (1a), the *bi-*Imperfective (1b), the bare-Imperfective (1c), and the Imperative (1d). The Perfective denotes a completed action, whereas the *bi-*Imperfective encodes a progressive or continuous action. The bare-Imperfective does not have a specific aspectual reading, and it is contextually restricted. It cannot occur in main clauses unless preceded by modals, e.g. *lazim* 'must', and the particle *raH* 'will' (1d-e). It is identical in form to the aspectual *bi-*Imperfective except for lacking the realis

prefix *bi-*. Hence, I name it bare-Imperfective after the morphological form and not the aspectual reading. The Imperative is used to express the Imperative modality. It is similar to the Imperfective in form, but it lacks the realis prefix *bi-* and the initial Person agreement prefix as will become clear later on in this section. All lexical verbs can be inflected according to these forms.

(1) a. aHmad   **katab**   i-risalih   imbariH   ***Perfective***
     Ahmad   perf.write.3sgm   the-letter   yesterday
     'Ahmad wrote the letter yesterday.'

     b. aHmad   **bi-yi-ktub**   i-risalih   hassa   ***bi-Imperfective***
     Ahmad   realis-3-write.sgm   the-letter   now
     'Ahmad is writing the letter now.'

     c. aHmad   raH   **yi-ktub**   i-risalih   ***bare-Imperfective***
     Ahmad   will   3-write.sgm   the-letter
     'Ahmad will write the letter.'

     d. **'-ktub-i**   i-risalih   ***Imperative***
     impr.write-sgf   the-letter
     'Write the letter.'

All verbs in JA agree with the subject in Person, Number, and Gender. The Perfective and Imperfective verb forms differ in the placement of their agreement inflections. The Perfective is exclusively suffixal, whereas the Imperfective is both prefixal and suffixal. Table 1 displays the verbal inflections exemplified by conjugating the verb root *k-t-b* 'write' in the Perfective, Imperfective, and Imperative. Due to the similarity between *bi*-Imperfective and bare-Imperfective in form, I just provide the Imperfective form setting aside the realis prefix. (Similar affixes are written in bold for the ease of identification.)

Table 1: verb forms in JA and their inflection

Feature specification			Pronouns/	Perfective	Imperfective	Imperative
Person	Number	Gender	subject			
1	sg	m/f	an**a**	katab-**it**	**a**-ktub-**0**	---
	pl	m/f	iH**na**	katab-**na**	**n**-ktub-**0**	---
2	sg	m	in**ta**	katab-**it**	**ti**-ktub-**0**	'-ktub-**0**
	sg	f	in**ti**	katab-**ti**	**ti**-ktub-**i**	'-ktub-**i**
	pl	m	in**tu**	katab-**tu**	**ti**-ktub-**u**	'-ktub-**u**
	pl	f	in**tan**	katab-**tan**	**ti**-ktub-**an**	'-ktub-**an**
3	sg	m	huwwa	katab-**0**	**yi**-ktub-**0**	---
	sg	f	hiyyih	katab-**at**	**ti**-ktub-**0**	---
	pl	m	humma	katab-**u**	**yi**-ktub-**u**	---
	pl	f	hinnih	katab-**an**	**yi**-ktub-**an**	---

There is a great similarity between the independent pronouns and the verbal affixes on the one hand, and a parallelism between Perfective and Imperfective inflections in spite of their different placement. The main generalization that can be drawn from Table 1 is that a Perfective suffix is parallel to both the Imperfective prefix and suffix. For clarity's sake, Table 2 shows the decomposition of the verbal inflectional paradigms and the last part of the first and second pronouns, which also show a parallelism to the Perfective. The Imperative conjugation is, further, provided for contrast in this section.

Table 2: Decomposition of verbal and pronominal conjugations

Feature specification			Pronouns		Perfective		Imperfective		Imperative	
Person	Number	Gender	suffix1	suffix2	suffix1	suffix2	prefix	suffix	suffix1	suffix2
1	sg	m/f	a	0	-it	0	a-	0	---	---
	pl	m/f	na	0	-na	0	n-	0	---	---
2	sg	m	ta	0	-it	0	ti-	0	'/0	0
	sg	f	-t	-i	-t	-i	ti-	-i	'/0	-i
	pl	m	-t	-u	-t	-u	ti-	-u	'/0	-u
	pl	f	-t	-an	-t	-an	ti-	-an	'/0	-an
3	sg	m	---	---	0	0	yi-	0	---	---
	sg	f	---	---	-at	0	ti-	0	---	---
	pl	m	---	---	0	-u	yi-	-u	---	---
	pl	f	---	---	0	-an	yi-	-an	---	---

A widely held view in the literature is that the prefix in the Imperfective encodes Person and the suffix encodes Number, while Gender overlaps both positions (Halle 1990, Noyer 1992, Fassi Fehri 1993, 1996, 2000, Banksira 1999, Tourabi 2002, Lumsden and Halefom 2002). Gender is specified with Number in the second affix slot in all cases except with the third person feminine singular and dual in Standard Arabic (SA) as demonstrated in (2).

(2) a. katab-at
    perf.write-3.sgf
    '(She) wrote.'

  b. katab-at-aa
    perf.write-3-dlf
    '(They) wrote.'

  c. katab-an
    perf.write.3-plf
    '(They) wrote.'

In these forms it is the first affix that is specified for the feminine feature. Therefore, Gender is assumed to be 'mobile' in Noyer's (1992) term in the sense that it is specified with Number in all cases, but it also specified with Person in some of these cases. In order to avoid redundancy of feature specification, the assumption is that the first affix is specified for Person and the second affix for Number and Gender is mobile.

The data from JA support the assumption of the two affix slots in the verbal morphology in Arabic. The prefixes *ti-* and *yi-* stand for second and third person, respectively, without distinguishing Number and Gender. On the other hand, the suffixes *-u* and *-an* stand for plural masculine and feminine, respectively, without a Person-based distinction. Hence, they actually encode Gender and Number. The first person forms are not specified for Gender, and the Imperative is not specified for Person.

The Imperfective prefix encodes Person. Person is a deictic ingredient that is involved in situating the speaker (Fassi Fehri 1984, 1993, Rouveret 1991, Smith 1997, among others). The great similarity between the Imperfective prefix and the first part of the Perfective makes it plausible to decompose the Perfective conjugation into two suffixes. The first suffix stands for Person and the second stands for Number while the Gender is mobile and both suffixes are fused in the Perfective. These facts can be schematized in (3). I adopt this schema from Fass Fehri (2000, 2003).

(3) **The Perfective and the Imperfective affixes**

    (a) Perfective

Stem	+	suffix1	+	suffix 2
		Person + (Gender)		Number + (Gender)

    (b) Imperfective

Prefix	+	stem	+	suffix2
Person + (Gender)				Number + (Gender)

This analysis may be helpful in accounting for agreement asymmetries. In particular, it is not surprising that there is no agreement in Number despite the agreement in Person and Gender since Number and Person are specified in different affixes whereas Gender overlaps. Additionally, the final part of the first and second person pronouns corresponds to the verbal inflections as highlighted in Table 1 and Table 2. There is no such correspondence in third person pronouns. Comparative historical Semitic studies assume that the third person pronouns all evolved from demonstratives (Brockelmann 1910, Gray 1934, Fleisch 1979, Gai 1984, Huehnergard 1997, Leslau 1995, Rubin 2005, among others).

This evidence shows that the pronominal and agreement systems are identical except for the differences which result from historical change. Within comparative historical Semitic

studies, the agreement inflections are assumed to evolve from the independent pronouns that

incorporated into the verb and became the bound agreement inflections (Brockelmann 1910,

Gray 1934, Moscati et al. 1964, Fleisch 1979, Huehnergard 1997, Gai 1984, Tropper 1995,

Rubin 2005). The Proto-Semitic pronominal and verbal inflections are presented in Table 3.

(Rubin 2005, Moscati et al. 1964). (The slashes between pronouns reflect the disagreement

among scholars regarding the original forms of these pronouns.)

Table 3: Proto-Semitic pronominal and verbal inflections

| Feature specification | | | Pronouns | Perfective | Imperfective |
Person	Number	Gender			
1	sg	m/f	anaaku	-ku	a-0
	pl	m/f	niinu	-na	na-0
2	sg	m	atta/ anta	-ta	ta-0
	sg	f	atti/ anti	-ti	ta-0
	pl	m	attuna/ antuma	-tunu	t-uuna
	pl	f	attina/ antina	-tina	t-aana
3	sg	m	shuu/ huwa	-0	ya-0
	sg	f	shii/ hiya	-at	ta-0
	pl	m	shunu/ huma	-uu	y-uuna
	pl	f	shina/ hina	-aa	ya-aana

Rubin (2005) demonstrates how the pronouns are reduced to the verbal affixes to become

pure agreement inflections by giving an example of this reconstruction process as shown in (4)

taken from Rubin (2005: 27-8).

(4) Stage 1: *maruS anaaku* 'I am sick'
   Stage 2: *maruS aaku > marSaaku* 'I am sick'
   Stage 3: Arabic *mariDtu* 'I got Sick.'

Here, the reconstruction occurs with a verbal adjective in Akkadian, which is then gradually

grammaticalized to become the Perfective in West Semitic languages that Arabic belongs to.

Such historical facts are taken to support the proposal that verbs in Arabic carry inflections

specified for the same features personal pronouns are specified for, namely, the phi-features

Person, Number, and Gender (Brockelmann 1908, Gray 1934, Moscati et al. 1964, Fleisch 1979, Huehnergard 1997, Gai 1984, Tropper 1995, Rubin 2005).

Besides the historical evidence, there is also empirical evidence from JA which basically lies in word formation. For example, the Imperative verb form is derived from the Imperfective by dropping the prefix as demonstrated in Table 4.

Table 4: Imperative derivation in JA

Consonantal root		Perfective	Imperfective	Imperative
k-t-b	'write'	k-a-t-a-b-an	yi-k-t-u-b-an	'-k-t-u-b-an
s-f-r	'travel'	s-a-f-a-r-an	yi-s-a-f-i-r-an	s-a-f-i-r-an

The template of the verb *k-t-b* 'write' in the perfective is *CaCaC* (C stands for consonant) whereas the Imperfective and the Imperative templates are *CCuC*. Since the Imperative has the same template as the Imperfective except for the prefix, it is reasonable to assume that the Imperative template is derived from the Imperfective. The verb *safir* 'travel' in the table demonstrates that the Imperative does not always have a prefix. Hence, the prefix can be considered prothetic because Arabic does not tolerate onsetless syllables. The epenthetic consonant is added to provide an onset for onsetless syllables in Semitic languages in general (Brame 1970, Comrie 1987, Tourabi 2002, Lumsden and Halefom 2002). JA has a prefix for second person, but it is dropped in the Imperative. The Imperative suffix agrees with the subject in Number and Gender as shown (5).

(5) **Imperative Forms**

    a. (inta)   'ktub
       you.2sgm   impr.write.sgm
       '(You) write.'

b. (inti) 'ktub-i
   you.2sgf   impr.write.sgf
   '(You) write.'

c. (intu) 'ktub-u
   you.2plm   impr.write.plm
   '(You) write.'

d. (intan) 'ktub-an
   you.2plf   impr.write.plf
   '(You) write.'

The suffix varies with the Number and Gender of the addressee. The suffixes are identical to the Imperfective suffixes. By analogy, the rightmost second suffix of the Perfective also encodes Number and Gender. This generalization is drawn from the great parallelism between these verb forms in terms of their inflectional paradigms.

The other piece of evidence comes from noun formation in that the Imperfective is the basis of some noun-formations. First of all, nouns in JA are inflected for Number and Gender by means of suffixes. Gender has a binary masculine-feminine distinction, whereas Number, on nouns only, shows a ternary distinction, i.e. singular-dual-plural. Table 5 presents the inflections on nouns.

Table 5: The inflections on nouns in JA

Category	Gender	Number		
		singular	dual	plural
Nouns	m	-0	-ein	-iin
	f	-ih	-tein	-at

The derivation of some nouns from the Imperfective reveals that these nouns and the Imperfective share a suffix that is specified for Number and Gender as demonstrated in Table 6.

Table 6: Parallels in Verbs and Noun Inflection in JA

Features		Perfective	Imperfective	Nouns	
Number	Gender				
sg	m	9-a-l-l-a-m-0	yi-9-a-l-l-im-0	m-9-a-l-l-i-m-0	'teacher'
sg	f	9-a-l-l-a-m-it	ti-9-a-l-l-im-0	m-9-a-l-l-i-m-h	'teacher'
pl	m	9-a-l-l-a-m-u	yi-9-a-l-l-im-u	m-9-a-l-l-i-m-iin	'teachers'
pl	f	9-a-l-l-a-m-an	yi-9-a-l-l-im-an	m-9-a-l-l-i-m-at	'teachers'

Table 6 shows that the internal vocalic melody of the derived nouns is closer to the Imperfective than the Perfective. The Imperfective prefix is changed into the nominal prefix, i.e. *m-*. Nouns in JA do not inflect for Person. Hence, this indicates that what is dropped is the affix that encodes Person which is a verb-specific property. The suffix on nouns marks Number and Gender. The second affix in verbal forms resembles the nominal suffix as summed up in Table 7.

Table 7: Number and Gender Inflections in JA

Features		Verbal suffix			Nominal
Number	Gender	Perfective	Imperfective	Imperative	suffix
sg	m	0	0	0	0
sg	f	-i/0	i/0	i/0	-ih
pl	m	-u	-u	-u	-iin
pl	f	-an	-an	-an	-at

As demonstrated in Table 7, the suffix that verbs carry shows great similarity to the nominal suffix, which is also specified for Number and Gender. Only the Imperfective prefix and the Perfective first suffix vary with the variation of the Person specification of the subject. This evidence shows that they are both specified for Person. This is the feature that marks the clear-cut distinction between verbal and nominal inflections. The plural forms are completely regular while the singular forms are more opaque. For example, the singular can be null, but it can be *i-* for second person singular feminine.

A further piece of evidence is set forth by other studies addressing this issue in other Arabic verities, in particular, SA and Moroccan Arabic (Fassi Fehri 2000, Benmamoun 1992,

2000, Tourabi 2002, Lumsden and Halefom 2003). These studies support the existence of two

verbal affix positions, including the resemblance between the Perfective and the Imperfective

inflections. A point in case is based on the lack of agreement in Number between the verb and

the postverbal subject while the agreement in Person and Gender is preserved under this

condition in the Standard Arabic Agreement Asymmetry (SAAA) (Benmamoun 1992, 1993,

Fassi Fehri 1993). Example (6) provides this evidence.

(6) a. ta-'akul-u   /*ya-'akul-na.0   al-banat-uu
       impf.3-eat.sgf-IND   /impf.3-eat-plf.IND   the-girls-Nom
       'The girls are eating.'

   b. al-banat-uu   ya-'akul-na.0   /*ta-'akul-u
      the-girls-Nom   impf.3-eat.plf.IND   /impf.3-eat-sgf-IND
      'The girls are eating.'

In SA, verbs must be singular with postverbal subjects (6a), and so they lack the suffix that is

specified for Number. Nonetheless, they must agree in Number with preverbal topics (6b). This

is taken as evidence that Number must be specified on a separate suffix to be able to behave

differently from the other features (ibid). In other words, features do not cluster together as a

bundle. In a nutshell, the verbal morphology has two affixes with a Person feature specified in

the first affix and a Number feature in the second while Gender overlaps across both positions

(Halle 1990, Noyer 1992, Fassi Fehri 1993, 1996, 2000, Banksira 1999, Tourabi 2002, Lumsden

and Halefom 2002).

The last category in the verbal paradigm is the Imperative. It agrees with the subject in

Number and Gender only. It lacks the prefix for Person. It is the only verbal predicate type that

lacks the Person specification. Furthermore, it does not take the realis marker *bi-*.

All lexical verbs in JA can have any of the forms in the verbal inflectional paradigm. The

question arises whether the auxiliary verb *kaan* 'be', or the modal particles *raH* 'be going to' and

lazim 'must' exhibit the same inflectional morphology as lexical verbs. I apply the Imperfective

template with all the possible agreement inflections to these words in Table 8.

Table 8: inflections and *kaan, raH*, and modals

Feature specification			subject	kaan	raH	qidir	lazim
Person	Number	Gender					
1	sg	m/f	an**a**	**a**-kuun-**0**	raH	**a**-qdar-**0**	lazim
	pl	m/f	iH**na**	**n**-kuun-**0**	raH	**n**-qdar-**0**	lazim
2	sg	m	in**ta**	**ti**-kuun-**0**	raH	**ti**-qdar-**0**	lazim
	sg	f	in**ti**	**ti**-kuun-**i**	raH	**ti**-qdar-**i**	lazim
	pl	m	in**tu**	**ti**-kuun-**u**	raH	**ti**-qdar-**u**	lazim
	pl	f	in**tan**	**ti**-kuun-**an**	raH	**ti**-qdar-**an**	lazim
3	sg	m	huwwa	**yi**-kuun-**0**	raH	**yi**-qdar-**0**	lazim
	sg	f	hiyyih	**ti**-kuun-**0**	raH	**ti**-qdar-**0**	lazim
	pl	m	humma	**yi**-kuun-**u**	raH	**yi**-qdar-**u**	lazim
	pl	f	hinnih	**yi**-kuun-**an**	raH	**yi**-qdar-**an**	lazim

As demonstrated in Table 8, the auxiliary verb *kaan* 'be', and the modal verb *qidir* 'managed'

take the same agreement inflections that verbal predicates take. However, the modal particles

raH 'will/ be going to' and *lazim* 'must' cannot be considered fully verbal (or nominal) since

they do not inflect for agreement. This difference establishes that modal particles such as *raH*

and *lazim* belong to a distinct inflectional category from verbs and nouns in JA. I classify them

as modal particles for the purposes of this study. They show that words which belong to the same

semantic class may fall into distinct lexical categories in languages. I will treat uninflected

particles as a predicate class that is distinct from the verbal and nonverbal predicates classes that

I introduced at the beginning of this chapter.

To sum up, the inflectional paradigm for verbs in JA includes Perfective, *bi*-Imperfective,

bare-Imperfective, and Imperative forms. All verb forms in JA mark agreement with the subject

or topic in the sentence. They all have the same agreement affixes along with their phi-feature

specification, in particular, Person, Number, and Gender. The modal particles *raH* 'will/ be

going to', *lazim* 'must', and *wajib* 'must' do not take verbal inflection. They form a distinct

inflectional category in JA. The next section investigates the inflectional paradigms of nonverbal predicates.

3.1.2 Non-verbal predicates

Non-verbal predicates including nouns, adjectives, and participles agree with the subject or topic in Number and Gender. As shown previously, nouns mark agreement as suffixes. The Number distinction is ternary, namely, singular, dual, and plural as in *mu9alim-ah* 'a teacher,' *mu9alima-tein* 'two teachers,' and *mu9alim-at* 'teachers,' respectively. However, the Gender distinction is binary as masculine versus feminine. Ordinary adjectives show agreement in Number and Gender, but both are binary-based in terms of singular-plural and masculine-feminine, respectively. The last category to exhibit agreement in JA involves both Active Participles (AP) and Passive Participles (PP). They pattern with adjectives rather than with verbs in their agreement morphology because unlike verbs they do not inflect for Person. I use the noun *muhandis* 'engineer,' the ordinary adjective *ta9ban* 'tired,' AP *nayim* 'one who is sleeping' and the PP *majruuH* 'wounded' in Table 9 as examples of the agreement morphology of nonverbal predicates in JA.

Table 9: Agreement inflections on non-verbal predicates in JA:

Person	Features Number	Gender	Subject	Nouns	Adjectives	AP	PP
1	sg	m	ana	muhandis-**0**	ta9ban-**0**	nayim-**0**	majruuH-**0**
	sg	f	ana	muhandis-**ih**	ta9ban-**ih**	nayim-**ih**	majruuH-**ih**
	pl	m	iHna	muhandis-**iin**	ta9ban-**iin**	nayim-**iin**	majruuH-**iin**
	pl	f	iHna	muhandis-**at**	ta9ban-**at**	nayim-**at**	majruuH-**at**
2	sg	m	inta	muhandis-**0**	ta9ban-**0**	nayim-**0**	majruuH-**0**
	sg	f	inti	muhandis-**ih**	ta9ban-**ih**	nayim-**ih**	majruuH-**ih**
	pl	m	intum	muhandis-**iin**	ta9ban-**iin**	nayim-**iin**	majruuH-**iin**
	pl	f	intan	muhandis-**at**	ta9ban-**at**	nayim-**at**	majruuH-**at**
3	sg	m	huwwa	muhandis-**0**	ta9ban-**0**	nayim-**0**	majruuH-**0**
	sg	f	hiyyih	muhandis-**ih**	ta9ban-**ih**	nayim-**ih**	majruuH-**ih**
	pl	m	humma	muhandis-**iin**	ta9ban-**iin**	nayim-**iin**	majruuH-**iin**
	pl	f	hinnih	muhandis-**at**	ta9ban-**at**	nayim-**at**	majruuH-**at**

Table 9 reveals that non-verbal predicates agree with the subject in Number and Gender but not in Person. In addition to the Number division above, only nouns show a further distinction for dual while adjectives and participles do not. This empirical fact is illustrated in (7).

(7)   **Noun**   **Adjective**   **AP**   **PP**

    a. il-muhandis-**tein/**   il-mariiD-**at/**   AP.il-waqif-**at**   PP.il-ma9azuum-**at**
       the-engineer-dlf/   the-sick-plf/   the-standing-plf   the-invited-plf
       'The sick/ standing/ invited engineers'

    b. il-muhandis-**ein/**   il-mariiD-**iin/**   AP.il-waqif-**iin**   PP.il-ma9azuum-**iin**
       the-engineer-dlm/   the-sick-plm/   the-standing-plm   the-invited-plm
       'The sick/ standing/ invited engineers'

As demonstrated in (7), participles in JA pattern with adjectives in their agreement pattern rather than with nouns. More specifically, they show a binary Gender distinction, i.e. feminine-masculine, and a binary Number distinction, namely, singular-plural; it is ternary for nouns by the addition of the dual specification. They do not inflect for Person agreement. However, all non-verbal stems can have the prefix *il-* 'the' which marks them as definite. This is also demonstrated in (7) above.

In conclusion, the full verbal agreement paradigm is specified for Person, Number, and Gender. The full non-verbal agreement paradigm is specified for Definiteness, Number, and Gender. All verbs in JA have the inflectional forms Perfective, *bi*-Imperfective, bare-Imperfective, and Imperative. Furthermore, they also inflect for agreement exhibiting the full verbal agreement paradigm. The modal particles *raH* 'will/ be going to' and *lazim* 'must' do not have aspectual forms nor do they inflect for number and agreement. Non-verbal stems, including participles derived from verbs, have the non-verbal agreement paradigm.

Nominalized predicates, e.g. *kitabih* 'writing', carry nominal agreement inflections and they exhibit nominal distribution as well. Nominalized predicates can carry the definite article

prefix *al-* 'the' like ordinary nouns. They can occur in the canonical nominal positions as a subject (8a), direct object (8b), complement of a preposition (8c), as well as in the Construct State (CS) (8d-e). Construct State (CS) in Semitic languages including Arabic is a construction in which the first member of the CS, i.e. the noun, is indefinite, whereas the second member is definite but the whole construct is definite (Ritter 1988, Siloni 1997, Borer 1996, Benmamoun 2000, Ouhalla 1991, Shlonsky 2004). The nominal singular suffix *-ih* is pronounced as *-it* when followed by another noun. Nonetheless, I leave it as *-ih* for the ease of identification with the nominal inflections.

(8)   **ordinary nouns**   **nominalized**

a. **il-iktab**   mufiid   **il-kitab-ih**   mufiid-ih
   the-book   useful.sgm   the-writing-sgf   useful-sgf
   'the book is useful.'   'The writing is useful.'

b. b-a-Hib   **il-iktab**   b-a-Hib   **il-kitab-ih**
   realis-1-love.sg the-book   realis-1-love.sg   the-writing-sgf
   'I love the book.'   'I love writing.'

c. ba9ad   **il-muHaDarh**   ba9ad   **i-safar**
   after   the-lecture   after   the-travelling.sgm
   'after the lecture'   'after the travelling'

d. **iktab**   9ali   **kitab-ih**   9ali
   book   Ali   writing-sgf   Ali
   'Ali's book'   'Ali's writing'

e. **kitab**-uh   **kitab-ih**-uh
   book-his   writing-sgf-his
   'his book'   'his writing'

Nominalized predicates also exhibit a ternary number distinction exactly like nouns (9). This evidence shows that nominalized predicates can be classified as non-verbal predicates in terms of their inflectional and distributional properties.

(9) a. il-ruuH-**ah**   najiH-**ah**
       the-travelling-sgf   successful-sgf
       'The travelling is successful.'

   b. il-ruuH-**tein**   najiH-**at**
       the-travelling-dlf   successful-plf
       'The (two) trips are successful.'

   c. il-ruuH-**at**   najiH-**at**
       the-travelling-plf   successful-plf
       'The trips are successful.'

However, the inflections the nominalized predicates carry represent the inherent features of

the nominalized predicates themselves. These predicates do not exhibit agreement with the

subject. Consider the following example.

(10) a. kitab-ih   il-banat   Hilw-ih
          writing-sgf   the-girls   beautiful-sgf
          'The girls' writing is beautiful.'

      b. kitab-ih   il-'awlaad   Hilw-ih
          writing-sgf   the-boys   beautiful-sgf
          'The boys' writing is beautiful.'

The subject *il-banat* 'the girls' in (10a) is plural and feminine; the nominalized is *kitabit*

'writing' is feminine and singular. In (10b), the subject, *il-'awlaad* 'the boys', is singular and

masculine, and the nominalized predicate is feminine and singular. This example shows that the

nominalized predicate carries the nominal inflection –*ih* which is specified for singular and

feminine features. They are different from the feature specification of the subject. This illustrates

that these predicates do not exhibit subject agreement. The nominalized predicate itself is

considered feminine and singular, and the inflections it carries reflect this specification.

In short, both verbal and non-verbal categories except nominalized predicates in JA mark

agreement in Number and Gender. The distinctive feature between them is the Person feature

which is only carried by verbal predicates. Non-verbal stems can be specified for Definiteness

when they do not serve as the predicate as will be shown in the next section. The Person feature is not marked by an affix on these predicates. However, it seems to be established in all clauses. This is evident by the fact that the subject cannot be dropped in copular sentences that lack an overt verbal copula. The non-verbal predicates do not constitute complete sentences without overt subjects as is the case with verbal predicates (11).

(11) a. hiyyih   kuwayis-ih
       she   good-sgf
       'She is good.'

     b. katab-at
       perf.write-3.sgf
       '(She) wrote.'

     c.*kuwayis-ih
       good-sgf
       '(She) good.'

The copular sentence in (11a) is grammatical because the subject is present, which contrasts with the ungrammaticality of (11c) when the subject is dropped. Verbal predicates can stand alone even if the subject is dropped as the grammaticality of (11b) indicates.

     Likewise, in embedded clauses, the Person feature is also established independently. I illustrate the difference between verbal versus non-verbal predicates in complement clauses in (12) below.

(12) a. Hawal-an   yi-rukD-an
       perf.try.3-plf   3-run-plf
       'They tried to run.'

     b. *Hawal-an   qawiy-at
       perf.try.3-plf   strong-plf
       'They tried strong.'

In (12a), the verb in the complement clause is specified for Person, Number, and Gender. In (12b), the non-verbal predicate is specified for Number and Gender but not for Person. This results in ungrammaticality.

To recapitulate, this section demonstrates the different predicate types that show agreement along with their agreement inflections and their feature content as summarized in Table 10.

Table 10: agreement inflection on verbal and non-verbal Predicates in JA

Predicate Classes	Prefix	Stem	Suffix 1	Suffix2
Verbal predicates				
I.*bi*-Imperfective	Person/ (Gender)	Verb		Number/ (Gender)
II.Perfective	----	Verb	Person	Number/ Gender
III.Bare-Imperfective	Person/ (Gender)	Verb		Number/ (Gender)
IV.Imperative	----	Verb		Number/ Gender
Non-verbal predicates				
I. Nouns	----	Noun		Number/ Gender
II. Adjectives	----	Adjectives		Number/ Gender
III. Participles	----	Participles		Number/ Gender
IV. Nominalized	----	Nominalized		Number/ Gender
Modal particles				
I. *raH* 'will/ be going to'	----	Particle	----	
II. *lazim* 'must'	----	Particle	----	

In JA, both verbal and non-verbal predicates excluding nominalized predicates exhibit agreement. Non-verbal predicates include nouns, adjectives, and participles. Participles pattern morphologically as adjectives in their agreement behavior whereas Nominalized stems pattern like nouns. All categories have suffixes for Number and Gender. Only verbal predicates mark Person. Verbs preserve a separation between Person marking and the suffixes that mark Number and Gender. Non-verbal predicates agree with the subject or topic of the sentence only in Number and Gender, but they lack both Person and Definiteness. The discussion concludes that

there is a full verbal agreement paradigm in Person, Number, and Gender, and a full nominal agreement paradigm in Definiteness, Number, and Gender. The question arises: do the predicates always show these full agreement paradigms, or they are influenced by other factors? The next section is designed to answer these enquiries.

3.2 Factors determining agreement patterns

This section explores the contexts and factors which determine the agreement patterns a category exhibits. It begins with the discussion of the agreement patterns and contexts of verbal predicates. Then, the agreement patterns of the non-verbal stems will be discussed.

3.2.1 Verbal predicates

Verbal predicates show basically three agreement patterns: full, partial, and default. Full agreement represents the agreement pattern in which the verb agrees with the subject in Person, Number, and Gender. Partial agreement refers to the agreement pattern whereby the verb agrees with the subject in Person and Gender but not in Number. In cases where the verb does not agree with the subject in JA, it exhibits the inflection specified for third person, masculine, and singular features. The examples below highlight the three agreement patterns the aspectual verb form *bi*-Imperfective (13) as well as the more restricted verb bare-imperfective (14) show.

(13) a. b-yi-ja-an   bana-at   9a-il-Haflih   ***Full***
     realis-3-come-plf   girl-plf   to-the-party
     'Girls are coming to the party.'

    b. b-yi-ija-i   bana-at   9a-il-Haflih   ***Partial***
     realis-3-come-sgf   girl-plf   to-the-party
     'Girls are coming to the party.'

    c. b-yi-ija   bana-at   9a-il-Haflih   ***Default***
     realis-3-come.sgm   girl-plf   to-the-party
     'Girls are coming to the party.'

(14) a. raH   yi-ija-an   bana-at   9a-il-Haflih   ***Full***
      will   3-come-plf   girl-plf   to-the-party
      'Girls will come to the party.'

    b. raH   ti-ija-i   bana-at   9a-il-Haflih   ***Partial***
      will   3-come-sgf   girl-plf   to-the-party
      'Girls will come to the party.'

    c. raH   yi-ija   bana-at   9a-il-Haflih   ***Default***
      will   3-come.sgm   girl-plf   to-the-party
      'Girls will come to the party.'

The default agreement is the elsewhere agreement pattern as referred to in the literature on Arabic varieties (Fassi Fehri 1993, Ouhalla 1994, Benmamoun 2000, Mohammad 2000). The default agreement is apparent in cases where the subject is questioned. its features are unspecified as Example (15) illustrates.

(15) miin   katab   i-risalih
      who   perf.3sgm   the-letter
      'Who wrote the letter?'

The features of the subject in (15) are not specified. The verb *katab* 'wrote' exhibits the default agreement inflections, i.e. third person, singular, and masculine. This evidence supports the claim that this is the elsewhere agreement pattern in JA.

The factors that affect the agreement behavior of verbal predicates include word order and subject type. In JA, both Subject-Verb-Object (SVO) and Verb-Subject-Object (VSO) word orders are allowed. The sentences with SVO word order are called Nominal; whereas those with VSO are called Verbal. These names follow from the initial constituent in the sentence, more precisely, Nominal sentences begin with a noun and the predicates that follow this noun can be either verbal or non-verbal. Nominal sentences have a noun phrase in a topic position. Topics are always definite so topicality creates a definiteness restriction for nominal sentences (Fassi Fehri 1993, Ouhalla 1994, Shlonsky 1997, Benmamoun 2000, Mohammad 2000). Verbal sentences

begin with a verb. Example (16) demonstrates both permissible word orders and consequently

sentence types.

(16) a. i-Talib-at   katab-an   il-maqalih   ***SVO***
           the-student-plf   perf.write.3-plf   the-article
           'The students wrote the article.'

      b. katab-an   i-Talib-at   il-maqalih   ***VSO***
           perf.write.3-plf   the-student-plf   the-article
           'The students wrote the article.'

The other important factor in determining the agreement pattern verbal predicates exhibit is

subject type. There are four types of subjects: lexical definite DPs (17a), lexical indefinite DPs

(17b), overt pronominal and null DPs (17c).

(17) a. katab-an   i-Talib-at   il-maqalih
           perf.write.3-plf   the-student-plf   the-article
           'The students wrote the article.'

      b. katab-an   Talib-at   il-maqalih
           perf.write.3-plf   student-plf   the-article
           'Students wrote the article.'

      c. katab-an   (hinnih)   il-maqalih
           perf.write.3-plf   they.plf   the-article
           'They wrote the article.'

This section will address the agreement patterns verbs exhibit with different word orders and

different subject types.

Verbs in nominal sentences show full agreement with the topic. No other agreement

pattern is tolerated. Indefinite DPs are not allowed to occupy the topic position. Example (18) is

illustrative.

                                         Full   ***Partial***   ***Default***

(18) a. i-Talib-at   safar-an   / *safar-at   /*safar
           the-student-plf   perf.travel.3-plf   /perf.travel-3.sgf   /perf.travel.3sgm
           'The students travelled.'

b. (hinnih)   safar-an   /*safar-at   /*safar
 they.plf   perf.travel.3-plf /perf.travel-3.sgf /perf.travel.3sgm
  '(They) travelled.'

Additionally, verbs exhibit full agreement with preverbal topics in embedded clauses (19).

			Full	**Partial**	**Default**

(19) a. qal   inn-uh il-banaat bi-yi-Hki-an /*bi-ti-Hki-i /*bi-yi-Hki
  perf.say.3sgm that-it the-girls realis-3-talk-plf /realis-3-talk-sgf /realis-3-talk.sgm
  'I know that the girls are talking.'

 b. xali   il-banaat yi-safir-an /*ti-safir   /*yi-safir
  impr.let.sgm the-girls   3-travel.plf /3-travel.sgf /3-travel.sgm
  'Let the girls travel.'

On the other hand, verbal predicates in verbal sentences with the VSO show different

agreement patterns in JA which are influenced by the subject type (20).

	Full	**Partial**	**Default**	

(20) a. 'ija-an   /'ija-at   /*'ija   i-Talib-at
  perf.come.3-plf /perf.come-3.sgf / perf.come.3sgm the-student-plf
  'The students came.'

 b. 'ija-an   /'ija-at   /'ija   Talib-at
  perf.come.3-plf /perf.come-3.sgf /perf.come.3sgm student-plf
  'Students came.'

 c. 'ija-an   /*'ija-at   /*'ija   (hinnih)
  perf.come.3-plf /perf.come-3.sgf /perf.come.3sgm they.3plf
  '(They) came.'

The subject is the lexical definite DP *i-Talibat* 'the student' in (20a), the indefinite lexical DP

Talib-at 'students' in (20b), the overt pronoun *hinnih* 'they' or null subject in (20c). Verbs in JA

obligatorily show full agreement with overt or null pronominal subjects (20c). Nonetheless,

verbs show optional agreement patterns with lexical subjects. Verbs show either full or partial

agreement with lexical definite subjects (20a), but they exhibit full, partial, or default agreement

pattern with indefinite lexical subjects (20b).

Moreover, verbs exhibit the same agreement patterns with postverbal subjects in embedded clauses. I will choose an indefinite lexical DP as an example because all the agreement patterns are allowed with verbs (21).

	Full	*Partial*	*Default*	

(21) qal   innu bi-yi-Hki-an   / bi-ti-Hki-i   /bi-yi-Hki   banaat
      perf.say.3sgm that realis-3-talk-plf /realis-3-talk-sgf /realis-3-talk.sgm girls
      'I know that girls are talking.'

The verb in (21) exhibits full, partial, or default agreement with the postverbal subject *banaat* 'girls'.

As established in the discussion so far, two contextual factors including word order and subject type affect verbal agreement patterns as summarized in Table 11.

Table 11: Verbal agreement patterns in JA

word order	subject type	Verb paradigm	
		Main clauses	embedded clauses
SVO	Definite lexical DP	Full agreement	Full agreement
	Indefinite lexical DP	----	----
	Overt pronominal	Full agreement	Full agreement
	Null pronominal	Full agreement	Full agreement
VSO	Definite lexical DP	Full agreement Partial agreement	Full agreement Partial agreement
	Indefinite lexical DP	Full agreement Partial agreement Default agreement	Full agreement Partial agreement Default agreement
	Overt pronominal	Full agreement	Full agreement
	Null pronominal	Full agreement	Full agreement

Verbal predicates show full agreement with the topic in SVO sentences as well as with pronominal subjects in SVO sentences. However, in VSO sentences, verbs either show full or partial agreement with lexical subject DPs whether definite or indefinite, and they can also show default agreement only with indefinite subjects. In conclusion, verbal predicates show different agreement patterns depending on word order and argument type. The question arises: do non-

verbal predicates show the same agreement pattern regardless of the contextual factors? In other

words, are non-verbal predicates also subject to contextual influences? The next section

addresses this question in detail.

3.2.2 Non-verbal predicates

Non-verbal predicates show an invariant agreement pattern by agreeing with the subject or

topic of the sentence in Number and Gender demonstrated in (22).

(22) a. ana   Talib-ih   mumtaz-ih   /*il-mumtaz-ih
     I   student-sgf   excellent-sgf   /the-excellent-sgf
    'I am an excellent student.'

   b. iHna   Talib-at   mumtaz-at   /*il-mumtaz-at
     we   student-plf   excellent-plf   /the-excellent-plf
    'We are an excellent student.'

The non-verbal predicates *Talib* 'student' in (22) agrees with the pronominal subjects in Number

and Gender only. However, it does not inflect for Definiteness as the ungrammaticality of their

definite counterparts in these sentences illustrates.

Unlike their verbal predicate counterparts, non-verbal predicates' agreement pattern is not

affected by word order or subject type. Example (23) is illustrative.

(23) a. i-Talib-at   waqif-at   /*il-waqif-at
     the-student-plf   AP.standing-plf   /the-AP.standing-plf
    'The students are standing.'

   b. fiih   Talib-at   waqif-at   /*il-waqif-at
     there   student-plf   AP.standing-plf   /the-AP.standing-plf
    'There are students standing.'

   c. hinnih   waqif-at   /*il-waqif-at
     they.plf   AP.standing-plf   /the-AP.standing-plf
    'They are standing.'

As demonstrated in (23), the non-verbal predicate *waqif* 'standing' agrees with the lexical

definite DP (23a), lexical indefinite DP (23b), or the overt pronominal (23c). Furthermore, the

non-verbal predicates are indefinite regardless of the Definiteness feature specification of these

DPs as the ungrammaticality of the definite non-verbal predicates demonstrates in (23a-c).

Non-verbal predicates show the same agreement pattern they hold with the topic when

used in embedded clauses (24).

(24) b-a-9rif   innu il-banaat wa9f-at   /*il-waqf-at
   realis-I-know.sg   that the-girls AP.standing-plf /the-standing-plf
   'I know that the students are standing.'

In verbal sentences, non-verbal predicates agree with the postverbal subject in Number and

Gender only irrespective of whether the subject is definite lexical DP (25a), lexical indefinite DP

(25b), or overt pronominal (25c).

(25) a. kaan-an   /kaan-at   waqif-at   /*il-waqif-at/
   perf.be.3-plf /perf.be-3.sgf   AP.standing-plf /the-AP.standing-plf/

   *waqif-ih   il-banaat
   AP.standing-sgf   the-girls
   'The girls were standing.'

  b. kaan-an   /kaan-at   /kaan   waqif-at   /*il-waqif-at
   perf.be.3-plf /perf.be-3.sgf /perf.be.3sgm AP.standing-plf /the-AP.standing-plf
   'There were standing girls.'

   *waqif-ih   /*waqif   banaat
   AP.standing-sgf   /AP.standing.sgm   girls
   'There were girls standing.'

  c. kaan-an   waqif-at   /*il-waqif-at   hinnih
   perf.be.3-plf AP.standing-plf /the-AP.standing-plf they.plf
   'They were standing.'

In (25), the non-verbal predicate *waqif* 'standing' agrees with postverbal subjects in Number and

Gender, but it should be indefinite as the ungrammaticality of having the prefix definite article

reveals. They are not affected by the agreement pattern the verb encodes as shown in (25a-b), the

non-verbal predicate agrees in Number and Gender irrespective of whether the verb has full,

partial, or default agreement.

Non-verbal predicates show the same agreement pattern they hold with the post-predicate subject when used in embedded clauses (26).

(26) b-a-9rif   innu wa9f-at   /*il-waqf-at il-banaat
   realis-1-know.sg that AP.standing-plf /the-standing-plf the-girls
   'I know that the students are standing.'

The preferred and most common word order is for the subject to precede the non-verbal predicate in all contexts. Nonetheless, non-verbal predicates do not change their agreement pattern according to the word order or subject type as verbal predicates.

Non-verbal stems show full nominal agreement only when they function as modifiers of the head nouns within Determiner Phrases (DPs). In such contexts, the non-verbal stems agree with the head nouns in Definiteness, Number, and Gender. Consider the following example.

(27) **Noun** **Adjective** **AP**   **PP**

 a. il-binit il-mariiD-ih**/** AP.il-waqif-ih**/** PP.il-ma9azuum-ah fi i-Saf
  the-girl the-sick-sgf/ the-standing-sgf/ the-invited-sgf in the-class
  'The sick/ standing/ invited girl is in the class.'

 b. fiih binit mariiD-ih**/** AP.waqif-ih**/** PP.ma9azuum-ah fi i-Saf
  there girl sick-sgf/   standing-sgf/ invited-sgf in the-class
  'There is a sick/ standing/ invited girl in the class.'

In conclusion, Non-verbal predicates agree with the topic or subject in Number and Gender. This is considered a partial nominal agreement because the non-verbal predicates do not agree with the subject or topic of the sentence in Definiteness. They have to be indefinite regardless of the Definiteness of the subject or topic. These stems show full nominal agreement pattern, namely, Definiteness, Number, and Gender, only when used as modifiers of head nouns within DPs. Furthermore, the agreement pattern the non-verbal predicates show is not subject to variation according to contextual factors as summarized in Table 1.

Table 12: The agreement patterns of non-verbal predicates

word order	subject type	Non-verbal predicates	
		Main clauses	embedded clauses
SVO	Definite lexical DP	Partial nominal agreement	Partial nominal agreement
	Indefinite lexical DP	Partial nominal agreement	Partial nominal agreement
	Pronominal	Partial nominal agreement	Partial nominal agreement
VSO	Definite lexical DP	Partial nominal agreement	Partial nominal agreement
	Indefinite lexical DP	Partial nominal agreement	Partial nominal agreement
	Pronominal	Partial nominal agreement	Partial nominal agreement

As demonstrated in Table 12, the agreement pattern non-verbal predicates exhibit does not vary according to the contextual factors such as word order or subject type. In contrast, non-verbal predicates exhibit only one agreement pattern, i.e. the partial nominal, regardless of the word order and subject type.

3.3 Conclusion

The description of the morphology in JA identifies three inflectional classes: verbal, nominal, and modal particles. This classification is based on the categories that carry the maximum agreement feature specification. The full verbal inflectional paradigm is specified for Person, Number, and Gender. The full nominal paradigm, on the other hand, is specified for Definiteness, Number, and Gender. Other lexical categories in JA can be then classified into inflectional categories according to their adherence to these paradigms. This chapter concludes that there are three predicate classes in JA in terms of the inflectional paradigms.

In JA, there are verbal and non-verbal predicates. Verbal predicates which can carry the full verbal inflectional paradigm include: lexical verbs, the auxiliary verb *kaan* 'be', and the modal verb *qidir* 'managed'. All the inflectional verbal forms in the verb paradigm carry agreement inflection. The agreement pattern verbal predicates exhibit is subject to variation according to word order and subject type. They exhibit full agreement with overt and null pronominal subject regardless of word order and with preverbal subjects or topics. Verbs

optionally show full agreement with postverbal lexical DPs. They show partial agreement in Person and Gender with postverbal lexical DPs. They can optionally show default agreement, i.e. third person, masculine, and singular, with postverbal lexical indefinite DPs. In short, verbal predicates form the first inflectional class in JA.

Non-verbal predicates include nouns, adjectives, participles, and nominalized predicates. All can carry inflections specified for Definiteness, Number, and Gender. Nouns only show a ternary Number distinction, i.e. singular-dual-plural distinction; adjectives show binary distinction for Number and Gender. Participles and nominalized predicates do not exhibit verbal inflections. Participles rather pattern with adjectives in this regard whereas nominalized predicates pattern with nouns. Unlike verbal predicates, non-verbal predicates agree with the subject in Number and Gender regardless of word order. They are always indefinite unless used as modifiers of head nouns within DPs wherein they agree with the head nouns fully in Definiteness, Number, and Gender. Hence, non-verbal predicates constitute the second inflectional class in JA.

The third predicate class includes modal particles such as *raH* 'will/ be going to' and *lazim* 'must'. These predicates do not inflect like verbs or nouns. They do not inflect for aspect nor do they inflect for agreement. Hence, they belong to a distinct inflectional class that I annotate as a particle class.

The intriguing question to be answered is: Is there any correlation between finiteness and the inflectional classes in JA? This question necessitates examining the distribution of verbal and other predicates in different contexts. Before answering this question, the semantic interpretations that verbal predicates encode in JA should be established. The next chapter explores whether verb forms in JA encode tense, aspect, both, or neither.

Chapter Four

Tense and aspect in Jordanian Arabic

In Jordanian Arabic, there are two verb forms: Perfective, e.g. *katab* 'wrote' and Imperfective, e.g. *yi-ktub* 'is writing/ writes.' The literature on Arabic tense and aspect has been dominated by the dispute on whether Arabic verb forms express tense or aspect. For example, Arabic traditional grammarians consider these verbal forms encode tense as past versus non-past (Sibawahi 1938). Another group of scholars claim that this contrast expresses aspect only (Cohn 1924, Fleisch 1979). Others argue that both tense and aspect can be inferred from the same inflection (Fassi Fehri 1993). A fourth group claims that verb forms encode neither tense nor aspect (Kurylowicz 1973). The literature on the verbal system in JA is dominated by adopting these standpoints as the semantic basis and offering a morphosyntactic support to them (Al-Shboul 2007, Al-Saidat and Al-Momani 2010, Al-Momani 2011). I will briefly address the previous research in this regard when discussing the verb forms in JA in Section 4.2.1.

Since the aforementioned controversy has influenced the previous accounts of whether the verb forms in JA encode tense or aspect, I will present them in details and examine how valid each account to offer a semantic basis for the JA verbal system. Nonetheless, I will first clarify the distinction between syntactic and semantic tense and aspect in advance because their intricate relation makes most previous analyses confusing. Semantic tense implies locating a situation in time, whereas semantic aspect unravels the internal dynamic structure of the situation. On the other hand, syntactic tense and aspect refer to the obligatory realization of the semantic features. That is, syntactic tense refers to the inflections that encode tense distinctions and syntactic aspect refers to the inflections that encode aspect distinctions. Nonetheless, shifts in the aspectual and

temporal reference and meaning are possible. These can be recovered pragmatically in the discourse.

The main goal of this chapter is to investigate the expression of tense and aspect in Jordanian Arabic (JA) in order to answer the main research question: Do verb forms in JA express tense, aspect, or both? In order to achieve this goal, the chapter explores the proposed analyses in light of the data from JA to evaluate which analysis offers the most appropriate account of verbal inflection in Arabic varieties.

The chapter is organized as follows. Section 1 reviews the linguistic literature on tense and aspect. Then, Section 2 presents the four proposed analyses of Arabic verb forms with evaluation in light of the JA data. Finally, Section 3 states the conclusions.

4.1 Tense and aspect

Languages project real-world situations as events lexicalized on predicates, in particular, verbs. For example, the situation of writing this paper can be expressed as *I was writing a paper about Tense*. The event of *writing* is coded in the lexical verb, the past form of the auxiliary *was* indicates that the event is anterior to the present moment of speech, and the interior perspective on the event is coded by the progressive participle of the lexical verb *writing*. As the example demonstrates, an event is the part of the proposition that has temporal and aspectual properties such as temporal location and dynamic structure. These temporal and aspectual properties are sometimes encoded by the verbal morphology; however, they can also be inferred from the discourse or pragmatic implicature since they reference real-life situations. Nonetheless, languages vary in whether they encode tense or aspect morphologically or pragmatically. This section is devoted to clarifying the syntactic and semantic distinction between tense and aspect in addition to exploring how tense and aspect function in the discourse context.

4.1.1 Tense

As a semantic category, tense presents an event from an external perspective and locates it relative to a time in the past, present, or future. Tense can be overtly expressed by morphemes on the verb or the auxiliary giving rise to what is termed syntactic tense (Reichenbach 1947, Comrie 1976, 1985, Lyons 1977, Levinson 1983, Dahl 1985, Smith 1997, Klein 1994). Syntactic tense is an inflectional property of predicates, and it is language-specific. Few languages distinguish past, present, and future, e.g. Lithuanian (Dambriunas, Klimas & Schmalstieg 1966). Most languages make a contrast between past versus non-past as in Finnish, or future versus non-future as in Kusaiean (Lee 1975). These binary distinctions are technical terms to describe the grammaticaliztion of tense. In fact, there is a continuum of semantic tense wherein the past and future are at the extremes with a fine grain gradation of temporal relations in between. Nonetheless, this is not the case with the grammatical categories that encode tense. For example, the English tense system is described as past versus non-past in the sense that the former is restricted to past (1a), but the latter can refer to present (1b) or future (1c).

(1) a. She left the school.
    b. She leaves early.
    c. The train leaves at 10:00 a.m. tomorrow.

On the other hand, there are also languages such as Mandarin Chinese and Thai which lack obligatory tense morphemes but achieve temporal location either via the use of lexical items such as adverbs or pragmatically via the context (Reichenbach 1947, Comrie 1976, 1985, Lyons 1977, Levinson 1983, Dahl 1985, Smith 1997, Klein 1994). For example, in Mandarin Chinese, temporal location is achieved via temporal lexical items, i.e. adverbs and modal auxiliaries, or pragmatic implicature (Comrie 1976, Spanos 1979, Chan 1980, Chang 1986, Smith 1997).

Syntactic tense is basically investigated in terms of ordering temporal relations by analogy to locating a target object in space based on its relation to a reference object (Reichenbach 1947, Lyons 1977, Dowty 1979, 1982, Comrie 1985, Klein 1994, Smith 1997). As tense presents events from an external perspective, events are represented on a timeline as points where the time of the target event is located relative to a reference time. Reichenbach (1947) developed a model of tense in terms of an ordering between three time points on a timeline identified as Speech time (S), Reference time (R), and Event time (E). Speech time refers to the time of the utterance. Event time refers to the time at which the expressed event took place. Reference time refers to the time established in the discourse as an orientation located relative to E and S.

Within this model, English simple tenses marked by verb inflections on lexical verbs, e.g. *John went home* and compound tenses, which are marked by auxiliary verbs as in *John had left* are analyzed as Table 1 demonstrates. Times separated by a comma are unordered, i.e. simultaneous. The angle bracket indicates ordered times.

Table 1: English Tenses within Reichenbach's model

Tenses	Examples	Ordering relation
Simple past	I saw John.	E, R < S
Past (Anterior) Perfect	I had seen John.	E < R< S
Simple present	I see John.	S, R, E
Anterior present/ present perfect	I have seen John.	E < S, R
Simple future	I shall see John.	S < R, E
Anterior future/ future perfect	I shall have seen John	S < E < R

Reichenbach (1947) demonstrates that in English simple Tenses, E and R are simultaneous and both are ordered with respect to S as anterior, simultaneous, and posterior in the past, present, and future, respectively. In the Perfect, E is anterior to R whereas R is ordered with respect to S as anterior (past), simultaneous (present), and posterior (future).

The perfect in English has an aspectual interpretation in all of the tenses and an embedded simple past tense reading only in the past and future perfect (Kearns 2000). The aspectual readings include describing a past event that is still relevant in the present or expressing indefinite past; hence, it is incompatible with deictic past time adverbs, e.g. *John has won three prizes since Wednesday/ *on Wednesday*. On the other hand, its tense reading is apparent in complex tenses where the auxiliary or the modal carries the syntactic tense, while the perfect carries only a semantic embedded past tense, e.g. *John will have arrived by 10:00 a.m. tomorrow.* The modal *will* denotes future. The perfect expresses the past tense inside the future tense, in other words, past-of-the-feature (Kearns 2000).

Therefore, tense is mainly about ordering the time of the event relative to a speech or reference time. The relation between the time of the event and the speech time is encoded by Absolute tense and the relation between the time of the event and the reference time is encoded by Relative or Anaphoric tense. The following sections demonstrate these types of tense.

4.1.1.1 Absolute tense

Absolute tense expresses the temporal relation between the Event and Speech time encoded by the tense marker in the clause. This is why Absolute tense is often referred to in the literature as deictic tense (Comrie 1985, Hornstein 1990, Partee 1984, Hinrichs 1981, 1986, Klein 1994, Smith 1997, Kearns 2000). For example, English finite verbs encode Absolute tense (ibid), e.g. *John worked hard. He made a lot of money,* the simple verb form encodes Absolute past tense. Each clause references tense independently of tense reference in other clauses. Nonetheless, the time reference established in the first clause is simultaneous with that in the second clause. The ordering relation can also be sequential as in *John sat down at his desk. He took out a pen and a paper.* The time references are established independently in clauses, but the

events are sequential in this case. This information is derived from the context and the verb meaning.

4.1.1.2 Relative tense

Relative tense expresses the temporal relation between the event time and a reference time encoded within another clause, i.e. not encoded by a tense marker in the clause (Comrie 1985, Hornstein 1990, Partee 1984, Hinrichs 1981, 1986, Klein 1994, Smith 1997, Kearns 2000). For example, non-finite verbs in English do not encode Absolute tense. Example (2) illustrates Relative tense (taken from Comrie 1976: 2).

(2) a. When walking down the road, I often meet Harry.
    b. When walking down the road, I often met Harry.

In (2), the present participle *walking* in the subordinate clause indicates that the situation is located simultaneously with the Event time of the matrix clause regardless of the tense of the later. The syntactic tense of the main clause in (2a) is present, but the one in (2b) is past. Consequently, the non-finite verb form receives a non-past tense interpretation in (2a), but past tense interpretation in (2b). The simultaneity relation is enhanced by the use of *when* because it enhances the overlapping of events when an Imperfective is used with a Perfective viewpoint.

The Relative tense analysis is best depicted by Partee's (1973, 1984) and Hinrichs' (1981, 1986) comparison of the phenomenon of Relative tense and event order phenomena in discourse to nominal anaphora. Partee argues that the correct interpretation of the Event time necessitates the establishment of a reference interval from the context. The reference interval functions as an anaphoric antecedent to establish the reference to the event time. She assumes that the Event time is an anaphor, and the reference interval is its antecedent.

This anaphora phenomenon is demonstrated by Klein's (1994) Topic Time (TT). TT is a temporal reference interval with respect to which an assertion is made. Absolute tense establishes

a TT and indicates whether the TT precedes, contains, or follows the time of speech. On the

other hand, Relative or anaphoric tense encodes the order of the time of event relative to the TT.

Example (3) is illustrative (reproduced from Klein 1994: 39-40).

> (3) a. what did you notice when you entered the room?
>   b. A man was lying on the floor.
>   c. He was Chinese or Japanese.
>   d. He did not move.
>   e. A woman was bending over him.
>   f. She was taking a purse from his pocket.
>   g. She turned to me.

In (3), (a) can be a question asked by a judge in a court whereas; (b-g) represent the witness's

answers. The question establishes the TT of the entire discourse, with respect to which the (b-g)

answers are asserted; (3b-f) are all simultaneous with the TT. Some are progressive (b, e, and f) ,

whereas the others in (c) and (d) are stative. Only (g) introduces another tense reference by

advancing a succession of the time reference as it follows the TT. If all the finite verbs in (3) are

past, the question is: how can a receiver identify that the time reference in (g) is different from

the other linguistically identical forms in (a-f)? In other words, (g) introduces a shift in past time

reference. It is encoded by the same Absolute tense morphology as the verbs in the other

responses. The only way that the receiver can identify this shift is through the discourse and the

meaning of the lexical verb.

As Example (3) demonstrates, the pragmatic or discourse dimension is also involved in

establishing temporal relations as well as semantic and syntactic tenses. Keeping all the variables

constant, one can identify the role of pragmatics and discourse contexts. A further illustrative

context is: *John worked hard. He saved his money. He bought a house.* All the verbs represent

activities. They all encode Absolute past tense. Nonetheless, it is perceived from the context that

the events in the first two sentences are simultaneous while the event in the third sentence

introduces a different time reference that follows the previous ones. This is achieved by the meaning of the verbs that *buying* something is done after *saving money*. This discussion unravels the discourse function of tense.

Finally, syntactic tense is not simply interpreted as only encoding semantic tense, i.e. locating the event time as present or past. For instance, the basic function of the past tense is to refer to a time prior to the speech time. However, it is also commonly used to express irrealis, i.e. nonactual states such as conditionality and hypotheticality, e.g. *If I _studied_ hard, I would succeed,* and *I wish I _had_ enough money*. This function illustrates the difference between syntactic and semantic tense. Hence, the irrealis use of the past tense morpheme is a syntactic use of the past tense that does not express a semantic past tense (Kearns 2000). Likewise, the present tense can be used with different interpretations other than the semantic present tense. In English, for example, it can be used in narrating past events, e.g. *So just last week I'm going down Cashel St and this guy comes up to me* (Kearn 2000: 152). This is a past event that the present tense is used here to narrate.

To recapitulate, tense semantically locates an event in time with respect to a TT. It can be expressed via a syntactic tense, pragmatically, or lexically via adverbs. Syntactic tense can be used to code irrealis contexts or narrative presents that are not in line with the semantic tense. Different temporal information is evoked by aspect. Thus, the next section addresses the aspect system in languages that view events from a different perspective.

4.1.2 Aspect

Aspect semantically presents events from an internal perspective emphasizing how they unfold in time as complete or incomplete. These internal viewpoints are coded inflectionally across languages as different perspectives or viewpoints (henceforth viewpoints) such as the

Perfective and Imperfective, which are the most widespread aspectual distinctions (Holt 1943, Comrie 1976, Klein 1994, Smith 1997, Kearns 2000). Syntactic aspect refers only to the grammaticalization of viewpoints. Languages differ in their viewpoint systems. For example, Mandarin Chinese has three Perfective and two Imperfective morphemes; whereas Finnish and Icelandic lack overt morphemes for aspectual viewpoints.

Viewpoints unravel how a situation unfolds in time by selecting portions of the event for assertion (Breu 1994, Chung and Timerlake 1985, Klein 1994, Smith 1997) as depicted in Smith's (1997: 171) metaphor of aspectual viewpoints as a lens:

> The aspectual viewpoint of a sentence functions as an independent lens on the situation talked about. Viewpoint makes visible all or part a situation, without obscuring the conceptual properties of the situation type.

The Perfective and Imperfective viewpoints are traditionally described as bounded/ limited/ completive versus unbounded/ continuous/ ongoing, respectively (Holt 1943, Friedrich 1974, Bybee 1985). According to these descriptions, the Perfective selects the event in its entirety to be asserted; hence, the boundaries of the event time are included under the assertion giving the Perfective its boundedness feature (Comrie 1976, Smith 1997, Bohnemeyer 2002). On the other hand, the Imperfective asserts the event internally without including its end points.

The boundary information of the aspectual viewpoints explains how temporal ordering information is interpreted in languages that lack overt syntactic tense. To illustrate this point with a concrete example, I will give examples from Yoruba, a tenseless language, with overt aspect markers, e.g. the non-state verbs have the prefix *n-* for the Imperfective, but they lack affixation in the Perfective (Welmers 1973, Comrie 1976). The prediction is that in these languages which lack overt tense marking and in contexts that also lack deictic temporal adverbs, time reference is unmarked. Despite of the lack of a direct time reference indication, temporal ordering

information is implicated from the Perfective and the Imperfective. For instance, Yoruba the Imperfective *ó ń ṣiṣé* is interpreted as 'he is working,' whereas the Perfective in *ó wá* is interpreted as 'he came;' otherwise, time reference is established via adverbs. For example, since the past time reference is indicated in the sentence *ó ń ṣiṣé l' ánǎ* 'he was working yesterday,' the Imperfective is compatible with past adverbials (The examples are taken from Welmers 1973: 246-7).

Since viewpoints are located at a reference interval, this explains how aspect interacts with tense. More precisely, the Perfective aspect has both ending points asserted at the reference interval, or TT. Therefore, when the TT is established in the discourse, the Perfective also receives this time reference. I will illustrate this with an example from Standard Arabic in (4). (The abbreviations used in the gloss in the examples below are modified to the one adopted throughout the paper).

(4) itha   jaa'a   ab-ii   ghadan ,   sawfa   '-uxbiru-hu
    if   perf.come.3sgm   father-my   tomorrow,   will   1-tell.sg-him
    'Literally: If my father came tomorrow, I will tell him.'
     'If my father comes tomorrow, I will tell him.'

The TT is *telling my father*. It is established in the future by the modal *sawfa* 'will' and the deictic adverb *ghadan* 'tomorrow'. The Perfective *jaa'a* 'came' is asserted at the TT and both ending points are asserted in that the action will begin and end at the TT. Therefore, it receives future tense interpretation. This explains why the Perfective aspect in aspectual languages can be used in reference to future events.

On the other hand, the Imperfective, which is often associated with non-past, can reference past events. As an illustration, the example *when walking down the road, I met Harry*, there are two events, *meeting* and *walking*. The TT of this sentence is the meeting with Harry. The event in the main clause is located within the Reference interval which is also prior to speech time.

Hence, the verb appears in the finite simple tense. This is the Absolute tense. The event of the adverbial clause is ordered with respect to an interval in which the meeting event occurs. This is the Relative tense. The aspectual viewpoints used include the Imperfective for the event in the adverbial clause because *walking* is asserted as being ongoing and incomplete. The boundaries of the event are not asserted. There is no information regarding when I started walking and when I stopped, but it references a past interval because the tense of the main clause is past. On the other hand, the event in the main clause is asserted as complete, and it is punctual and instantaneous. Hence, both boundaries are asserted.

There is a range of aspectual viewpoints that vary according to which part of the event is asserted, and they focus on more fine-grained features of the action. For example, the continuous or progressive views the event internally as ongoing, a process, or incomplete. Habitual aspect views the event as repeated, i.e. it recurs in an unspecific number of instances (Dahl 1985, Bohnemeyer 2002). This range of semantic aspectual viewpoint is represented syntactically with less verbal forms than the available semantic viewpoints. This resembles the binary distinctions of tense. Hence, a language may have Perfective-Imperfective viewpoints as in Finnish and Icelandic. These represent the inflectional forms.

The other parameter of aspect is situation type (Smith 1997). They represent a classification of the situation talked about in the sentence in terms of its temporal properties. The common situation types include State, Activity, Accomplishment, and Achievement (Vendler 1957). The distinctive temporal criteria include: dynamism, durativity, and telicity. Situation types are expressed through the verb constellation combining both the verb and its arguments and adverbial modifiers (Verkuyl 1972). Example (5) demonstrates an instance of telicity

criterion. Telicity means having a natural endpoint and so telic event has a natural final endpoint, e.g. an outcome, a goal; atelic events do not have a natural final endpoint.

(5) a. John read books.
    b. John read a book.

In (5a), the object Noun Phrase (NP) is uncountable but the quantity is specific in (5b). Reading a book is telic because it has a natural final endpoint. However, reading books does not have such a final point, thus it is atelic.

Despite being independent, both viewpoints and situation types contribute to the semantic meaning of the sentence. Example (6) is demonstrative.

(6) a. Alice was making coffee.
    b. Alice made coffee.

Both situation types are Accomplishments because they consist of a process that has an outcome. Nonetheless, the viewpoints are different, namely, Imperfective in (6a) but Perfective in (6b). The resulting aspectual meaning of (6a) is that the internal part of the accomplishment, i.e. the process, is asserted at the time allocated. However, in (6b), the terminal endpoint of accomplishment is asserted because the event is viewed in its entirety. Such interaction explains why some choices of viewpoints are affected by the situation type. For example, the progressive in English is more appropriate with non-stative than with stative verbs due to the temporal property of the situation type. States are not dynamic and unchanging over time. This explains why the progressive that asserts a dynamic property of the event is more appropriate with non-stative verbs.

Additionally, situation type interacts with tense. For example, present tense is an idealized tense denoting events that are simultaneous with the Speech time. When simple present is used to express states, the present tense denotes the time of speech for stative verbs, e.g. *I see the*

professor coming. However, when events are expressed via the present tense in English, it gives

a habitual interpretation, e.g. *Sara bikes to work.*

Finally, aspectual interpretations of sentences are not only derived from semantic

information that results from the use of linguistic elements such as viewpoints. They can be

inferred from the context and world knowledge. For instance, a receiver may make some

inferences regarding the ending points of a situation in a sentence given in the Imperfective that

does not assert such information at the temporal interval. A concrete example is *Bill was reading*

the book. First of all, the initial boundary is immediately inferred because the situation is in

progress which entails that it starts. Regarding the final endpoint, it can also be inferred if a

sentence follows in the context giving such indication. These inferences hold unless something

mentioned in the context contradicts them.

All in all, the present section reviews the major issues that are related to tense and aspect.

In essence, tense is the expression of the temporal ordering relation whereas aspect unravels how

a situation unfolds in time. This semantic dimension can be realized morphologically yielding

syntactic tense and aspect. Since the research question of this chapter is whether the verb forms

in JA encode tense or aspect or both, the diagnostics adopted will test whether the potential

temporal or/ and aspectual interpretations are a result of semantic meaning or pragmatic

implicature. In other words, verb forms will be used in contexts that contradict the temporal or

aspectual information often associated with the verb form at issue. The main hypothesis is that: if

the temporal or aspectual meaning is cancelled, then the form morphologically encodes semantic

tense or aspect depending on what is tested; otherwise, the temporal or aspectual meaning at

stake is established pragmatically.

I will test whether the verb forms encode tense by using verbs in contexts with different time reference interpretation, i.e. past, present, and future tense contexts. If the verb forms show sensitivity regarding the tense interpretation of the context, this shows that they encode tense; otherwise, they do not constitute syntactic tense (Smith 1997).

First, I will test the Imperfective which is expressed in English by the auxiliary *be* + ing verb form (Smith 1997, Kearns 2000). In Yoruba, the Imperfective is formed by the use of the aspectual prefix *n-* (Welmers 1973, Comrie 1976).

(7) <u>Present tense context</u>

  a. He is working.   ***English***

  b. o   n   sise   ***Yoruba***
   he   impf   work
   'He is working.'

(8) <u>Past tense context</u>

  a. *He is working yesterday   ***English***

  b. o   n   sise   l'ana   ***Yoruba***
   he   impf   work   yesterday
   'He is working yesterday.'

When the Yoruba Imperfective appears without any explicit time reference, it receives present tense interpretation as in (7b). Nonetheless, it receives the past tense interpretation when time reference is established in the sentence by the deictic time adverbial *I'ana* 'yesterday' as shown in (8b). In contrast, the English counterpart verb form is grammatical only in the present tense context. It does not allow a past tense interpretation because the auxiliary *is* encodes the Absolute present tense.

The Perfective represents the situation in its entirety as bounded. I will use examples from English as a tense language, but my examples for aspectual languages are from Mandarin

Chinese and not from Yoruba, because I do not have the relevant data. One way of forming the Perfective in Mandarin Chinese is by adding the particle -*le.* The test is to use the same form in both languages in past and future tense contexts. If the same form can be used without any sensitivity to time reference, then it encodes aspect; otherwise, it encodes tense.

(9) <u>Past Tense contexts</u>

    a. I wrote a letter yesterday.   ***English***

    b. Wo   zuotian   xie-le   yi-feng   xin   ***Mandarin Chinese***
       I   yesterday write-LE   one-CLAS letter
       'I wrote a letter yesterday.'   (Smith 1997: 264)

(10) <u>Future Tense contexts</u>

    a. *When you wrote the letter, I will read it.   ***English***

    b. ni   xie-le   zhe feng   xin, wo jiu hui du. ***Mandarin Chinese***
       you   write-LE   the CLAS letter, I   will   can read
       'If you wrote the letter, I will read it.

The simple past tense in English encodes tense because it resists appearing in future tense context. In contrast, the Chinese Perfective form can be used in past as well as future tense contexts. Hence, aspectual verb forms can occur in different tense contexts as far as they encode their aspectual meanings; in this case, the action is completed by the time allotted in the context.

In the second test, I will test whether the verb forms represent a syntactic or morphological realization of aspect by testing whether aspectual interpretations are derived semantically or pragmatically. To achieve this goal, I will adopt Smith's (1997) test. She first uses the Perfective and the Imperfective in the appropriate contexts in which they are used to figure out whether there are any restrictions on the distribution of viewpoints across situation types because this may affect the native speakers' perception of aspectual information. Afterwards, she uses conjunctions with contradictory meanings to the core meanings posited by the aspectual

viewpoints at issue. The underlying assumption of the test is that if the aspectual meaning is invariant, then it is due to semantic meaning; however, if it can be cancelled, then these aspectual viewpoints are due to pragmatic implicature. I will present Smith's (1997) examples from English to demonstrate how the test works.

As stated previously, English Perfective viewpoint is expressed by the simple form of the main verb. The assertion introduced by the conjunction is only compatible with the Perfective if it asserts the action as complete.

(11) a. Lily swam in the pond.
    b. Mrs Ramsey wrote a letter.

The events in (11) are represented as complete via the use of the Perfective aspect. In order to test whether this interpretation is due to semantic or pragmatic implicature, Smith (1997: 67) adds the following assertions:

(12) a. # Lily swam in the pond and she may still be swimming.
    b. # Mrs Ramsey wrote a letter and she may still be writing it.

The conjunctions are contradictory. This entails that the completion interpretation cannot be cancelled. Hence, these forms convey semantic aspectual meaning as it is not due to pragmatic implicature.

The main goal of this chapter is to establish whether the verb forms in JA encode tense or aspect. I will test whether the temporal and aspectual meanings conveyed by the verb forms are invariant in different contexts or not. The underlying assumption is that if they are invariant and cannot be cancelled in the contexts, then they are due to semantic meaning; otherwise, they are due to pragmatic implicature.

4.2 Tense and aspect in Arabic varieties

There are four different perspectives regarding whether the Arabic Perfective-Imperfective contrast encodes tense or aspect. This section presents these perspectives and evaluates them against data from JA in order to figure out which is the most plausible account. First, the section presents the different verb forms in JA. Then, it discusses the four perspectives evaluated against the JA data.

4.2.1 Verb forms in JA

The basic verb forms in JA are the Perfective and the Imperfective as shown in the previous chapter. JA also has some particles and auxiliaries that are used in verb phrases. For example, *raH* 'will/ be going to' is the shortened form of the verb *raaH* 'go.' It is followed by a verb in the Imperfective without the prefix *bi-*. It is used in future tense contexts as in (13a) or past tense contexts as in (13b).

(13) a. Muna   raH   ti-ktub   ir-risalih   bukrah
       Muna   will   3-write.sgf   the-letter   tomorrow
       'Muna will write the letter tomorrow.'

       b. Muna   kaan-at   raH   ti-ktub   ir-risalih   imbariH
         Muna   perf.be-3.sgf   will   3-write.sgf   the-letter   yesterday
       'Muna was going to write the letter yesterday.'

The auxiliary *kaan* 'be' is used in forming complex tenses. For example, the auxiliary is followed by the *bi*-Imperfective verb form to form progressive complex tenses, e.g. the past progressive as shown in (14a). Additionally, the auxiliary can be followed by the Perfective or the Active Participial (AP) to form perfect complex tenses, e.g. the past perfect as shown in (14b-c).

(14) a. Muna   kaan-at   bi-ti-ktub   ir-risalih
       Muna   perf.be-3.sgf   realis-3-write.sgf   the-letter
       'Muna was writing the letter.'

b. Muna   kana-at   katab-at   ir-risalih

Muna   perf.be-3.sgf   perf.be-3.sgf   the-letter

'Muna had written the letter.'

c. Muna   kana-at   katib-ih   ir-risalih

Muna   perf.be-3.sgf   AP.writing-sgf   the-letter

'Muna had written the letter.'

The auxiliary *kaan* 'be' and *raH* are, furthermore, used in copular sentences.

(15) a. Muna   kaan-at   ta9ban-ih

Muna   perf.be-3.sgf   tired-sgf

'Muna was tired.'

b. Muna   raH   ti-kuun   ta9ban-ih

Muna   will   3-be.sgf   tired-sgf

'Muna will be tired.'

To sum up, the verbal system in JA includes the following forms: the Perfective, the *bi*-Imperfective, the bare Imperfective, and the auxiliaries *kaan* and *raH*, which are used in forming complex tenses when followed by the *bi*-imperfective, the Perfective, or the AP. They are used in copular sentences as well. These verb forms constitute the full verb paradigm in JA.

The previous accounts of whether verb forms in JA semantically encode tense or aspect have adopted the influential semantic research on other Arabic varieties, especially Standard Arabic. Therefore, I will go over each account in details in the following section. The researchers supported their accounts by morphosyntactic analyses from JA. For example, Al-Shboul (2007) argues that the verb forms in Jordanian Arabic are aspectual following Comrie (1976). He states that the Perfective encodes the event as complete, whereas the *bi*-imperfective encodes the event as incomplete. He does not provide any independent semantic evidence for his claim.

Al-Saidat and Al-Momani (2010) argue that verb forms in Jordanian Arabic encode both tense and aspect. They devoted their study to future tense markers in JA. They claim that the prefixes *bi*-, which I consider the realis marker, *yi-, ti-, ni-*, which I consider as agreement

prefixes specified for Person in the previous chapter, are present tense markers besides the particle *raH* 'will'. In fact, their account follows the proposal suggested by the traditional Arabic grammarians (Sibawahi 796) who define these prefixes as *Huruuf al muDara9ah* 'the letters of the present tense'. Al-Saidat and Al-Momani argue that these prefixes are markers of the present tense in the absence or presence of temporal adverbs with present tense interpretations. However, the same prefixes can express future tense only on the condition that a temporal adverb with a future tense interpretation is used. They based their claims in the distribution of these verbs in the present and future tense contexts.

All in all, the previous research on the semantic contributions of verb forms in Jordanian Arabic is lacking, and the semantic accounts of other Arabic varieties have been extended to JA. As a result, I designate a separate chapter in my dissertation to offer independent semantic evidence on whether the JA verb forms represent tense or aspect. In the next section, I evaluate the analyses proposed in the literature on verb forms in Arabic against the JA data in order to draw conclusions regarding which analysis can best account for the semantic contributions of the verb forms in JA. The bottom line of my semantic analysis is that pragmatic implicatures are subject to cancellation, whereas semantic entailments are not.

4.2.2 A synopsis of the four perspectives

Traditional Arabic grammarians argue that the Perfective expresses an elapsed time, whereas the Imperfective denotes an unelapsed time. Consequently, they call the Perfective *al-maDi* 'the past' as in *kataba* 'he wrote' and the Imperfective *al-muDari9* 'the present,' but they pinpointed that the Imperfective verb form encodes both present and future as in *yaktubu* 'he is writing/ will write' (Sibawahi 796, Ash-shirbiini 1570). Furthermore, they call the prefix on the Imperfective *Hruuf al-muDara9ah* 'the letters of present tense' to distinguish it from the

Perfective. This term reflects the Arabic grammarians' perspective that the distinction between these forms is based on temporal ordering relations, so they encode tense.

The advocates of this standpoint support their claim by applying an adverb compatibility test. They show that the Perfective is only compatible with past temporal adverbs, whereas the Imperfective is compatible with present and future time adverbs. Consider the following example.

(16) a. kataba   al-rajul-u   al-risaalat-a   'amsi
        perf.write.3sgm   the-man-NOM   the-letter-ACC   yesterday
        'The man wrote the letter yesterday.'

    b. y-aktub-u.0   al-rajul-u   al-saa'at-a
       3-write-plm.IND   the-man-NOM   the-hour-ACC
       'The man writes/ is writing now.'

    c. y-aktub-u.0   al-rajul-u   ghad-an
       3-write-plm.IND   the-man-NOM   tomorrow-ACC
       'The man writes/ is writing tomorrow.'   (Fassi Fehri 1993: 145)

Nonetheless, this analysis cannot be carried over to the verb forms in JA. The Perfective and *bi*-Imperfective appear in realis contexts. However, they cannot be assumed to encode Absolute tense that orders the time of the event to the time of speech because the Perfective is not restricted to past tense contexts as the tense-only advocates claim for SA. The Perfective in JA can appear in future contexts as demonstrated below in (18a) and (19a). Within each example, I compare the data from JA to examples from English and Mandarin Chinese in order to figure out whether JA patterns with English whose verb forms encode Absolute tense or with Mandarin Chinese whose verbs lack Absolute tense inflection.

(17) Past tense contexts (= 9)

    a. Muna   katab-at   i-risalih   imbariH   *JA*
      Muna   perf.write-3.sgf   the-letter   yesterday
     'Muna wrote the letter yesterday.'

   b. He wrote a letter yesterday.   *English*

   c. Wo zuotian xie-le yi-feng   xin   *Mandarin Chinese*
    I yesterday write-LE one-CLAS letter
    'I wrote a letter yesterday.'   (Smith 1997: 264)

(18) <u>Future tense context</u> (= 10)

   a. Muna raH ti-kuun   katab-at   i-risalih   *JA*
    Muna will 3-be.sgf perf.write-3.sgf the-letter
    'Muna will have become a teacher.'

   b. *When you wrote the letter, I will read it.   *English*

   c. ni xie-le   zhe feng xin, wo jiu hui du. *Mandarin Chinese*
    you write-LE the CLAS letter, I will can read
    'If you wrote the letter, I will read it.

The Perfective verb *katab* 'wrote' receives past tense interpretation in (17a). Nonetheless, this

interpretation is canceled when the same verb form is used in future tense context as shown in

(18a). Likewise, the Perfective in Mandarin Chinese receives tense interpretation from the

context as shown in (17c) and (18c). On the contrary, the English simple past perfective form can

only be used in past tense context as demonstrated in the grammaticality of (17b) as opposed to

the ungrammaticality of (18b).

   There are two implications of this changeable interpretation. First, the verb form is not

restricted to past tense contexts as assumed by the proponents of the tense-only perspective.

Second, if the past tense interpretation is cancelled once the time reference is established in the

context, then, this interpretation is due to pragmatic implicature rather than semantic meaning.

Therefore, the Perfective in JA does not encode Absolute tense.

   The same analysis applies to the Imperfective. It can be used in non-past as well as past

contexts, contrary to what the advocates of the tense perspective claim. Examples (19-20) are

illustrative.

(19) <u>Non-past contexts</u> (= 7)

    a. i-Talib-at   bi-yi-ktub-an   *JA*
      the-student-plf   realis-3-work-plf
     'The students are working/ work.'

    b. i-Talib-at   raH   yi-kun-an   bi-yi-shtaghil-an   *JA*
      the-student-plf   will   3-be-plf   realis-3-work-plf
     'The students are going to be working.'

    c. He is working.   *English*

    d. o   n   sise   *Yoruba*
      he   impf.   work
     'He is working.'

(20) <u>Past contexts</u> (= 8)

    a. i-Talib-at   kaan-an   bi-yi-shtaghil-an   imbariH   *JA*
      the-student-plf   perf.be.3-plf   realis-3-work-plf   yesterday
     'The students were working yesterday.'

    b. He was working yesterday   *English*

    c. o   n   sise   l'ana   *Yoruba*
      he   impf.   work   yesterday
     'He is working yesterday.'

The verb *bi-yi-shtaghil-an* 'are working/ work' in (19a-b) is used with non-past tense interpretations. Under this reading, both tensed languages, e.g. English, and aspectual languages, e.g. Yoruba, allow the Imperfective in these contexts. Nonetheless, the same verb form receives a past tense interpretation in JA as illustrated in (20a). Under this interpretation, JA patterns with aspect languages that allow the use of the Imperfective not only in non-past contexts, but also in past contexts as in (20a). On the other hand, English verb constructions cannot be used with the auxiliary that encodes Absolute present tense in past tense context. Thus, JA patterns with aspectual languages rather than tensed languages.

What applies to the Perfective and *bi*-Imperfective forms of lexical verbs applies to the

auxiliary *kaan* 'be'. More precisely, the Perfective form of *kaan* is licensed in past and future

contexts as illustrated in (21) below.

(21) a. layila   kaan-at   ta9ban-ih   imbariH
       Laila   perf.be.2-sgf   tired-sgf   yesterday
       'Laila was tired yesterday.'

     b. bukrah   raH a-zura-ha   Hatta   walaw kana-at   ta9ban-ih
       tomorrow will 1-visit.sg-her though even perf.be-3.sgf tired-sgf
       'Tomorrow, I will visit her even though she is tired.'

Kaan is licensed in past contexts as in (21a). Additionally, it is licensed in future tense contexts

as illustrated in (21b).

Furthermore, the *bi*-Imperfective form of *kaan* is acceptable in past as well as non-past

contexts. Below is an illustration.

(22) a. layila   bi-ti-kuun   ta9ban-ih   hassa
       Laila   realis-3-be.sgf   tired-sgf   now
       'Laila is tired now.'

     b. imbariH   ma   shif-it   layila la'in-ha   bi-ti-kuun   ta9ban-ih
       yesterday not perf.see-1sg Laila because-she realis-3-be.sgf tired-sgf
       'Yesterday, I did not see Laila because she tired.'

The copula is acceptable in non-past (22a) and past (22b) contexts. The canonical interpretation

of the Perfective form of *kaan* is past tense and the *bi*-Imperfective is the non-past. However,

these interpretations are subject to cancellation if contradictory temporal interpretations are

established in the context. This gives independent evidence that the tense interpretation is not

inherent in the form of the auxiliary. Rather, these temporal interpretations are the result of the

pragmatic implicature. Based on these conclusions, I argue that what applies to lexical verbs

applies to the auxiliary *kaan*.

In conclusion, since the Perfective is used in past and future contexts, and the *bi-*Imperfective can be used in the past and non-past tense contexts, I claim that these verb forms do not encode syntactic tense. The problem with the tense-only analysis is that it relies on the interpretations these verb forms show when used alone and rely solely on the adverb compatibility test. The analysis shows that tense interpretations can be cancelled when the time reference is established in the context. Consequently, tense in JA is due to pragmatic implicature because semantic meaning cannot be cancelled.

The modal particle *raH* 'will' is assumed in the literature on JA to encode future tense (Al-Haq 1992, Al-Saidat and Al-Momani 2010). I have established in Chapter 3 that this form is uninflected. It does not exhibit the Perfective or *bi-*Imperfective verb forms or the agreement inflections they carry. In fact, this modal is licensed in past and future tense contexts as demonstrated below.

(23) a. il-banaat   raH   yi-safir-an   bukrah
        the-girls   will   3-travel-plf   tomorrow
        'The girls will travel tomorrow.'

    b. il-banaat   kaan-an   raH   yi-safir-an   imbariH
        the-girls   perf.be.3-plf will   3-travel-plf   tomorrow
        'The girls was going to travel yesterday.'

Since the particle is licensed in contexts with past (23a) and future (23b) tense interpretations, I argue that it encodes aspectual rather than temporal interpretations. More precisely, the modal particle *raH* encodes the prospective aspect, which expresses a subsequent event as defined by Comrie (1976).

The second perspective is that the verb forms at issue are morphological forms of aspect only. This perspective goes back to the late 19th and early 20th century in the work of western semanticists and philologists (Wright 1859, Cohen 1924, Fleisch 1979). This view is basically

motivated by comparing the Semitic verb forms including Arabic to the Indo-European languages that mark tense. For example, Caspari (1859), translated in Wright (1859), claimed that these verb forms do not locate an event in relation to the time of utterance where the speaker is located. Hence, they do not establish deictic temporal relations which are the basic units of tense. These forms only focus on the realization of the event as completed or not completed. In the same vein, Cohen (1924, 1989) concludes that tense is 'not in the spirit of' the Semitic verbal system, and it is rather achieved by means of lexical items, e.g. adverbs, or the context. Nonetheless, aspect is misconceived as what is not a tense must be an aspect. Their analyses lack a well-defined distinction between tense and aspect. Additionally, Cohen (1989) addresses only the Perfective and Imperfective verb forms, but he overlooked the auxiliaries.

The cornerstone of the aspectual perspective of Arabic is that time reference is implicated pragmatically. Fleisch (1975) assumes that Arabic verb forms encode aspect whereas tense follows from the sentence. He demonstrates his view by arguing that the Imperfective receives the present reading only in the absence of any temporal adverbs or contextual clues. For example, a sentence such as *abki-uy/* sic. *abki-i* 'I am crying' is interpreted as present only because there is no future particle. However, he argues that the Perfective by itself expresses tense by indicating past time reference because it is used exclusively in past time contexts. In particular, Fleisch (1979) assumes that both Perfective and Imperfective are aspectual verb forms but only the Perfective, further, encodes Absolute tense. Nevertheless, his assumption regarding the Perfective verb form in SA cannot be applied to JA because as I demonstrated in Examples (18-19), the JA Perfective can be used in future tense interpretation and not only past tense contexts. I argue that his analysis of the Imperfective can be applied to both the Perfective and the *bi*-Imperfective forms of lexical verbs in JA.

Even though the assumption that Arabic verb forms are essentially aspectual is supported by the JA data, the proposed aspectual analysis still suffers from some problems. First, the definitions of tense and aspect are not clearly distinguished. The basic notion of aspect is based on the comparison to tense. In more precise terms, the bottom line of the distinction is that if a form does not encode tense, it then encodes aspect. However, the proponents of the aspect-only perspective did not test whether the Arabic verb forms actually encode aspect, or whether aspect is also implicated pragmatically.

I will adopt Smith's (1997) test of aspectual interpretation whether they are semantically or pragmatically established in the context as demonstrated in detail in the previous section. Therefore, to test whether the aforementioned interpretation can be cancelled in other contexts or not, I add some assertion with contradictory interpretation. For instance, the Perfective in JA is used with all situation types to refer to an activity, an accomplishment, and an achievement. Example (24) is illustrative.

(24) a. aHmad   daz   il-9arabayih   fi   i-shari9   ***activity***
        Ahmad   perf.push.3sgm   the-cart   in   the-street
        'Ahmad pushed the cart in the street.'

    b. aHmad   rasam   da'rah   9a-il-luuH   ***accomplishment***
        Ahmad   perf.draw.3sgm   circle   on-the-board
        'Ahmad drew a circle on the board.'

    c. aHmad   ribiH   i-sibaaq   ***achievement***
        Ahmad   perf.win.3sgm   the-race
        'Ahmad won the race.'

All the events in (24a-c) are interpreted as complete and bounded because both final endpoints are included in the scope of assertion posited by the viewpoint. Therefore, any assertion with incomplete interpretation is predicted to be incompatible if the forms are aspectual. Example (25) is illustrative.

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(25) a.# aHmad daz   il-9arabayih fi i-shari9   [wa ba9d-uh bi-yi-diz]
        Ahmad perf.push.3sgm the-cart   in the-street and still-he realis-3-push.sgm
        'Ahmad pushed the cart in the street and he is still pushing.'

     b. #aHmad rasam   i-da'rah   9a-il-luuH   [wa ba9d-uh bi-yi-rsum]
        Ahmad   perf.draw.3sgm the-circle on-the-board and still-he realis-3-draw.sgm
        'Ahmad drew a circle on the board and he is still drawing.'

     c. #aHmad   ribiH   i-sibaaq [wa   ba9ad-uh   bi-yi-rbiH]
        Ahmad   perf.win.3sgm   the-race and   still-he   realis-3-win.sgm
        'Ahmad won the race and he is still winning.'

The conjunctions in (25) with their contradictory assertions are infelicitous (the conjunctions are

bracketed for clarity's sake). This shows that the interpretations of the completion of the events

cannot be cancelled; hence, they are due to semantic meaning. Therefore, the Perfective in JA

represents a syntactic aspectual viewpoint and not a result of a pragmatic implicature as is the

case with the tense interpretations.

The same applies to the *bi*-Imperfective, which is used in all situation types except

achievements because they are telic and instantaneous. This contradicts the intrinsic property of

the Imperfective which is unbounded and durative. Example (26) is demonstrative.

(26) a. aHmad   bi-yi-diz   il-9arabayih fi i-shari9   *activity*
        Ahmad   realis-3-push.sgm   the-cart   in the-street
        'Ahmad is pushing the cart in the street.'

     b. aHmad   bi-yi-rsum   da'rah 9a-il-luuH   *accomplishment*
        Ahmad   realis-3-draw.sgm   circle on-the-board
        'Ahmad is drawing a circle on the board.'

     c. *aHmad   bi-yi-rbaH   i-sibaaq   *achievement*
        Ahmad   realis-3-win.sgm   the-race
        'Ahmad is winning/ wins the race.'

The *bi*-Imperfective *bi-yi-diz* 'pushes/-is pushing' conveys an incomplete activity as in (26a).

The same verb form can be used in accomplishment situation type but only with the reading of

an ongoing activity as in (26b). The termination of the event is not in the scope of assertion. The

accomplishment situation type consists of a process that leads to an outcome. When used in the

bi-Imperfective, only the internal portion, i.e. the process, is focused. The *bi*-Imperfective verb

form cannot be used with the achievement type as shown in the ungrammaticality of (26c)

because the terminal boundary cannot be asserted by a *bi*-Imperfective.

The Imperfective viewpoint asserts the internal interval of the situation without asserting

the final endpoints. This entails that it is compatible with assertions that an action is incomplete.

It is incompatible with assertions that denote completed events. Neither is it compatible with any

interpretation that implies the inclusion of the terminal boundary. Consider the following

example.

(27) a. Muna   bi-ti-imshi   la-as-suuq   bus   ma   wiSil-it   lisa
       Muna   realis-3-walk.sgf   to-the-market   but   not   perf.arrive-3.sgf   yet
       'Muna is walking to the market, but she has not arrived yet.'

    b. *Muna   bi-ti-imshi   la-as-suuq   wa   wiSil-it
       Muna   realis-3-walk.sgf   to-the-market   and   perf.arrive-3.sgf
       'Muna is walking to the market, and she has arrived there.'

The assertion in (27a) denotes that the action is not terminated, whereas it is terminated in (27b).

The *bi*-Imperfective is allowed in the former, but it is incompatible with the latter. This entails

that the conceptual meaning established by the *bi*-Imperfective cannot be cancelled in the

discourse. In other words, it is established semantically and not pragmatically. This analysis

supports the claim that these verb forms are morphological aspectual forms.

To recapitulate, the verb forms in JA whether lexical or auxiliary encode aspect. The

temporal interpretations in JA are a result of pragmatic implicature as they can be cancelled.

Thus, the second perspective, i.e. the aspectual one, appropriately accounts for the interpretations

the JA verb forms contribute.

The third group of scholars argues that Arabic verb forms express both tense and aspect. They basically adopt Reichenbach's (1947) model and Comrie's (1976) Relative tense notion (Comrie 1976, 1985, Fassi 1993). For instance, Comrie (1976, 1985) argues that Arabic verb forms encode Absolute tense when used in isolation, namely, when the context lacks any explicit time reference. In such cases, the Perfective encodes Absolute past tense and the Imperfective encodes non-past. However, when the time reference is established in the context, these verb forms receive their time reference from the context as demonstrated in (28) (taken from Comrie (1985: 63), but the transcription is modified to accommodate the one used in the present study.)

(28) a. wa   ittaba9-u   ma   t-atl-u   i-shayaTiin-u
        and   perf.follow.3-plm   what   realis.3-recite-plm the-demons-NOM

        9ala   mulki   sulaymaana
        on   reign   Solomon
        'and they followed what the demons used to recite in Solomon's reign.'

     b. 'aji'-u-ka   itha   iHmrra   il-busru
        realis.1-come-sg-you   if   perf.ripen.3.sgm   the-unripe dates
        'I will come to you when the unripe date ripens.'

In (28a), the past time reference of the sentence is established by the Perfective form *ittaba9-u* 'they followed' phrase *9ala mulki sulaymaana* 'in Solomon's reign.' In this case, the Imperfective verb *tatlu* 'recite' does not encode non-past Absolute tense; but rather, it has a past tense interpretation that it receives from the context. Likewise, the Perfective verb *iHmmarra* 'ripens' receives a future tense interpretation from the established time reference in the sentence by means of the conditional clause. Therefore, Comrie (1985) argues that Arabic verb forms actually encode Relative tense along with aspect, but not Absolute tense.

I argue that the problem with Comrie's account is that it applies to bi-clausal structure overlooking the single clause, which is significant because regarding Absolute tense, each clause references tense independently. The test I applied reveals that lexical verb forms receive a tense

interpretation from the context and they do not encode it by themselves. Thus, temporal ordering

relations in JA are due to pragmatic implicature because they vary with the context. Hence, both

types of ordering are derived from the context. These verb forms mark aspect wherein the

Perfective marks a complete event, the *bi*-Imperfective marks habitual, progressive, and

incomplete events.

Adopting Reichenbach's (1947) model and Comrie's (1976) Relative tense notion, Fassi

Fehri (1993) claims that Arabic verb forms encode Absolute tense and aspect when used alone in

simple clauses like English simple past and present tenses. However, in complex tenses, the

auxiliaries encode Absolute tense, whereas the lexical verb encodes Relative tense as well as

aspect. In adjunct clauses, the verb in the matrix clause establishes the Absolute tense and the

event in the subordinate clause is ordered relative to the time established in the matrix clause as

in (29).

(29) raja9a   wa   huwa   ya-btasim-u
     perf.return.3sgm   and   he   realis.3-smile.sgm-IND
     'He came back smiling.'

Fassi Fehri argues that the Perfective *raja9a* 'returned' establishes a past tense reference,

and the Imperfective *ya-abtasim-u* 'smiling' orders the event in the adjunct clause relative to the

event in the matrix clause and not to the Speech time. He concludes that the verb in the matrix

clause encodes the Absolute tense, whereas the verb in the adjunct clause encodes the Relative

tense. In addition to tense, both verbs encode aspect. The Perfective views the action as

complete, whereas the Imperfective represents the action in the adjunct as incomplete. Fassi

Fehri (1993) contends that while in English the Absolute tense is encoded by the finite

morphology and the Relative tense by the non-finite morphology, Arabic encodes both of them

by the same verb morphology. The problem lies in the difficulty of identifying which meaning

verb forms actually encode because the forms are invariant morphologically. That is why he rejects the assumption that Arabic verb forms encode either tense or aspect exclusively. Instead, he assumes that both tense and aspect are inferred from the same morphology.

Fassi Fehri's (1993) analysis of the Arabic verb forms is not in line with what I concluded regarding verb forms in JA. In particular, the verb forms encode aspect and context establishes tense. Furthermore, Comrie's Relative tense does not seem to be appropriate for the JA data because the JA verb forms encode the completive-incompletive meaning regardless of any time reference and whether in main clause or subordinate clause unlike Relative tense which encodes the ordering of the time of the event with respect to the reference time, or TT. Aspect and Relative tense are confusing because aspectual viewpoints have temporal properties, i.e. boundary information. In particular, aspectual viewpoints are located at the reference temporal interval, TT, established in the context with both ending points are asserted by the Perfective and neither boundary asserted by the Imperfective. For example, if the viewpoint does not assert the terminal endpoint, the event is incomplete and perceived as simultaneous with the allocated interval. I test this with the *bi*-Imperfective as a representative of both forms.

(30) a. imbariH,   daxal   9ali   wi   hiyyih   bi-ti-ktub
       yesterday   perf.enter.3sgm   Ali   and   she   realis-3-write.sgf
       'Yesterday, Ali entered while she was writing.'

   b. hassa,   bi-yi-Hki   9ali   wi   hiyyih   bi-ti-ktub
      now   realis-3-talk.sgm Ali   and   she   realis-3-write.sgf
      'Now, Ali is talking while she is writing.'

   c. bukrah   raH   yi-safir   wi   hiyyih   bi-ti-ktub
      tomorrow   will   3-travel.sgm and   she   realis-3-write.sgf
      'Tomorrow, (he) will travel, while she is writing.'

In (30), the time reference is past (a), present (b), and future (c). The verb form in the subordinate is invariant in all cases and the conceptual meaning is also invariant, more

specifically, incompleteness. The resulting meaning is that: at the time specified in the discourse the action embodied in the subordinate clause is incomplete and since the boundaries are not asserted at the temporal interval, the action is perceived as simultaneous with the temporal interval established in the context. Thus the *bi*-Imperfective form in the embedded clause can be interpreted as revealing that the action is incomplete with respect to past, present, and future reference interval rather than encoding the order of the event time to the TT. This demonstrates how temporal interpretations can be pragmatically inferred from the aspectual viewpoints in languages with aspect system like JA.

The last perspective is instantiated by Kurylowicz's (1973) argument that Arabic verb forms do not have the category of tense as in Romance languages or aspect as in Slavic and Greek. Rather the Arabic verb forms encode only time reference, in particular, anteriority by the Perfective and simultaneity by the Imperfective. Kurylowicz (1973: 79) contends that the distinction between these verb forms must be based on their primary functions that are not 'context-conditioned'. He argues that the primary function of the Perfective is preterit, i.e. anterior to the speech time, and the primary function of the Imperfective is present tense interpretation. Nonetheless, Kurylowicz (1973) contends that these verb forms have a number of secondary functions, e.g. the Perfective appears in irrealis, future perfect contexts, and the Imperfective appears in past tense contexts, modal functions. Based on the diversity of the contexts in which the verb forms appear that lack the homogeneity of tense reference, he argues that tense in Arabic is established in the context and that 'there is no place for grammatical distinction of tense or aspect, only of *time-reference…(simultaneousness: anteriority)*' (Kurylowicz 1973: 91).

Kueylowicz (1973) assumes that aspect is a corollary of tense. In other words, it exists only if tense exists. He claims that aspect is an inherent non-distinctive feature of tense forms. For example, the present tense refers to the present moment, so the action is incomplete, i.e. Imperfective, as compared to the past or future which are 'by *themselves perfective or punctual*' (Kurylowicz 1973: 79). He concludes that since the Arabic verb forms do not represent tense, it follows that they do not represent aspect, either.

In fact, Kurylowicz's (1973) conclusion that verb forms merely encode time reference of anteriority versus simultaneity is in line with the Relative tense analysis. The problem with this analysis is the link and association it creates between tense and aspect and that the latter follows logically from the former. This is the problem that Section 2 explored in details. In sum, tense is concerned with temporal ordering relations; aspect is concerned with the internal structure of the event. In other words, tense deals with the event from an external perspective, whereas aspect deals with it from an internal perspective. This explains that aspect is in fact not a corollary of tense as Kurylowicz assumes. This undermines an analysis that is based on an inaccurate consideration of tense and aspect.

4.3 Conclusion

The present chapter addresses the question of whether verbs in JA are morphological forms of tense or aspect. There have been four perspectives regarding the issue in question in the literature on Arabic varieties in general in the sense that verb forms encode tense only, aspect only, both tense and aspect, neither tense nor aspect. A serious problem with the previous analyses is that they do not instantiate the issue at hand with a clear distinction between the notions of tense and aspect which confuses them. Therefore, I establish the distinction between

the syntactic and semantic tense and aspect as well as the role of pragmatics at the outset of the present chapter.

As far as the first perspective is concerned, Arabic verb forms encode Absolute Tense: past versus non-past. I concluded that verb forms in JA do not encode Absolute tense, which is established in the context. This conclusion is based on the fact that temporal interpretations in JA are subject to cancellation which means that they are pragmatic implicatures and not semantic entailment. For instance, the Perfective, which is associated with the Absolute past tense, can occur not only in past tense contexts but also in future tense contexts. Likewise, the *bi*-Imperfective can occur in past as well as non-past contexts.

The second perspective states that Arabic verb forms encode only aspect and not tense. The data from JA lend further support to this claim because the Perfective in JA encodes completive and the *bi*-Imperfective encodes the incompletive. This conclusion is supported by the semantic unacceptability of clauses that include conjunctions with contradictory aspectual interpretations to the ones encoded by the JA verb forms. The present study lends a further support to the assumption that tense is established in the context.

The third perspective implies that verb forms encode both Absolute tense and aspect. The fourth perspective assumes the opposite that verb forms encode neither tense nor aspect. The JA data support neither perspective.

In conclusion, I claim that verb forms, lexical and auxiliary, in JA are morphological expression of aspect. In essence, tense is established in the context. The conclusions drawn from this analysis are in line with the aspect-only perspective. The analysis of the present chapter is grounded on the theoretical basis of the difference between semantic entailment and pragmatic implicature. I conclude that the aspectual interpretations of the verb forms are semantic

entailments because they cannot be cancelled according to the contexts. However, the potential temporal interpretations are pragmatic implicatures because they are subject to cancellation.

Recall that the prefix of the Imperfective is realized as the first suffix in the perfective as established in the previous chapter and it is specified for Person, I argue that the Al-Saidat and Al-Momani's (2010) account of JA is not supported. On the contrary, the present study offers counter evidence to their claim. I contend that the prefix in the Imperfective is not a non-past tense prefix because simply it is realized as a suffix in the Perfective. Furthermore, I have established in the previous chapter that this prefix is specified for Person. Even the particle *raH* 'will' which they consider a future particle can be used in past as well as future tense contexts. These conclusions suggest that verbs in JA are morphological forms of aspect and tense is established in the context. Having established that verb forms in JA semantically encode aspect and not tense, I will discuss the distribution of verb forms in the context of complement clauses in JA in the next section.

Chapter Five

Realis marking in Jordanian Arabic

As established in Chapter 3, both verbal and non-verbal predicates exhibit agreement inflection. All verbal predicates including Perfective, *bi*-Imperfective, and bare-Imperfective agree with the subject in Person, Number, and Gender. Non-verbal predicates, on the other hand, agree with the subject only in Number and Gender but not in Person. However, the relation between finiteness and inflections in JA was not addressed. The establishment of a potential correlation between finiteness and inflection, if any, can be achieved by means of studying the inflectional properties of these predicates in different contexts.

The goal of this chapter is the description of predicate forms in the context of object complement clauses in JA. The main assumption in the literature regarding the distribution of finite versus non-finite forms is that finite forms occur in root and complement clauses, whereas non-finite forms occur only in a subset of embedded clauses. Studying verbal morphology in the context of complement clauses controls for the clausal status of finiteness. Additionally, as both finite and non-finite forms can occur in complement clauses, studying them in this context will facilitate the identification of any inflectional differences that can be attributed to finiteness.

This chapter is organized as follows. Section 1 surveys the Complement Taking Predicates (CTPs) in JA with a discussion of the predicate forms in the complements each CTP set selects. Section 2 addresses the relation between modality in JA. Section 3 presents the conclusions.

5.1 The CTP types in JA

This section surveys the CTPs in JA in order to identify the potential complement clauses they select. It is necessary to study the inflectional forms allowed in different complement clauses in order to investigate the relation, if any, between finiteness and inflectional forms in

JA. To this end, I adopt Noonan's (1985) classification of Complement-Taking-Predicates (CTPs) as a frame to enumerate the potential complement types in JA. Needless to say this classification is subject to cross-linguistic variation. My focus is on the CTPs in JA. I classify them into two sets in accordance with the properties of the complement clauses they select including the inflectional properties of the predicates these complements license as summarized below.

(1) a. The first set of CTPs selects complement clauses with realis marked predicates. It includes Utterance predicates, Propositional Attitude predicates including predicates expressing epistemic modality, Commentative predicates, Predicates of Knowledge and Acquisition of Knowledge, Pretense predicates, and Immediate Perception predicates.

b. The second set of CTPs selecting complement clauses with realis unmarked predicates. It includes the Manipulative predicates, Modal predicates, Achievement predicates, Phasal predicates, and Negative Imperative.

I will discuss each type within each set in turn. There is a group of CTPs such as predicates of Fearing, which allow both types of complements. These will be discussed in a separate subsection.

5.1.1 CTPs selecting complements with realis marked predicates

The first set of CTPs selects complement clauses with realis marked predicates, i.e. the Perfective and *bi*-Imperfective forms. The modal particle *raH* 'will' is also included within this set of the predicates as established in Chapter 3. This set includes Utterance predicates, Propositional Attitude, Commentative predicates, Predicates of Knowledge and Acquisition of Knowledge, Pretense predicates, and Immediate Perception predicates. I will take each type one

at a time below addressing the type of complement clause each selects along with the inflectional properties of the predicates these complement involve.

Utterance predicates describe how information is transferred and the complement of these predicates involves the transferred information. The JA verbs that can be used as Utterance CTPs include: *sa'al* 'ask,' *qaal* 'say,' *xabbar* 'tell'. The complement can be direct speech, i.e. the exact words of the speaker, or reported or indirect discourse. The direct speech is separated from the matrix clause by intonation; hence any effect or relation between the matrix and complement clauses is not obvious. Therefore, I will only focus on the reported speech in the present study. Complement clauses of Utterance CTPs can be reported speech or questions. They select Sentence-like (S-like) complement clause that has a subject and predicate. The potential complementizers that can be used include *'innu* 'that,' which introduces a reported complement clause (2a). The complementizer is optional. Other complementizers include *wh*-words such as *shu* 'what,' *miin* 'who,' *wein* 'where,' etc, that introduce a reported information interrogative (2b), and *'itha* 'if' that introduces a reported yes-no question (2c). These complementizers are obligatorily overt.

(2) a. layila   qala-at   ('innu)   Rami   raH   yi-safir
     Laila   perf.say-3.sgf   (that)   Rami   will   3-travel.sgm
     'Laila said that Rami will travel.'

    b. layila   bi-ti-sa'al   *(miin)   safar
     Laila   realis-3-ask.sgf   (who)   perf.travel.3sgm
     'Laila asked who travelled.'

    c. layila   bi-ti-sa'al   *(itha)   Rami   bi-yi-safir
     layila   realis-3-ask.sgf   (whether)   Rami   realis-3-travel.sgm
     'Laila asked whether/ if Rami travels.'

Propositional attitude predicates convey a positive or negative attitude towards the proposition embodied in the complement clause. These predicates in JA include verbs such as

fakkar 'think,' *saddaq* 'believe,' *iftaraD* 'suppose,' *'ankar* 'deny,' etc. The allowed complement

clause is an S-like clause introduced by the complementizer *'innu* 'that', which is optional.

Example (3) is illustrative.

> (3) fakkar-na   ('innu)   Rami   raH   yi-safir
>   perf.think-1.pl   (that)   Rami   will   3-travel.sgm
>   'We thought that Rami will travel.'

The predicates that express epistemic modality are included under this type. Epistemic

modality refers to the degree of certainty of knowledge and it is denoted in JA by predicates such

as *lazim* 'must' and *mumkin* 'possible'. Consider Example (4).

> (4) mumkin   ('innu)   Rami   raH   yi-safir
>   possible   (that)   Rami   will   3-travel.sgm
>   'It is possible that Rami will travel.'

The complement clause is S-like only and the complementizer is optional.

Commentative Predicates, traditionally referred to as factive, convey a comment in the

form of an emotional evaluation or judgment on the proposition embodied in the complement

clause. In JA, the Commentative CTPs include predicates such as *aasif* 'be sorry,' and *Haziin* 'be

sad'. The permissible complement clause is an S-like clause introduced by the complementizer

'innu 'that'. It is optional. Example (5) is delineative.

> (5) 'ana   Haziin-ih   ('innu)   Rami   raH   yi-safir
>   I   sad-sgf   (that)   Rami   will   3-travel.sgm
>   'I am sad that Rami will travel.'

Predicates of knowledge and acquisition of knowledge, referred to sometimes as

semifactive (Karttunen 1971), express the manner or state of acquisition of knowledge. They

include in JA predicates such as *9irif* 'know,' *'iktashaf* 'discover,' and *nisi* 'forget'. This type

also includes predicates such as *shaaf* 'see,' and *simi9* 'hear' only in the meaning of a sense

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rather than with the meaning of immediate perception. The potential complement clause is an S-like introduced by the complementizer *'innu* 'that', which is optional. Example (6) is illustrative.

(6) a. 9irif-it   ('innu)   Rami   raH   yi-safir
     perf.know-1.sg   (that)   Rami   will   3-travel.sgm
     'I knew that Rami will travel.'

  b. simi9-it   ('innu)   Rami   raH   yi-safir
     perf.hear-1.sg   (that)   Rami   will   3-travel.sgm
     'I heard that Rami will travel.'

The Immediate Perception predicates express "the sensory mode by which the subject immediately perceives the event coded in the complement" (Noonan 2007: 142). These predicates in JA include verbs such as *shaaf* 'see,' *simi9* 'hear,' *Has* 'feel'. This set of CTPs presents in its complements the simultaneous state of the thing or the person immediately perceived. The overt complementizer is not allowed to introduce the complement. The potential complement clause is S-like with realis marked predicates whether overt (7c-d) or covert (7a-b). The subject is part of the matrix clause as the pronominal subject of the complement clause is attached to the verb in the matrix clause as (7a) and (7d) demonstrate.

(7) a. shif-it-*(ha)   (*innu)   nayim-ih
     perf.see-1.sg-(her)   (that)   AP.sleep-sgf
     'I saw her sleeping.'

  b. shif-it   il-kasih   (*innu)   makssur-ah
     perf.see-1.sg   the-glass   (that)   PP.broken-sgf
     'I saw the glass broken.'

  c. shif-it   (*innu)   kasar   il-kasih
     perf.see-1.sg   (that)   breaking   the-glass
     'I saw the glass breaking.'

  d. shif-it-*(uh)   (*innu)   bi-yi-ksir/   kasar/
     perf.see-1.sg-(him)   (that)   realis-3-break.sgm/   perf.break.3sgm

     kaan   bi-yi-ksir/   raH   yi-ksir   il-kasih
     perf.be.3sgm   realis-3-break.sgm/   will   3-break.sgm   the-glass
     'I saw him breaking/ broke/ was breaking/ will break the glass.'

As the example above demonstrates all the verbal predicates in the complement clauses exhibit agreement.

Pretense predicates express that the complement proposition is counterfactual or hypothetical relative to the real world. The CTPs at stake include in JA verbs such as *itthahar* 'pretend,' *itxayal* 'imagine,' etc. The permissible complement clause is an S-like complement clause introduced by the complementizer *'innu* 'that', which is optional. Consider the following example.

(8) bi-yi-dhdhahar ('innu) ibin-uh faaz bi-il-ja'izih
    realis-3-.pretend.sgm (that) son-his perf.win.3sgm of-the-prize
    'He pretends that his son won the prize.'

All the complement clauses of the CTPs of the first set allow verbal predicates inflected for the Perfective and *bi*-Imperfective as well as the modal particle *raH* as illustrated by the grammaticality of (9a). On the other hand, the bare-Imperfective verbal form is not allowed nor the non-verbal predicates as shown by the ungrammaticality of the use of these forms in (9a-b). I demonstrate the properties of the predicates in the complement clauses these CTPs select with the Utterance predicate *qaal* 'say'.

(9) a. layila qaal-at ('innu) 9ali katab/ bi-yi-ktub/
     Laila perf.say-3.sgf (that) Ali perf.write.3sgm/ realis-3-write.sgm

     kaan bi-yi-ktub/ raH yi-ktub/ *yi-ktub i-risalih
     perf.be.3sgm realis-3-write.sgm/ will 3-write.sgm/ 3-write.sgm the-letter
     'Laila said that Ali wrote/ is writing/ was writing/ will write/ *write the letter.'

  b. layila qaal-at *kitabat i-risalih/ *katib-ih i-risalih/ *ma9azuum-ah
     Laila perf.say-3.sgf writing the-letter/ AP.writer-sgf the-letter/ PP.invited-sgf

As demonstrated in the example, the allowed predicate forms exhibit agreement inflection. The overt realization of the complementizer *'innu* 'that' is optional. The only exception is the complement clauses selected by the Immediate Perception predicates wherein the

complementizer is not allowed. What applies to this CTP applies to all other CTPs within this set. In short, these CTPs select complement clauses whose predicates are realis marked as well as the modal particle *raH* 'will'. The predicates that are realis unmarked are not allowed in this context. The next section addresses the second set of CTPs which allows only realis unmarked predicates in their complement clauses.

5.1.2 CTPs selecting complements with realis unmarked predicates

This set of CTPs selects complement clauses with realis unmarked predicates including the bare-Imperfective and nominalized. This set includes Manipulative predicates, Modal predicates, Achievement predicates, Phasal predicates, and the Negative Imperative. I will take them one at a time. Then, I will demonstrate the property of predicates these complement clauses include.

Manipulative CTPs involve causative and permissive predicates. These CTPs convey a situation in which the agent tries to manipulate or cause the affectee to act out an action or have a certain state. The Manipulative CTPs in JA include: *xalla* 'let/ make,' *ajbar* 'force,' *aqna9* 'persuade,' *amar* 'order,' *Talab* 'request/ ask,' etc. These CTPs select an S-like clause introduced by the complementizer *'innu* 'that'. The complementizer is optional. Example (10) is illustrative.

(10) layila   ajbar-at   (innu)   Rami   [yi-safir]
     Laila   perf.force-3.sgf   (that)   Rami   [3-travel.sgm]
    'Laila forced Rami to travel.

Modal predicates of deontic and ability. Deontic modality refers to obligation and permission. These include in JA predicates such as *Daruri* 'necessary,' *lazim* 'must,' *mujbar* 'be obliged to,' *qidir* 'can,' etc. They only select an S-like complement clauses introduced by *'innu* 'that'. The complementizer is optionally overt. Consider the following example.

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(11) a. layila   Daruri   (inn-ha)   [ti-safir]
      Laila   necessary   (that-her)   [3-travel.sgf]
      'It is is necessary for Laila to travel.'

     b. 9li   bi-yi-qdar   (inn-uh)   [yi-Hiki   faransi]
      Ali   realis-3-can.sgm   (that-his)   [3-talk.sgm   French]
      'Ali can speak French.'

Achievement predicates, also referred to as implicative (Karttunen 1971), are classified into positive versus negative. Positive achievement CTPs express the realization of the achievement as in JA predicates *qidir* 'managed,' *ithakkar* remember to.' Negative achievement CTPs convey lack of achievement as in JA predicates *Hawal* 'try,' *itjannab* 'avoid.' The potential complement clause types in JA are an S-like introduced by *'innu* 'that' (12a), which is optional, or nominalized with no complementizer (12b).

(12) a. layila   Hawal-at   (inn-ha)   [ti-shtari   sayyarah]
      Laila   perf.try-3.sgf   (that-she)   [3-buy.sgf   car]
      'Laila tried to buy a car.'

     b. layila   Hawal-at   (*innu)   [i-shrayit   i-sayyarah]
      Laila   perf.try-3.sgf   (that)   [the-buying   the-car]
      'Laila tried buying a car.'

Phasal predicates, referred to as aspectual (Newmeyer 1969, Longacre 1976), convey the different phases of the action or state: 'its inception, continuation, or termination' (Noonan 2007: 139). Phasal or aspectual CTPs in JA include *ballash* 'begin,' *bada* 'begin,' *istamar* 'continue,' *waqqaf* 'stop,' *xallaS* 'finish,' *baTTal* 'cease,' etc. These select an S-like complement, but the complementizer is unlikely as shown in (13a). They may select nominalized complement and the complementizer is not allowed (13b).

(13) a. 9ali   ballash   (*innu)   [yi-ktub   i-risalih]
      Ali   perf.begin.3sgm   (that)   [3-write.sgm   the-letter]
      'Ali began to write the letter.'

b. 9ali   ballash   (*innu) [kitabat   i-risalih]
  Ali   perf.begin.3sgm (that) [writing   the-letter]
  'Ali began to write the letter.'

The Negative Imperatives select bare-Imperfective verb form as demonstrated in (14)

below. It is formed by the negative particle *laa* 'no' and the bare-Imperfective verb form. There

is no complementizer intervening between the negative particle and the bare-Imperfective verb

form. It is licensed in root (14a) and non-finite complement clauses (14b).

(14) a. laa ti-ruuH   la-al-Hafil-ih
   No 3-go.sgm to-the-party
   'Don't go to the party.'

  b. amar-it-uh   ('innu) laa yi-ruuH la-al-Hafil-ih
   perf.order-1.sg-him (that) no 3-go.sgm to-the-party
   'I ordered him not to go to the party.'

A closer examination of the predicates permitted in the complement clauses of this set of

CTPs reveal that only realis unmarked predicates including the bare-Imperfective and

nominalized predicates are allowed in these contexts. The participles are more complicated

because they are licensed in Set 1 and Set 2 as far as a form of a copula is used. I demonstrate in

(15) the permissible predicates in the complement clauses of these CTPs by an example with the

Phasal CTP *ballash* 'begin' that can be applied to all other CTPs in this set. The distribution of

the nominalized complements is very restricted.

(15) a. muna ballash-at   ti-ktub/ *katab-at/   *bi-ti-ktub/
   Muna perf.begin-3.sgf 3-write.sgf/ perf.write-3.sgf/ realis-3-write.sgm/

  *raH ti-ktub/   *kaan-at   bi-ti-ktub   i-risalih
   will 3-write.sgm/ perf.be-3.sgf realis-3-write.sgf the-letter
   'Ali forced Muna to write/ *wrote/ *is writing/ *will write/ *was writing the letter.'

  b. muna   ballash-at   kitabit   i-risalih
   Muna   perf.begin-3.sgf writing   the-letter
   'Muna began writing the letter.'

As demonstrated in (15), this CTP Set selects an S-like complement clause with realis unmarked verbal predicate whereas the realis marked verbal predicates are not allowed. All predicates exhibit agreement inflections. This Set also allows nominalized complements as the grammaticality of (15b) illustrates. The next section addresses the third set of CTPs which allows all predicate types in their complements.

5.1.3 CTPs selecting complements with realis marked and unmarked predicates

There are some CTPs that select complement clauses with realis marked and unmarked predicates. This group of CTPs includes Fearing and Desiderative verbs. I will take them one at a time.

Predicates of fearing express fear or worry about the realization or lack of realization of the complement proposition. Predicates of fearing in JA include: *xaaf* 'fear,' *xaayif* 'be afraid,' *qalqan* 'be worried,' etc. These CTPs select S-like complement clauses with realis marked predicates (16a) as well as realis unmarked verbal predicates (16b). The overt realization of the complementizer is optional in both cases. These CTPs do not select nominalized and participial complement clauses as the ungrammaticality of (16c) illustrates.

(16) a. ana   xaayif   ('innu)   Rami   safar
      I   AP.afraid.sgm   (that)   Rami   perf.travel.3sgm
    'I am afraid that Rami travelled.'

   b. Rami   xaayif   ('innu-uh)   yi-safir
     Rami   AP.afraid.sgm   (that-he)   3-travel.sgm
    'Rami is afraid (that) to travel.'

   c. ana   xaayif   *safar   Rami/ *imsafir /   *ma9zuum
     I   AP.afraid.sgm   travelling Rami/ AP.tarvel.sgm/   PP.invited.sgm

Desiderative predicates covey a desire towards the realization of the complement proposition. They include in JA the following predicates: *bid* 'want,' *nifis* 'wish,' and *at'amal* 'hope'. All these predicates select an S-like with realis marked predicates (17a) and realis

unmarked verbal predicates (17b). The complementizer is optional in both cases. These CTPs do

not select participial or nominalized complements, demonstrated by the ungrammaticality of

(17c). There is only one exception, namely, the verb *at'amal/ 'atmanna* 'hope' allow that allows

nominalized complement as shown in (17d).

(17) a. layila   nifis-ha   (innu)   katab-at/   bi-ti-ktub   qaSiidih
        Laila   wish-her   (that)   perf.write-3.sgf/   realis-3-write.sgf   poem
        'Laila wishes that she wrote/ writes a poem.'

     b. layila   nifis-ha   (innu)   ti-ktub   qaSiidih
        Laila   wish-her (that)   3-write.sgf   poem
        'Laila wishes to write a poem.'

     c. layila   nifis-ha   *katabih   qaSiidIH/   *ma9zuum-ah   9-al-Hafilih
        Laila wish-her   writing   poem/   PP.invited-sgf to-the-party

     d. b-a-itmanna   i-safar   la-maSir
       realis-1-hope.sg   the-travelling   to-Egypt
       'I hope travelling to Egypt.'

Table 1 lists the CTPs in JA along with the predicate types allowed in their complement

clauses. For convenience, realis marked verbs refer to Perfective and *bi*-Imperfective forms of

lexical and auxiliary verbs. The modal particle *raH* 'will' is included in this category because it

patterns with them as established in Chapter 3. Realis unmarked verbs refer to the bare-

imperfective. COMP stands for the overt realization of the complementizer. As the nominalized

and participial complement clauses are distributionally restricted, I refer to them by name. Since

all predicates exhibit agreement, I exclude it as an inflectional criterion in the distribution of the

predicates in different complement contexts.

Table 1: Types of CTPs in JA

CTPs		Complement clauses		
		type	predicate	COMP
1	Utterance Predicate	S-like	realis marked verbs	optional
	Propositional Predicates (& epistemic modals)	S-like	realis marked verbs	optional
	Commentative predicates	S-like	realis marked verbs	optional
	Predicates of knowledge	S-like	realis marked verbs	optional
	Pretence predicates	S-like	realis marked verbs	optional
	Immediate Perception	S-like	realis marked verbs	not allowed
2	Manipulative predicates	S-like	realis unmarked verbs	optional
	Modal predicates (deontic & ability)	S-like	realis unmarked verbs	optional
	Achievement predicates	S-like nominalized	realis unmarked verbs nominalized predicate	optional not allowed
	Phasal predicates	S-like nominalized	realis unmarked verbs nominalized predicate	not allowed not allowed
	Negative Imperatives	verb	realis unmarked verb	not allowed
3	Fearing predicates	S-like	realis marked verbs realis unmarked verbs	optional optional
	Desiderative predicates	S-like	realis marked verbs realis unmarked verbs	optional optional

As established in Table 1, the distinction between the first two sets is clear. The first set allows only realis marked verbs in their complements. On the other hand, the second set allows only realis unmarked verbs in their complements. Some of the verbs in this group also select nominalized complements. I will consider these two sets of CTPs as a test for finiteness in JA. The first set is a test of finite clauses, whereas the second set is a diagnostic for non-finite forms. Before concluding this section, I will discuss three residual issues related to the use of complement clauses as a test of finiteness in JA. These issues include: the status of the Imperatives, verbless clauses, and modals. I focus on whether they should be considered finite or non-finite.

Imperative verb form only surfaces in root clauses as positive imperatives (18a). The bare-Imperfective form is used in negative Imperative contexts following the negative particle *laa*

'no' (18b). The Imperative is not used in complement clauses of any type as the

ungrammaticality of (18c-d) shows respectively.

(18) a. nathf-an   il-maktab
        impr.clean-plf   the-office
        'Clean the office.'

    b. laa   ti-nathf-an/   *nathf-an   il-maktab
        no   2-clean-plf/   impr.clean-plf   the-office
        'Do not clean the office.'

    c. qul-it   il-kan   ti-nathf-an/   *nathf-an   il-maktab
        perf.say-1.sg   to-you.2plf   2-clean-plf/   impr.clean-plf   the-office
        'I told you to clean the office.'
        (Intended: 'I told you clean the office.')

    d. Hawal-at   inn-kan   ti-nathf-an/   *nathf-an   il-maktab
        perf.try-3.sgf   that-you.2plf   3-clean-plf/   impr.clean-plf   the-office
        'I tried that you should clean the office.'

As these examples demonstrate, the Imperative is highly restricted. It occurs only in root clauses.

The complement context does not prove helpful in testing the finiteness of the Imperatives

leaving the discussion of finiteness of the Imperatives for future research.

As far as verbless clauses are concerned, I claim that they have a covert copula that is

realis marked as a *bi*-Imperfective. My claim is motivated by the observation that the copula is

realized overtly under certain circumstances in this form. I present a number of arguments from

JA in support of a covert copula analysis for the structure of verbless causes.

First, the verbal copula in future tense contexts in copular sentences is required by the

modal *raH* 'will' (19b), which patterns in this respect with other modals, e.g. *lazim* 'must,' (19c).

(19) a. il-beit   nathiif
        the-house   clean
        'The house is clean.'

    b. il-beit   raH   *(yi-kuun)   nathiif
        the-house   will   (3-be.sgm)   clean
        'The house will be clean.'

c. il-beit   lazim   *(yi-kuun)   nathiif
     the-house   must   (3-be.sgm)   clean
     'The house must be clean.'

As Example (19) demonstrates, the overt realization of the copula is obligatory in the clauses

with modals and the copula takes the bare-Imperfective form.

Second, when the tense interpretation of the clause is marked, i.e. past, the overtness of the

copula is necessary. Consider how the use of the copula in Example (20b) renders the sentence

grammatical. The copula in past tense context has to be in the Perfective form, the most

convenient form in the contexts with past tense readings.

(20) a. *il-beit   nathiif   imbariH
      the-house   clean.sgm   yesterday
      'The house is clean yesterday.'

     b. kaan   il-beit   nathiif   imbariH
      perf.be.3sgm   the-house   clean.sgm   yesterday
      'The house was clean yesterday.'

Third, even with present tense interpretation, the copula with a *bi*-Imperfective form is

overtly realized when the context requires that. For example, in confirming or negating the state

of something or someone in response to a question in present tense contexts like (21), the answer

can have a verbal copula, which is in the i.e. *bi*-Imperfective (21).

(21) bi-ra'ya-ak   il-jaw   Hilu   hassa   9a-a-shaT
     in-opinion-your   the-weather   nice   now   on-the-beach
     'In your opinion, do you think the weather is nice on the beach now?'

    - 'akiid,   bi-yi-kuun   Hilu
     Definitely,   realis-3-be.sgm   nice
     'Definitely, it is nice.'

    - laa,   ma   *(bi-yi-kuun)   Hilu
     no,   not   (realis-3-be.sgm)   nice
     'No, it is not nice.'

I propose treating the clause structure of verbless clauses as analogous to that of verbal clauses. The overt realization of the copula is required in specific contexts. If this claim is on the right track, the prediction is that verbless clauses are licensed in contexts where the realis marked predicates are licensed and vice versa. This prediction is borne out by the empirical data in (22).

(22) a. b-'a-9rif   innu   il-beit   nathiif
        realis-1-know.sg   that   the-house   clean
        'I know that the house is clean.'

    b. *b-'a-Hawil   innu   il-beit   nathiif
        realis-1-try.sg   that   the-house   clean

    c. b-'a-Hawil   innu   yi-kuun   il-beit   nathiif
        realis-1-try.sg   that   3-be.sgm   the-house   clean
        'I am trying that the house be clean.'

This example supports my claim that verbless clauses have a covert copula in the *bi*-Imperfective form.

The last residual issue is the status of modals. I test the distribution of the modals: *lazim* 'must' and *raH* 'will' in the context of complement clauses as shown in (23) below.

(23) a. b-'a-9rif   (innu)   raH   yi-safir/   lazim   yi-safir
        realis-1-know.sg   (that)   will   3-travel.sgm/   must   3-travel.sgm
        'I know that (he) will travel/ must travel.'

    b.'amir-it-uh   (innu) *raH yi-safir/   * lazim yi-safir/   yi-safir
        perf.order-1.sg-him (that)   will   3-travel.sgm/ must 3-travel.sgm/ 3-travel.sgm
        'I ordered him *will travel/ *must travel/ travel.'

As established in this example, modals in JA pattern with realis marked verbs rather than realis unmarked predicates.

Finally, the non-verbal predicates show a very restricted distribution. Both nominalized and participles are derived from verbs. Nonetheless, they exhibit nominal and adjectival distributional properties, respectively. For example, nominalized predicates are allowed as complements of Achievement and Phasal CTPs. Other CTPs can select nominalized complement

if followed by a preposition. Consider the following example which demonstrates this

distribution by a CTP that belongs to Set 1 (24a) and Set 2 (24b).

(24) a. xabbir-ni   9an   i-safar   la-maSir
        perf.tell-1.pl   about   the-travelling   to-the-Egypt
        'He told me about the travelling to Egypt.'

     b. xayif-ih   min   i-rakaD   fi   i-thalj
        afraid-sgf   from   the-running in   the-snow
        'I am afraid from the running in the snow.'

Nominalized predicates are used interchangeably with canonical nouns in these contexts.

Compare the following examples to the ones in (24).

(25) a. xabbar-ni   9an   i-riHlih
        perf.tell.3sgm-me   about   the-trip
        'He told me about the trip.'

     b. xayif-ih   min   il-9aqrab
        afraid-sgf   from   the-spider
        'I am afraid from the spider.'

The data in Example (25) demonstrate that nominalized predicates exhibit nominal distribution.

On the other hand, the participles are licensed in Set 1 and Set 2 complements as long as

there is a verbal copula whether overt or covert. The copula can be realis marked (26a-b) or

realis unmarked (26c).

(26) a. qaal   'innu-hum   kaan-uu   imsafir-iin/   maTruud-iin
        perf.say.3sgm   that-them   perf.be.3-plm AP.travel-plm /   PP.expelled-plm
        'He said that they were travelling/ expelled.'

     b. qaal   'innu-hum   imsafir-iin/   maTruud-iin
        perf.say.3sgm   that-them   AP.travel-plm /   PP.expelled-plm
        'He said that they are travelling/ expelled.'

     c. ijannab-uu   yi-kuun-uu   imsafir-iin/   maTruud-iin
        perf.avoid.3-plm   3-be.3-plm   AP.travel-plm /   PP.expelled-plm
        'They avoided to be travelling/ expelled.'

In this respect, participles pattern with ordinary adjectives whether attributive (27a) or

predicative (27b).

(27) a. il-walad   il-waqif/   il-maTruud/   i-Tawiil
          the-boy   the-AP.stand.sgm/   the-PP.expelled.sgm/ the-tall.sgm
          'The standing/ expelled/ tall boy'

      b. il-walad   waqif/   maTruud/   Tawiil
          the-boy   AP.stand.sgm/   PP.expelled.sgm/   tall.sgm
          'The boy is standing/ expelled/ tall.'

In brief, non-verbal predicates lack realis marking and they show nominal and adjectival

distributional and inflectional properties. They are not licensed in clauses unless supported by

other elements such as a copula or a preposition.

Putting all the issues discussed in this section together, I concluded that only realis marked

predicates and modals are licensed in the first set of complement clauses. Even verbless clauses,

which lack an overt verb, have a covertly marked realis verbal copula. Modals pattern with realis

marked predicates in their distribution even though they lack realis marking. On the other hand,

realis unmarked predicates including: the bare-Imperfective and nominalized predicates are not

licensed in the first set of complement clauses. The participles are allowed in realis marked and

unmarked clauses as long as there is a verbal copula. They only occur as a predicate in a

restricted subset of complement clauses. Using the complement clauses, I established a

distinction between realis marked and unmarked predicates. Only modals and realis marked

predicates are licensed in root clauses. Imperatives remain problematic in this analysis. The

analysis of complement clauses does not account for the connection between aspect and modality

in JA. I investigate this connection in the next section.

5.2 Modality in JA

Modality is a semantic category which represents speaker's attitude or evaluation of a proposition relative to his knowledge of real world or to other propositions (Palmer 2001, Kearns 2000). Examples of modality include epistemic and deontic modality. Epistemic modality encodes necessity or possibility of the truth of the proposition relative to the real or actual world. Deontic modality is concerned with obligation. Modality can be expressed in various ways and the expression of modality is subject to cross-linguistic variation. For example, JA expresses modality by means of modals. It has a number of modals such as *mumkin* 'may' which expresses epistemic modality (28a) and *lazim* 'must' which may express epistemic modality (28b) or deontic modality (28c).

(28) a. layila mumkin ti-safir
   Laila   may   3-travel.sgf
   'Laila may travel.'

  b. layila lazim   ti-safir
   Laila   must   3-travel.sgf
   'Laila must travel.'

  c. layila lazim   ('innu)   safar
   Laila   must   (that)   Perf.travel.3sgf
   'Laila must have travel.'
   'Intended: I am sure he travelled.'

Another way to express modality is mood which is a grammatical category or morphological realization of modality on verbs. Mood is a structural property of verbs (Kearns 2000, Palmer 2001). There are various moods including the indicative, subjunctive, and imperative. They can be classified as realis versus irrealis grammatical moods. Realis moods reflect the modality in which what is expressed in the sentence coincides with the speaker's perception of the real world. Irrealis moods reflect hypothetical, counter-factual statements or unrealized actions by means of which what is asserted in the proposition does not coincide with

the speaker's perception of the real world. The most common realis mood is the indicative mood

that encodes factual statement. The most common irrealis mood, on the other hand, is the

subjunctive which expresses counter-factual, unrealized actions, and hypothetical statements.

This includes suggestions, orders, advice, etc. This indicative-subjunctive distinction is

exemplified in (29) from Spanish (Klein 1975: 356; cited in Palmer 2001: 197).

> (29) a. Insisto   que   aprend**e**
>   I.insist   that   learn.3sg.IND
>   'I insist that he is learning.'
>
>   b. Insisto   que   aprend**a**
>   I.insist   that   learn.3sg.SUBJ
>   'I insist that he is learning.'

There is an indicative-subjunctive mood distinction in JA expressed by the presence or

absence of the *bi-* prefix on the Imperfective forms. Example (30) is illustrative.

> (30) a.   qal-at   'innu   9ali   bi-yi-ktub   rasa'al
>   perf.say-3.sgf   that   Ali   realis-3-write.sgm   letters
>   'She said that Ali writes letters.'
>
>   b. qal-at   'innu   9ali   safar/   raH   yi-safir
>   perf.say-3.sgf   that   Ali   travel.3sgm   will   3-travel.sgm
>   'She said that Ali travelled/ will travel.'
>
>   c. b-a-nSaH-ak   ti-safir   la-amriika
>   realis-1-advise.sg-you.2sgm   2-travel.sgm   to-America
>   'I advise you to travel to America.'

In (30a), the complement clause embodies a statement that reports a factual event of action. In

(30c), the complement clause encodes advice that is unrealized and does not coincide with the

actual world. Realis marked verb forms are used in contexts with indicative mood as shown in

(30b). The *bi*-Imperfective verb form is used in the former, but the bare-Imperfective is in the

latter. This distinction explains why I analyze the *bi-* prefix a realis prefix that is lacking in

irrealis contexts. Furthermore, the contexts which license the *bi*-Imperfective license the

Perfective. Due to the similarity in the internal tiers of the realis and irrealis Imperfective, I accordingly classify predicates in JA into realis marked versus realis unmarked throughout the dissertation.

Nonetheless, the indicative-subjunctive distinction is not clear-cut based on the verb form allowed. There are irrealis contexts such as the complement clauses of Desiderative CTPs whose complement clauses embody wishes which are counterfactual, i.e. irrealis; nonetheless, all verb forms whether realis marked or unmarked are licensed in these complements. To anticipate the discussion in the semantic analysis of these forms, the use of the realis marked predicates is marked. However, the use of the bare-Imperfective is the same in all contexts. It encodes the event as an unrealized. This explains why the third set of CTPs allows all types of predicates in their complement clauses.

The mood system in JA is not binary because there is an Imperative mood. Since the Imperative represents commands and orders, it is subsumed under unrealized actions and so it is analyzed as irrealis (Mitchell and Hassan 1994, Palmer 2001). The Imperative in JA surfaces only in root clauses. They do not occur in complement clauses whether the CTP allows realis marked or unmarked predicates as shown in (18) in the previous section. Palmer (2001) argues that Imperatives may not occur in subordinate clauses because they have a performative meaning that the speaker is giving a command for the addressee to fulfill. Imperatives have been analyzed as complements to the covert CTP 'I order you to'. This analysis predicts that Imperatives can be analyzed as a Manipulative type of CTP. Negative imperatives have bare-Imperfective forms.

As far as the interrogatives are concerned, there is no specific form for them as a mood. As a direct question, only the indicative form is used as shown in (31a). However, as an embedded

reported interrogative, both the indicative and the subjunctive forms can be used as demonstrated in (31b-c).

(31) a. wein   safar/   yi-safir   aHmad
      where   perf.travel.3sgm/   3-travel.sgm   Ahmad
      'Where did Ali travel?'

   b. sa'al-at-ni   wein   safar   aHmad
      perf.ask-3.sgf-me   where   perf.travel.3sgm   Ahmad
      'She asked me where Ahmad travelled.'

   c. sa'al-at-ni   wein   yi-safir   aHmad
      perf.ask-3.sgf-me   where   perf.travel.3sgm   Ahmad
      'She asked me where Ahmad to travel/ should travel.'

In short, there are three moods in JA: indicative, subjunctive, and imperative. The indicative mood permits the *bi*-Imperfective or Perfective. The subjunctive mood permits the bare-Imperfective. The imperative mood is only used in positive imperative contexts. It is not used in negative imperative and subordinate clauses. The subjunctive is used instead. The next section presents the conclusions drawn from the present and previous sections of this chapter in order to highlight the observed inflectional distinction in JA.

5.3 Conclusion

In the present chapter, I explored whether complement clauses in JA show a morphological distinction. To meet this objective, I adopted the inflectional and distributional levels of analysis pertaining to the morphological approach as discussed in Chapter 2. I found that there is a potential morphological distinction between complement clauses in JA that is established in terms of the inflectional classes of predicates, their distribution, and the modality of the clauses in which they occur. I reconcile the relevant conclusions in Table 2 to highlight the distinction.

Table 2: Types of CTPs in JA and the properties of their complement clauses

CTPs		Complement clauses	
		mood	predicate
1	Utterance predicates	Indicative	realis marked verbs
	Propositional Predicates (& epistemic modals)	Indicative	realis marked verbs
	Commentative predicates	Indicative	realis marked verbs
	Predicates of knowledge	Indicative	realis marked verbs
	Pretense predicates	Indicative	realis marked verbs
	Immediate Perception	Indicative	realis marked verbs
2	Manipulative predicates	Subjunctive	realis unmarked verbs
	Modal predicates (deontic & ability)	Subjunctive	realis unmarked verbs
	Achievement predicates	Subjunctive	realis unmarked verbs nominalized predicate
	Phasal predicates	Subjunctive	realis unmarked verbs nominalized predicate
	Negative Imperative	Subjunctive	realis unmarked verb
3	Fearing predicates	Subjunctive	realis marked verbs
		Subjunctive	realis unmarked verbs
	Desiderative predicates	Subjunctive	realis marked verbs
		Subjunctive	realis unmarked verbs

As established in Table 2, the distinction between the first two sets of CTPs is obvious in the

sense that the first set selects only realis marked predicates. On the other hand, the second set of

CTPs select only complements with realis unmarked predicates. The last Set of CTPs selects

both types of complements. The observer of the inflectional properties of the permissible

predicates in the complement clauses notices that they exhibit a realis-based morphological

distinction.

Based on the empirical observations presented in this chapter, I conclude that complement

clauses in JA can be classified morphologically in terms of realis inflection. Agreement plays no

role in this respect. This conclusion represents the first step in the multi-level analytical approach

I claim to adopt to investigate whether complement clauses in JA exhibit distinctions that can be

attributed to finiteness in analogy to tensed languages. Nonetheless, the observed morphological

distinction is not sufficient to extend the finiteness category to JA unless intertwined with realis-

based semantic and syntactic correlates.

Chapter Six

Aspectual interpretations and realis marking in Jordanian Arabic

As previously established, clauses are classified morphologically in terms of realis marking. The realis marked predicates encode aspectual interpretations in root clauses. Temporal interpretations are established pragmatically or lexically in JA. The literature on the semantics of finiteness centers around equating finiteness with the temporal interpretations in that finite forms encode independent temporal interpretations, whereas non-finite forms do not. In this chapter, I examine if the morphological classification has a corresponding semantic interpretation. To achieve this goal, I address the aspectual and temporal interpretations of clauses with and without overt aspectual markers. I describe the temporal and aspectual interpretations of clauses in discourse contexts to track the potential variation in these interpretations.

My approach in calculating temporal and aspectual interpretations is as follows. Temporal interpretations are achieved through the temporal ordering of events in terms of the relations between the following intervals: Speech Time (ST), Reference Time (RT), and Event Time (ET). For the Reference Time, I will adopt Klein's (1994) Topic Time (TT), the time interval according to which an assertion is made. I use intervals rather than time points because this will help unravel how the situation unfolds in time, which facilitates accounting for the aspectual interpretations. The temporal analysis is intertwined with an account of aspectual interpretations contributed by different predicate forms by means of exploring the portion of the situation that is asserted at the TT through different aspectual viewpoints, i.e. Perfective and Imperfective.

The chapter is organized as follows. Section 1 offers an account of temporal and aspectual interpretations of realis marked independent clauses in discourse contexts. In section 2, I test whether these clauses exhibit the same temporal and realis interpretations in the context of

complement clauses. This section tackles the contribution of the realis marked and unmarked

forms in the context of complement clauses. Section 3 summarizes the conclusions.

6.1. Temporal and aspectual interpretations in discourse texts

This section examines the temporal and aspectual interpretations that clauses with overt

realis marking contribute to discourse contexts. I use a succession of events in realis marked

forms, namely, Perfective and *bi*-Imperfective, in order to clarify what temporal and aspectual

contributions these forms contribute to the discourse. I, then, introduce adverbs with a conflicting

temporal reference to track what potential shifts in the temporal and-or aspectual interpretations

the realis marked forms offer. My approach relies on the assumption that pragmatic implicatures

unlike semantic entailments are subject to cancellation (Grice 1975, Carston 1988, Smith 1997,

Kearns 2000). (See Chapter 4 for more information in this regard.)

I illustrate how the temporal and aspectual interpretations are derived from the

implementation of realis marked forms in discourse contexts rather than simple clauses in

isolation. The mechanism I implement in calculating these interpretations is as follows. I

describe the temporal interpretation through establishing the TT of the clause and then eliciting

the temporal ordering of TT to ST and the ET to the TT. The aspectual interpretation is derived

by means of highlighting the asserted portion of the event at the TT through different aspectual

viewpoints. The following section is devoted to the discussion of the temporal and aspectual

contributions of the realis marked verb forms beginning with the Perfective proceeding to the

Imperfective, and then to the interaction between them.

6.1.1 The Perfective

First of all, the Perfective of lexical verbs encodes complete actions. Consider the text

below. Throughout this section, I use the lower-case letters to refer to the different events within

the discourse text for ease of exposition.

(1) a. **HiDir-na**   Hafil   taxriij   muna   b. wa-lamma   **riji9-na**
    perf.attend-1pl   ceremony   graduation   Muna   and-when   perf.return-1pl

    9-il-beit,   c. **itghadei-na**   wa-ba9idin   **ballash-na**   ni-ghanni
    to-the-house   perf.have lunch-1pl   and-after   perf.begin-1pl   1-sing.pl

    d. **rawwaH-u**   i-Duuf   fi-il-leil
       perf.go.3-plm   the-guests   in-the-night
    'We attended Muna's graduation ceremony, and when we returned home, we had our
      lunch. After that, we started singing. The gusts left at night.'

The text contains five events expressed in the Perfective, written in bold, and numbered for ease

of identification. The use of the Perfective in each of the following subevents asserts that the

subevents are expressed in their entirety. The relative sequence of the subevents is established

pragmatically by their order of presentation. Subevent (a) is completed before subevent (b),

which is completed before subevent (c). They do not overlap. The anchorage of the context is the

ST, which is canonically the present time. By pragmatic implicature, each ET is located anterior

to the ST.

The pragmatic implicature can be tested by cancelation. Pragmatic implicatures as opposed

to semantic entailments can be overtly canceled. The past tense implicature of the discourse in

(1) can be cancelled by the addition of a temporal adverb with a future tense interpretation.

Consider the following example.

(2) a. bukrah   ma9-i-sa9ah   9ashrah   bi-il-leil,   bi-ni-kuun
       tomorrow   with-the-clock   ten   in-the-night   realis-1-be.pl

       HiDir-na   Hafil   taxriij   muna   b. wi-**riji9-na**
       perf.attend-1pl   ceremony   graduation   Muna   and-perf.return-1pl

9-il-beit,   c. wi-**itghadei-na**   d. wi-**ghanein-na**
to-the-house   and-perf.have lunch-1p1   and-perf.sing-1pl
'By ten o'clock tomorrow night, we will have attended Muna's graduation ceremony,
returned to the house, had lunch, and sung.'

The deictic temporal adverb *bukrah* 'tomorrow' establishes the TT as posterior to the ST. All

the subevents are expressed in the Perfective. Each ET is ordered as anterior to the TT because

they are perfective constructions. The discourse has a temporal interpretation that is future and

an aspectual interpretation that is perfective. This combination is translated into English via the

future perfect, or the past-of-the-future. Each subevent is asserted at the TT interval as completed

and bounded because both temporal boundaries of the event are asserted as well. The sequence

of events pragmatically implicates that Subevent (a) is completed before Subevent (b), which is

completed before Subevent (c), and so on. The subevents do not overlap, they follow each other

successively.

In summary, the Perfective presents each event in its entirety. The Perfective form only

expresses aspectual information; it does not contribute temporal information to the discourse.

Instead, temporal adverbs and connectives establish temporal reference lexically, and the

succession of completed events establishs it pragmatically. The next section addresses the second

verb form in the language, i.e. the *bi*-Imperfective, and the interpretation it contributes to the

discourse.

6.1.2 The Imperfective

The *bi*-Imperfective form of lexical verbs encodes the Imperfective aspect which asserts

the event at the TT interval as incomplete or continuous. Consider the following text.

(3) a. muna   w-ahil-ha   **bi-yi-HDar-u**   Hafil   i-taxriij
       Muna   and-family-her   realis-3-attend-plm   ceremony   the-graduation

    b. il-kul   **bi-yi-ghanni**   c. w-il-izghar   **bi-yi-klu-u**   qaatu
        the-all   realis-3-sing.sgm   and-the-boys   realis-3-eat-plm   cake

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    d. w-SaHba-at-ha   **bi-yi-Sawir-an**
     and-friends-plf-her   realis-3-photograph-plf
    'Muna and her family are attending the graduation ceremony. All are singing and
     the children are eating cake, and her friends are taking photographs.'

The Imperfective aspectual viewpoint of each subevent encodes the event as incomplete and

unbounded. This means that they overlap in the interval, TT, at which they are asserted. Each

subevent is interpreted as an open interval at TT which instantiates the simultaneity

interpretation of these events. The Imperfective aspect does not pragmatically imply a succession

of events in the manner of the Perfective aspect. Once again, the specific temporal assertion is

established pragmatically rather than by the use of verbal inflection. This is evident since the

temporal boundaries are not asserted at the TT interval, and are interpreted as simultaneous

because they overlap at the TT. Thus, the ET and TT are located pragmatically as simultaneous

to the ST in the absence of overt deictic temporal adverbs.

    The aforementioned example is ambiguous in the sense that the *bi*-Imperfective form

appears to encode both tense and aspect. To disambiguate this conclusion, I use a deictic

temporal adverb with a conflicting time reference to the one the *bi*-Imperfective can be

associated with, namely, the present. Take the following example as an illustration.

(4) a. imbariH   fi-Hafil   taxriij   muna   b. il-kul   **bi-yi-ghanni**
     yesterday   in-ceremony   graduation   Muna   the-all   realis-3-sing.sgm

    c. w-il-izghar   **bi-yi-klu-u**   qaatu   d. w-il-banaat   **bi-yi-Sawir-an**
     and-the-kids   realis-3-eat-plm   cake   and-the-girls   realis-3-photograph-plf
    'Yesterday in Muna's graduation ceremony, all were singing, the children were
     eating cake, and the girls were taking photographs.'

The temporal adverb *imbariH* 'yesterday' identifies the TT interval of the discourse as anterior to

the ST, and the ET is ordered as simultaneous to the TT. The Imperfective aspect of the first

subevent *bi-yi-ghanni* 'singing' asserts the internal part of the event excluding its endpoints, and

so the subevent receives the incomplete and unbounded aspectual interpretation. The same

applies to the other events which are all asserted at the TT interval as incomplete. Therefore, they

overlap and the simultaneity interpretation is licensed. Nonetheless, these events are interpreted

as being in the past by virtue of the adverbial intervention.

These examples show that the Perfective and *bi*-Imperfective contribute aspectual

interpretations to the discourse. The former asserts the event as complete and bounded; the latter

asserts it as incomplete and unbounded. A series of events expressed in the Perfective are

pragmatically implicated as successive. A series of events in the *bi*-Imperfective are

pragmatically implicated as simultaneous. The next section discusses the interaction between

these two aspectual forms.

6.1.3 The interaction of the Perfective and *bi*-Imperfective

The following example demonstrates the interpretation that the interaction of the Perfective

and *bi*-Imperfective contributes to a discourse context.

(5) a. wi-iHna   **bi-ni-HDar**   fi   Hafil   taxriij   muna
       while-we.1pl   realis-1-attend.pl   in   ceremony   graduation   Muna

   b. il-iwlaad   **'akal-u**   il-keik   c. wa   **shirib-uu**   il-9aSiir
      the-boys   perf.eat.3-plm   the-cake   and   perf.drink.3-plm   the-juice
      'While we are attending Muna's graduation ceremony, the boys ate the cake and
      drank the juice.'

The *bi*-Imperfective asserts the subevent (a) as incomplete at the TT. Since the event is asserted

as unbounded, the TT is pragmatically implicated to be simultaneous to the ST. In the absence of

temporal adverbs, the tense reading is implicated as present. The adverbial clause sets the

background for the rest of the discourse. The subevents (b) and (c) are asserted as complete

events at the TT. As they are bounded, the temporal boundaries of the events are included in the

TT. Therefore, the subevent interval (a) contains the two other subevent intervals. The

conjunction *wa* 'and' indicates that the subevents (b) and (c) overlap in time.

In the presence of a temporal adverb with a conflicting time reference, the same aspectual interpretations result from the interactions of these forms. The only difference lies in the tense interpretation (6).

(6) a. imbariH   wi-iHna   **bi-ni-HDar**   fi   Hafil   taxriij   muna
       yesterday while-we.1pl   realis-1-attend.pl   in   ceremony graduation Muna

    b. il-iwlaad   **'akal-u**   il-keik   c. wa   **shirib-uu**   il-9aSiir
       the-boys   perf.eat.3-plm the-cake   and   perf.drink.3-plm the-juice
       'While we are attending Muna's graduation ceremony yesterday, the boys ate the cake
       and drank the juice.'

The temporal adverb *imbariH* 'yesterday' establishes the TT as anterior to the ST and so the tense reading is past. The aspectual interpretation is that the incomplete subevent (a) serves as the frame that includes the subevents (b) and (c).

This section establishes that realis marked predicates in JA only contribute aspectual interpretations to the discourse. The Perfective encodes an event as complete and bounded, whereas the *bi*-Imperfective encodes an event as incomplete and unbounded. Temporal interpretation is established pragmatically by the use of temporal adverbs, connectives, and event succession. More precisely, the temporal interpretation of clauses having these forms is dependent on the temporal reference, i.e. TT, established in the context or by a temporal adverb or connective. Realis marked predicates do not instantiate tense or time reference for the discourse in which they appear. This outcome raises the issue of whether JA contains a grammatical projection for tense that is not filled in the syntax. The next section addresses the interaction between temporal adverbs and aspect in JA by comparing it to the interaction these adverbs exhibit with tense in tensed languages, e.g. English. Then, the section concludes with the implications of this interaction to the functional projections in the clause structure of JA, in particular, tense and aspect projections.

6.1.4 The implications for the clause structure in JA

Adverbs are semantically defined as nonarguments. This definition classifies adverbs as adjuncts. The semantic treatment of adverbs helps identify the role adverbs play in the clause and how they project in the syntax. For instance, adverbs that modify the verb are adjoined to the VP. Adverbs that modify the whole proposition are considered sentence adjuncts. In adherence to this classification, adverbs are treated as quantifiers that have to bind a variable; otherwise, they will be vacuous and ruled out by the Principle of Full Interpretation (Chomsky 1986, 2000). For example, temporal adverbs are assumed to modify a time. Therefore, they are treated semantically as quantifiers that bind a (t) variable (Davidson 1967, Pianesi and Varzi 2000, Parsons 1990, 2000). This is the standard semantic account of temporal adverbs in tensed languages. The question is then: what do temporal adverbs modify in tenseless languages? This section addresses the semantic event structure within the Davidson's (1967) theory of action sentences.

An action sentence makes reference to events. Consider the following example from Davidson (1967: 1).

(7) Jones buttered the toast *slowly with a knife in the bathroom at midnight*.

The whole sentence encodes that there was an event. The verb tells the kind of the event *buttering*. The subject expresses the agent who did the action *Jones*. The object expresses the receiver of the action *toast*. The tense that the verb exhibits tells when the action took place. The series of adverbial phrases add extra information relevant to the event of buttering such as the manner in which the event was performed and so on.

Davidson (1967) hypothesizes that the predicate selects arguments which fill in spaces pertaining to the meaning of the predicate. For instance, the action *buttering* requires someone to

undertake the action, and something to undergo it. However, adverbs are connected to predicates as adjuncts adding extra information that is optional. The best way to treat arguments versus adjuncts is as variables. The argument variables fill in variable positions connected to the verb, while the adjuncts fill in variables connected to other parts of the sentence, e.g. the verb phrase and sentence. The main difference between arguments and adjuncts appears to be whether the variables have to be bound in the syntax. Argument variables are syntactically bound while adjunct variables can be bound pragmatically or in the syntax if they are discourse relevant.

To support his argument, Davidson (1967) applies an entailment test which shows that adjuncts but not arguments can be dropped off. The sentence in (7) entails the following:

(8) a. Jones buttered the toast *slowly.*
    b. Jones buttered the toast *with a knife.*
    c. Jones buttered the toast *in the bathroom.*
    d. Jones buttered the toast *at midnight.*
    e. Jones buttered the toast.

Given the entailment relation between the predicate and the adverbial phrases, Davidson proposed that the predicate and its argument constitute an atomic proposition. Adverbial expressions are adjoined as conjuncts to the atomic propositions as modifiers. In order to account for what these adverbs modify, Davidson (1967) contends that the event itself is one of the arguments of action verbs in the underlying logical form of the sentence. Adverbs of time, place, and manner are separate conjuncts which can be added to predicates in different orders. He assumes that the event (e) is a variable that is bound, and these adverbs modify the event variable. Consider the following logical form representation of Example (7) repeated below as (9a).

(9) a. Jones buttered the toast *slowly with a knife in the bathroom at midnight.*

    b. Ǝe (BUTTER (Jones, the toast, e) & SLOWLY(e) & WITH (e, a knife) & IN
      (e, the bathroom) & AT (e, midnight))

c. 'There was an event, which was a buttering of the toast by Jones, and the event was slowly, and the event was with a knife, and the event was in the bathroom and the event was at midnight.'

The underlying logical form of the sentence represents the following information. The *e* variable ranges over events, and it is existentially bound by the adoption of the existential quantifier. The atomic proposition consists of the predicate and its arguments: the subject, the object, and the *e* variable. Adverbial expressions are represented as separate conjuncts adjoined to the atomic proposition. Each adverbial is represented as a separate conjunct reflecting its function as adding extra information that can be dropped.

Davidson's logical form representation has been modified into what has been referred to in the literature as the NeoDavidsonian logical forms. This modification centers around a decomposition of the atomic proposition into its semantic components. This is called a subatomic analysis. It is motivated by the possibility of having either argument dropped as for example in passive sentences such as *the toast was buttered*. Furthermore, the arguments are introduced by their thematic roles, e.g. agent, theme, rather than grammatical categories such as subject versus objects. The underlying motivation underlies this modification is that sometimes the grammatical terms are confusing. For example, in the passive sentence *the toast was buttered*, the grammatical subject is not the agent. As an illustration of the NeoDavidsonian subatomic analysis, consider the logical form below of Example (7).

(10) $\exists$e (BUTTER (e) & AGENT (Jones,e) & THEME (the toast,e) & SLOWLY(e) & WITH (e, a knife) & IN (e, the bathroom) & AT (e, midnight))

I adopt the subatomic NeoDavidsonian formal representation of the logical forms of action sentences in JA.

Temporal adverbs are optional in JA as well as in English. The adverbs overtly identify

time intervals which can otherwise be specified pragmatically by the context. This claim is

supported by the entailment test demonstrated below.

(11) 9ali   katab   il-qiSah   *bi-sur9ah*   *imbariH*
      Ali   perf.write.3sgm   the-story   in-fast   yesterday
      'Ali wrote the story quickly yesterday.'

This sentence entails the following:

(12) a. 9ali   katab   il-qiSah   *bi-sur9ah*
      b. 9ali   katab   il-qiSah   *imbariH*
      c. 9ali   katab   il-qiSah

Temporal adverbs in JA modify the *e* variable. Therefore, they are not vacuous. The logical form

of the sentence in (11) is as follows.

(13) a. Ǝe (KATAB (e) & AGENT (9ali, e) & THEME (il-qiSah, e) & BI(e, sur9ah) &
      IMBARIH (e))

      b. 'There was an event, the event was writing, and its agent was Ali, and its theme
      was the story, and the event was quick, and the event was yesterday.'

Recall that temporal adverbs and tense operate on time intervals in tensed languages. In other

words, they both operate on one dimension, i.e. time.

However, aspect and temporal adverbs operate independently at two different dimensions:

the internal structure of events and time, respectively. The general assumption for tensed

languages is that there is a tense operator in the logical form of clauses. The next issue to

consider is the semantic interaction between the tense operator and temporal adverbs in tensed

languages in order to draw the implications this interaction bears to tenseless languages.

In tensed languages, the addition of a tense operator to the Davidson's analysis raises the

question of its scope relative to the existential quantifier that introduces the event variable. The

tense operator is assumed to have a wide scope over the event variable because it marks a

temporal boundary of the event. Tense must scope over the variable event because the existence or truth condition of the event is bound by the time encoded by the tense. Below is an illustration.

(14) a. Jones left.   (= (60) Kearns 2000: 196)

       b. Past Ǝe (LEAVE(e) & AGENT (j,e))
        'At a past time there was an event and the event was a leaving and Jones was its agent.'

       c. # Ǝe Past (LEAVE(e) & AGENT (j,e))
        'There is an event which at a past time was a leaving and Jones was its agent.'

The event exists if it takes place in time. Hence, the *e* variable has to be bound by time. If it scopes over time, then it will be unbound. This relation has the interpretation that there is an event, which at a past time was leaving, but at the current time is arriving. Therefore, only the representation in (14b) is correct.

The introduction of the tense operator raises the question of scope because a scopal ambiguity may result in the presence of two scopal elements. In tensed languages, optional temporal adverbs can be used even if there is a tense operator. As both modify temporal intervals, there may be an interaction in their scopal properties and interpretation. I first establish the interaction between tense operator and temporal adverbs in terms of temporal intervals they identify. Then, I proceed to discuss the scopal ambiguity that may result from their simultaneous presence. Example (15) is illustrative.

(15) John wrote a letter last night at 10:00.

The tense operator represents the tense morphology on the verb, and establishes the ET as anterior to the ST. The tense operator encodes an unbounded past interval that spreads anterior to ST. The NP adverbial *last night* identifies a bounded time interval within the past interval.

Consider the following diagrammatic representation of the interaction between the temporal intervals identified by a tense operator and temporal adverbs.

(16) ---------- [---- ET----] ----------- unbounded Past
                       last night

As the representation in (16) demonstrates, the temporal reference encoded by the operator is unbounded stretching before and after the definite time interval denoted by the temporal adverbial *last night*. Both intervals contain the ET.

If the temporal phrase can be considered as a quantifier that binds an *e* variable, I will represent it in a way similar to restricted quantifier phrases. So far, there is a tense operator, and now I add a quantifier phrase of temporal adverbs. Both are scopal expressions. There are two possible orderings between them. If the adverbial phrase has wide scope, it would have the representation shown in (17).

(17) a. adverbial phrase – tense operator – Ǝe

     b. # [LAST NIGHT (t)] Past Ǝe (t < t* & LEAVE (e) & AGENT (j,e) & AT (t,e))

     c. 'There is a time that it is last night, at a past time there was an event and the event was a leaving and John was its agent and it was at 10:00'.

In (17), the temporal adverb has a wide scope over the tense operator. The logical representation for the adverb refers to a variable *t* that is unbound by the past operator. The interpretation is that the unbounded past denoted by the tense operator is included in the temporal interval identified by the temporal adverb *last night*. This interpretation is clearly wrong because the tense operator introduces an unbounded temporal interval, e.g. past as the interval anterior to ST; however, temporal adverbs encode a bounded temporal interval within the unbounded interval introduced by the operator.

The other possible ordering is the reverse. Consider the following formal representation of the clause in (15).

(18) a. tense operator – adverbial phrase – Ǝe

b. Past [LAST NIGHT(t)] Ǝe (t < t* & LEAVE (e) & AGENT (j,e) & AT (t,e))

c. 'At a past time, that was last night, there was an event and the event was a leaving and John was its agent and it was at 10:00'

The tense operator has a wide scope over the temporal expressions within brackets. This indicates that the time interval for the ET identified by the NP temporal adverb is included within the time interval denoted by the tense operator. In other words, the tense operator specifies that ET precedes ST, while the temporal adverbs restrict the ET to intervals within the past interval. This is the correct interpretation.

As far as past reference, the interpretation that native speakers accept is the one in which the tense operator has a wide scope over the temporal adverbs. This holds true for future tense as well. Below, I include an example with future tense. Consider the following example along with the diagrammed timeline representation.

(19) a. John will write a letter tomorrow at 10:00.

b. ST ---------------- [--- ET ---] ---------- unbounded future
                       tomorrow

The tense operator establishes the TT as posterior to the ST. It encodes unbounded future. The NP adverb specifies a temporal interval *tomorrow* which is a bounded temporal interval. Both intervals include the ET, which is *at 10:00*. The formal representation below is illustrative.

(20) a. # [TOMORROW (t)] Fut Ǝe (t* < t & LEAVE (e) & AGENT (j,e) & AT (t,e))
       'Tomorrow, at a future time there will be an event and the event is a leaving and John will be its agent and it will be at 10:00'

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b. Fut [NEXT DAY(t)] ∃e (t* < t & LEAVE (e) & AGENT (j,e) & AT (t,e))
'At a future time, that will be tomorrow, there will be an event and the event is a leaving and John will be its agent and it will be at 10:00'

The interpretation in (20a) is that the unbounded future is included in the future interval denoted by the adverb *tomorrow*. This interpretation is ruled out in adherence to the intuition of native speakers of English. The correct interpretation is represented in (20b) where the unbounded future includes the interval next day as well as the ET.

Based on this analysis, I conclude that a tensed language has a tense operator that scopes over the whole proposition. The tense operator establishes a temporal interval. Temporal adverbs are allowed, but they are optional. Their main function is modifying the tense interval by overtly restricting the ET to specific intervals within the unbounded interval specified by the tense operator. The temporal adverbs do not scope over the tense operator. Tense intervals are restricted pragmatically in the absence of a temporal adverb. The sentence 'I turned off the stove' is pragmatically restricted to a bounded temporal interval rather than an unbounded past interval that stretches back millions of years in time.

Temporal adverbs in tenseless languages such as JA are also optional. They modify the *e* variable. They identify a temporal interval of an event. Based on the conclusions drawn from the analysis of the roles of the tense operator and temporal adverbs in tensed languages, I argue that there are two plausible analyses for JA, which is a tenseless language. First, JA has an aspect operator by analogy to the tense operator in tensed languages. The other analysis is that aspect in JA does not function as an operator, but rather as a modifier exactly like adverbs in that it modifies the event as complete or incomplete. I will test which analysis is more appropriate to account for the JA data.

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As JA lacks morphological tense and it exhibits aspect instead, it is possible that JA has an aspect operator which scopes over the proposition in a similar fashion to how tense operator behaves in tensed languages. In what follows, I annotate the aspect operator according to aspectual viewpoints, e.g. Perf for Perfective. Provided that the claim is correct, the existential quantifier must scope over the aspect operator because the existential quantifier binds the event variable and aspect operator denotes the event as bounded or unbounded. Hence, it modifies the *e* variable as well. The following example is illustrative.

(21) a. 9ali   katab   il-qiSah
         Ali   perf.write.3sgm   the-story
        'Ali wrote the story.'

     b. Ǝe Perf (KATAB (e) & AGENT (9ali,e) & THEME (il-qiSah, e))
        'There is an event and the event is completed or bounded and the event is writing, and *9ali* is its agent, and *il-qqiSah* is its theme'

     c. # Perf Ǝe (KATAB (e) & AGENT (9ali,e) & THEME (il-qiSah, e))
        'A complete bounded event, there is an event and the event is writing, and *9ali* is its agent, and *il-qqiSah* is its theme'

The representation of the logical form of the clause does not demonstrate what aspect actually operates over and in what sense it scopes over the whole proposition. The key point here is that aspect differs from tense in that the former modifies the *e* variable as bounded or unbounded; the latter quantifies over time. Therefore, the claim that aspect should be treated in JA analogous to tense is not well-motivated.

I introduce two time adverbials to explore the interaction between the temporal reference identified by adverbs and the aspectual interpretation introduced by aspect. The example below is illustrative.

(22) a 9ali   katab   il-qiSah   *imbariH*   *9-al-9asharah*
        Ali   perf.write.3sgm   the-story   yesterday   on-the-ten
       'Ali wrote the story yesterday at 10:00.'

The temporal NP adverb *imbariH* 'yesterday' identifies a temporal interval that is anterior to ST.

As stated earlier in this section, temporal adverbs encode a bounded temporal intervals compared

to the unbounded tense reference introduced by the tense operator in tensed languages. Aspect

modifies the event as complete or incomplete. Below is an illustration.

(23) a. # [IMBARIH(e)] Ǝe [Perf(e) & KATAB(e) & AGENT (9ali,e) & THEME
    (il-qiSah,e) & 9 (e))

b. 'For yesterday, there was an event, the event was complete, and the event was
    a writing, and its agent was Ali, and its theme was the story, and it was
    at 10:00.'

(24) a. # Ǝe [Perf(e)] [IMBARIH(e)] (KATAB (e) & AGENT (9ali,e) & THEME
    (il-qiSah,e) & 9 (e))

b. 'There exists an event, the event is perfective, and the event was yesterday, and
    the event was a writing, and Ali is its agent, and the story is its theme, and the
    event was at 10:00.'

In (23), the temporal interval identified by the NP adverb *imbariH* 'yesterday' has a wide scope.

The temporal adverb identifies a time interval, whereas aspect denotes the internal consistency of

the event as complete or incomplete. Therefore, no scopal ambiguity is predicted because

temporal adverbs and aspect independently modify the event.

My contention is that neither one has a scope over the other. Instead, both temporal

adverbs and aspect can be treated as independent modifiers of the *e* variable. More precisely,

they have to be represented as separate conjuncts within the NeoDavidsonian framework.

Consider the correct representation of the logical form of the clause in (22).

(25) a. Ǝe (Perf(e) & KATAB (e) & AGENT (9ali,e) & THEME (il-qiSah,e) &
    IMBARIH(e) & 10(e))

b. 'There exists an event, the event is complete, and the event is a writing, and
    Ali is its agent, and the story is its theme, and the event was yesterday, and it
    was at 10:00.'

The logical form in (25) illustrates that aspect and temporal adverbs modify the *e* variable as adjuncts. The grammatical difference between the aspect marking and temporal adverb is that the former is obligatory whereas the latter is not.

In fact, temporal adverbs encode the temporal intervals in terms of deixis rather than the grammar. More precisely, temporal adverbs by their meanings encode time reference, e.g. *imbariH* 'yesterday' denotes the day before now. Therefore, there is no need to introduce a tense variable for temporal adverbs to modify. As for aspect, time is not part of its semantics. In conclusion, there is no need to introduce a tense operator in JA. As overt realis marking is obligatory in root clauses, then, this means that there has to be an AspP projection in the clause structure of JA, but there is not a TP node. The question now is how the semantic contribution of aspect is represented syntactically.

I will adopt the standard assumption in the syntax of aspect that there are two aspect projections: *v*P-internal and *v*P-external (Travis 1994, 2005, 2010, Slabakova 2001, Borer 2005, Ramchand 2008). This proposal is motivated by the assumption that there are two types of aspect: situation type and viewpoint (Verkuyl 1972, 1993, Depraetere 1995, Smith 1997, Slabakova 2001). Situation type aspect, or lexical aspect, is concerned with the inherent properties of event that are expressed through the verb constellation combining both the verb and its arguments and adverbial modifiers (Verkuyl 1972). Consider the following example from Chapter 4 in the present study.

(26) a. John read books.   (= (5) Chapter 4: 94)
     b. John read a book.

The object is uncountable in (26a), but it is specific in (26b). The different specification of the quantity of the internal argument, i.e. the object, marks the event in the former atelic and the latter telic.

On the other hand, the viewpoint aspect, i.e. the Perfective, is the grammatical aspect that is marked morphologically on the verb. Many researchers follow Hale and Keyser (1993) and assume that the correlation between the semantics and syntax of event structure leads to the assumption that both aspect types are represented syntactically (Travis 1994, 2005, 2010, Slabakova 2001, Borer 2005, Ramchand 2008). The tree in (27) is the syntactic representation of different types of aspect in the literature.

(27)

```
        TP
       /  \
          AspP_Viewpoint
          /  \
     Asp_View   vP
              /  \
                 AspP_Lexical
                 /  \
            Asp_Lex    VP
```
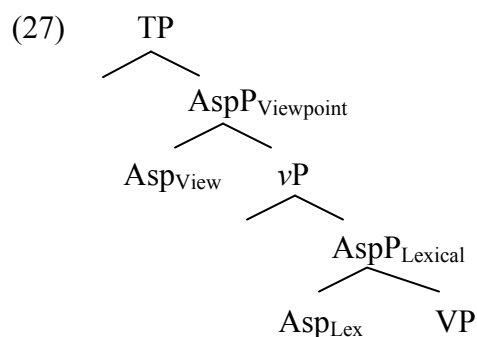
The syntactic representation in (27) follows from the claim that the situation type or lexical aspect is within *v*P that represents the event structure, which has to be supplemented by the viewpoint AspP in the functional domain encoding how the event unfolds in time. Then, the event is ordered in time motivating the assumption that the TP is higher than AspP_Viewpoint and scopes over it and not vice versa. This representation accounts for the facts from tensed languages.

In a nutshell, I assume that there is evidence of the presence of an AspP_Viewpoint in JA, but not of a TP. Lexical aspect is beyond the scope of the present study; hence, the details within the *v*P are excluded. The discussion so far implies that the clause structure of JA looks like the skeletal representation given in (28).

(28)   CP
          /\
       AspP$_{Viewpoint}$
       /\
   Asp$_{View}$ vP
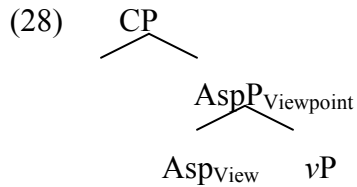
As there is no evidence of a scopal ambiguity between temporal adverbs and aspect viewpoints as mentioned above, I argue that temporal adverbs are adjoined to the clause structure in accordance to their relative linear word order. I will leave the discussion of the semantics and syntax of temporal adverbs to future research. Turning to complement clauses, I discuss the temporal and aspectual contributions of predicates in complement clauses with realis marked and unmarked predicates in the next section.

6.2. Temporal and aspectual interpretations of complement clauses in JA

The previous section established that realis marked predicates mainly contribute distinctive aspectual interpretations. They do not encode distinctive temporal interpretations. Temporal interpretations are pragmatically implicated or established lexically by means of temporal adverbs. Furthermore, I claim that aspect and temporal adverbs modify the event independently. Aspect identifies the viewpoint of the event as complete versus incomplete. By their meaning, temporal adverbs identify the temporal interval of the event. This section addresses these conclusions in the context of complement clauses with realis marked and unmarked predicates.

6.2.1 Set 1 complements

Provided the lack of temporal adverbs, temporal ordering of the events is pragmatically implicated from the aspectual viewpoint. Temporal orderings of events are lexically established in the presence of adverbs or temporal connectives, e.g. *wa* 'while'. The potential interactions of aspectual viewpoints in independent clauses that were discussed at the beginning of this chapter are summarized below.

	Clause 1	**Clause 2**	**implicated temporal interpretations**
(29) a.	Perfective (e_1)	Perfective (e_2)	succession ($e_1 < e_2$)
b.	Imperfective(e_1)	Imperfective (e_2)	simultaneity ($e_1 = e_2$)
c.	Perfective (e_1)	Imperfective (e_2)	inclusion (e_2 includes e_1)

For further clarification, consider the following representative diagrams. Throughout this

chapter, I mark the event and state under discussion in bold dotted line for clarity's sake.

(30) a. …… [**e₁……..**]…….. [**e₂……..**]…………. timeline (= (29a))

 b. …… **e₁……………….**……………….timeline (= (29b))
       e₂…………………

 c. …….. [**e₁…………..**] ……………………timeline (= (29c))
       e₂……………………

The diagrams illustrate that a series of events in the Perfective implicates succession, a series of

events in the Imperfective implicates simultaneity, and an interaction between Perfective and

Imperfective implicates inclusion.

Based on the above conclusions, the prediction is that the realis marked predicates in

complement clauses should instantiate similar temporal orderings of the events in the

complement clauses in relation to those in the matrix clause. In order to examine this prediction,

I chose the Set 1 complements because they include realis marked predicates whether overt or

covert as established in detail in Chapter 4. As a result, there are two realis marked predicates in

each sentence: one in the matrix clause and the other in the complement in parallel to the

independent clauses discussed in the discourse. In this section, I compare Set 1 complement

clauses to independent clauses. The discussion proceeds as follows. First, I discuss the temporal

interpretations between the events in the matrix and complement clauses in the absence of

temporal adverbs, but under the different interactions between aspectual viewpoints across

clauses. Then, I tackle the temporal interpretations of events in complement and matrix clauses when temporal adverbs are used.

Set 1 complement clauses do not show a uniform semantic behavior in terms of the temporal interpretations. There is a split among complement clauses which follows from the meaning of the matrix CTPs. More precisely, complement clauses selected by Immediate Perception CTPs exhibit a restricted temporal interpretation compared to the complements selected by Utterance, Propositional, Commentative, Knowledge and Acquisition of Knowledge, and Pretense CTPs. To illustrate the split, I used a CTP from each group, namely, the Utterance predicate *qaal* 'say' and the Immediate Perception predicate *shaaf* 'see'. For clarity's sake, I use a pair of complements in each example below to illustrate the split.

The Perfective encodes the event as complete and bounded in the complement as well as in matrix clauses. The implication is that one event is completed before the other, i.e. they occurred successively. However, the direction or pragmatically temporal implicature is determined by the meaning of the matrix CTP and is constrained by the aspectual viewpoint of the matrix clause. Consider the following examples.

(31) a. layila   qaal-at   'innu   SaHb-at-ha   Sawar-an   il-Hafilih
       Laila   perf.say-3.sgf   that   friend-plf-her   perf.photograph.3-plf   the-party
       'Laila said that her friends photographed the party.'

b. layila   shaaf-at   SaHb-at-ha   Sawar-an   il-Hafilih
   Laila   perf.see-3.sgf   friend-plf-her   perf.photograph.3-plf   the-party
   'Laila saw that her friends photographed the party.'

The temporal order of events follows from world knowledge and meaning of the matrix CTP. In (31a), the photographing event embodied in the complement clause occurred before the reporting of its occurrence, which is instantiated in the matrix clause. In (31b), the photographing event as a whole is immediately perceived by the matrix clause experiencer *Laila* as mediated by the

Immediate Perception matrix predicate *shaaf.* The diagrams below represent these interpretations on the timeline with the Compl. Stands for the event in the complement clause, Matrix represents the event in the matrix clause.

(32) a. .... [**Compl** **·······**] …….. [**Matrix** **·····**] …….. timeline (= (31a))

       b. ……. [**Matrix** **······** [**Compl** **········**] **·········**] ……..timeline (= (31b))

Diagram (32a) illustrates that a series of events expressed in the Perfective pragmatically implicates a succession. The order is that the event in the complement clause occurred before the event in the matrix clause. In (32b), the event in the complement clause has to be included within the temporal interval of the matrix clause; otherwise, the event cannot be said to be immediately perceived.

The previous section establishes that the succession of Perfective clauses implicates a succession of events, i.e. a series of events, one completed before the other. The difference between independent clauses and complement clauses in their relation to the matrix clauses in this respect is that in the absence of temporal connectives, e.g. *qabil* 'before', the temporal order of events is interpreted as the order in which they are represented in the discourse (See Example 1). However, the presence of the temporal connectives changes the order. Compare the example below to Example 1.

(33) a. **HiDir-na**   Hafil   i-taxriij   ba9dein   **itghadei-na**
      perf.attend-1pl   ceremony   the-graduation   after that   perf.have lunch-1pl
      'We attended the graduation ceremony. After that, we had lunch.'

    b. **HiDir-na**   Hafil   i-taxriij   bas **itghadei-na**   qabil heik
      perf.attend-1pl   ceremony   the-graduation   but   perf.have lunch-1pl   before that
      'We attended the graduation ceremony. But we had lunch before that.'

In (33), the attending event e_1 is presented before the having lunch event e_2. Nonetheless, the temporal order in (33a) is that e_1 precedes e_2. The order is the reverse in (33b). What causes the

difference in temporal ordering of events is the presence of the temporal connectives *ba9dein*

'after that' and *qabil heik* 'before that', respectively.

In brief, a series of Perfective clauses whether independent or complement implicates a

succession of events. However, this succession can be constrained by temporal connectives in

discourse or aspect n the matrix clauses, which behave like temporal connectives in the

discourse.

The Imperfective encodes the event as unbounded and incomplete whether in the matrix or

complement clause. Therefore, the implicated temporal interval is an unbounded open temporal

interval. Consider the following example.

(34) a. layila   bi-ti-quul   'innu   SaHb-at-ha   bi-yi-Sawar-an   il-Hafilih
       Laila   realis-3-say-sgf   that   friend-plf-her   realis-3-photograph-plf   the-party
       'Laila is saying that her friends are photographing the party.'

       b. ?layila   bi-ti-shuuf   SaHb-at-ha   bi-yi-Sawar-an   il-Hafilih
       Laila   realis-3-see-sgf   friend-plf-her   realis-3-photograph-plf   the-party
       'Laila is seeing her friends photographing the party.'

A series of events in the Imperfective as in Example (34) pragmatically implicates simultaneity.

While this implication is possible, it is not the sole possible temporal interpretation. Consider the

following representations of the possible temporal ordering on the timeline.

(35) a. …**Compl**················…·······**Matrix**···················…………… timeline   (= (34a))

     b. …**Matrix**····················……**Compl**···················..………….. timeline   (= (34a))

     c. …………**Matrix**·····················…………………………… timeline   (= (34a))
            Compl ························

     d. …………**Matrix**·····················…………………… timeline   (= (34b))
            Compl ························

The diagrams (35a-c) illustrate a number of possible temporal interpretations. The photographing

event can occur before the reporting event as shown in (35a) or after it (35b). Furthermore, it is

possible for both events to occur simultaneously (35c). However, only the simultaneity

interpretation is possible in clauses selected by Immediate Perception predicates (35d). Again,

this is required if the event to be perceived immediately.

A series of Imperfective clauses implicates simultaneity (See Example 3) where all events

are interpreted as simultaneous. The other possible interpretations that (34) represents are only

possible if there are other temporal devices like temporal connectives that may cancel these

implicatures. Below is an illustration.

(36) a. **bi-ni-taghadda**   wa-ba9dein   **bi-ni-HiDar**   il-Hafilh
       realis-1-have lunch.pl   and-after that   realis-1-attend.pl   the-party
       'We are having lunch. After that, we are attending the party.'

    b. **bi-ni-taghadda**   bas qabil heik   **bi-ni-HiDar**   il-Hafilh
       realis-1-have lunch.pl   but before that   realis-1-attend.pl   the-party
       'We are having lunch, but before that, we are attending the party.'

The having lunch event e_1 and attending the party event e_2 are represented as e_1 precedes e_2.

While this order is correct for (36a), it is reversed in (36b). The implicatures are constrained by

the temporal connectives *ba9dein* 'after that' and *qabil heik* 'before that', respectively. This

example shows that the Imperfective clauses implicate simultaneity, precedence, and posteriority

if temporal devices are used. All these interpretations are possible if the Imperfective is used in

the complement as well as the matrix clauses (see Example 34 along with the diagrams in 35

above). The aspect on the matrix verbs constrains the potential temporal interpretations similar to

the way temporal connectives constrain these interpretations in the discourse.

The aspectual viewpoints can be different. For instance, the matrix clause can have the

event encoded as complete by the Perfective, whereas the event in the complement clause can be

encoded as incomplete by the Imperfective. Consider the following example.

(37) a. layila qaal-at   'innu   SaHb-at-ha   bi-yi-Sawar-an   il-Hafilih
        Laila   perf.say-3.sgf that   friend-plf-her realis-3-photograph-plf   the-party
        'Laila said that her friends were photographing the party.'

    b. layila shaaf-at   SaHb-at-ha   bi-yi-Sawar-an   il-Hafilih
        Laila perf.see-3.sgf   friend-plf-her realis-3-photograph-plf   the-party
        'Laila saw her friends photographing the party.'

The temporal interpretations are pragmatically implicated as the diagrams below delineate.

(38) a. …………………… [Matrix ……] ……………………… timeline   (= (37a))
      Compl··············

    b. …………………… [Matrix ……] ……………………… timeline   (= (37a))
                           Compl··············

    c. …………………… [Matrix ……] ……………………… timeline   (= (37a))
            Compl··············

    d. …………………… [Matrix ……] ……………………… timeline   (= (37b))
            Compl··············

The event of the complement clause can occur before the event of the matrix clause (38a). It can

occur after the matrix event (38b). It can also occur simultaneous to the event of the matrix

clause (38c). Nonetheless, only the simultaneous interpretation is acceptable in clauses selected

by the Immediate Perception CTPs (38d).

    The last possible interaction between aspectual viewpoints is for the matrix event to be

expressed in the Imperfective and the complement event in the Perfective. Below is an

illustration.

(39) a. layila   bi-ti-quul   'innu   SaHb-at-ha   Sawar-an   il-Hafilih
        Laila   realis-3-say-sgf that   friend-plf-her perf.photograph.3-plf the-party
        'Laila is saying that her friends photographed the party.'

    b. ?layila   bi-ti-shuuf   SaHb-at-ha   Sawar-an   il-Hafilih
        Laila   realis-3-see-sgf   friend-plf-her perf.photograph.3-plf   the-party
        'Laila sees her friends photographed the party.'

Below are timeline diagrams representing the possible temporal ordering of the events in this pair of sentences.

(40) a. ……………… [**Compl** ……………]…………………. timeline   (= (39a))

    Matrix ……………

   b. ……………… [**Compl** ……………]…………………timeline   (= (39b))

    Matrix ………………

The event in the complement clause precedes the event in the matrix clause (40a). In complement clauses selected by Immediate Perception predicates, the only possible interpretation is simultaneity (40b).

The interaction between the Perfective and Imperfective independent clauses in the discourse implicates that the event in the Imperfective constitutes the background for the the Perfective event because the former is unbounded whereas the latter is bounded (see Example 5). This interpretation is subject to cancellation if temporal connectives are used. Below is an illustration.

(41) a. layila **bi-ti-drus.**   9abil   heik **Sawwar-at**   il-Hafilh
         Laila   realis-3-study.sgf before that perf.photograph.3-sgm the-party
         'Laila is studying. Before that, she photographed the party.'

   b. layila kaan-at   **bi-ti-drus.**   ba9dein **Sawwar-at**   il-Hafilh
        Laila perf.be.3-sgf realis-3-study.sgf after   perf.photograph.3-sgm the-party
        'Laila was studying. After that, she photographed the party.'

The interpretation is that the Imperfective event *bi-ti-drus* 'was studying' was in progress. The Perfective event *Sawwar-at* 'photographed' completed before the studying event in (41a), but it completed after it in (41b). This means that the interaction between the Imperfective and Perfective in the discourse implicates inclusion. However, the presence of temporal connectives may cancel this implicature. Likewise, the aspect on the matrix clause shows similar behavior to the temporal connectives.

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In brief, temporal interpretations of the complement clauses with realis marked predicates are implicated from the interactions of aspectual viewpoints in the complement and matrix clauses. Furthermore, the temporal interpretations are constrained by the aspectual viewpoints of the matrix clause as well as the meaning of the matrix CTPs. The following table summarizes these conclusions. The first column states the matrix CTPs. I take the Utterance CTPs as a representative of all the Set 1 CTPs except Immediate Perception CTPs, which show a more restricted semantic behavior.

Table 1: temporal interpretations and aspectual viewpoints in Set 1 complements

CTPs	Matrix	Complement	Temporal interpretations
1. Utterance	Perfective	Perfective	$e_{compl} < e_{Matrix}$ (=(32a))
Immediate Perception	Perfective	Perfective	e_{compl} includes e_{Matrix} (=(32b))
2. Utterance	Imperfective	Perfective	$e_{compl} < e_{Matrix}$ (=(38a))
Immediate Perception	Imperfective	Perfective	e_{compl} includes e_{Matrix} (=(38b))
3. Utterance	Imperfective	Imperfective	$e_{compl} < e_{Matrix}$ (=(34a))
			$e_{compl} > e_{Matrix}$ (=(34b))
			$e_{compl} = e_{Matrix}$ (=(34c))
Immediate Perception	Imperfective	Imperfective	$e_{compl} = e_{Matrix}$ (=(34d))
4. Utterance	Perfective	Imperfective	$e_{compl} < e_{Matrix}$ (=(36a))
			$e_{compl} > e_{Matrix}$ (=(36b))
			$e_{compl} = e_{Matrix}$ (=(36c))
Immediate Perception	Perfective	Imperfective	$e_{compl} = e_{Matrix}$ (=(36d))

Table 1 summarizes the potential temporal interpretations implicated by the aspect on the complement clauses and constrained by the aspect and meaning of matrix CTPs. In summary, the Perfective in the complement clause implicates that the complement clause event is anterior to the matrix event. The use of the Imperfective allows simultaneity, precedence, or posteriority of the events in the matrix and complement clauses. In a nutshell, realis marked predicates in Set 1 complement clauses contribute distinctive aspectual interpretations. The temporal ordering of the event in the complement clause is established from the interaction of the meaning and aspectual viewpoint of the matrix verb and the aspectual viewpoint of the complement clauses.

This is not the whole scenario because Set 1 CTPs in JA select clauses that lack overt realis marked predicates in what are referred to in the literature of all Arabic varieties as verbless clauses (Bakir 1980, Fassi Fehri 1993, Benmamoun 2000, Mohammad 2000, Aoun et al. 2010). The question then is what are the acceptable temporal interpretations in these clauses? Consider the following examples.

(42) a. layila   qaal-at   'innu   il-beit   nathiif
       Laila   perf.say-3.sgf   that   the-house   clean
       'Laila said that the house is clean.'

    b. layila   shaaf-at   il-beit   nathiif
       Laila   perf.say-3.sgf   the-house   clean
       'Laila saw the house clean.'

The complement clause in (42) expresses a state of the house as being clean. This state is ordered with respect to the event in the matrix clause as illustrated in the diagrams below.

(43) a. …………………… [**Matrix** ……] ……………………… timeline   (= (42a))
        Compl················

    b. …………………… [**Matrix** ……] ……………………… timeline   (= (42a))
                           Compl···············

    c. …………………… [**Matrix** ……] ……………………… timeline   (= (42a))
        Compl················

    d. …………………… [**Matrix** ……] ……………………… timeline   (= (42b))
        Compl···············

The state of the house as clean can hold before the reporting event of this state (43a). The state can hold after the reporting of this state (43b). It can be simultaneous to the reporting event (43c). The state can only hold simultaneous to the event in the matrix clause if it is immediately perceived (43d). Based on these interpretations, I conclude that clauses which lack overt realis marked predicates exhibit the same temporal interpretations the Imperfective aspectual viewpoint instantiates in clauses with overt verbal predicates.

In conclusion, the temporal interpretations implicated for these stative clauses are similar to the interpretations allowed for complement clauses with the Imperfective as demonstrated in (35) and (38). This conclusion provides independent support for my claim in Chapter 4 that verbless clauses are actually clauses with a covert copula in the *bi*-Imperfective form. In the literature on Arabic, the claim is that these clauses have a present tense interpretation because they are compatible only with adverbs with a present tense interpretation. As a consequence, the assumption in the literature is that these clauses have a covert copula in the Imperfective form, which is considered a present tense form. I established in the present study that JA is a tenseless language. Temporal adverbs modify the temporal interval of the event independently from the aspectual viewpoint on the verb. To extend this argument to verbless clauses, I argue that these clauses have a covert copula in the *bi*-Imperfective form, which is associated with the Imperfective aspect in the language. The temporal interpretations implicated by the aspect of the copula are similar to the interpretations the Imperfective on verbal predicates allows.

Furthermore, these temporal interpretations are not restricted to present tense interpretations as shown by the possibility of being allowed in past tense contexts. Consider the following example.

(44) a. layila   qaal-at   'innu   il-beit   nathiif   imbariH
     Laila   perf.say-3.sgf   that   the-house   clean   yesterday
     'Laila said that the house clean yesterday.'

     b. layila   shaaf-at   il-beit   nathiif   imbariH
     Laila   perf.say-3.sgf   the-house   clean   yesterday
     'Laila saw the house clean yesterday.'

Keeping the potential ordering diagrammed in (43a-d) constant. The temporal adverb *imbariH* 'yesterday' sets the scene for the whole clause in (44a-b) in the past. At this past time, the state of the house as clean was reported by Laila (44a), or immediately perceived by her (44b). This is

converging evidence that the temporal interpretation of verbless clauses is not restricted to present tense interpretation. I conclude that the pragmatic implicature of the temporal interpretation of verbless clauses can be cancelled in the same way it can be cancelled in verbal clauses.

The discussion so far has established how temporal interpretations are implied from the meaning of the CTP from interaction between the aspectual viewpoints in the complement and matrix clauses without temporal adverbs. Nonetheless, temporal adverbs are possible but optional. When present, temporal adverbs lexically modify the temporal interval of an event. In independent clauses, temporal adverbs operate independently from aspectual viewpoints. The prediction is that the same is true in complement clauses with realis marked predicates. Below is an illustration.

(45) layila   qaal-at   'innu   SaHb-at-ha   Sawar-an
     Laila   perf.say-3.sgf that   friend-plf-her   perf.photograph.3-plf

     il-Hafilih   imbariH   i-sa9ah   9ashrah
     the-party   yesterday   the-clock   ten
     'Laila said that her friends photographed the party yesterday at 10:00 o'clock.'

The same temporal ordering of the events is pragmatically implicated from the interaction of aspectual viewpoints in the complement and matrix clauses as established earlier in this section. The temporal adverb *imbariH* 'yesterday' can modify either the temporal interval of the matrix event or the complement event or both. The same is true for the clock-temporal adverb *i-sa9ah 9asharah* 'at 10:00 o'clock'. In all the interpretations, the temporal order of the matrix and complement events is fixed as determined by aspectual viewpoints. The complement event must complete before the matrix event. The diagrams below illustrate the possible interpretations that result from the modification of the temporal adverbs.

(46) a. ……. [Yesterday ………… [**Compl** •••••••] ……… [**Matrix** •••••] ……]……………. timeline

<p style="text-align:center">10:00</p>

b. ……. [Yesterday ………… [**Compl** •••|•••] ……… [**Matrix** •••]……..]……………timeline

<p style="text-align:center">10:00</p>

c. …. [**Compl**•••••]……… [Yesterday ……[**Matrix**•|••••]……]………………………..timeline

<p style="text-align:center">10:00</p>

d. …. [Yesterday ….[**Compl** •••••]….]……. [**Matrix**•••••••••]…………………………timeline

<p style="text-align:center">10:00</p>

The temporal adverb can modify a temporal interval that includes both the matrix and complement events as illustrated in (46a-b). Then, the temporal adverb *isa9ah 9asharah* 'at 10:00 o'clock' can modify the matrix event as demonstrated in (46a), and the complement event can be interpreted as taking place earlier than 10:00. Alternatively, it can modify the event in the complement clause as shown in (46b) with the matrix event understood as taking place afterwards. The temporal adverbs *imbariH* 'yesterday' and *isa9ah 9asharah* 'at 10:00 o'clock' can modify the temporal interval of the matrix event only and the complement clause event is interpreted then as occurring prior yesterday, e.g. a week ago, as delineated in (46c). A further possibility is for *imbariH* and *isa9ah 9asharah* 'at 10:00 o'clock' to modify the complement event as (46d) illustrates. The matrix event can then be interpreted as taking place after that, e.g. today.

The same applies to complement clauses selected by Immediate Perception CTPs. Consider the following example along with the diagrams that represent the acceptable temporal interpretations.

(47) a. layila   shaaf-at   SaHb-at-ha   Sawar-an
         Laila   perf.see-3.sgf   friend-plf-her   perf.photograph.3-plf

         il-Hafilih   imbariH   i-sa9ah   9asharh
         the-party   yesterday   the-clock   ten
         'Laila saw her friends photograph the party yesterday at 10:00.'

b. ……. [Yesterday ……. [**Matrix** •••••• [**Compl** ……...] ……....] ……]………….. timeline
$$|$$
10 :00

c. ……...[Yesterday ……. [**Matrix** •••••• [**Compl** ……...] ……....] ……]………….. timeline
$$|$$
10 :00

The temporal adverb *imbariH* 'yesterday' establishes a temporal interval that encompasses both

events. They have to be within the same interval because the complement clause event has to be

immediately perceived by the experiencer of the matrix clause. Furthermore, the same ordering

as constrained and implicated by the interaction of the aspectual viewpoints hold true. The

temporal adverb *i-sa9ah 9asharah* 'at 10:00 o'clock' can modify the temporal interval of the

matrix clause event as represented in (47b) or the temporal interval of the complement clause

event in (47c).

      In summary, Set 1 complement clauses with realis marked predicates have distinctive

aspectual and temporal interpretations from that of the matrix clause. The aspect of the

complement clause contributes distinctive aspectual interpretations, e.g. complete versus

incomplete, and it determines the temporal interpretation of the event. The meaning of the matrix

CTP and the aspect of the matrix clause constrain the temporal order of the events in the matrix

and complement clauses in a similar fashion to temporal connectives, e.g. *ba9id* 'after'. The

temporal adverbs modify a temporal interval of the event in the matrix clause, complement

clause, or both. However, it does not affect the temporal order of events established by aspectual

viewpoints. This provides converging evidence to my claim in the previous section that temporal

adverbs and aspect in JA operate independently. The next section addresses whether these conclusions can be carried over to the Set 2 complement clauses with realis unmarked predicates.

Furthermore, this section demonstrates that realis marked predicates whether used as root or complement clauses contribute distinctive aspectual interpretations. They offer the same pragmatic implication of the event or state: a series of Perfective implicates succession; a series of Imperfective implicates simultaneity. The pragmatically implicated temporal order of events by aspect may be cancelled in independent clauses in the presence of temporal connectives, e.g. *ba9id* 'after' (see Examples 33, 36, and 41). The matrix clause plays the same constraining role as temporal connectives.

6.2.2 Set 2 Complements

In contrast to the previously discussed complements, Set 2 complements involve predicates that lack aspect marking. Therefore, if aspect on verbs in Set 1 complements contributes distinctive aspectual and temporal interpretations, what contributions do the realis unmarked predicates bear to the complement clauses? Additionally, matrix clauses with Set 1 complements function as temporal connectives in constraining the temporal order of events. Another question then is: do matrix clauses constrain the temporal interpretations with Set 2 complements? Furthermore, what do temporal adverbs modify in Set 2 complements? I address these questions one at a time in order.

In JA, realis marked predicates convey aspectual interpretations of the event as complete versus incomplete. This entails event realization. If the event is expressed in the Perfective, this entails that the event is realized as a whole given it is asserted as complete. The Imperfective asserts that at least part of the event is realized because the event is expressed as incomplete. All in all, the aspect on the verb asserts the event as partially or completely realized in the actual or

real world. The predicates in Set 2 complements lack aspect, and so they do not encode

distinctive aspectual interpretations. The bare-Imperfective encodes unrealized events. This is

required by the meaning of the matrix CTPs. For example, the Manipulative CTPs, e.g. *'aqna9*

'persuade', the agent tries to cause the affectee to act out an action or have a certain state. Set 2

CTPs select bare-Imperfective predicates with an unrealized event interpretation. A few of them

select nominalized predicates, e.g. *ithakkar* 'remember', *ballash* 'begin'. I will begin by

discussing the bare-Imperfective complements, then I will address the nominalized complements

in the following subsection.

The realization of the event for aspectual viewpoints is a semantic entailment and not a

pragmatic implicature. I test this argument by adding conjunction clauses that contradicts its

realization as in the example below.

(48) *il-banaat Sawar-an il-Hafilih *bas ma Sawar-an-ha*
  the-girls perf.photograph.3-plf the-party but not perf.photograph.3-plf-it
  'The girls photographed the party, but they did not photograph it.'

The contradictory conjunction renders the clause semantically anomalous as illustrated in (48).

The same account can be extended to cases when the conjunction involves an assertion that

contradicts the event in the matrix clause. Consider the following example.

(49) *layila 'aqna9-at il-banaat yi-Sawar-an il-Hafilih
  Laila perf.persuade-3.sgf the-girls 3-photograph.3-plf the-party

  bas ma 'iqtan9-an
  but not perf.persuade.3-plf
  'Laila persuaded the girls to photograph the party, but they are not persuaded.'

The conjunction which contradicts the matrix event renders the sentence semantically anomalous

as illustrated in (49).

In contrast, conjunctions which assert the realization of the complement clauses event are acceptable as well as to those which assert the unrealization of the event. Compare the following pair of sentences to Example (49).

(50) a. layila 'aqna9-at   il-banaat yi-Sawar-an il-Hafilih
   Laila perf.persuade-3.sgf the-girls 3-photograph.3-plf the-party

   bas *ma* *Sawar-an-ha*
   but not perf.photograph.3-plf-it
   'Laila persuaded the girls to photograph the party, but they did not photograph it.'

  b. layila 'aqna9-at   il-banat yi-Sawar-an il-Hafilih
   Laila perf.persuade-3.sgf the-girls 3-photograph.3-plf the-party

   wi Sawar-an-ha
   and perf.photograph.3-plf-it
   'Laila persuaded the girls to photograph the party, and they photographed it.'

In (50a), the conjunction asserts that the event in the complement clause is unrealized, and the entire clause is semantically acceptable. However, the conjunction in (50b) asserts that the complement clause event is realized, but the sentence is semantically acceptable. This shows that it is possible for the complement clause event to realize or not.

In sum, I contend that aspect in realis marked predicates asserts the realization of the event in the actual or real world. However, the lack of realis marking renders the event unrealized in the actual or real world. The unrealization of the event can be analyzed as a modal interpretation. More precisely, the event is not realized in the actual world, but it is possibly realized or unrealized in a hypothetical world.

If the claim that bare-Imperfective clauses contribute modal rather than actual interpretations is correct, the prediction then is that modals should behave similarly to the bare-Imperfective in the conjunction test. As an illustration, I use the deontic modal *lazim* 'must' with the lexical verb in the Perfective rather than the bare-Imperfective even though both are

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acceptable. This test avoids any confusion that the assertion may be relevant to the bare-Imperfective rather than the modal. Consider the following example where both the assertions of the realization and unrealization of the event are acceptable.

(51) a. il-banaat   lazim Sawar-an   il-Hafilih *bas ma Sawar-an-ha*
    the-girls   must   perf.photograph.3-plf the-party but not perf.photograph.3-plf-it
    'The girls must have photographed the party, but they did not photograph it.'

b. il-banaat   lazim Sawar-an   il-Hafilih wi   Sawar-an-ha
    the-girls   must   perf.photograph.3-plf the-party   and   perf.photograph.3-plf-it
    'The girls must have photographed the party, and they photographed it.'

The clause in (51a) reads as follows: it was necessary for the girls to photograph the party, but they did not photograph it. This interpretation is acceptable. Compared to Example (48) where this interpretation is anomalous in the absence of a modal because the aspectual Perfective predicate asserts the event as realized in the real world. The clause in (51b) shows that it was necessary for the girls to photograph the party and the conjunction asserts that the event took place. Comparing (51a) to (50a) and (51b) to (50b) illustrates that modals and bare-Imperfective pattern together in having a modal interpretation which leaves the realization of the event open to possibilities, i.e. to be realized or unrealized in a hypothetical world. In this respect, they differ from the realis marked predicates which assert the realization of the event.

The divergence of the acceptability of the assertions that the conjunction holds can be explained in terms of whether the assertion is made relative to a real or hypothetical world. For aspectual viewpoints, the truth of the proposition is evaluated against the actual or real world. In this respect they differ from modals. Modals in McCawley's (1978) and Fauconnier's (1985) terms are 'world-creating' in the sense that they create a possible world for use in evaluating the content of a proposition. According to Chung and Timberlake (1985), modality is the way by which a language compares 'an expressed world with a reference world'. In the example *John*

may write the letter, the reference world is the actual world, but the expressed world that the

modal *may* encodes lies outside the reference world. Relative to the reference world, the modal

expresses the possibility of a nonactualized state of affairs, i.e. writing.

The concept of possible worlds can be used to distinguish the different types of modality.

For instance, the coincidence of reference and expressed worlds gives rise to actual modality, or

realis. However, the divergence between these worlds results in nonactual modality or irrealis.

The modal status of a proposition depends on the coincidence and divergence between these

worlds which is interpreted as necessity, possibility, and so forth. Recall that JA modals are used

in indicative and realis modality, in the Set 2 complement clauses modals are not allowed as

illustrated in Chapter 4, and only the bare-Imperfective which projects the event as unrealized is

allowed. Hence, the modality in the Set 2 complement clauses is only subjunctive. This means

that there is a divergence between the reference, i.e. actual world, and the expressed world. This

divergence represents the irrealis modality which is often associated with the subjunctive mood.

In a nutshell, I argue that the bare-Imperfective in Set 2 complements encodes irrealis

subjunctive modal interpretations. It does not encode a distinctive aspectual interpretation as

realis marked predicates do.

Up to this point, I claim that the bare-Imperfective, contra to realis marked predicates, does

not contribute any distinctive aspectual interpretation. It only expresses the event as unrealized.

The next question is if aspect in JA implicates temporal interpretations in the absence of

temporal adverbs, what are the temporal interpretations for Set 2 complements with the bare-

Imperfective? I hypothesize that they are established by the aspect on the verb in the matrix

clause. Below is an illustration.

(52) a. layila   'aqna9-at   il-banaat   yi-Sawar-an   il-Hafilih
         Laila   perf.persuade-3.sgf the-girls   3-photograph.3-plf   the-party
         'Laila persuaded the girls to photograph the party.'

     b. layila   bi-ti-iqna9   il-banaat   yi-Sawar-an   il-Hafilih
         Laila   realis-3-persuade.sgf the-girls   3-photograph.3-plf   the-party
         'Laila is persuading the girls to photograph the party.'

In (52a), the matrix CTP is in the Perfective, so the persuading event is complete and bounded.

The implicature is that it is prior to the time of utterance, and so the temporal interpretation of

the whole clause is past. In (52b), the matrix predicate is in the Imperfective, and so the

persuading event is asserted as incomplete and unbounded. This implicates simultaneity to the

Speech time. As a result, the clause as a whole has a present temporal interpretation. In both

cases, the photographing event in the complement clauses is unrealized with respect to the past

event in the matrix clause (52a), or the present event as in (52b). Unrealized events are not

anchored to the timeline of the real world.

Example (52) illustrates that the contribution of the bare-Imperfective in Set 2 complement

clauses is consistent regardless of the aspectual viewpoint of the matrix clause. What varies in

the example above is the aspect on the verb in the matrix clause. This variation results in a

variation in the implicated temporal interpretations. This supports my claim that temporal

interpretations in these clauses are established by the aspect on the matrix verbs.

To represent the proposed temporal interpretations of the clauses in (52), I will use the

timeline diagrams as I did in the previous section. The problem is that the aspect in the matrix

clause asserts the event in the actual or real world whereas the bare-Imperfective express the

event in a hypothetical world as unrealized. The events asserted in the actual world can be

represented in the timeline; however, the unreal world cannot be represented in the timeline that

is a symbol of real world. Therefore, I will represent the hypothetical world with a different

timeline. Subsequently, *w* represents the real world; *w'* represents the hypothetical world.

Consider the following diagrams.

(53) a. **w'** …………………………·**Compl**·················…………..   (52a)
      w ………[**Matrix**·········.] ……………………………………..

   b. **w'** …………………………·**Compl**·················…………..   (52b)
      w ···**Matrix**·················………………………………………..

The diagrams in (53a) show that the bare-Imperfective does not contribute distinctive

interpretations to the temporal interpretation of the clause. The distinctive interpretations are

contributed by the aspectual viewpoints in the matrix clause. The implication is that the event in

the matrix clause is completed prior to the event in the complement clause, which is unreal and it

might not take place, (53a). The matrix clause event in (53b) is ongoing, but the event in the

complement clause is constantly unreal and it might not take place. Even if it takes place, it is not

clear whether it will be simultaneous with the event in the matrix clause. In either case, the event

in the complement clause is unrealized in the real world and that is why I represent it in a

hypothetical timeline, which is not identical to the real timeline.

The last relevant point to the present discussion is the role of temporal adverbs in Set 2

complements. My prediction is that there should be no difference between Set 1 and Set 2

complements in the role of temporal adverbs if my claim that temporal adverbs in JA modify the

temporal interval of the matrix clause event independently from the aspect on the matrix verb. I

previously established that temporal adverbs in clauses with Set 1 complements can specify the

temporal interval of either the matrix or complement clause. I argue that this is exactly the case

in Set 2 complement clauses. Example (54) along with the accompanied diagrams are

illustrative.

(54) a. layila 'aqna9-at il-banaat yi-Sawar-an
   Laila perf.persuade.3-sgf the-girls 3-photograph.3-plf

   il-Hafilih imbariH i-sa9ah 9asharah
   the-party yesterday the-clock ten
   'Laila persuaded the girls to photograph the party yesterday at 10:00 o'clock.'

 b. **w'**···**Compl**·····················
  w ·····[Yesterday ······ **[Matrix** ··········]·····························]···········
          10:00
 c. **w'**···**Compl**···················
               10:00
  w······[Yesterday······**[Matrix**···········]···························]···········

 d. **w'**···**Compl**····················
  w······[Yesterday······**[Matrix**··········]····]·····························
       10:00

The temporal adverb *imbariH* 'yesterday' identifies a temporal interval that includes the realized event in the matrix clause, and it may include the event of the complement clause, but this is not necessary given that it is in the hypothetical world as illustrated in (54b-c). Then, the temporal adverb *i-sa9ah 9asharah* 'at 10:00 o'clock' can either modify the matrix clause event as shown in (54b) or the complement clause event as illustrated in (54c). The intended reading of the latter interpretation is for the photographing event to take place at 10:00. The temporal adverb *imbariH* can identify a temporal interval that includes the matrix clause event and so can the clock-time adverb. This interpretation reads as follows: the persuading event took place yesterday at 10:00 o'clock, but the complement clause event, i.e. photographing, may occur yesterday after 10:00, today, or any time in the future. It may not be realized at all, either.

   Additionally, what applies to temporal adverbs when the matrix aspect is Perfective applies to cases where it is Imperfective. Apparently, the temporal adverbs in clauses with Set 1 and Set 2 complements modify temporal intervals of the matrix event, complement event, or both events. The significance of this conclusion is twofold. First, it supports my claim that temporal

adverbs in JA operate independently from aspect. Second, the prediction that there is no

difference among Set 1 and Set 2 complements in terms of the operation of temporal adverbs is

borne out by the current conclusions and discussion. The next section addresses the aspectual

and temporal interpretations that nominalized forms may contribute to the complement clause in

which they occur.

6.2.3 Nominalized complements

Nominalized predicates, referred to as al-MaSdar in traditional grammars on Arabic

varieties, are defined in the literature as the 'nominals [which] are formed from a verbal source

to express a process (or event), or a result' (Fassi Fehri 1993: 232; see also Wright 1859, Holes

2004, Ryding 2005). The definition states that nominalized predicates are originally derived from

verbs. In essence, they preserve the verbal property of taking arguments and assigning them

theta-roles. Compare the following the examples.

(55) a. 9ali   **katab**   i-risalih
     Ali   perf.write.3sgm   the-letter
     'Ali wrote the letter.'

    b. **kitab-ih**   9ali   l-i-risalih   jayid-ih
     writing-sgf   Ali   of-the-letter   good-sgf
     'Ali's writing of the letter is good.'

In (55a), *9ali* 'Ali' is an Agent, while *i-risalih* 'the letter' is the Theme. In (55b), the nominalized

written in bold has both arguments with the same theta-roles, i.e. the Agent and Theme.

Unlike realis marked predicates, the nominalized predicates lack realis marking. This

entails that they do not contribute distinctive aspectual interpretations. Nonetheless, they are

different from realis unmarked predicates in Set 2 complements because they do not express

unrealized events or states. They encode the event, process, or state lexically. The distinctive

aspectual and temporal interpretations follow from the matrix clause or the context. Nominalized

complements reflect these interpretations, but they are not inherent for them. This observation is supported by the observation that the potential aspectual, modal, and temporal interpretations which can be inferred from the nominalized complements are subject to cancellation. As an illustration, consider the following examples.

(56) a. ballash   9ali   **li9ib**   kurat   il-qadam
        perf.begin.3sgf   Ali   playing   ball   the-foot
        'Ali began playing football.'

     b. istammar   **il-li9ib**   min   i-SubiH   li-il-masa
        perf.continue.3sgf   the-playing   from   the-morning   to-the-afternoon
        'Playing lasted from the morning to afternoon.'

     c. xallaS   9ali   **li9ib**   kurat   il-qadam
        perf.finish.3sgm   Ali   playing   ball   the-foot
        'Ali finished playing football.'

     d. Hawal   9ali   **li9ib**   kurat   il-qadam
        perf.avoid.3sgm   Ali   playing   ball   the-foot
        'Ali tried playing football.'

     e. ithakkar   9ali   **li9ib**   kurat   il-qadam
        perf.remember.3sgm   Ali   playing   ball   the-foot
        'Ali remembered playing football.'

The nominalized predicate *li9ib* 'playing' in (56a-e) encodes the event or process of playing. The CTP *ballash* 'began' in (56a) asserts the inception of the event embodied in the nominalized predicates. There is no indication of whether the playing event is complete or not because only the initial endpoint of the playing event is asserted by the matrix CTP. In (56b), it is the internal part of the event, i.e. playing, that is asserted because the CTP *istammar* 'continued' reveals the meaning of being unbounded. Again, the initial endpoint and the internal portion of the event are implicated from the matrix CTP. However, there is no implication of whether the event is complete or not. Either interpretation is possible. In (56c), the CTP *XallaS* 'finished' encodes the event of playing as one whole and bounded. This implicates that the playing event is complete.

There is no other possible interpretation. In (56d), the CTP *Hawal* 'tried' implicates that the playing event in the complement is unrealized. This modal interpretation implicates that the playing event may or may not realize as it is assumed in a hypothetical and not real world. Finally, by its meaning, the matrix predicate *ithakkar* 'remember/ recall' implicates that the playing event is completed before the remembering of its occurrence.

In short, the potential aspectual interpretations that can be inferred from the nominalized complements are subject to cancellation. More precisely, the aspectual interpretation of the nominalized complements varies with the matrix clause. I apply the conjunction test to show that this is the case. Consider the following example.

(57) ballash   9ali **li9ib**   kurat il-qadam *bas ma   kammal*
     perf.begin.3sgf Ali   playing   ball   the-foot but not perf.complete.3sgm
     'Ali began playing football, but he did not complete it.'

The playing event is implicated as incomplete by the presence of the conjunction that asserts the incompletion of the action as shown in (57b). All in all, the nominalized predicates do not exhibit distinctive aspectual interpretations. The aspectual implications are pragmatically implicated.

Nominalized predicates do not show distinctive modal interpretations as the realis unmarked verbs. The aforementioned examples (56d) and (56e) are illustrative. The nominalized predicate can encode unrealized event when used with *Hawal* 'try' matrix CTP. However, they encode a prior realized event when used with *ithakkar* 'remember' matrix CTP. This observation shows that the modal interpretations follow from the meaning of the CTP. In short, this indicates that nominalized predicates do not encode distinctive modal interpretations by themselves because the realization or unrealization of the event encoded by them follows from the matrix clause.

Furthermore, nominalized predicates do not encode distinctive temporal interpretations either. The temporal interpretation is established in the context as implicated from the aspect on the matrix clause. As an illustration, consider the following example.

(58) a. bi-yi-Hawil   9ali   kitabit   il-qiSah
      realis-3-try.sgm   Ali   writing   the-story
      'Ali is trying writing the story.'

      b. Hawal   9ali   kitabit   il-qiSah
      perf.try.3sgm   Ali   writing   the-story
      'Ali tried writing the story.'

The Imperfective aspect on the matrix verb in (58a) implicates simultaneity, and in the absence of temporal adverbs, the present temporal interpretation is inferred from the Imperfective aspect. The Perfective in (58b) implicates past temporal interpretation. It follows from the context that the writing event in the complement is present in the former, but past is the latter. Therefore, nominalized complements do not show distinctive temporal interpretations.

In conclusion, the main contribution of nominalized predicates is the lexical encoding of the event, process, or state. They do not encode distinctive aspectual, modal, or temporal interpretations peculiar to them as verbs do. They differ from realis marked predicates in not encoding distinctive aspectual interpretations. They are unlike realis unmarked predicates in exhibiting distinctive modal interpretations of their own. Additionally, they do not encode distinctive temporal interpretations. All in all, any aspectual or temporal interpretations these nominalized complements may have are established by the matrix clause.

6.3 Conclusion

As established in previous chapters, complement clauses in JA can be classified morphologically in terms of overt realis marking. This chapter concludes that there is a corresponding realis-based semantic distinction between complement clauses in JA. Set 1

complement clauses contribute distinctive aspectual interpretations independent from those contributed by the aspectual viewpoints in the matrix clause. On the other hand, Set 2 complement clauses with realis unmarked predicates denote a constant modal irrealis interpretation. They encode the event in the complement clause as unrealized. Nominalized complements function unlike verbal predicates in either group. They do not encode distinctive aspectual or modal interpretations. They encode the event, process, or state lexically.

I argue that realis marked predicates contribute the same aspectual interpretations whether used in root or complement clauses. The aspectual interpretations contributed by realis marked predicates in complement clauses are independent from those of the matrix clause. However, the realis unmarked predicates do not encode these aspectual interpretations. For the entire clause in which they are used as complements, the aspectual interpretations are dependent on those of the matrix clause.

Temporal interpretations in JA, whether in root clauses or complement clauses of any type, are established by temporal adverbs or in the context by pragmatic implicature. Events are temporally ordered via pragmatic implicature from the aspect on the verb. For example, a series of events expressed in the Perfective are implicated as successive. Temporal adverbs and aspect modify the event independently. Aspect modifies the viewpoint of the event; temporal adverbs modify the temporal interval of the event. There is no difference among clauses in terms of how temporal adverbs operate because JA lacks a tense operator and aspect is independent from temporal adverbs. Additionally, complement clauses are distinguished from each other in terms of their aspectual semantic interpretations that correspond to the morphological aspectual inflections.

Finally, the findings from the semantic analysis of complement clauses provide independent evidence that there is an independent AspP$_{\text{Viewpoint}}$ projection in the functional domain of the clause structure of JA. There is no evidence for an independent TP projection. In summary, the semantic analysis shows that complement clauses in JA exhibit a realis-based semantic distinction. The next chapter addresses a number of morphosyntactic properties in order to establish whether complement clauses in JA shows a realis-based syntactic distinction that aligns with the morphological and semantic distinction established so fare.

Chapter Seven

The syntactic properties of complement clauses in Jordanian Arabic

Within generative syntactic theory, finiteness has been considered a clausal property linked to the TP that hosts tense and agreement features. The major syntactic phenomena that correlate with finiteness in languages with tense systems include: clause structure and verb movement, subject licensing and structural Case, and the syntactic transparency and opacity of the syntactic domain. Clauses in tensed languages exhibit variation in these phenomena that is ascribed to the finiteness and tense specification of the clause (see Chapter 2 for details). The goal of this chapter is to describe the syntactic features of these complement clauses for JA.

This Chapter is structured as follows. Section 1 discusses the clause structure of Set 1 and Set 2 complement clauses in JA. Section 2 addresses the subject type licensed and its structural Case in these Sets. Section 3 discusses the long-distance licensing of strong Negative Polarity Items (NPIs) in both Sets. Section 4 discusses these properties with respect to nominalized complements. Section 5 presents the conclusions.

7.1 Clause structure of complement clauses in JA

Set 1 complement clauses allow predicates that inflect for realis, aspect, and agreement. This entails that Set 1 complement clauses exhibit the same functional domain. As established in Chapter Six, there is evidence of the presence of an AspP$_{Viewpoint}$, but not of a TP. Hence, I propose that the clause structure of Set 1 complement clauses has an independent functional projection of AspP$_{Viewpoint}$ dominating the thematic domain following the standard assumption in the syntax of aspect in the literature (Travis 1994, 2005, 2010, Slabakova 2001, Borer 2005, Ramchand 2008). The legitimacy of the presence of independent AspP$_{Viewpoint}$ projections is well-motivated in the clause structure of JA because verbs in Set 1 complement clauses

contribute distinctive aspectual interpretations. Thus, this projection is theoretically motivated by having a semantic interpretation. Hence, I will propose the formal configuration in (1b) to represent the example in (1a) from JA. The tree below represents the bracketed complement clause only. Irrelevant details are deleted.

(1) a. 9ali   bi-yi-quul   [bi-yi-ktub-u   il-iwlaad   i-risaalih]
      Ali   realis-3-say.sgm   [realis-3-play-plm   the-boys   the-letter
   'Ali says that the boys are writing the letter.'

b.
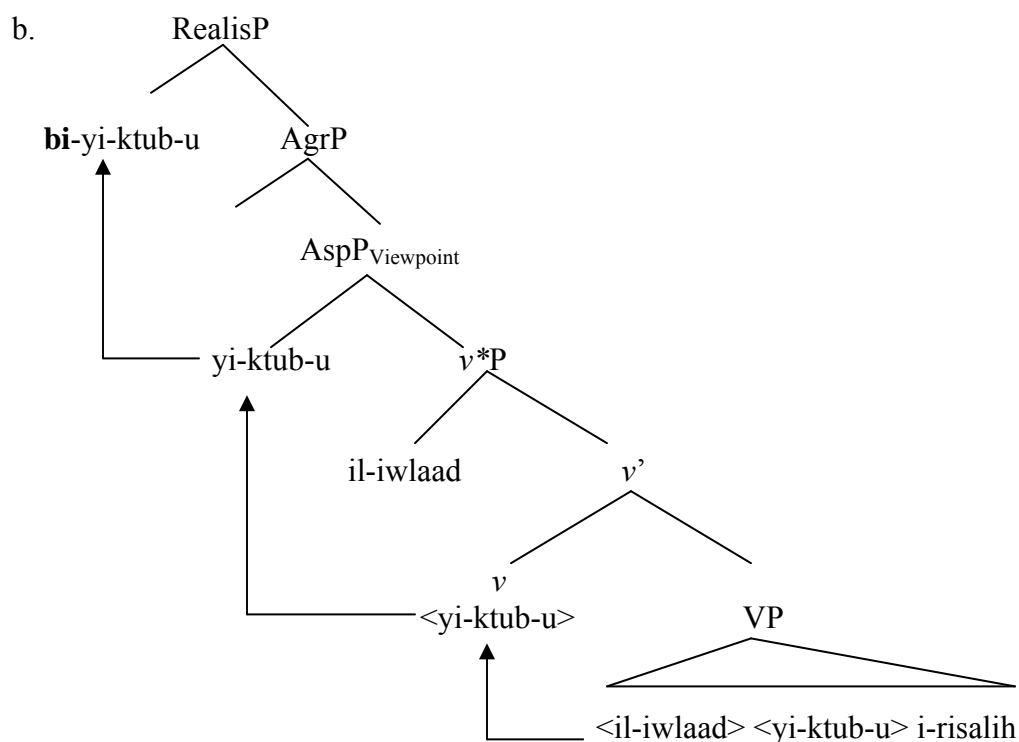
I, further, argue that AspP$_{Viewpoint}$ has a strong [Perf: ±] feature that attracts the verb to check its features off and spell out the aspect marking on the verb. This is the distinctive feature of Set 1 complements with no exception. The inclusion of a separate Realis projection is motivated by the assumption that the inflections verbal forms carry are for agreement while the verbal forms themselves, i.e. internally, are aspectual. The realis prefix *bi-* is higher than the agreement inflections and the internal aspectual marking on verbs. Based on these assumptions, I

argue that the *bi-* prefix is higher in the clause. The Imperfective verb raises further to the realis projection to support the prefix.

Set 2 complement clauses do not inflect for realis. The current proposal of the clause structure of JA raises some problems. Provided that all verb forms exhibit the same agreement inflections and that is why I assume that there is an AgrP projection in both sets of complement clauses. This assumption raises the question of why then the internal morphological forms of verbs are not treated in the same way. In other words, the realis unmarked verbal predicate is internally similar to the realis marked verbs with Imperfective aspect. The verb only lacks the realis *bi-* prefix. This entails that there has to a corresponding aspectual projection in the Set 2 complement clauses analogous to the clause structure of Set 2 complements. However, the problem is in the legitimacy of the AspP in the syntax of clauses whose predicates do not encode distinctive aspectual interpretations as illustrated in Chapter Six. The verbal predicates in Set 2 complements encode subjunctive interpretations instead. Hence, it is plausible to argue that these clauses have a mood projection instead. The verbal predicates in Set 1 complements encode distinctive aspectual interpretations in the indicative mood. It seems that the distinction is mainly in modality, and the main contribution of the verbs in the indicative mood is aspectual. Therefore, I will propose a MoodP projection to dominate the thematic domain in the clause structure of JA.

The verb paradigm in JA consists of three main forms that are distinguished in terms of their modality: the indicative, subjunctive, and imperative. These modalities are realized differently in terms of verbal inflections. The indicative is realized as the Perfective and *bi-*Imperfective. The subjunctive exhibits the same skeleton of the *bi-*Imperfective except for the realis prefix *bi-*. The Imperative shows the same Imperfective skeleton, but it lacks the realis

prefix *bi-* as well as the Person prefix. Provided that the inflectional domain of the clause structure reflects the verbal inflection and the verbal skeleton is shared between verbal forms but they differ in modality, I argue that the proposed MoodP which dominates the thematic domain can account for the three modalities. As the agreement inflections are on the edges of the verb, namely, they are farther than the verbal skeleton, I will further argue that the AgrP is higher than the MoodP in the clause structure of JA. Since only the indicative mood is realis, I will assume that it is the only modality that is selected by a RealisP projection which is higher in the clause structure. The major merit of this proposal is the unified account of the different clause types in the language. According to this proposal, the clause structure of Set 1 complements is modified as illustrated in the following figure.

(2)
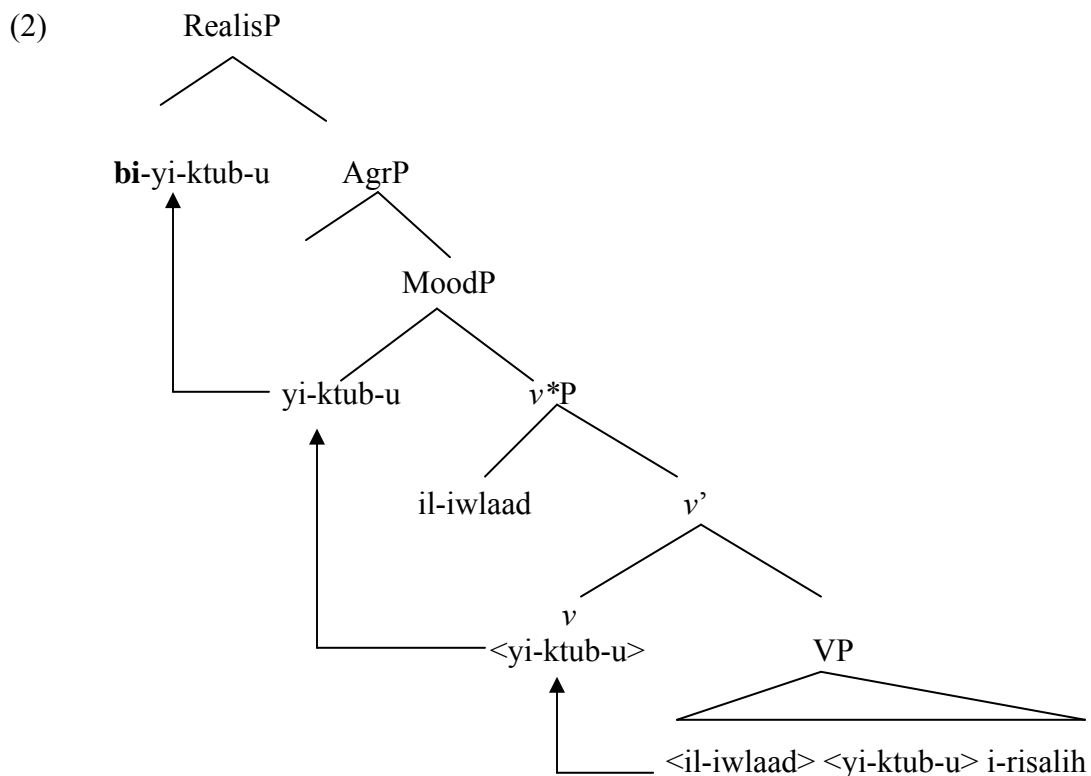
On the other hand, I contend that the clause structure of the Set 2 complements has

MoodP, but lacks the RealisP while maintaining the AgrP. Figure (3b), which represents the

complement clause of (3a), illustrates the proposed clause structure.

(3) a. 9ali   Hawal   ('innu)   [il-banaat   yi-ktub-an   i-risalih]
    Ali   perf.try.3sgm   (that)   the-girls   3-write.plf   the-letter
    'Ali tried that the girl write the letter.'

b.
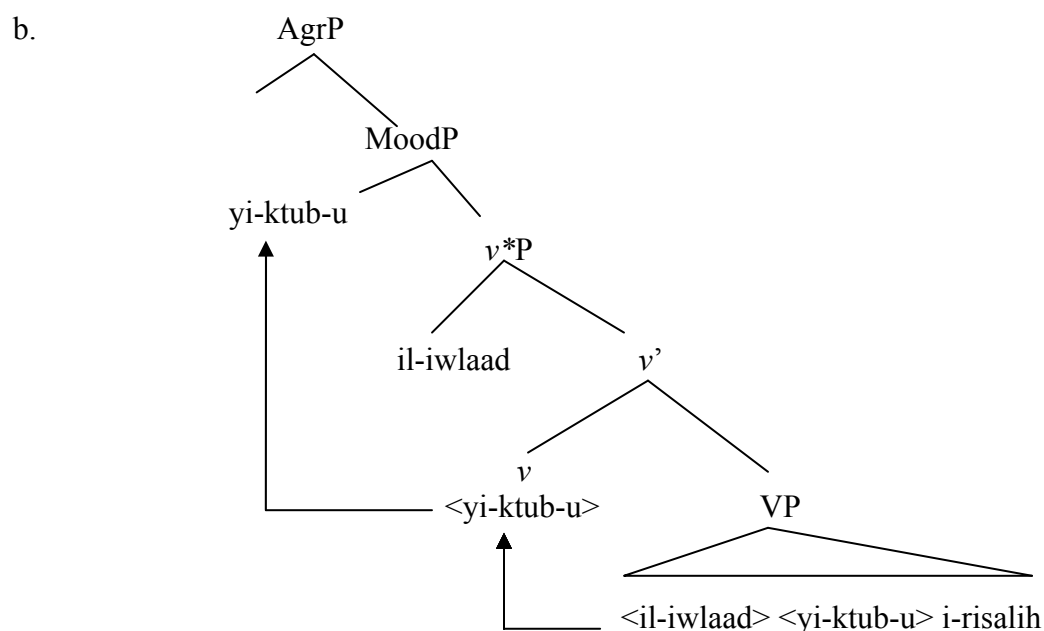
The representation above shows that the verb in Manipulative Set 2 complements raises in the

syntax to the MoodP projection. Thus, complement clauses of both sets involve verb movement.

There is no difference between complement clauses in triggering verb movement to functional

projections.

The previous discussion of the clause structure at the functional domain shows the verb

raises from its base-generated position in the thematic domain to MoodP, AgrP, and may be

higher to the RealisP to pick up its inflections. This proposal is motivated by the Checking

Theory which requires a lexical support for the functional projections to check off their strong

features. Two questions to ponder: does JA show verb movement? If yes, what is the landing site of the raised verb?

In the literature on verb movement in generative syntax, some tests including the relative position of the verb with respect to the VP-adjoined adverbs and the sentential negative particles are considered as the diagnostics of whether the verb undergoes movement overtly in the syntax or not (Pollock 1989). For brevity's sake, I will apply these tests immediately to JA with an example from Set 1 complements paired with an example from Set 2 complement for the ease of comparison.

First, in JA, lexical verbs cannot precede VP adverbs, e.g. *dayiman* 'always, *'aHyianan* 'sometimes', which are left adjoined to the VP in Pollock's (1989) terms. Below is an illustration.

(4) a. 9ali   bi-yi-quul   'innu   [il-banaat   **dayiman**   bi-yi-nathif-an   il-ghurfah]
        Ali   realis-3-say.sgm   that   [the-girls   always   realis-3-clean-plf   the-room]
        'Ali says that the girls always clean the room.'

   b. * 9ali   bi-yi-quul   'innu   [il-banaat   bi-yi-nathif-an   **dayiman**   il-ghurfah]
        Ali   realis-3-say.sgm   that   [the-girls   realis-3-clean-plf   always   the-room]

(5) a. 9ali   bi-yi-Hawil   'innu   [il-banaat   **dayiman**   yi-nathif-an   il-ghurfah]
        Ali   realis-3-try.sgm   that   [the-girls   always   3-clean-plf   the-room]
        'Ali tries that the girls always clean the room.'

   b. *9ali   bi-yi-Hawil   'innu   [il-banaat   yi-nathif-an   **dayiman**   il-ghurfah]
        Ali   realis-3-try.sgm   that   [the-girls   3-clean-plf   always   the-room]

The grammaticality of having the VP-adverb *dayiman* 'always' before the embedded verb in Set 1 complements (4a) and Set 2 complements (5a) and the ungrammaticality of the reverse order as in (4b) and (5b) illustrate that the verb cannot raise past the AdvP.

Second, the verb cannot precede the sentential negative particle as demonstrated below.

(6) a. 9ali bi-yi-quul   'innu [il-banaat **ma** bi-yi-nathif-an   il-ghurfah]
       Ali   realis-3-say.sgm that [the-girls   not   realis-3-clean-plf the-room]
       'Ali says that the girls do not clean the room.'

    b. * 9ali bi-yi-quul   'innu [il-banaat bi-yi-nathif-an   **ma** il-ghurfah]
         Ali   realis-3-say.sgm that [the-girls realis-3-clean-plf not   the-room]

(7) a. 9ali bi-yi-Hawil   'innu [il-banaat **ma** yi-nathif-an   il-ghurfah]
       Ali   realis-3-try.sgm   that [the-girls   not   3-clean-plf   the-room]
       'Ali tries that the girls not clean the room.'

    b. *9ali bi-yi-Hawil   'innu [il-banaat yi-nathif-an   **ma** il-ghurfah]
        Ali   realis-3-try.sgm   that [the-girls 3-clean-plf   not   the-room]

The embedded verb in the Set 1 and Set 2 complement clauses cannot precede the sentential

negation *ma* 'not' as the grammaticality of (6a) and (7a) shows in contrast to the

ungrammaticality of the opposite order as in (6b) and (7b).

The VP-adverb and negative particle tests demonstrate that the verb in JA does not raise

past the AdvP and NegP projections. This holds for both complement sets regardless of their

realis marking. Nonetheless, these tests are not sufficient to assume that JA lacks verb

movement. In fact, there are other tests besides the need to pick up inflections that support verb

movement. For example, the verb-subject word order is a case in point. Provided that the subject

originates in the specifier position of the *v*P following the original assumption of the VP-Internal

Subject Hypothesis (Koopman and Sportiche 1991), then the pre-subject position that the verb

surfaces in has to be a result of verb movement. The dotted line in the example below represents

the original position of the raised verb.

(8) a. 9ali bi-yi-quul   ['innu bi-yi-nathif-an   il-banaat …….. il-ghurfah]
       Ali   realis-3-say.sgm   [that   realis-3-clean-plf   the-girls …….. the-room]
       'Ali says that the girls clean the room.'

    b. 9ali bi-yi-Hawil   ['innu yi-nathif-an   il-banaat …….. il-ghurfah]
       Ali   realis-3-try.sgm   [that   3-clean-plf   the-girls …….. the-room]
       'Ali tries that the girls clean the room.'

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This order holds for both Set 1 and Set 2 complements.

Second, the presence of the sentential negation requires the verb to move to be adjacent to the particle. No intervening element is tolerated between the negative particle and the verb.

(9) a. 9ali bi-yi-quul   'innu [il-banaat **ma** bi-yi-nathif-an   il-ghurfah]
       Ali realis-3-say.sgm that [the-girls   not   realis-3-clean-plf   the-room]
       'Ali says that the girls do not clean the room.'

  b. *9ali bi-yi-quul   'innu [**ma**   il-banaat   bi-yi-nathif-an   il-ghurfah]
       Ali realis-3-say.sgm that [not   the-girls   realis-3-clean-plf the-room]

(10) a. 9ali bi-yi-Hawil   'innu [il-banaat **ma** yi-nathif-an   il-ghurfah]
        Ali realis-3-try.sgm   that [the-girls   not   3-clean-plf   the-room]
        'Ali tries that the girls not clean the room.'

  b. *9ali bi-yi-Hawil   'innu [**ma**   il-banaat   yi-nathif-an   il-ghurfah]
        Ali realis-3-try.sgm   that [not   the-girls   3-clean-plf   the-room]

Again, this is true for complement clauses from both Sets.

A third piece of evidence in support of verb movement in JA comes from cases where a pronominal clitic, e.g. direct object, rasies to the specifier position of a functional layer and it requires a lexical support. Consider the following example.

(11) a. 9ali bi-yi-quul   ['innu   bi-yi-nathif-an-**ha**   il-banaat]
        Ali realis-3-say.sgm [that   realis-3-clean-plf-it.3sgf   the-girls]
        'Ali says that the girls clean it.'

  b. 9ali bi-yi-Hawil   ['innu   yi-nathif-an-**ha**   il-banaat]
        Ali realis-3-try.sgm   [that   3-clean-plf-it.3sgf   the-girls]
        'Ali says that the girls clean it.'

In (11), the pronominal object undergoes overt movement higher in the clause structure. The verb raises to support the clitic lexically. This is taken as an indication of an overt verb movement in the syntax as proposed by Kayne (1991, 1994).

Taking the conclusions drawn from the previous tests on verb movement, I argue that verbs in JA undergo movement to the functional layers. Nonetheless, verbs land in positions

lower than the AdvP and NegP. Restricting our attention to the differences between Set 1 and Set 2 complements, I hypothesize that both Set 1 and Set 2 pattern the same with respect to verb movement to functional projections such as MoodP and AgrP. Verb movement is another morphosyntactic property that is traditionally associated with finiteness in the literature. Complement clauses in JA do not exhibit a difference in this regard. They behave in a similar fashion regardless of their realis marking. In other words, this property is indistinguishable across complement clauses in terms of realis marking.

To conclude this section, the clause structure splits the complement clauses in JA into two Sets: Set 1 with independent projections of RealisP, and Set 2 without RealisP projection. The clause structure at the left periphery further divides both Sets into subsets according to whether or not the complement clause is a full CP. The Set 1 complement clauses selected by Utterance, Propositional, Commentative, Knowledge and Acquisition of Knowledge, and Pretense Predicates are full CPs; Set 1 complement clauses selected by the Immediate Perception Predicates are CP-less. For brevity, I will refer to the former as Propositional Set 1 complements and the latter as the Perception Set 1 complement clauses. Along the same lines, Set 2 complement clauses of Manipulative, Modal, and Achievement predicates are full CPs, and I will use Manipulative Set 2 complements as a cover term. However, complements to predicates such as *bid* 'want', *tawaqa9* 'expect' are CP-less. I will use the term Desiderative Set 2 complement clauses to refer to them. In short, Propositional Set 1 and Manipulative Set 2 complement clauses are full CPs; Perception Set 1 and Desiderative Set 2 complement clauses are CP-less. The next section addresses the clause structure at the left periphery of complement clauses in both sets.

7.1.1 Full CP complement clauses

Both Set 1 and Set 2 complement clauses in JA can be distinguished by the presence or absence of an overt complementizer. The example in (12) demonstrates that the complementizer is optional with Propositional Set 1 and Manipulative Set 2 complements.

(12) a. b-a-ʻ9rif   (ʻinnu)   bi-yi-ktub-an   il-banaat   i-risalih
       realis-1-know.sg   (that)   realis-3-write-plf   the-girls   the-letter
       'I know that the girls write/ are writing the letter.'

   b. b-a-Hawal   (ʻinnu)   yi-ktub-an   il-banaat   i-risalih
       realis-1-try.sg   (that)   3-write-plf   the-girls   the-letter
       'I am trying that the girls write the letter.'

The example above demonstrates that regardless of realis marking, these complement clauses can optionally take a complementizer. This entails that these clauses are full CPs.

I show that the clause structure at the left periphery is rich in the full CP clauses of both Sets by applying the CP diagnostics including topics and foci. Topics and foci involve preposed constituents in the left periphery of the clause. Furthermore, their position with respect to the complementizer reveals the potential position that the complementizer may occupy. I will begin with topics. Then, I proceed to foci.

Topics have the following properties. First, a topicalized DP must be definite. This is due to the pragmatic function of topics as expressing known information available in the discourse (For more information on topics in Arabic varieties see Bakir 1980, Fassi Fehri 1993, Mohammad 2000). Second, a topicalized constituent can have a resumptive pronoun cliticized to its extraction site. The resumptive pronoun is obligatory when the topicalized element is a direct object. Third, there can be more than one topic at the left periphery of the clause (Cinque 1990, Culicover 1992, Boshkovic 1997, Rizzi 1997). Example (13) demonstrates topics in

Propositional Set 1 complement clauses. The resumptive pronouns are written in bold for the

ease of identification.

(13) a. qaal-at ‘innu il-kitab, axuu-ik ishtraa-**ah**
     perf.say-3.sgf that the-book brother-your perf.buy.3sgm-**it**
     ‘She said that, as for the book, your brother bought it.’

    b. qaal-at ‘innu fi beit-ak, il-9aqid, waqqa9-u-**ih**
       perf.say-3.sgf that in house-your, the-contract, perf.sign.3-plm-it

     i-shurakaa imbariH
     the-partners yesterday
    ‘I said that, in your house, as for the contract, the partners signed it yesterday.’

    c. qaal-at ‘innu il-kitab, axuu-ik ishtraa-**ah**
     perf.say-3.sgf that the-book brother-your perf.buy.3sgm-it
    ‘I said that, as for the book, your brother bought it.’

    d. *qaal-at ‘innu kitab, axuu-ik ishtraa-**ah**
      perf.say-3.sgf that book brother-your perf.buy.3sgm-it

    e. sa’al 9ali muna keif il-mushkilih, Hall-**ha** i-Tullab
     perf.ask.3sgm Ali Muna how the-problem, perf.solve.3sgm-**it** the-students
    ‘Ali asked Muna how, with regard to the problem, the students solved it.’

    f. sa’al 9ali muna keif il-mushkilih, i-Tullab Hall-u-**ha**
     perf.ask.3sgm Ali Muna how the-problem, the-students perf.solve.3-plm-**it**
    ‘Ali asked Muna how, as for the problem, the students solved it.’

    g. *qaal-at il-kitab ‘innu axuu-ik ishtraa-**ah**
      perf.say-3.sgf the-book that brother-your perf.buy.3sgm-**it**

The topics in the example above involve the direct object, e.g. *il-kitab* ‘the book’ in (13a and c)

and *il-mushkilih* ‘the problem’ in (13e and f), and the Prepositional Phrase *fi il-beit* ‘in the house’

as well as the direct object *il-9aqid* ‘the contract’ in (13b). All topics are followed by a short

pause represented in the example by commas. Indefinite DPs are not allowed to be topics as the

ungrammaticality of (13d) shows. Topics are allowed in Propositional Set 1 interrogative

complement clauses (13e and f). All topics follow the complementizer. They never precede it as

the ungrammaticality of (13g) shows.

Similarly, Manipulative Set 2 complement clauses allow topicalization as shown below.

(14) a. 9ali   Hawal   (ʻinnu)   i-risalih   il-binit   ti-ktub-**ha**
       Ali   perf.try.3sgm (that)   the-letter   the-girl   3-write.sgf-it
     'Ali tried that the letter, the girl write (it).'

     b. *9ali   Hawal   (ʻinnu)   risalih   il-binit   ti-ktub-**ha**
        Ali   perf.try.3sgm (that)   letter   the-girl   3-write.sgf-it.3sgf

     c. *9ali   Hawal   (ʻinnu)   i-risalih   il-binit   ti-ktub
        Ali   perf.try.3sgm (that)   the-letter   the-girl   3-write.sgf

     d. *9ali   Hawal   i-risalih   (ʻinnu)   il-binit   ti-ktub-**ha**
        Ali   perf.try.3sgm the-letter   (that)   the-letter   3-write.sgf

The preverbal DP *i-risalih* 'the letter' is an object. It is preposed with a resumptive pronoun surfaces in its base position as the grammaticality of (14a) illustrates compared to the ungrammaticality of (14c). It has to be definite as the ungrammaticality of (14b) demonstrates compared to the grammaticality of (14a). The topic must follow the complementizer as illustrated by the grammaticality of (14a) and the illformedness of (14d). Furthermore, the example shows that the Manipulative Set 2 complements allow an overt complementizer, which is optional. They also allow topics.

In short, topics refer to preposed constituents at the left periphery of the clause. The standard assumption in the literature is that topics occupy a position between the ForceP which hosts the mood and the FinP which is the lowest projection in Rizzi's (1997) articulated left periphery clause. Thus, topics are in an A'-position.

Focus involves preposing a constituent, e.g. a DP or adverb, to the left periphery of the clause. It involves a new piece of information introduced or emphasized in the discourse. Unlike topics, focus is not constrained by the definiteness restriction. In JA, focus is always associated with a gap, namely, the absence of a resumptive pronoun at the extraction site. The focused constituent receives contrastive stress, and it is pronounced with a higher pitch compared to the

other elements in the clause. There can be only one focused constituent. Focus is allowed in

Propositional Set 1 complements. Example (15) is illustrative.

(15) a. 9irif-it   ('innu)   I-SAYYARAH   9ali   Darab
       perf.know-1.sg   (that)   THE-CAR   Ali   perf.hit.3sgm
       'I knew that THE CAR Ali hit.'

   b. *9irif-it   ('innu)   I-SAYYARAH   IMBARIH   9ali   Darab
        perf.know-1.sg   (that)   THE-CAR   yesterday   Ali   perf.hit.3sgm

   c. 9irif-it   ('innu)   i-sayyarah   IMBARIH   9ali   Darab-**ha**
       perf.know-1.sg   (that)   the-car   yesterday   Ali   perf.hit.3sgm-it
       'She knew that the car YESTERDAY Ali hit.'

Propositional Set 1 complement clauses are acceptable with focused constituents such as *I-SAYYARAH* 'THE CAR' as shown in (15a); having two focused constituents leads to illformedness as illustrated in (15b). The focused constituent *IMBARIH* 'yesterday' can co-occur with the topic, *i-sayyarah* 'the car' as shown in (15c).

Likewise, Manipulative Set 2 complement clauses allow focus. Consider the following dataset.

(16) a. 9ali   Hawal   'innu   I-RISALIH   muna   ti-ktub
       Ali   perf.try.3sgm   that   the-letter   Muna   3-write.sgf
       'Ali tried that, THE LETTER, Muna write.'

   b. 9ali   'ajbar   Muna   'innu   BUKRAH   ti-naththif   il-beit
       Ali   perf.force.3sgm   Muna   that   tomorrow   3-clean.sgf   the-house
       'Ali forced Muna that TOMORROW, she should clean the house.'

The focused elements are the DP *I-RISALIH* 'the letter' in (16a) and the adverb *BUKRAH* 'tomorrow' in (16b). As both render the clauses grammatical in (16), this suggests that foci are allowed in the Manipulative Set 2 complement clauses.
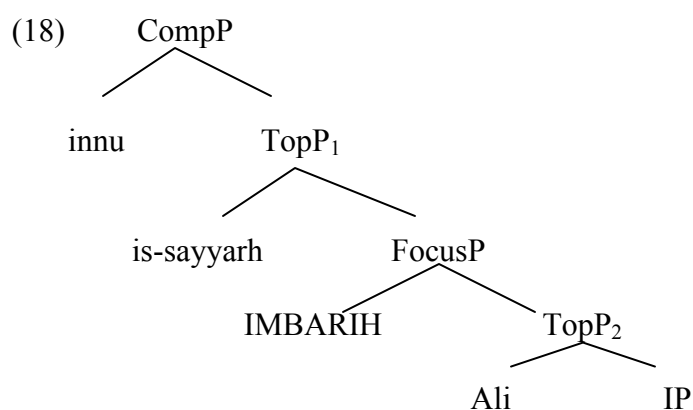
The Propositional Set 1 and Manipulative Set 2 complements allow multiple topics but only one focused element. I provide examples with Propositional Set 1 complements that can be generalized to Manipulative Set 2 complements. The order of the topics and foci is not as strict

as suggested by Rizzi (1997). The focused element can appear between the topics (17a), or it can

follow both topics (17b).

(17) a. 9irif-it   [innu   i-sayyarah$_i$ IMBARIH   9ali   ishtara-**ha$_i$**]
         perf.know-1.sg   that   the-car   YESTERDAY   Ali   perf.buy.3sgm-it
         'I knew that the car, YESTERDAY, Ali bought it.'

    b. ?9irif-it   [innu   i-sayyarah$_i$ 9ali   IMBARIH   ishtara-**ha$_i$**]
         perf.know-1.sg   that   the-car   Ali   YESTERDAY   perf.buy.3sgm-it
         'I knew that the car, Ali, YESTERDAY, bought it.'

 Even though both orders are judged by native speakers as acceptable, the order in (17a) is more

preferable and common than the one in (17b), which is degraded. The tree in (18) corresponds to

the preferable bracketed complement clause in (17a) highlighting the clause structure at the left

periphery.

(18)   CompP

       innu   TopP$_1$

          is-sayyarh   FocusP

              IMBARIH   TopP$_2$

                   Ali   IP

The above representation shows how rich the clause structure of the left periphery of these

clauses could be.

      To recapitulate, the clause structure at the left periphery is rich in Propositional Set 1 and

Manipulative Set 2 complement clauses. The table below summarizes the discussion of the

relevant morphosyntactic properties.

Table 1: The morphosyntactic properties of full CP complements in JA

Complement clauses	COMP	Topic	Focus
1. Propositional Set 1	Yes	Yes	Yes
2. Manipulative Set 2	Yes	Yes	Yes

As the table shows the full CP clauses of both Sets allow an overt complementizer, topics and

foci. The next section addresses the richness of the clause structure at the left periphery of

CP-less clauses in JA applying the same diagnostics.

7.1.2 CP-less complement clauses

The Perception Set 1 and Desiderative Set 2 complements do not allow an overt

complementizer as illustrated below.

(19) a. shif-it   (*'innu)   il-banaat   bi-yi-l9ab-an
        perf.see-1.sg   (*that)   the-girls   realis-3-play.plf
        'I saw the girls playing.'

    b. 9ali   bid-uh   (*'innu)   il-banaat   yi-l9ab-an
        Ali   want-3sgm   (*that)   the-girls   3-play-plf
        'Ali wants the girls to play.'

The example above shows that the overt complementizer is not tolerated in both complement

types.

Furthermore, topics are not tolerated in Perception Set 1 complements. Consider the

following example.

(20) a. shif-it   i-risalih   bi-yi-ktub-**ha**   9ali
        perf.see-1.sg   the-letter   realis-3-write.sgm-it   Ali
        *I saw as for the letter, Ali is writing it.
        'I saw the letter (that) Ali is writing.'

    b. 9ali   shaaf   binit   bi-ti-ktub   i-risalih
        Ali   perf.see.3sgm   girl   realis-3-write.sgm   the-letter
        'Ali saw a girl writing the letter.'

The sentence in (20a) is only acceptable under the reading of a relative clause rather than a

topicalization that takes place in the complement clause. Furthermore, the preverbal DP of the

complement clauses can be indefinite as shown in (20b). This indicates that the preverbal DP is

not a topic because it is not subject to the definiteness restriction, which is a prototypical

property of clauses.

Additionally, foci are degraded in the Perception Set 1 complement clauses. Below is an

illustration.

(21) *shif-it   I-SAYYARAH   9ali   Darab
       perf.see-1.sg   THE-CAR   Ali   perf.hit.3sgm

The example above illustrates that Perception Set 1 complement clauses are unacceptable with

focalized constituents.

Analogously, topics and foci are not allowed in Desiderative Set 2 complement clauses as

demonstrated in the following example.

(22) a. *9ali   bid-uh   il-ghurfah   il-banaat   yi-naththif-an-**ha**
         Ali   want-3sgm   the-room   the-girls   3-clean-plf-it

     b. *9ali   bid-uh   IL-GHURFAH   il-banat   yi-naththif-an
         Ali   want-3sgm   THE-ROOM   the-girls   3-clean-plf

Topics are not allowed as the ungrammaticality of (22a) illustrates. Likewise, foci render the

clause unacceptable as shown in (22b).

In short, the Perception Set 1 and Desiderative Set 2 complements show a less-articulated

clause structure at the left periphery compared to the full CP complements discussed above. The

table below summarizes the conclusions.

Table 2: The morphosyntactic properties of CP-less complements in JA

Complement clauses	COMP	Topic	Focus
1. Perception Set 1	No	No	No
2. Desiderative Set 2	No	No	No

These clauses do not allow an overt complementizer, topics, or foci. Based on these

observations, I propose the trees in (23a) to represent the structure of Perception Set 1

complement clauses and the tree in (23b) to represent the structure of Desiderative Set 2 complement clauses.

(23) a. RealisP

       Realis°

          AgrP

             MoodP

             9ali bi-yi-ktub   i-risalih
             Ali   realis-3-write.sgm the-letter

b. AgrP

        MoodP

           9ali yi-ktub   i-risalih
           Ali   3-write.sgm the-letter
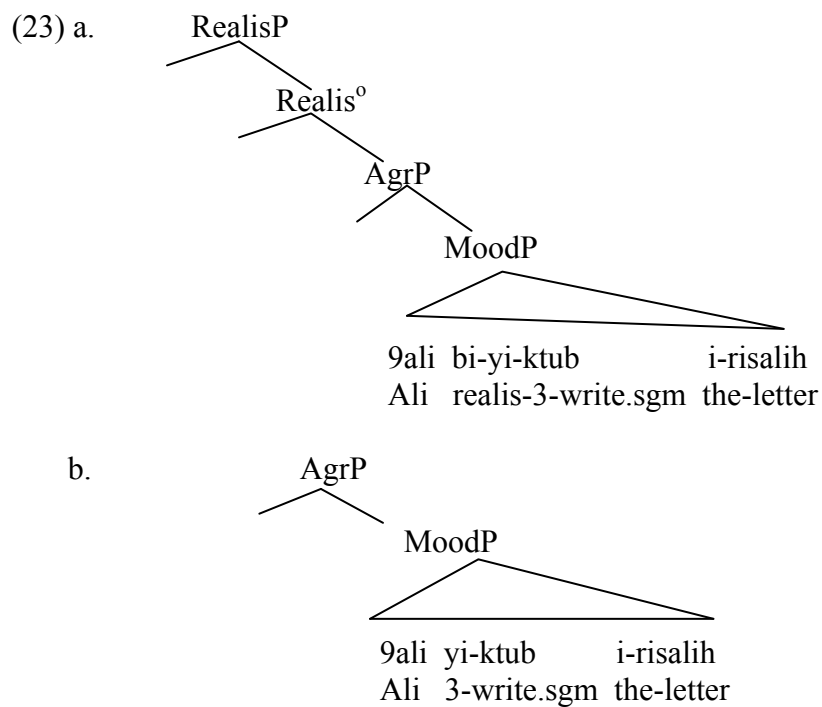
The formal representations in (23) illustrate that the CP-less clauses are truncated at the inflectional layer.

In sum, I propose that the Propositional Set 1 and Manipulative Set 2 complements are full CPs, whereas the Perception Set 1 and Desiderative Set 2 complements are CP-less. If this assumption is correct, the prediction then is that they should pattern the same in terms of the other morphosyntactic properties. To test this prediction, the next section addresses the syntactic properties of the thematic subject of the complement clauses, the other morphosyntactic property that is commonly associated with finiteness in the literature.

7.2 Subject type and structural Case

As established in Chapter 2, structural Case is a reflex of agreement in that a functional head, e.g. T^o, has uninterpretable phi-features probing for an agreeing DP Goal with Matching

interpretable phi-features and uninterpretable Case features. Under the Agree relation, the uninterpretable features on the functional head are checked and the uninterpretable Case feature on the DP is valued. Furthermore, the subject with a structural Case, i.e. nominative, is licensed as overt or null in *pro*-drop languages. If agreement is responsible for Case assignment, then there should be no difference in the subject type licensed in JA clauses because they all inflect for agreement. This prediction is borne out by the empirical JA data. The previously proposed syntactic classification of JA complements in terms of their CP status accounts for the variation in the accessibility of the subject in these clauses to structural Case assignment from the matrix clause.

JA lacks overt structural Case marking on lexical DPs. In contrast, pronouns exhibit a Case distinction. Independent pronouns are considered nominative, whereas bound pronouns are regarded as accusative or genitive as shown in Table 3 below. Therefore, I used pronouns to test the Case assignment properties of the subject of the complement clauses. The JA pronouns are highlighted and their English equivalents are underlined in the gloss in Table 3 for the sake of clarity.

Table 3: Different cases of pronouns in JA

Features			Pronouns' structural case		
Person	Number	Gender	Nominative	Accusative	Genitive
1st	sg	f/m	**ana** katabit 'I wrote'	shaaf-**ni** 'he saw me.'	kitab-**i** 'my book'
	pl	f/m	**iHna** katabna 'we wrote'	shaaf-**na** 'he saw us.'	kitab-**na** 'our book'
2nd	sg	f	**inti** katabti 'You wrote'	shaaf-**ki** 'he saw you.'	kitab-**ki** 'your book'
	sg	m	**inta** katabit 'You wrote'	shaaf-**ak** 'he saw you.'	kitab-**ak** 'your book'
	pl	f	**intan** katabitan 'You wrote'	shaaf-**kan** 'he saw you.'	kitab-**kan** 'your book'
	pl	m	**intu** katabitu 'You wrote'	shaaf-**ku** 'he saw you.'	kitab-**ku** 'your book'
3rd	sg	f	**hiyyih** katabit 'She wrote'	shaaf-**ha** 'he saw her.'	kitab-**ha** 'her book'
	sg	m	**huwwah** katab 'He wrote'	shaaf-**uh** 'he saw him.'	kitab-**uh** 'his book'
	pl	f	**hinnih** kataban 'They wrote'	shaaf-**hin** 'he saw them.'	kitab-**hin** 'their book'
	pl	m	**hummah** katabu 'They wrote'	shaaf-**hum** 'he saw them.'	kitab-**hum** 'their book'

Accusative and genitive pronouns have identical forms, but they are assigned by different mechanisms. For example, the accusative is a structural Case assigned by transitive verbs and the complementizer *'innu'*, whereas the genitive is an inherent case assigned lexically by nouns and prepositions (Carine 2007, Radford 2004, Chomsky 2000, 2001; for Arabic varieties see: Mohammad 2000, Fassi Fehri 1993, Aoun et al. 2010). The following discussion of Case assignment of the subject begins with the full CP complements proceeding to the CP-less ones.

7.2.1 Full CP complement clauses

Propositional Set 1 and Manipulative Set 2 complement clauses allow two word orders. The first word order they allow is verb-subject. The subject can be a definite or indefinite lexical DP (24a). It can also be a null or overt pronominal (24b). The overt pronominal subject has to be realized as nominative (24b)

(24) a. 9ali nisi   'innu bi-yi-ktub-u   il-iwilaad/ iwilaad   i-risaalih
       Ali perf.forget.3sgm   that realis3-write-plm   the-boys/ boys   the-letter
       'Ali forgot that the boys write/ are writing the letter.

   b. 9ali nisi   'innu   bi-yi-ktub-u   (hummah)   i-risaalih
      Ali perf.forget.3sgm   that   realis-3-write-plm   (they)   the-letter
      'I forgot that (they) write/ are writing the letter.'

   c. 9ali nisi   'innu bi-yi-ktub-u   (*hum)   i-risaalih
      Ali perf.forget.3sgm   that realis-3-write-plm   (them)   the-letter
      'I forgot that (they) write/ are writing the letter.'

(25) a. 9ali   Hawal   'innu   ti-ktub   il-binit/ binit   i-risalih
        Ali   perf.try.3sgm   that   3-write.sgf   the-girl/ girl   the-letter
        'Ali tried that the girl/ a girl write the letter.'

   b. 9ali   Hawal   'innu   ti-ktub   (hiyyih)   i-risalih
      Ali   perf.try.3sgm   that   3-write.sgf   (she)   the-letter
      'Ali tried that (she) write the letter.'

   c. 9ali   Hawal   'innu   ti-ktub   (*ha)   i-risalih
      Ali   perf.try.3sgm   that   3-write.sgf   (her)   the-letter
      'Ali tried that (she) write the letter.'

Examples (24-5) show all subject types are licensed in full CP complement clauses in this word order. The subject has to be nominative as the grammaticality of (24b) and (25b) illustrates to the ungrammaticality of (24c) and (25c).

The other word order that the full CP clauses allow is the topic-verb order. I assume that the preverbal DP is a topic because it is sensitive to the definiteness restriction. The topic has to be accusative. Compare the examples below to the ones in (24) and (25).

(26) a. 9ali nisi   'innu il-iwalaad/ *iwalaad bi-yi-ktub-u   i-risaalih
        Ali perf.forget.3sgm   that the-boys/ boys   realis-3-write-plm the-letter
        'Ali forgot that the boys write/ are writing the letter.'

   b. 9ali nisi   'innu-hum bi-yi-ktub-u   i-risaalih
      Ali perf.forget.3sgm   that-them realis-3-write-plm   the-letter
      'Ali forgot that they write/ are writing the letter.'

(27) a. 9ali   Hawal   'innu   il-binit   ti-ktub   i-risalih
        Ali   perf.try.3sgm   that   the-girl   3-write.sgm   the-letter
        'Ali tried that the girl write the letter.'

    b. 9ali   Hawal   'innu-ha   ti-ktub   i-risalih
        Ali   perf.try.3sgm   that-her   3-write.sgm   the-letter
        'Ali tried that she write the letter.'

Overgeneralizing the structural Case on pronominal DPs to the lexical DPs, I conclude that topics are assigned accusative Case by the complementizer.

A peculiar property of Manipulative Set 2 complements is their ability to have either a controlled or uncontrolled subject. Control refers to the constructions in which the subject of the embedded infinitival and gerundive clauses is in an obligatory referential relation with an argument in the matrix clause as in the English examples below.

(28) a. Bill$_i$ tried [PRO$_i$ to graduate]
    b. Bill$_i$ asked Mary$_j$ [PRO$_{*i/j}$ to help him]
    c. Bill$_i$ began [PRO$_i$ learning Spanish]

There must be a subject in the embedded clause to bear the theta role from the predicate in the embedded clause. The subject must be phonologically null and obligatorily coreferential with an argument in the matrix clause as shown in the coindexation in (28). The T^o head in the embedded clause is defective in the sense that it lacks phi-features. Therefore, it cannot assign nominative Case. Rather, it assigns a null case. The subject is not assigned a structural Case from outside the clause. Hence, a control clause is assumed to be a full CP, mainly, a phase whose domain is impenetrable by Probes from the matrix clause. The defining property of the subject of control constructions is the null case they are assigned, and so they are represented as PRO to distinguish them from the other kinds of pronominal subjects. Hence, all other subject types including lexical DPs, *pro*, wh-trace, and DP-trace are not licensed in such contexts.

JA has control constructions whereby the subject or the object of the matrix clause controls

the thematic subject of the embedded clauses. Consider the following example. I refer to the

thematic subject in the complement clause as X until its status has been identified.

(29) a. Hawal-an   il-banaat$_i$ [X$_i$ yi-safir-an]
        perf.try.3-plf   the-girls   [X   3-travel-plf]
        'The girls tried to travel.'

b. il-mudiirah$_i$ 'aqna9-at   il-banaat$_j$ [X$_{*i/j}$ yi-safir-an]
   the-headmistress   perf.persuade-3.gf   the-girls   [X   3-travel-plf]
   'The headmistress persuaded the girls to travel.'

An examination of control constructions in JA reveals that they are different from the

prototypical control constructions as summarized above. The complementizer is optional and

when present, the thematic subject can be lexicalized. Furthermore, the thematic subject is

assigned accusative Case by the complementizer. The thematic subject can be a null or overt

pronominal. The following example is illustrative.

(30) a. il-mudiirah$_i$ 'aqna9-at   il-banat$_j$ [innu X$_{*i/j}$ yi-safir-an]
        the-headmistress   perf.persuade-3.sgf   the-girls   [that X   3-travel-plf]
        'The headmistress persuaded the girls to travel.'

b. il-mudiirah$_i$ 'aqna9-at   il-banat$_j$ [inn-hin $_{*i/j}$ yi-safir-an]
   the-headmistress   perf.persuade-3.sgf   the-girls   [that   3-travel-plf]
   'The headmistress persuaded the girls to travel.'

The status of the thematic subject in control clauses is not constantly null. Additionally, when the

controlled subject is overt, it is assigned an accusative Case by the complementizer. These

observations necessitate exploring the nature of the thematic subject because it seems to be

different from the prototypical PRO subject.

The upshot of the discussion of control clauses in JA demonstrates that they exhibit

different properties to the control clauses in languages with a finiteness distinction such as

English. The presence of an overt complementizer suggests that the control clauses in JA are full

CPs. Furthermore, overt complementizers assign overt pronominal thematic subjects accusative Case. It is reasonable to assume that the Case assignment properties of a null complementizer are the same. Therefore, I argue that control clauses in JA are full CPs. The subject licensed is pronominal with an accusative Case. As the defining property of PRO is the null case it bears, I contend that the subject of the control clauses in JA is not PRO. This, in turn, explains how the subject of the control clauses in JA can be overt. These facts from JA support the claim made for control clauses in other Arabic varieties such as Standard Arabic (SA) and Lebanese Arabic (LA) that the subject of these clauses is little *pro* and PRO (Bakir 2006, Haddad 2006). Furthermore, control clauses in JA share many morphosyntactic properties with clauses that are assumed to be finite in tensed languages, e.g. clauses selected by Propositional predicates.

An additional difference control clauses in JA bear compared to those in tensed languages is that the thematic subject can be controlled or uncontrolled as well. The difference concerns the interpretation of the thematic subject. In other words, it can be controlled or not. The key issue in control constructions is the interpretation of the thematic subject of the control clauses. Williams (1980) classifies control constructions into Obligatory Control (OC) versus Non-Obligatory Control (NOC). In OC, the subject is identified as an anaphor (PRO), whereas it is identified as a pronominal *pro* in NOC. As an anaphor, PRO has to be bound by Principle A, which states that an anaphor must be bound in the binding domain (Chomsky 1981, Carnie 2007). In Non-Obligatory Control (NOC) contexts, *pro* is bound by Principle B, which states that the pronoun must be free in its binding domain (ibid). The main properties of the OC versus NOC contexts are considered as diagnostics of the anaphoric versus pronominal status of the subject of the control clauses. These properties are summarized below.

(31) Properties of the anaphoric subject in OC contexts:
     1. PRO must have an antecedent that is local and c-commanding.

2. PRO allows only sloppy interpretation in VP-deletion and ellipsis.
3. PRO cannot have a split antecedent.
4. PRO has only the *de se* interpretation.

The prediction is that the thematic subject of Manipulative Set 2 complements exhibit the properties in (31), then it is anaphoric and it should be bound by Principle A. However, if the thematic subject shows the properties in (32), then the subject is considered pronominal and bound by Principle B.

(32) Properties of the subject in NOC contexts:
1. *pro* does not require an antecedent, but if it is found, the antecedent is not required to be local.
2. *pro* allows both sloppy and strict reading in VP-deletion and ellipsis.
3. *pro* allows split antecedents.
4. *pro* has a non-*de se* interpretation.

I will apply the diagnostics in (31-32) to a set of control constructions in JA to establish whether the thematic subject of these clauses is anaphoric or pronominal. Consider the following example.

(33) a. 'amar-at   Laila$_i$ Khalid$_j$ [X$_{*i/j}$ yi-safir]
          perf.order-3.sgf   Laila   Khalid   [X   3-travel.sgm]
          'Laila ordered Khalid to travel.'

    b. sa'al-at   Laila$_i$ Khalid$_j$ [X$_{i/*j}$ shu   ti-nathif]
          perf.ask-3.sgf   Laila   Khalid   [X   what   3-clean.sgf]
          'Laila asked Khalid what to clean.'

The null subject in (33a-b) has to be in a coreferential relation with an argument in the matrix clause which can be the object (33a) or the subject (33b). The interpretation is assumed to be regulated by the Minimal Link Distance (MLD) which states that the potential antecedent of PRO is the closest argument in the matrix clause. Example (33a) complies with the MLD, but (33b) violates the constraint.

If PRO is anaphoric, only the sloppy reading is allowed in ellipsis. Consider the example below.

(34) Muna   Hawal-at   ti-nathif   il-ghurfah   wa   Laila   kaman
    Muna   perf.try-3.sgf 3-clean.sgf   the-room   and   Laila   too
    'Muna tried to clean the room and Laila too.'

    a. …wa Laila   Hawal-at   innu   Laila   ti-nathif   il-ghurfah   *(sloppy)*
       and Laila   perf.try-3.sgf   that   Laila   3-clean.sgf   the-room

    b. *…wa Laila Hawal-at   innu   Muna   ti-nathif   il-ghurfah   *(strict)*
       and Laila   perf.try-3.sgf   that   Laila   3-clean.sgf   the-room

The only acceptable reading in (34) is the sloppy as shown by the judgment that (34a) is

felicitous, whereas the strict reading in (34b) is not. This example demonstrates that the subject

of the complement clause is controlled as it has a property of anaphoric PRO.

Furthermore, the thematic subject of the embedded clauses cannot have a split antecedent.

This diagnostic does not apply to JA data as shown in the following example.

(35) Muna$_i$ 'aqna9-at   Khalid$_j$ [X$_{i+j}$ yi-safir-u]
    Muna   perf.persuade-3.sgf   Khalid   [X   3-travel-plf]

    ma9   ba9iD
    with   together
    'Muna persuaded Khalid to travel together.'

The agreement inflections on the verb of the complement clause as plural masculine besides the

reciprocal *ma9 ba9iD* 'together', which semantically includes both the speaker and the

addressee, provide evidence that the split antecedent is allowed.

The last diagnostic is that the anaphoric PRO has only a *de se* interpretation which is

originally Latin means "oneself" which stems from David Lewis's (1979) article (Anand 2006,

Burge 2003). This diagnostic applies to the subject in these clauses in (36).

(36) il-murashaH   bi-yi-twaqa9   [X   yi-fuuz]
    the-candidate   realis-3-expect.sgm   [X   3-win.sgm]
    'The candidate is expecting/ expects to win.'

A paraphrased reading of Example (36) is given in (37):

(37) a. il-murashaH   bi-yi-twaqa9   [nafs-uh   yi-fuuz]
       the-candidate   realis-3-expect.sgm   [soul-him   3-win.sgm]
       'The candidate is expecting/ expects himself to win.'

   b. il-murashaH   bi-yi-twaqa9   [innu   huwah   yi-fuuz]
       the-candidate   realis-3-expect.sgm   [that   he$_{i/j}$ 3-win.sgm]
       'The candidate is expecting/ expects that he wins.'

The only interpretations allowed are the ones suggested in (a) and (b). It is only permitted under the reading that the pronominal subject *huwah* 'he' refers only to the candidate. All these pieces of evidence demonstrate that the thematic subject in the Manipulative Set 2 complement clauses is obligatorily controlled by an argument in the matrix clause.

Nonetheless, the Manipulative Set 2 complement clauses also allow uncontrolled subject, i.e. subjects that are not in a coreferential relation with an argument in the matrix clause. Below is an illustration.

(38) 9ali   Hawal   innu-hin/   il-banaat   yi-safir-an
      Ali   perf.try.3sgm   that-them.3plf   the-girls   3-travel-plf
      'Ali tried that girls travel.'

Ali is the agent of the matrix verb, but *il-banaat* 'the girls' is the agent of the embedded clause. The uncontrolled thematic subject of the complement clause is assigned accusative Case by the complementizer.

To conclude this discussion, I argue that the Propositional Set 1 complements and the Manipulative Set 2 complements pattern the same regarding the syntactic properties of the thematic subjects as summarized below.

Table 4: Subject type and structural Case in full CP clauses

Properties	Propositional Set 1 complements	Manipulative Set 2 complements
1. word order	verb-subject & topic-verb	verb-subject & topic-verb
2. subject & topic type licensed	null & overt pronominal and lexical DPs	null & overt pronominal and lexical DPs. They can be controlled or uncontrolled.
3. structural Case on topics	accusative	accusative
3. structural Case on subjects	nominative	nominative

Table 4 illustrates that the Propositional Set 2 complements, which are considered as finite in the literature, and the Manipulative Set 2 complements, which are considered the prototypical non-finite clause type, pattern the same regarding word order, subject type, and structural Case on the thematic subjects. In a nutshell, full CP clauses exhibit similar behavior in these respects regardless of their realis marking. This conclusion suggests that the morphological properties of complement clauses in JA do not predict their syntactic properties. Although both are full CP clauses, Set 1 complement clauses have a realis projection while Set 2 complement clauses do not project realis. This conclusion undermines the validity of extending a finiteness distinction to JA since Manipulative Set 2 complements, which are considered non-finite clauses in tensed languages share many morphosyntactic properties with Propositional Set 1 complement clauses, which are considered finite in tensed languages. The next section addresses the corresponding properties in terms of the CP-less clauses.

7.2.2 CP-less complement clauses

The Perception Set 1 and Desiderative Set 2 complements allow only the preverbal DP to precede the verb of the complement clauses. Consider the examples below.

(39) a. shif-it   walad   bi-yi-l9ab   fi   i-shari9
       perf.see-1.sg   boy   realis-3-play.sgm   in   the-street
      'I saw a boy playing in the street.'

b. *shif-it   bi-yi-l9ab   walad   fi   i-shari9
    perf.see-1.sg   realis-3-play.sgm   boy   in   the-street

(40) a. bid-i   walad   yi-l9ab   fi   i-shari9
    want-1sg   boy   3-play.sgm   in   the-street
    'I want a boy to play in the street.'

b. *bid-i   yi-l9ab   walad   fi   i-shari9
    want-1sg   3-play.sgm   boy   in   the-street

The examples above demonstrate that the thematic subject has to precede the verb in the

Perception Set 1 complements as the grammaticality of (39a) elucidates compared to the

ungrammaticality of (39b). The same is true for the Desiderative Set 2 complements.

Particularly, the preverbal DP is allowed (40a); the postverbal one is not (40b).

The analysis to this point does not address the formal status of preverbal subject DPs in

these complements. Preverbal subject DPs may be subjects or topics of the complement clause,

or direct objects of the matrix predicate. I address this question next.

First of all, the preverbal DP is not a topic in the complement clause because it can be

indefinite (41). In other words, it is not sensitive to the definiteness restriction as topics.

(41) a. shif-it   binit   bi-ti-nathif   il-ghurfah
    perf.see-1.sg   girl   realis-3-clean.sgf   the-room
    'I saw a boy cleaning the room.'

b. bid-i   binit   bi-ti-nathif   il-ghurfah
    want-1sg   girl   realis-3-clean.sgf   the-room
    'I want a girl to clean the room.'

The preverbal DP *binit* 'a girl' is licensed in Perception Set 1 (41a) and Desiderative Set 2 (41b).

This entails that the preverbal DP in the CP-less clauses is not a topic that belongs to the

complement clause.

I argue that the preverbal DP in the Perception Set 1 and Desiderative Set 2 complements

is thematically the subject of the complement clause, but it is syntactically the object of the

matrix clause based on the following pieces of evidence. First, the DP can be a subject of a

passive construction involving the matrix verb as demonstrated below.

(42) a. 9ali   shaaf-hin/   il-banaat   bi-yi-nathf-an   il-ghurfah
        Ali   perf.see.3sgm-them.3plf/   the-girls   realis-3-clean-plf   the-room
        'Ali saw them/ the girls cleaning the room.'

      b. hinninh/ il-banaat   in-shaaf-an   bi-yi-nathf-an   il-ghurfah
         they/   the-girls   PASS-see-plf   realis-3-clean-plf   the-room
         'The girls were seen cleaning the room.'

(43) a. 9ali   itwaqa9-hin/   il-banaat   yi-nathf-an   il-ghurfah
        Ali   perf.expect.3sgm/them.3plf   the-girls   3-clean-plf   the-room
        'Ali expects the girls to clean the room.'

      b. hinnih/   il-banaat   mu-tawaqa9   yi-nathf-an   il-ghurfah
         they/   the-girls   PASS-expect   3-clean-plf   the-room
         'They/ the girls were expected to clean the room.'

The preverbal DP *il-banaat* 'the girls' appears in the complement clause in (42a) and (43a). This

DP is the subject of the passive counterpart examples in (42b) and (43b), which involve the

matrix clause. For the preverbal DP to be legitimate to undergo an A-movement associated with

direct objects, I assume that the preverbal DP of the CP-less clauses raises to an object position

in the matrix clause. This analysis is supported by the Case properties of the pronominal DPs

used in the examples. The pronominal DPs in (42a) and (43a) are accusative. This is the

structural Case associated with objects. In contrast, this pronominal DP is nominative in (42b)

and (43b) when passivized. This is the structural Case of subjects. In sum, this test shows that the

preverbal DP in CP-less complement clauses is syntactically the object of the matrix clause.

    Additional evidence comes from Postal (1974), Johnson (1991), and Runner (1995, 2006)

by which the possibility of placing the complement DP between the matrix verb and other

constituents in the matrix clause, e.g. adverbs or particles, indicates that this DP belongs to the

matrix clause. Consider the example below.

(44) 9ali   simi9   binit   **bi-il-xaTaa**   bi-ti-biki
     Ali   perf.hear.3sgm   girl   in-the-mistake   realis-3-cry.sgf
     'Ali mistakenly heard a girl crying.'

The only correct interpretation is that Ali mistakenly heard that the girl is crying. This

interpretation indicates that the prepositional phrase *bi-il-xaTaa* 'by mistake' belongs to the

matrix clause. Since the DP *binit* 'a girl' precedes this prepositional phrase, I conclude that the

DP belongs to the matrix clause as well.

Similarly, the same test can be carried over to the preverbal DP in Desiderative Set 2

complements.

(45) 9ali   bidiuh   il-binit   **min gheir amir**   ti-naththaf   il-ghurfah
     Ali   want.3sgm   the-girl   from without order   3-clean-sgf   the-room
     'Ali wants the girl to clean the room.'

The only correct interpretation is that Ali wants the girl to clean the room without ordering her.

This interpretation implies that the prepositional phrase *min gheir amir* 'without ordering'

modifies the matrix verb. The presence of the DP *il-binit* 'the girl' before the prepositional

phrase suggests that both the DP and the prepositional phrase belong to the matrix clause. In

short, this test provides independent evidence that the preverbal DP of the CP-less complements

is the syntactic object of the matrix clause.

Further evidence comes from the structural Case facts in JA. In JA, the pronominal

accusative DP has to be attached to the Case assigner (46).

(46) a. 9ali   simi9-ha   bi-ti-biki
        Ali   perf.hear.3sgm-her   realis-3-cry.sgf
        'Ali heard her crying.'

   b. 9ali   itwaqa9-hin   yi-nathf-an   il-ghurfah
      Ali   perf.expect.3sgm-them   3-clean-plf   the-room
      'Ali expected them to clean the room.'

   c. *9ali   simi9   **bi-il-xaTaa**   ha   bi-ti-biki
      Ali   perf.hear.3sgm   in-the-mistake   her   realis-3-cry.sgf

The accusative pronominal DP has to be attached to the matrix verb as the grammaticality of (46a-b) illustrates compared to the ungrammaticality of the unattached accusative pronoun in (46c). Briefly, this example shows that the Case assigner of the preverbal DP of the CP-less complement clauses is the matrix verb. This conclusion lends further support to the claim that the preverbal DP of the CP-less complements is syntactically the object of the matrix clause.

All in all, I contend that even though the preverbal DP of the Perception Set 1 and Desiderative Set 2 complement clauses is thematically related to the embedded clause, it is syntactically the object of the matrix clause.

The discussion in this section provides evidence that there is a great similarity between the Perception Set 1 and Desiderative Set 2 in the syntactic properties of their thematic subjects. In particular, the thematic subject of the CP-less complement clauses is syntactically the object of the matrix clause where it receives the accusative Case.

In conclusion, I argue that the complement clauses within each Set are divided in terms of whether they are full CPs or not. CP is a phase in MP. Therefore, if the clause structure that I propose is correct, then the clause with the CP domain is opaque following the assumptions in the phase theory (Chomsky 2000, 2001). This difference in part explains why the subject or topic of Propositional Set 1 and Manipulative Set 2 complements is inaccessible to structural Case assignment from the matrix clause, whereas the subject in the Perception Set 1 and Desiderative Set 2 complements is accessible. In the next sections, I discuss the opacity or transparency of the syntactic domains of complement clauses in JA in terms of long-distance NPI licensing.

7.3 Long-distance NPI licensing

Negative Polarity Items (NPIs) refer to the items that require the presence of a c-commanding licensor like a sentential negation. Research on NPIs cross-linguistically shows that

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there are two types of NPIs: strong and weak (Progovac 1994, Giannakidou 1998, Zeijlstra 2004, Penka 2007). Strong NPIs require the licensor to be a clause-mate, namely, locally bounded within the clause. Weak NPIs do not show sensitivity to this constraint. Previous research on Arabic NPIs concluded that the NPIs, which are considered strong in the literature, are not licensed with a superordinate sentential negation in the matrix clause if they occur in finite complement clauses (Ouhalla 1993, 2002, Benmamoun 1995, 1997, Soltan 2011). Nonetheless, they are licensed in nonfinite clauses. In contrast, weak NPIs are licensed with the sentential negation in the matrix clause in finite as well as nonfinite clauses (ibid). Therefore, I will use the long-distance strong NPI licensing as a test of the opacity or transparency of the syntactic domain.

In JA, strong NPIs include *wala* 'any', *bi-il-marrah* 'at all' (for detailed information on NPIs in JA, see Alsarayreh's (2012 unpublished dissertation). I found that long-distance strong NPI licensing fails in Propositional Set 1 complement clauses with the superordinate sentential negation as illustrated below.

(47) a. *ma   qaal   9ali   innu   aHmad   Hall   **wala**   su'uaal
         not   perf.say.3sgm   Ali   that   Ahmad   perf.solve.3sgm   any   question

b.*ma bi-ti-9rif   layila innu 9ali safar   la-maSir   **bi-il-marrah**
      not realis-3-know.sgf Laila that Ali   perf.travel.3sgm to-the-Egypt   at all

In (47), the strong NPIs *wala* 'any' and *bi-il-marrah* 'at all' occur in the complement clauses, whereas the licensor, i.e. the sentential negation, is in the matrix clause. This renders the NPIs unlicensed in Propositional Set 1 complements as the ungrammaticality of the examples in (47) demonstrates.

In contrast, the strong NPIs are licensed with the sentential negation in the matrix clause of Manipulative set 2 complements as shown below.

(48) a. ma Hawal   9ali 'innu il-banaat   yi-naththif-an   **wala**   ghurfah
       not perf.see.3sgm Ali   that   the-girls   3-clean-plf   any   room
       'Ali did not try that the girls clean any room.'

   b. ma Hawal   9ali 'innu il-banaat yi-naththif-an il-beit   **bi-il-marrah**
       not perf.try.3sgm Ali   that   the-girls 3-clean-plf   the-house   at all
       'Ali did not try that the girls clean the house at all.'

In Example (48), the strong NPIs *wala* 'any' and *bi-il-marrah* 'at all' are licensed with the

sentential negation in the matrix clause. Comparing Example (48) to Example (47), I concluded

that the Manipulative Set 2 complements differ from the Propositional Set 1 complements in

allowing the long-distance strong NPI licensing. In more price terms, the former are transparent;

the latter are opaque.

Furthermore, CP-less complement clauses of both sets allow long-distance strong NPI

licensing. Below is an illustration.

(49) a. ma   shif-it   aHmad   Hall   **wala**   su'uaal
       not   perf.see-1.sg   Ahmad   perf.solve.3sgm   any   question
       'I did not see Ahmad answered any question

   b. ma   smi9-it   9ali   ghanna   **bi-il-marrah**
       not   perf.hear-1.sg   Ali   perf.sing.3sgm   at all
       'I did not hear Ali sang at all.'

(50) a. 9ali   ma   bid-uh   il-banaat   yi-naththif-an   **wala**   ghurfah
       Ali   not   want-3sgm   the-girls   3-clean-plf   any   room
       'Ali did not want the girls to clean any room.'

   b. 9ali   ma   bid-uh   il-banat   yi-naththif-an   il-ghurfah   **bi-il-marrah**
       Ali   not   want-3sgm   the-girls   3-clean-plf   the-room   at all
       'Ali did not want the girls to clean room at all.'

The grammaticality of Examples (49) and (50) illustrates that the strong NPIs in Perception and

Desiderative complements are licensed with the sentential negation of the matrix clause.

I previously claimed that the full CP clauses are opaque whereas the CP-less are

transparent in terms of the accessibility of their subjects to structural Case assignment from the

matrix clause. I predict that the same should be true for long-distance strong NPI licensing with the sentential negation in the matrix clause. This prediction is not borne out by the JA data. Hence, the structural description of the full CP is either wrong or incomplete. Both Propositional Set 1 and Manipulative Set 2 complements are full CPs as shown by their ability to license overt complementizers, topics, and foci. They differ in that Manipulative Set 2, but not Propositional Set 1 complements license NPIs with matrix clause negation. The only difference between them is the presence of a RealisP in Set 1 complements. To get a clearer understanding, consider the following generalizations:

(51) a. a full CP & RealisP projection   ⟶   block long-distance NPI licensing

     b. a full CP & Realis-less projection   ⟶   allow long-distance NPI licensing

     c. a CP-less & RealisP projection   ⟶   allow long-distance NPI licensing

The generalizations in (51) demonstrate that a full CP alone or a RealisP projection alone does not block long-distance strong NPI licensing. What blocks the strong NPI licensing is the combination of both being a full CP and having a RealisP projection. My contention is that these are the conditions that render a clause opaque in JA. The next section is devoted to nominalized complements which I show the syntactic properties of DPs and not CPs.

7.4 Nominalized complements

The previous chapters established that nominalized predicates are derived from verbs. Even though they preserve some verbal properties, nominalized predicates mainly show noun-like properties. In the table below, I summarize some characteristics of nouns and verbs to use as structural diagnostics for the classification of nominalized predicates.

Table 5: verb-like versus noun-like properties

Properties	Nouns	Verbs
1. be plural	Yes	No
2. definite article *al-*	Yes	No
3. quantifier	Yes	No
4. adjectives	Yes	No
5. adverb	No	Yes
6. sentential negation (ma)	No	Yes
7. term negation (mish)	Yes	No
8. aspect	No	Yes

I will take these properties one at a time and apply them to the nominalized predicate *kitabih* 'writing' and the verb *yi-ktub* 'write' to show how nominalized predicates behave differently from verbs. Consider the following dataset.

(52)   **Nominalized**   **verb**

   a. **Plural**   kitab-*aat* maHfuudh   *yi-ktub-*aat*   maHfuudh
                           writing-plf MaHfuudh   3-write.sgm-plf   MaHfuudh
                           'MaHfuudh's writings'

   b. **definite article**   *il-*kitab-ih   **il-*yi-ktub
                           the-writing-sgf   the-3-write.sgm

   c. **quantifier**   *kull*   il-kitab-ih   **kull*   yi-ktub
                           all   the-writing-sgf   all   3-write.sgm

   d. **adjectives**   kitab-ih   *qawiyy-ih*   *yi-ktub   *qawiyy-i*
                           the-writing-sgf   strong-sgf   3-write.sgm   strong-sgm
                           'The strong writing'

   e. **adverb**   *kitab-ih   *bi-sur9ah*   yi-ktub   *bi-sur9ah*
                           writing-sgf   in-speed   3-write.sgm   in-speed
                                          '(he) writes quickly.'

   d. **sentential negation** **ma*   kitab-ih   *ma*   bi-yi-ktub
                             not   writing-sgf   not   realis-3-write.sgm
                                         '(he) does not write.'

   e. **term negation**   *mish*   kitab-ih   * *mish*   bi-yi-ktub
                             not   writing-sgf   not   realis-3-write.sgm

f. **Aspect Perfective**   *kitab-***an***   katab-***an***
                                        writing.3-plf   perf.write.3-plf

The tests above show that nominalized predicates pattern with nouns in allowing plural suffixes, the definite article *-al*, quantifiers, adjectives, and the term negation *mish*. They differ from verbs in lacking aspectual marking. Neither are they compatible with adverbs or the sentential negation *ma'*not'. All in all, nominalized predicates exhibit inflectional and structural nominal predicates.

In spite of their inflectional and structural nominal properties, nominalized predicates take arguments exactly like verbs. Consider the following example.

(53) a. 9ali   katab   i-risalih
         Ali   perf.write.3sgm   the-letter
         'Ali wrote the letter.'

     b. kitab-it   9ali   la-i-risalih   raa'9ah
         writing-sgf   Ali   of-the-letter   wonderful
         'Ali's writing of the letter is wonderful.'

The verbal predicate, i.e. *katab* 'wrote' in (53a), takes an external argument *9ali* 'Ali', and an internal argument *i-risalih* 'the letter'. Likewise, the nominalized predicate *kitab-it* 'writing' takes the external argument *9ali* 'Ali' as well as internal argument *i-risalih* 'the letter' as illustrated in (53b).

To consider what clause structure they may have, I apply the morphosyntactic properties I discussed in the previous sections with respect to clauses with verbal predicates to nominalized complements. First of all, nominalized complements are only selected by Achievement and Phasal predicates. These clauses do not allow a complementizer. The subject, if overt, must follow the nominalized predicate. Consider the following example.

(54) a. 9ali   Hawal   (*'innu)   kitab-it   layila   li-i-risalih
         Ali   perf.try.3sgm   (that)   writing-sgf   Laila   of-the-letter
         'Ali tried Laila's writing of the letter.'

b. * 9ali   Hawal   layila   kitab-it   li-i-risalih
    Ali   perf.try.3sgm   Laila   writing-sgf   to-the-letter

The nominalized complements do not allow a complementizer as shown in (54a). They do not

allow the subject to precede the predicate as the ungrammaticality of (54b) demonstrates.

     Furthermore, complements with nominalized predicates do not allow topics or foci. Below

is an illustration.

(55) a. *9ali   Hawal   i-risalih,   kitab-it   layila   li-**ha**
       Ali   perf.try.3sgm   the-letter,   writing-sgf   Laila   to-it

     b. *9ali   Hawal   I-RISALIH,   kitab-it   layila
       Ali   perf.try.3sgm   THE-LETTER,   writing-sgf   Laila

The topic in (55a) and the focus in (55b) render the clauses ungrammatical.

     Strong NPIs are licensed in nominalized complements. The examples below are

illustrative.

(56) a. 9ali   ma   Hawal   kitab-it   **wala**   risalih
      Ali   not   perf.try.3sgm   writing-sgf   any   letter
      'Ali did not try writing any letter.'

     b. 9ali   ma   Hawal   kitab-it   i-risalih   **bi-il-marrah**
       Ali   not   perf.try.3sgm   writing-sgf   the-letter   at all
      'Ali did not try writing the letter at all.'

Example (56) illustrates that nominalized complements license strong NPIs with the sentential

negation in the matrix clause.

     Finally, nominalized complements can have a controlled subject. In this case, the subject

can be a null or overt pronominal DP. Consider the following example.

(57) a. 9ali_i   ballash   [kitab-it   *pro*_i   i-risalih]
      Ali   perf.begin.3sgm   writing   *pro*   the-letter
      'Ali began writing the letter.'

     b. 9ali_i   ballash   [kitab-it-**uh**_i   la-i-risalih]
       Ali   perf.begin.3sgm   writing-sgf-his   of-the-letter
      'Ali began his writing of the letter.'

    c. *9ali_i   ballash   [kitab-it   **huwwah**   la-i-risalih]
      Ali   perf.begin.3sgm   writing-sgf   he   of-the-letter

As the example demonstrates, the controlled subject in the nominalized complement can be null (57a) or overt (57b). The subject must be in the genitive case that it receives from the nominalized predicate as the grammaticality of (57b) compared to the ungrammaticality of (57c) where the subject surfaces in the nominative Case.

The subject can be uncontrolled. In this case it has to be overt because nominalized predicates do not exhibit agreement with their subject. The nominal inflections reflect their inherent features, i.e. feminine versus masculine. This means that the null subject is rendered unidentified as regulated by Rizzi's (1982) *pro identification requirement* for null-subject languages. If null, the subject in nominalized complements is only interpreted as controlled by an argument in the matrix clause as shown in (57a). The uncontrolled subject can be an overt pronominal (58a) or lexical definite (58b) or indefinite DP (58c). Consider the following examples.

(58) a. 9ali   Hawal   kitab-it-hin   li-i-risalih
        Ali   perf.try.3sgm   writing-sgf-their.3plf   of-the-letter
        'Ali tried their writing of the letter.'

    b. 9ali   Hawal   kitab-it   il-banaat   li-i-risalih
        Ali   perf.try.3sgm   writing-sgf   the-girls   of-the-letter
        'Ali tried the girls' writing of the letter.'

    c. 9ali   Hawal   kitab-it   banaat   li-i-risalih
        Ali   perf.try.3sgm   writing-sgf   girls   of-the-letter
        'Ali tried that some girls write the letter.'

Based on the inflectional and morphosyntactic properties, I contend that nominalized predicates are DPs rather than clauses. The table below summarizes the aforementioned properties.

Table 6: Inflectional and morphosyntactic properties of nominalized complements

Morphosyntactic Properties	Nominalized complements
1. Overt COMP	not allowed
2. Topic	no
3. Focus	no
4. Realis marking	no
5. Aspect	no
6. Agreement	no
7. Subject type	null if controlled; pronominal or lexical DPs if uncontrolled
8. Subject case	genitive

Tables 5 and 6 show that nominalized complements do not allow an AspP, AdvP, or AgrP. They do not allow a complementizer, topic, or focus. Furthermore, their subjects are not assigned a structural Case. In fact, the external argument is inherently assigned genitive case by the nominalized predicate, and the internal argument is assigned genitive case by a preposition as illustrated in the following example.

(59) kitab-it-**uh**   il-**ha**   imratab-ih
    writing-sgf-his   of-it.3sgf   neat-sgf
    'His writing of it is neat.'

All these properties lead to the conclusion that these complements are in fact DPs rather than clauses because they do not allow the projections allowed in clauses.

7.5 Conclusion

The present chapter surveys a number of morphosyntactic properties, e.g. clause structure, verb movement, with respect to complement clauses in JA. These morphosyntactic properties have been commonly correlated with finiteness in languages with a tense system. This chapter addresses these properties in Set 1 and Set 2 complement clauses in JA, a language with an aspect system.

I conclude that complement clauses can be classified syntactically in terms of their CP status. The Propositional Set 1 and Manipulative Set 2 complements are full CPs. They allow

overt complementizers, topics, and foci. They allow the verb-subject and topic-verb word orders. The subject or topic can be null or overt pronominal or lexical DPs regardless of the possibility of having a controlled subject in Manipulative Set 2 complements. The topic is assigned accusative Case by the complementizer, but the subject is assigned nominative Case. In other words, the subject or topic is inaccessible to structural Case assignment from the matrix clause. In contrast, the Perception Set 1 and Desiderative Set 2 complement clauses are CP-less. They do not allow overt complementizers, topics, or foci. Their thematic subject is syntactically the object of the matrix clause where it receives accusative Case. Finally, nominalized complements are DPs and not clauses.

Comparing the syntactic classification established in the present chapter to the morphological and semantic classifications suggested in the previous chapters reveals a mismatch between the proposed classifications. The morphological and semantic distinctions between these Sets of complement clauses are realis-based. Predicates in Set 1 complements exhibit realis-marking and they contribute semantically distinctive aspectual interpretations in the real world. Conversely, the predicates in Set 2 complements lack realis marking and they do not contribute semantically distinctive aspectual interpretations in the real world. On the other hand, the syntactic distinctions between complement clauses can be attributed to the CP status of clauses, which is independent of the realis marking. This indicates that there is a mismatch between the morphological and semantic distinction, on the one hand, and the syntactic distinction, on the other.

Fundamentally, these conclusions show that the realis properties of complement clauses do not predict their morphosyntactic properties. This entails that the syntactic distinction between complement clauses does not align with the morphological and semantic distinctions. This

conclusion is not predicted by the theories of finiteness developed for tensed languages. The

theoretical implications of this result will be discussed in further details in the next chapter.

Chapter Eight

Conclusion

The present chapter reviews the conclusions and findings drawn from the investigation of the morphosyntactic features of complement clauses in Jordanian Arabic. The chapter then addresses the implications of the present study for current linguistic research on finiteness. Finally, it reviews a number of residual issues and topics that could not be addressed in the present study, and suggests future directions of research.

8.1 Summary

The goal of this thesis was to investigate the features of finiteness in JA. To this end, I investigated the morphological, semantic, and syntactic features of complement clauses. This evidence shows that complement clauses in JA do not exhibit a single finiteness distinction which accounts for all of the morphosyntactic features of complement clauses. Rather, realis marking divides complement clauses morphologically, and the presence of a full CP divides complement clauses syntactically. Semantically speaking, the clauses are classified according to whether they contribute distinctive aspectual interpretations or not. The mismatch between the morphological, semantic, and syntactic distinctions of complement clauses undermine the possibility of positing a single finiteness distinction to account for them. Based on this result, I argue that finiteness as a notion does not play a role in the grammar of JA as it does for tensed languages.

Chapter Two surveyed the current linguistic literature on finiteness. The common denominator in these approaches is the identification of finiteness with tense and agreement. This semantically entails that the temporal reference of the finite clause is independent. Syntactically speaking, finite clauses have an independent projection of TP with strong tense and agreement

features. As a consequence, verbs obligatorily move to TP in some languages. The subject of a finite complement clause is assigned nominative Case by Tense, and is inaccessible to Case assignment from the matrix clauses. The subject of a finite clause is opaque with respect to syntactic operations such as long-distance strong NPI licensing. On the other hand, non-finite clauses lack tense and agreement and display the converse behavior morphologically, semantically, and syntactically.

This literature showed that the aforementioned properties are inherited from studies on European languages, in particular, English. These studies do not show that the same finiteness features extend to all languages. Furthermore, the review of the literature on finiteness in Arabic indicates that research in this area is limited. Among the few studies that exist, there is no consensus on the properties of finiteness in Arabic. At the morphological level, researchers commonly assume that the Arabic varieties lack non-finite verb forms because verbs in all clauses inflect for aspect/tense and agreement. At the syntactic level, researchers assume that verbs in finite clauses raise to TP, while verbs in non-finite clauses do not. These syntactic accounts assume that verb forms in Arabic varieties encode tense. Research on the semantics of finiteness in Arabic is lacking. The main contribution of the present study is that it fills in a gap in Arabic linguistics by investigating the morphological, semantic, and syntactic features of complement clauses in an Arabic variety. I conclude contra previous studies that finiteness as a notion does not extend to JA, an Arabic variety.

Chapter Three described three inflectional classes in JA: verbal predicates, non-verbal predicates, and modal particles. The full verbal paradigm is specified for Person, Number, and Gender. The full nominal paradigm is specified for Definiteness, Number, and Gender. Modal particles do not exhibit agreement inflection. I concluded that agreement is not a defining

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property of finiteness in JA because it is marked in all contexts. Agreement inflections vary on these predicates according to structural considerations. For example, verbal predicates exhibit different agreement patterns according to the subject type and whether it is in the preverbal topic position or postverbal subject position. Non-verbal predicates exhibit different agreement patterns depending on whether they serve as modifiers of head nouns within DPs or they function as predicates modifying subjects.

Chapter Four focused on whether the verb forms in JA encode tense, aspect, both, or neither. I found that verb forms in JA, lexical or auxiliary, encode aspect. Temporal interpretations are established by the context. In the absence of any contextual clues such as temporal adverbs, the use of the Perfective implicates past tense interpretations; the Imperfective implicates non-past tense interpretations. Nonetheless, these implications can be cancelled if a contradictory tense reference is established by the intervention of temporal adverbs. Perfective aspect encodes events as complete and bounded; Imperfective aspect encodes events as incomplete and unbounded. These interpretations cannot be cancelled under the intervention of contradictory conjunctions. Based on this evidence, I concluded that temporal interpretations of these forms result from pragmatic implicature. Aspectual interpretations result from semantic entailment. This chapter has made an important contribution to the literature on the semantic interpretations of the verb forms in JA. As mentioned in this chapter, previous research supports some of the accounts in other Arabic varieties without an independent semantic analysis (Al-Shboul 2007, Al-Saidat and Al-Momani 2010). This chapter fills in this gap in previous research on verb forms in JA. Additionally, it lends a further support to the aspectual-only standpoint of Arabic verb forms as the most plausible account at least for verbs in JA.

In Chapter Five, I enumerated the different sets of complement clauses in JA in terms of the matrix Complement-Taking-Predicates (CTPs) adopting Noonan's (1985/ 2005) classification of CTPs. I concluded that there are two Sets of complements clauses: Set 1 complements with realis marked predicates, and Set 2 complements with realis unmarked predicates. I used this classification throughout the dissertation as a basis for inflectional and contextual distinctions. Set 1 complements have the indicative mood; whereas Set 2 complements have the subjunctive mood.

The chapter also highlights a limitation to the implementation of the complement clauses as test of finiteness in JA. Even though this test helps control for clause status, it does not facilitate the account of Imperative forms which are not licensed in complement clauses. Imperatives in JA lack realis and Person prefixes. Nonetheless, they share the property of being licensed in root clauses with realis marked predicates. They share the property of lacking the realis refix with realis unmarked predicates. They differ from both the realis marked and the unmarked predicates in their lack of Person marking. I addressed the problems and limitations of using the complement clause test in exploring the finiteness of imperatives in this chapter. The intriguing question that I would pursue in the future is how to account for the contradictory properties of imperatives in JA. I anticipate that imperatives provide further support for the claim that a finiteness distinction cannot be extended to Arabic varieties. I will pursue the investigation of the finiteness of imperatives in future research.

Chapter Six established that realis marked predicates, when used in discourse texts, contribute distinctive aspectual interpretations. In the absence of temporal adverbs and connectives, they implicate temporal interpretations which follow from the temporal properties of the boundary information of the aspectual viewpoints. For example, a series of events in the

Perfective implicates a succession of events. However, a series of events in the Imperfective implicates simultaneity. The interaction between both aspectual viewpoints implicates that the event in the Imperfective sets an open interval and the event in the Perfective is implicated as included in the open interval. In a nutshell, Chapter Six established that complement clauses in JA can be classified according to the distinctive aspectual contributions of their predicates.

This chapter provides converging evidence that temporal adverbs in JA operate independently from aspect. Adopting a Davidsonian (1967) framework, I argued that tense in tensed languages, e.g. English, introduce a temporal t variable which is modified by temporal adverbs. However, tenseless languages, e.g. JA, do not have a tense operator. In JA, both aspect and temporal adverbs are modifiers of the event e variable. Aspect modifies the viewpoint of the event; temporal adverbs modify the temporal interval of the event. They do not intersect. The significance of this conclusion is two-fold. First, temporal interpretations are neutralized across clauses. This demonstrates that the use of (in)dependent temporal reference as a diagnostic of a finiteness distinction in clauses is not at play in JA. Second, these conclusions offer independent evidence for the presence of an independent projection of aspect in the clause structure of JA.

Additionally, the chapter shows that realis marked predicates contribute distinctive aspectual interpretations when used in Set 1 complements. The investigation of temporal interpretations of the events in the matrix and complement clauses indicates that they are implicated from the interaction between aspectual viewpoints in these clauses. The chapter shows that the temporal and aspectual interpretations in Set 1 complement clauses are independent from those of the matrix clause. However, the temporal interpretations of the entire clause follow the interaction of the aspectual viewpoints in the complement and matrix clauses by virtue of being constrained by the aspectual viewpoint of the matrix clause on a par with

temporal connectives. On the other hand, realis unmarked predicates do not encode aspectual interpretations. They consistently encode unrealized events. I concluded that the interpretations the realis unmarked predicates encode are modal and not aspectual in nature. More precisely, realis marked predicates encode the event as fully or partially realized in the real or actual world; realis unmarked predicates encode the events as unrealized in a hypothetical world. The temporal and aspectual interpretations of the entire clause are dependent on those established by the matrix clause.

I claimed in Chapter Five that copular clauses in JA, which lack an overt verbal copula, have a covert realis marked predicate with the *bi*-Imperfective form. The most significant piece of evidence is the overt realization of the copula when necessary. In Chapter Six, I provided independent evidence that temporal interpretations contributed by these clauses are similar to the temporal implicature which results from the availability of the *bi*-Imperfective verbal predicates in verbal clauses.

This chapter shows that complement clauses in JA exhibits a realis-based distinction that aligns with the realis-based morphological distinction. The conclusions drawn from the semantic analysis are significant for the present study in several respects. First of all, it is possible to define finiteness in terms of realis marking because the semantic distinctions of complement clauses in JA will then be predictable. Nonetheless, the syntactic analysis demonstrates that such a proposed definition is not helpful in predicting the syntactic properties, e.g. the structural Case of subjects. This problem shows that the multi-level approach is necessary to give a better account of the finiteness notion. Second, the semantic analysis shows with independent evidence that the use of the compatibility temporal adverb test to diagnose finiteness distinction is not sufficient for languages like JA. Third, it shows that JA lacks a functional projection for Tense,

and that syntactic operations in JA do not check Tense features. This is really important because most syntactic accounts of JA assume that there is a TP projection in the clause structure without providing semantic evidence (Al-Saidat and Al-Momani 2010, Al-Momani 2011). I argue in this chapter that there is evidence for the presence of an independent projection of aspect but not tense.

Chapter Seven surveys the most common morphosyntactic properties that are traditionally associated with finiteness in generative syntax. These properties include clause structure, verb movement, transparency or opacity of the syntactic domain, subject licensing, and structural Case. The Chapter investigates these properties in Set 1 and Set 2 complement clauses. I concluded that clauses with realis marked predicates have independent realis projection in their clause structures. However, clauses with realis unmarked predicates lack this projection. I also argue that the clause structure of all clause types in JA have an independent projection of mood that is realized differently across clauses. It hosts indicative mood in realis marked complements, subjunctive mood in realis unmarked complements, and imperative mood in positive imperatives. Accordingly, the MoodP projection hosts a strong verb feature which triggers verb movement to this projection in all clauses.

The chapter shows that the complement clauses of JA are not distinguished in terms of the functional domain of their clause structure and verb movement. Nonetheless, the only difference is in the selection of RealisP in indicative clauses. On the other hand, there is a split within each Set in the clause structure at the left periphery. Within each Set, there are clauses that are full CPs and clauses that are CP-less. This difference accounts for the transparency and opacity of the syntactic domain. Only realis marked clauses that are full CPs are opaque. All other clauses are transparent. I provided evidence for this claim from long-distance strong NPI licensing. Opaque

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clauses block long-distance strong NPI licensing with sentential negation in the matrix clause. The other consequence of the difference between the full CP and CP-less clauses is the accessibility of structural Case assignment to the complement clause subject from the matrix clause. Subjects are accessible to structural Case assignment from the matrix clause if the complement clause is CP-less regardless of its realis specification. This is proven true for subjects in clauses selected by the Immediate Perception CTPs in Set 1 and Desiderative Set 2 clauses.

The observations drawn from the syntactic characterization of complement clauses reveal a mismatch between the morphological classification of clauses and their morphosyntactic properties. Clauses are morphologically classified in terms of realis marking; they are syntactically classified according to whether they have full CPs or are CP-less. Realis marking is independent of the CP projection. These observations have a number of theoretical implications, which are the subject of the next section.

8.2 Implications for the research on finiteness

Traditional definitions of finiteness assume that a single factor accounts for the morphological, semantic, and syntactic features of complement clauses. A finite clause is marked for tense, and exhibits an independent temporal interpretation semantically. Additionally, it is considered opaque in syntactic terms. On the contrary, a non-finite clause lacks all of these properties. The parallelism between morphological, semantic, and syntactic features of clauses motivates the traditional identification of finiteness with tense.

The literature on finiteness as dominated by the research on European languages predicts a correlation between finiteness and tense and agreement. Nonetheless, research on languages such as European Portuguese shows that some languages mark agreement in non-finite clauses. This

property is not predicted by theories of finiteness. In response to the attested observation of agreement-inflected non-finite predicates in multiple languages, researchers decided that agreement is not a defining property of finiteness and equated finiteness with tense alone. The change in the definition of finiteness highlights the definitional problem of finiteness. Finiteness was assumed to be a fundamental feature of language with multiple effects on morphology and syntax. As observation of additional languages indicates features such as agreement are independent of finiteness, the role of finiteness in the grammar shrinks. JA is a language that lacks tense marking. If tense is not considered to be a defining property of finiteness based on the JA data, the entire notion of finiteness is rendered vacuous. Furthermore, it will be inapplicable to European languages in its hypothetically revised definition. Hence, I suggest that redefining the term for each language, while overlooking the peculiar properties of other languages does not establish finiteness as a universal property of language.

An alternative way to resolve the definitional problem of finiteness is to assume that there is a FinP that is universal and applies to all languages, but the features it hosts vary according to what verbal predicates encode in each language. In other words, let finiteness be parameterized with tense in European languages, but with aspect or modality in languages like JA. This fails to offer a definitive account of finiteness and falls short in deriving good predictions. For example, structural Case in English on subjects is associated with tense: it is nominative in finite clauses, accusative in some non-finite clauses, e.g. *for* constructions. Structural Case is null in control clauses. Equating finiteness with tense in English makes predictions regarding some morphosyntactic properties like the structural Case of the thematic subject of complement clauses. Nonetheless, defining finiteness with aspect and modality in JA will not behave similarly. The structural Case on the thematic subject of the complement clause is unpredictable

because aspect and modality are irrelevant in this respect. What counts is whether the clause is full CP or not.

The upshot of the discussion is that the definitional problem of finiteness is not solved by circular or loose definitions, and a good definition should lead to plausible predictions. Furthermore, a universal notion should be applicable to all languages. These attempts are problematic because they render the term essentially meaningless and do not endow the term with prediction-making power. Therefore, the major theoretical implication of the present study is that it brings into question the universality of the finiteness distinction. If finiteness is not at play in JA, it is not a universal notion as assumed in the literature. As a consequence, an independent finiteness projection at the left periphery of the clause structure following Rizzi (1997) does not exist in languages such as JA. Instead, independent projections for CP and Modality are sufficient to explain the syntactic and morphological distinctions among complement clauses in JA. The independence of these projections shows that a single finiteness feature is unwarranted. This result suggests that finiteness is a language-specific unification of morphosyntactic features rather than a core property of UG.

As established in the review of literature on Arabic, the major problem of the previous research is the tendency among researchers to extend the definition of finiteness derived from English to Arabic varieties. This literature assumes that Arabic lacks morphological finiteness distinctions in the verbal system, and that finiteness can only be addressed in the syntax. The present study shows that the syntactic approach cannot be extended to JA, which is an Arabic variety. Complements exhibit morphological distinctions for mood which do not predict other morphosyntactic properties of the clauses. For example, the thematic subject can be accessible to structural Case assignment from the matrix clause regardless of the mood distinction of the

clause. This conclusion has some theoretical merits. First, it lends further support to the Agree-based approach which considers structural Case as a reflex of agreement features. Particularly, number is marked in all clauses, including imperatives, and this explains why all clauses pattern the same with respect to this property regardless of their realis marking. The only distinction is whether the clause is Full CP or not.

Additionally, the literature on NPI licensing in Arabic varieties has attempted to explain why NPI are licensed with sentential negation in the matrix clause by recourse to finiteness defined by a tense feature. The present study shows that the presence of a RealisP and CP projections play a role in long-distance NPI licensing. Finiteness projected from tense is irrelevant. Hence, researchers need to reconsider the licensing conditions which can mainly be semantic.

A final point to add here is that the present study underscores the benefits of implementing the multi-level analytical approach in exploring a linguistic phenomenon. For instance, if I only adopted a morphological or semantic approach, I could account for the correlation between realis marking and the semantic interpretations, but I would overlook a lack of correlation at the syntactic level. By adding the syntactic level of analysis, I managed to observe the lack of correlation and possible predictions that are not borne out by the empirical data. This in turn showed that the structural distinctions between clauses are not predicted by a morphologically and semantically realis-based distinction.

8.3 Further issues for future research

I consider the present study as a step towards more research on finiteness in other Arabic varieties. Therefore, I would like to pursue further research on finiteness in other Arabic varieties such as Standard Arabic (SA) because verb forms in this variety show overt mood marking. In

addition, SA has two complementizers: *'inna* 'that' which introduces indicative clauses and *'an*

'that' which introduces subjunctive clauses. From the spoken varieties, I would like to

investigate finiteness in Moroccan Arabic (MA) because it has two complementizers functioning

like those in SA: *belli* and *bash*. The standard assumption in Arabic linguistics is that *'inna* in SA

and *belli* in MA introduce finite clauses, whereas *'an* and *bash* introduce non-finite clauses in SA

and MA, respectively (Benmamoun 2000, Aoun et al. 2010). Consider the following examples

(the glosses and symbols appear in the examples below are modified according to the ones

adopted in the present study).

(1) a. 'a-9taqid-u   **'anna**   'a-walad-a   ya-l9ab-**u**   *SA*
      1-believe-sg-IND   that   the-child-NOM   3-play.sgm-IND
      'I believe that the child is playing.'

    b. ta-n-Dan   **belli**   l-wald   ta-y-l9ab   *MA*
      realis-1-believe.pl   that   the-child   realis-3-play.sgm
      'I believe that the child is playing.'

                                        (= (1a-b) Aoun et al. 2010: 13)

(2) a. rafaDa   **'an**   ya-drus-**a**   *SA*
      perf.refuse.3sgm   that   3-study.sgm-SUBJ
      'He refused to study.'

    b. rfad   **bash**   ya-qra   *MA*
      perf.refuse.3sgm   that   3-study.sgm
      'He refused to study'

                                        (= (2a-b) Aoun et al. 2010: 13)

Aoun et al. (ibid) claim that the complement clauses in (1) are finite in both languages, while the

complement clauses in (2) are non-finite in both languages. A natural extension of the present

project is to investigate the implications of the analysis I proposed for finiteness in JA to these

Arabic varieties.

     The present work has been confined to the study of finiteness in complement clauses

which are traditionally assumed to exhibit a finiteness distinction. There are other clauses which

pattern in a similar fashion such as adjunct clauses, e.g. purpose clauses, time adverbial clauses, but I could not address them in the present study. In the future, I would like to extend the analysis and conclusions of the present study to investigate finiteness in adjunct clauses which seem to exhibit the morphological realis-based distinction as complement clauses (3).

(3) a. 9ali   katab   i-risalih   [lamma   kaan   fi-il-beit]
       Ali   perf.write.3sgm   the-letter   [when   perf.be.3sgm   in-the-house]
       'Ali wrote the letter when he was at home.'

    b. 9ali   katab   i-risalih   [Hatta   yi-ib9ath-ha]
       Ali   perf.write.3sgm   the-letter   [in order to   3-send.sgm-it]
       'Ali wrote the letter in order to send it.'

The examples in (3) are from JA and the adjunct clauses are bracketed for the ease of identification. The adjunct clause in (3a) is a time adverbial clause and it includes a realis marked predicate. However, the bracketed purpose clause in (3b) involves a realis unmarked predicate. I would like to pursue further research on the semantic and syntactic properties of these clauses to expand the conclusions drawn from the present study.

Bibliography:

Adger, David. 2003. *Core Syntax*. Oxford: Oxford University Press.

Adger, David. 2007. 'Three domains of finiteness: a Minimalist perspective,' In *Finiteness: Theoretical and Empirical Foundations*, ed. by Irina Nikolaeva, 23-58. Oxford University Press.

Al-Haq, Fawwaz. 1992. 'Functional or Anaphoric control in Jordanian Arabic'. In *Language Sciences,* vol. 14, pp. 1-28.

Al-Momani, Islam. 2011. 'The syntax of sentential negation in Jordanian Arabic'. In *Theory and Practice in Language Studies.* Vol. 1, No. 5, pp. 482-496.

Al-Saidat, Emad and Islam Al-Momani. 2010. 'future markers in Modern Standard Arabic and Jordanian Arabic: A contrastive study'. In *European Journal of Social Sciences.* Vol. 12, No. 3. Pp. 397-408.

Alsarayreh, Atef. 2012. *Negative Sensitive Items in Jordanian Arabic.* Unpublished dissertation. The University of Kansas.

Al-Shboul, Sabri. 2007. *On defaultness in Jordanian Arabic*. PhD dissertation. The University of Kansas.

Al-Zahre, N. & N. Boneh. 2001."Infinitives and Control in Syrian Arabic". Ms., Université Paris VIII.

Anand, Pranav (2006). *De de se*. Doctoral Dissertation. Department of Linguistics and Philosophy. Massachusetts Institute of Technology.

Aoun, Joseph, Elabbas Benmamoun, and Lina Choueiri. 2010. *The Syntax of Arabic*. Cambridge Syntax Guides.

Ash-shribiin, Mohammad. 1570. In *Arabic Linguistics: An Introductory Classical Text with Translations and Notes, 1981.* Edited by M.G. Carter. Amsterdam, John Benjamins Publishing Company.

Babby, Leonard. 1998. 'Subject Control as Direct Predication: Evidence from Russian', *Proceedings of the 6th Meeting of Formal Approaches to Slavic Linguistics*, Michigan Slavic Publications, Michigan University, Ann Arbor, pp. 17–37.

Bailyn, John F. 1995. *A Configurational Approach to Russian "Free" Word Order*, PhD dissertation, Cornell University, Ithaca.

Bakir, Murtadha. 1980. *Aspects of Clause Structure in Arabic.* Doctoral dissertation, MIT, Cambridge, Mass.

Banksira, D. P. 1999. Tha Subject Affixes as Two Independent Heads. In K. Arregi, B. Bruening, C. Krause and V. Lin eds., Papers on Syntax and Morphology, *MITWPL* 33.

Bayer, J. 1983. 'COMP in Bavarian syntax', *Linguistic Review* 3: 209-47.

Benmamoun, Elabbas. 1992. Inflectional and Functional Morphology: Problems of Projection, Representation and Derivation. Doctoral dissertation, USA, Los Angeles.

Benmamoun, Elabbas. 1993. 'The status of Agreement and the Agreement Projection in Arabic'. In *Studies in the Linguistic Sciences* 23: 61-71.

Benmamoun, Elabbas. 1997. 'Licensing of Negative Polarity in Moroccan Arabic'. In *Natural Language and Linguistic Theory* 15: 263-287.

Benmamoun, Elabbas. 2000. The Feature Structure of Functional Categories: A Comparative Study of Arabic Dialects. Oxford University Press.

----. 2008. Clause Structure and Tense of Verbless Sentences. In Robert Freidin, Maria-Luisa
Zubizaretta, and Carlos Otero (ed.),Foundational Issues in Linguistic Theory, 105-133.
MIT Press.

Bianchi, V. 2000. 'On finiteness and nominative case licensing', *Quaderni del Laboratorio di
Linguistica* (nouva serie) 1: 145-67.

-------. 2003. 'On finiteness as logophoric anchoring', in J. Gueron and L. Tasmovski (eds.),
Temps et point de vue/ Tense and Point of View. Nanterre: Universite Paris X, 213-46.

Bohnemeyer, Jurgen. 2002 *The grammar of time reference in Yukatek Maya*. Munich:
LINCOM.

Borer, Hagit. (1986). I-Subjects. *Linguistic Inquiry* 17.

Borer, Hagit. 1989. 'Anaphoric AGR', in O. Jaeggli and K. Safi (eds.), *The Null Subject Parameter.*
Dordrecht: Kluwer, 69-109.

Borer, Hagit. 2005. *Structuring sense*. v. 1. *In name only* -- v. 2. *The normal course of events*.
Oxford; New York : Oxford University Press

Comrie, Bernard. 1976. *Aspect.* Cambridge: Cambridge University Press

Boskovic, Z. 1997. *The Syntax of Nonfinite Complementation: An Economy Approach.* MIT Press.

Brame, Mark. 1970.Arabic Phonology: Implication for Phonological Theory and Historical Semitic.
Doctoral dissertation, MIT, Cambridge, Mass.

Brockelmann, C. 1910. *Linguistique Semitique.* Translated from German by W. Marcais and M.
Cohen. Paris: Librairie Paul Geuthner.

Burge, Tyler. 2003. "Memory and Persons" *The Philosophical Review*, Vol. 112, No. 3., pp. 289-
337.

Carnie, A. 2007. *Syntax: A Generative Introduction.* Oxford: Blackwell.

Carston, R. 1988. Implicature, explicature and truth-theoretic semantics. In R. M. Kempson (ed.), Mental Representations: The Interface Between Language and Reality, 155-181. Cambridge: Cambridge University Press.

Chan, Marjorie K. M. 1980. 'Temporal Reference in Mandarin Chinese: An Analytical-Semantic Approach to the Study of the Morphemes le, zai, zhi and ne'. *JCLTA* 15.3: 33-79.

Chang, Vincent. 1986. The Particle Le in Chinese Narrative Discourse: an Integrative Description. PhD dissertation, University of Florida.

Chomsky, N. 1980. 'On binding', *Linguistic Inquiry* II: 1-46.

-------. 1981. *Lectures on Government and Binding: The Pisa Lectures.* Dordrecht: Foris.

-------. 1986. *Barriers*. Cambridge, MA: MIT Press.

Chomsky, N. 1992. 'A minimalist program for linguistic theory'. In MIT Occasional Papers in Linguistics 1. MIT.

-------. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

-------. 2000. 'Minimalist inquiries: the framework', in R. Martin, D. Michaels, and J. Uriagereka (eds.), *Step by Step: Essays on Minimalist Syntax in Honour of Howard Lasnik.* Cambridge, MA: MIT Press, 89-115.

--------. 2001. 'Derivation by Phase', in M. Kenstowicz (ed.), *Ken Hale: A Life in Language.* Cambridge, MA: MIT Press, 1-50.

------- and Lasnik, H. 1977. 'Filters and control', *Linguistic Inquiry* II: 1-46.

Chomsky, Noam; Lasnik, Howard (1977). "Filters and Control". *Linguistic Inquiry* (8): 425–504.

Chung, Sandra & Alan Timberlake. 1985. Tense, aspect, and mood. In T. Shopen (Ed.), Language Typology and Syntactic Description, III: Grammatical Categories and the Lexicon, pp. 202-258. Cambridge: Cambridge University Press.

Cohen, M. 1924. *Le système verbal sémitique et l'expression du temps*. Paris 1924.

Comrie, Bernard. 1987. *The World's major languages.* New York: Oxford University Press.

Comrie, Bernard. 1985. *Tense*. Cambridge: Cambridge University Press.

Comrie, Bernard. 1976. Aspect. Cambridge: Cambridge University Press.

Cottel, S. 1995. 'The representation of tense in Modern Irish', *GenGenP* 3: 105-24.

Cowper, Elizabeth. 2002. *Finiteness*. Ms., University of Toronto.

Culicover, P. 1992. 'Topicalization, inversion and complementisers in English'. D. Delfitto et al. (eds.), In OTS Working Papers, *Going Romance and Beyond,* University of Utrecht, Utrecht.

Dahl, Östen. 1985. Tense and aspect systems. Oxford: Blackwell.

Dambriunas, Leonardas, Antanas Klimas & William Schmalstieg. 1966. An Introduction to Modern Lithuanian. Brooklyn, NY: Franciscan Fathers Press.

Davidson, D. 1967. The logical form of action sentences. In N. Rescher (ed.), The Logic of Decision and Action, pp. 81-120. Pittsburgh: University of Pittsburgh Press.

Depraetere, Ilse. 1995. 'On the necessity of distinguishing between (un)boundedness and (a)telicity.' *Linguistics and Philosophy* 18: 1-19.

Dowty, David. 1979. *Word Meaning and Montague Grammar.*

Dowty, David R. 1982. Tenses, Time adverbial, and compositional semantic theory. *Linguistics and Philosophy* 5 (1982), pp. 23-33.

Dowty, David R. 1979. Word Meaning and Montague Grammar. Dordrecht: D. Reidel.

Eide, K. 2007. Finiteness: The haves and have-nots. Talk at 22nd Comparative Germanic Syntax Workshop, Stuttgart, June 8-9, 2007.

Eide, Kristin M. 2009. "Tense, finiteness and the survive principle: Temporal chains in a crash-

proof grammar". In Michael T. Putnam (ed.), *Towards a Derivational Syntax: Survive-Minimalism*, 91–132.

El-Hassan, S. A. 1977. Educated Spoken Arabic and the Levant: A critical review of diaglossia and related concepts'. In Archivum Linguisticum. 8. 112-32.

Evans, D. S. 1989. *A grammar of Middle Welsh.* Dublin: Dubline Institute for Advanced Studies.

Fassi Fehri, A. 1984. Agreement, binding, and coherence. *Agreement in natural language*, edited by M.Barlow & C. Ferguson, Stanford: CSLI.

Fassi Fehri. 1993. *Issues in the Structure of Arabic Clauses and Words*. Kluwer.

Fassi Fehri. 1996. 'Distributing features and affixes in Arabic Subject Verb Agreement Paradigms'. *Linguistic Research* 1.2: 1-30. Rabat: IERA.

Fassi Fehri. 2000. Distributing Features and Affixes in Arabic Subject Verb Agreement Paradigms. In *Research in Afroasiatic Grammar 4,* eds. J. Lecarme, J. Lowenstamm, and U. Shlonsky. Amesterdam: John Benjamins.

Fassi Fehri. 2004. 'Temporal/ Aspectual Interaction and Variation across Arabic Heights'. In Jacqueline Gueron and Jacqueline Lecarme (ed.), *The Syntax of Time,* 235-57. Cambridge : The MIT Press.

Fauconnier, Gilles. 1985. Mental Spaces. Cambridge, MA: MIT Press.

Ferguson, C. A. 1959. 'Myths about Arabic' In Georgetown Monograph Series on Language and Linguistics 12. 75-82.

Fleisch, Henri. 1979. *Traite de Philologie Arabe.* Beirut: Librairie Orientale.

Fortescue, M. D. 1984. *West Greenlandic*. London: Croom Helm.

Gai, Amikam. 1984. Predicative State and Inflection of the Nominal Predicate in Akadian and Syriac. *Afroasiatic Linguistics* 9/1: 83.

George, L. M., and Kornfilt, J. 1981. 'Finiteness and boundedness in Turkish', in F. Heny (ed.), *Binding and Filtering.* London: Croom Helm, 105-27.

Giannakidou, Anastasia. 1998. Polarity sensitivity as (non)veridical dependency. Amsterdam: John Benjamins.

Gray, Louis. 1934. *Introduction to Comparative Semitic Linguistics.* Amsterdam: Philo Press.

Gretsch, Petra and Clive Perdue. 2007. 'Finiteness in first and second language acquisition'. In Irina Nikolaeva (ed.), *Finiteness. Theoretical and empirical foundations*, 432-84. Oxford: Oxford University Press.

Grice, H. P. 1975. Logic and conversation. In P. Cole & J. L. Morgan (eds.), Speech Acts, 41-58. New York: Academic Press.

Haddad, Yousef. 2005. 'Control in Lebanese Arabic. Questionnaire, project' Variation in Control Structure'. http://accent.ucsd.edu/index.html.

Haegeman, L. 1986. 'INFL, COMP and nominative case assignment in Flemish infinitivals', in P. Muysken and H. van Riemsdijk (eds.), *Features and Projections.* Dordrecht: Foris, 123-37.

Haegeman, L. 1992. *Theory and Description in Generative Syntax: A Case Study in West Flemish*. Cambridge: Cambridge University Press.

Haegeman, L. 1993. 'The morphology and distribution of object clitics in West Flemish'. In *Studia Linguistica* 47, 57-79.

Haegeman, L. 1995. 'Root infinitives, tense, and truncated structures in Dutch', *Language Acquisition* 4: 205-25.

Haegeman, L. 1997. 'Elements of grammar', in L. Haegeman (ed.), *Elements of Grammar: Handbook of Generative Syntax.* Dordrecht: Kluwer, 1-70.

Haegeman, L. 2004. 'The syntax of adverbial clauses and its consequences for topicalization'.

    MS, Universite Charles de Gaulle, Lille.

Halle, M. 1990. An Approach to Morphology. *NELS* 20, pp. 150-184.

Haspelmath, M. 1993. *A Grammar of Lezgian.* Berlin: Mouton de Gruyter.

Hinrichs, E. 1986. Temporal Anaphora in Discourse of English. *Linguistics and Philosophy,* 9:

    63-82.

Hinrichs, E. 1981. *Temporale Anaphora im Englischen*. Zulassungsarbeit zum Staatsexamen.

    Universität Tübingen 1981.

Hogg, R. M. (ed.). 1992. *The Cambridge History of the English Language,* vol. 1: *The*

    Beginnings to 1066. Cambridge: Cambridge University Press.

Holes, Clive. 1994. *Modern Arabic: structures, functions, and varieties.* London: Longman.

Holmberg, A. and Platzack, C. 1995. *The Role of Inflection in Scandinavian Syntax.* Oxford:

    Oxford University Press.

Holt, J. 1943. *Etudes d 'aspect.* Acta Jutlandica 15, 2 (1943) Universitetsforlaget i Aarhus, Ejnar

    Munksgaard, Copenhague.

Hornstein, Norbert. 1990. *As Time Goes BY :Tense and Universal Grammar.* Cambridge, MA:

    The MIT Press.

Hu, Jianhua, Haihua Pan, and Lie Jiong Xu. 2001. 'Is there a finite vs. nonfinite distinction in

    Chinese?' In *Linguistics* 39-6, 1117-1148. Walter de Gruyter.

Huang, C. T. 1984. 'On the distribution and reference of empty pronouns', *Linguistic Inquiry*

    15: 531-74.

Huddleston, R. D. 1988. *English Grammar: An Outline.* Cambridge: Cambridge University

    Press.

Huehnergard, John. 1997. *A Grammar of Akkadian.* Atlanta: Scholars Press.

Jesperson, O. 1924. *The Philosophy of Grammar.* New York: Norton.

Johns, A., and Smallwood, C. 1999. 'On (non-) finiteness in Inuktitut', *Toronto Working Papers in Linguistics* 17: 159-70.

Johnson, Kyle. 1991. 'Object positions'. In *Natural Language and Linguistic Theory* 9: 577-636.

Karttunen, L. and Peters, S. 1980. Interrogative Quantifiers. In C. Rohrer (ed.), Time, Tense and Quantifiers, Proceedings of the Stuttgart Conference on the Logic of Tense and Quantification, pp. 181–205. Tuebingen.

Kayne, R. 1991. 'Romance clitics, verb movement, and PRO'. In *Linguistic Inquiry* 22, 647-686.

Kayne, R. 1994. *The antiasymmetry of syntax*. Cambridge, Mass: MIT Press.

Kearns, Kate. 2000. *Semantics.* London: Macmillan Press Ltd.

Klein, Wolfgang. 1994. Time in Language. London: Routledge.

Klein, Wolfgang. 1998. 'Assertion and finiteness'. In N. Dittmar and Z. Penner (eds.), *Issues in The Theory of Language Acquisition: Essays in Honor of Jurgen Weissenborn.* Bern: Lang: 225-45.

Koopman, H. and D. Sportiche. 1991. "The Position of Subjects," in J. McCloskey, ed., The Syntax of Verb-Initial Languages, Elsevier. [Published as a special issue of Lingua.]

Kurylowicz, J. 1973. Verbal Aspect in Semitic. *Orientalia, New Series,* 42 pp. 114 – 120.

Landau, Idan.2004. 'The scale of finiteness and the calculus of control'. In *Natural Language & Linguistics Theory* 22: 811-877. Netherlands: Kluwer Academic Publishers.

Langacker, R. W. 1987. 'Nouns and Verbs', *Language* 63: 53-94.

Lee, Kee-dong. 1975. Kusaiean Reference Grammar. Honolulu: University of Hawaii Press.

Leslau, Wolf. 1995. *Reference Grammar of Amharic*. Wiesbaden: Harrassowitz.

Levinson, Stephen. 1983. *Pragmatics*. Cambridge, England: Cambridge University Press.

Lewis, David. 1979. "Attitudes De Dicto and De Se" *The Philosophical Review*, 88, pp. 513–543.

Li, Y. H. A. 1990. Order and Constituency in Mandarin Chinese. Dordrecht: Kluwer.

Lumsden, John S. and Girma Halefom. 2003. Verb conjugations and the Strong Pronoun declension in Standard Arabic. In *Research in Afroasiatic grammar II:* 305-337.

Lyons, John. 1977. *Semantics I and II.* Cambridge University Press, Cambridge.

Marantz, A. 1995. 'The Minimalist Program', In G. Webelhuth (ed.), *Government and Binding Theory and the Minimalist Program,* 351-82.

Matthews, P. H. 1997. *The Concise Oxford Dictionary of Linguistics*. Oxford: Oxford University Press.

McCawley, James D. 1978. World-creating predicates. Versus 19/20:79-93.

Mitchell, T. F. 1978. 'Educated Spoken Arabic in Egypt and the Levant, with special reference to participle and tense.' In *Journal of Linguistics* 14. 227-58.

Mitchell, T. F. and Al-Hassan, S. A. 1994. *Modality, Mood and Aspect in Spoken Arabic (with special reference to Egypt and the Levant. London: Kegan Paul International.*

Moscati, Sabatino, Anton Spitaler, Edward Ullendorff, and Wolfram Von Soden. 1964. *An Introduction to the Comparative Grammar of the Semitic Languages*. Otto Harrassowitz: Wiesbaden.

Mohammad, Mohammad. 2000. *Word Order, Agreement and Pronominalization in Standard and Palestinian Arabic.* Amsterdam: John Benjamins.

Moore, John and David M. Perlmutter. 2000. 'What Does It Take to be a Dative Subject?', *Natural Language and Linguistic Theory* **18**, 373–416.

Moutaouakil, Ahmed. 1993. *Al-wathiifa wa l-binya.* Casablanca: 'ocaadh'.

Neidle, Carol Jan. 1988. *The Role of Case in Russian Syntax*, Kluwer Academic Publishers,
 Dordrecht.

Nikolaeva, Irina. 2007. *Finiteness: Theoretical and Empirical Foundations.* Oxford: Oxford
 University Press.

Noonan, M. 1985/ 2005. 'Complementation', in Shopen (ed.), *Language Typology and Syntactic
 Description,* vol. II: 52-151.

Noyer, Rolf. 1992. Features, Positions and Affixes in Autonomous Morphological Structure.
 Doctoral dissertation, MIT, Cambridge, Mass.

Ouhalla, Jamal. 1991. Functional Categories and Parametric Variation. London: Routledge.

Ouhalla, Jamal. 1993. 'Negation, Focus and Tense: The Arabic *maa* and *laa*. In *Rivista di
 Linguistica* 5: 275-300.

Ouhalla, Jamal. 2002. 'The Structure and Logical Form of Negative Sentences in Arabic'. In
 Jamal Ouhalla and Ura Shlonsky (3d.), *Themes in Arabic and Hebrew Syntax,* 299-320.
 Dordrecht: Kluwer.

Ouhalla, Jamal. 1994. 'Verb Movement and Word Order in Arabic'. In D. Lightfoot and N.
 Hornstein (ed.), *Verb Movement*, 41-72. Cambridge: Cambridge University Press.

Palmer, F. R. 2001. *Mood and Modality.* Cambridge: Cambridge University Press.

Partee, Barbara. 1984. Nominal and temporal anaphora. Linguistics and Philosophy 7:243-286.

Partee, Barbara. 1973. Some structural analogies between tenses and pronouns in English.
 Journal of Philosophy 70:601-609.

Parsons, T. 1990. Events in the Semantics of English. Cambridge, MA: MIT Press.

Parsons, Terence. 2000. 'Underlying events and time interval'. In James Higginbotham, Fabio

    Pianesi, and Achille Varzi (eds.), *Speaking of events*, 81-95. New York: Oxford University

    Press.

 Penka, Doris. 2007. Negative Indefinites. Doctoral dissertation, Universität Tübingen.

Pesetsky, D., and Torrego, E. 2001. 'T to C movement: causes and consequences', in M.

    Kenstowicz (ed.), *Ken Hale: A Life in Language.* Cambridge, MA: MIT Press, 355-426.

Philippaki-Warburton, Irene and Georgia Catsimali. 1999. 'On Control in Greek', in

    Artemis Alexiadou, Geoffrey C. Horrocks, and Melita Stavrou (eds.), *Studies in Greek*

    Syntax, Kluwer, Dordrecht, pp. 153–167.

Pianesi, Fabio and Achille C. Varzi. 2000. 'Events and event talk: An introduction'. In James

    Higginbotham, Fabio Pianesi, and Achille Varzi (eds.), *Speaking of events*, 81-95. New

    York: Oxford University Press

Pollock, J.-I. 1989. 'Verb movement, Universal Grammar and the structure of IP', *Linguistic*

    Inquiry 20: 365-424.

Pollock, J.-I. 1997. 'Notes on Clause Structure'. In Liliane Haegeman (ed.), *Elements of*

    Grammar, 237-279. Netherlands: Kluwer Academic Publishers.

Postal, Paul. 1974. *On Raising.* Cambridge, MIT: MIT Press.

Progovac, L. 1994. *Negative and positive polarity. A binding approach.* Cambridge University

    Press, Cambridge.

Radford, Andrew. 2004. *Minimalist Syntax: Exploring the structure of English*. Cambridge:

    Cambridge University Press.

Ramchand, Gilian. 2008. *Verb meaning and the Lexicon. A first phase syntax.* Cambridge

    University Press. Rothstein, Susan. 2004. *Structuring*

Raposo, E. 1987. 'Case Theory and Infl-to-Comp: the inflected infinitive in European Portuguese', *Linguistic Inquiry* 18: 85-109.

Reichenbach, H. 1947. Elements of Symbolic Logic. New York: The Free Press.

Rice, K. 1989. *A Grammar of Slave.* Berlin: Mouton de Gruyter.

Ritter, Elizabeth. 1988. A Head-Movement Approach to Construct State Noun Phrases. *Linguistics* 26: 909-929.

Rizzi, L. 1982. *Issues in Italian Syntax*. Dordrecht: Foris.

Rizzi, L. 1997. 'The fine structure of the left periphery', in L. Haegeman (ed.), *Elements of Grammar.* Dordrecht: Kluwer, 281-337.

Rizzi, L. & I. Roberts (1989) "Complex Inversion in French", *Probus*, 1, 1-30.

Rouveret, A. 1991. Functional Categories and Agreement. *The Linguistic Review* 8.2.

Rubin, Aaron D. 2005. *Studies in Semitic Grammaticalization.* Harvard Semitic Studies 57.

Runner, Jeffrey T. 1998. *Noun phrase licensing*. New York: Garland.

Runner, Jeffrey T. 2006. 'Lingering challenges to the Raising-to-Object and Object-Control constructions. In *Syntax* 9: 193-213.

Ryding, Karin C. 2005. *A reference grammar of modern standard Arabic.* Cambridge: Cambridge University Press.

Sauter, A. et al. (eds.). 1968. *Oxford Latin Dictionary,* vol. 1. Oxford: Clarendon Press.

Shlonsky, Ur. 1997. *Clause Structure and Word Order in Hebrew and Arabic : An Essay in Comparative Semitic Syntax.* Oxford University Press.

Shlonsky, Ur. 2004. The Form of Semitic Noun Phrases. *Lingua* 114: 1465-1526.

Sibawayh, Abu Bishr Q. 793 (8th century). *Al-Kitaab.* Buulaaq, Cairo, 1938.

Sigurthsson, H. A. 1996. 'Icelandic finite verb agreement'. In *Working Papers in Scandinavian*

Syntax 57 : 1-46.

Siloni, Tali. 1997. *Noun Phrases and Nominalization: The Syntax of DPs.* Dordrecht: Kluwer.

Slabakova, Roumyana. 2001. *Telicity in second language*. Amsterdam: John Benjamins.

Smith, Carlota S. 1997. The Parameter of Aspect. Dordrecht: Kluwer.

Soltan, Usama. 2007. On Agree and Postcyclic Merge in Syntactic Derivations: First Conjunct
  Agreement in Standard Arabic Revisited. In *Perspectives on Arabic Linguistics XIX,* eds E.
  Benmamoun, 191-216. Amsterdam: John Benjamins.

Soltan, Usama. 2011. "On Licensing of Negative Polarity Items in Egyptian Arabic." Paper
  presented at the 25th Arabic Linguistics Symposium, held at University of Arizona, March
  4-6, 2011.

Spanos, George. 1979. 'Contemporary Chinese Use of Le: a Survey and a Pragmatic Proposal'.
  Journal of the Chinese language teachers association. 14.1: 36-70; 14.2: 47-102.

Stowell, T. 1982. 'The tense of infinitives', *Linguistic Inquiry* 13: 561-70.

Tallerman, M. 1998. 'The uniform case-licensing of subjects in Welsh', *Lainguistic Review 15*:
  69-133.

Tang, T. C. 2000. 'Finite and nonfinite clauses in Chinese', *Language and Linguistics* 1: 191-
  214.

Tóth, Ildikó. 2000. *Inflected Infinitives in Hungarian*, Ph.D. dissertation, TILDIL, Tilburg
  University, Tilburg.

Tourabi, Abderrezzak. 2002. Arabic Subject-Verb Agreement Affixes; Morphology,
  Specification and Spell-Out. In *MIT Working Papers in Linguistics* 42, pp: 329-356.

Trask, R. L. 1993. *A Dictionary of Grammatical Terms in Linguistics*. London: Routledge.

Travis, Lisa. 1994. 'Event Phrase and a Theory of Functional Categories.' In *Proceedings*

of 1994 Annual Conference of the Canadian Linguistics Association. Toronto

Working Papers in Linguistics.

Travis, L.D. 2005. "Articulated vPs and the Computation of Aspectual Classes", in P.

Kempchinsky and R. Slabakova, (eds.), *Aspectual Inquiries*, Springer, Dordrecht, 69-93.

Travis, Lisa. 2010. *Inner Aspect: the articulation of vP.* Dordrecht: Springer.

Tropper, Josef. 1995. Die semitische "Suffixkonjugation" im Wandel. In *Vom alten Orient zum*

Alten Testament: Festschrift fur Wolfram Freiherrn von Soden zum 85. Geburtstag am 19.

Juni 1993, ed. Manfried Dietrich and Oswald Loretz, 491-516. Neukirchen-Vluyn:

Neukirchener.

Vendler, Zeno. 1957. 'Verbs and Times'. Philosophical Review. In 1967, *Linguistics in*

Philosophy. Ithaca: Cornell University Press.

Verkuyl, Henk. 1972. 'On the Compositional Nature of the Aspects,' *Foundations of Language*

Supplementary Series, Volume 15. Reidel: Dordrecht, Holland.

Verkuyl, Henk. 1993. *A theory of aspectuality: The interaction between temporal and*

atemporal structure. Cambridge: Cambridge University Press.

Watanabe, A. 1993. 'Agr-based Case Theory and its interaction with the A-bar system'. Ph.D.

thesis, MIT.

Welmers, William E. 1973. *African Language Structures.* University of California Press.

Williams, E. 1980. 'Predication', *Linguistic Inquiry* II: 203-38.

Wright, William. 1859. *A Grammar of the Arabic Language.* Cambridge: Cambridge University

Press. Two volumes reprinted in one (1964).

Zeijlstra, Hedde. 2004. Sentential Negation and Negative Concord. Doctoral dissertation,

University of Amsterdam.

Zwart, C. J.-W. 1997. *Morphosyntax of Verb Movement: A Minimalist Approach to the Syntax of Dutch.* Dordrecht: Kluwer.