PARAMETERS AND MICRO-PARAMETERS IN ARABIC SENTENCE STRUCTURE

By

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ABSTRACT

My thesis deals with dependency relations in the structure of sentences in Arabic and how properties of verbal morphology and associated lexical items dictate how sentences are derived. I adopt the probe-goal-Agree Minimalist view that variation between languages (even those that are closely related, such as Standard Arabic and Tunisian Arabic) is due to the 'feature structure' of functional elements that enter into the derivation.

In particular, the essential architecture of sentences expressing the dependency relations verbs and associated elements have with the 'functional' portion of sentences (i.e., tense/modality properties) is universal in that these dependency relations will be expressed on the basis of the same feature structure cross-linguistically. However, this architecture still allows for the kind of parametric variation that exists even between closely related languages.

In this context, I am interested in the status of subject-verb agreement configurations, in both VSO and SVO word orderings, and *wh*- and other *A'*-dependencies in Standard Arabic (with comparisons to some modern spoken varieties of Arabic, where appropriate). The analysis is shown to extend to other V-raising languages of the Semitic/Celtic type with 'basic' VSO word ordering. A possible extension of the analysis to the V2 phenomenology is also discussed and the major role played by the raising of *V-v* to *T* and the raising of *T* to *Agr_S* or *T* to *Fin* is highlighted.

An important aspect of my analysis is a proper understanding of the dependency relations involved in the derivation of the relevant sentences where the role of the CP domain projections, verb-movement, feature identification and/or feature valuation along with clause type is essential for interpretation at the interface at the output of syntax. In this feature-based analysis of parametric and micro-parametric variation, I show that variation between typologically similar and typologically different languages is minimal in that it is limited to the interaction of feature combinations in the derivation of sentences.

These feature combinations concern the feature structure of the *T*-node in relation to the position where *T* is spelled out at the interface. In particular, *T* raises to *Agr_S* or to *Fin* in some languages and/or structures. Such raising processes are important in subject-verb agreement configurations cross-linguistically involving

combinations of T-features and D-features, which would differ in interpretability (i.e., interpretable vs. uninterpretable) as the basis for feature valuation. Similar feature combinations also drive the raising processes in wh-dependencies with some F-feature (mainly related to ‘focus’) interacting with the T-features of Fin.

I propose that two modes of licensing of these feature combinations are at work. The first mode of licensing is the basic head-head agreement relation. This agreement relation is the basis for verb-movement to the functional field above ν P/VP in V-raising languages. The second mode of licensing is the Spec-head agreement relation, brought about by the Merge (internal or external) of D(P) elements in A-dependencies and the Merge of wh-elements in A’-dependencies.

In dependency relations other than subject-verb agreement and wh-dependencies, I propose that the licensing of these feature combinations is strictly a question of ‘identification’ via head-head agreement whereby a feature on a functional head does not need to be valued, but it still needs to be ‘identified’ for the well-formedness of the C-(Agrs)-T dependency. This is the case of the interpretable D-feature of the Top node in Topic-comment structures and the interpretable F-feature of the two functional head nodes, Mod(al) and Neg, in relation to the T-features of Fin in a V-raising language like Standard Arabic.

ARABIC DATA

Sources of the Arabic Data

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List of Transliteration Letters

I follow the Qalam transliteration system of Romanization of Arabic for the transcription of the Arabic letters, which do not match correspondent letters in the English alphabet. As for the Arabic ‘hamza’ letter/sound ʾ and the pharyngeal fricative sound ʕ, I adopted the International Phonetic Alphabet (IPA) transcription symbols ʔ and ʕ, respectively. The Qalem transliteration letters fit more easily in terminal nodes in syntactic tree diagrams than the corresponding IPA transcription symbols, for which syntactic tree editor tools available on *sourceforge.net* do not provide a means to introduce them in syntactic trees.

ʔ	Glottal stop
dh	voiced interdental fricative
D	voiceless pharyngealized/emphatic lateral fricative
H	voiceless pharyngeal fricative
S	voiceless pharyngealized/emphatic dental fricative
Z	voiced pharyngealized/emphatic interdental fricative
T	voiced pharyngealized/emphatic alveolar stop
gh	voiced uvular fricative
ʕ	voiced pharyngeal fricative
kh	voiceless uvular fricative
q	voiceless uvular stop

Long vowels are indicated by the doubling of the vowel rather than by a colon following the vowel – i.e., VV instead of V:

LIST OF ABBREVIATIONS

Technical abbreviations

- 1 = first person of the verbal agreement system
- 2 = second person of the verbal agreement system
- 3 = third person of the verbal agreement system
- ACC = accusative
- AGR/Agr = agreement
- Asp = aspect
- CL = clitic
- D = dual
- DEF = defective
- DO = Direct Object
- EPP = Extended Projection Principle
- EV = epenthetic vowel
- EXPL = expletive
- F = feminine
- FUT = future
- GEN = genitive
- IMPERF = imperfective
- IND = indicative mood
- INDEF = indefinite
- JUSS = jussive mood
- LDA = Long Distance Agreement
- LF = Logical Form
- M = masculine
- MOD = modal
- NEG/Neg = negation
- NOM = nominative
- P = plural
- PASS = passive voice
- PERF = perfective
- PF = Phonetic Form
- Q = question morpheme

S = singular

SUBJ = subjunctive mood

VISH = Verb-internal subject hypothesis

Other abbreviations: Acronyms

LA: Lebanese Arabic

MA: Moroccan Arabic

SA: Standard Arabic

TA: Tunisian Arabic

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CHAPTER ONE

INTRODUCTION

This dissertation is an attempt to pin down the syntactic properties of elements within clause structure in terms of dependency relations that link functional projections (i.e., the functional layer of sentence structure) to thematic elements. It is via this close relationship between thematic and functional elements that ‘functional relations’ are established whereby agreement relations take shape out of the building up of derivations. The guiding principle that should emerge from the outset is that the cross-linguistic variation in the distributional properties of the elements ‘merged’ in sentence structure should be captured in terms of simple principles of syntactic computation in interaction with morpho-phonological properties of lexical items.

In this context, Chapter Two of this thesis introduces some preliminary remarks on verbal agreement phenomena (morpho-syntactic and morpho-phonological processes) in the grammar of V-raising/null-subject languages (Arabic, being the prototype) in particular, and, comparatively, languages of the English/Germanic type. Chapter Two also introduces the theoretical framework of the study and sets forth some general guidelines of what is going to be the focus of this dissertation. Of particular importance in the framework of assumptions developed in Chapter Two is the special derivational character of cyclic computations, or what Chomsky (2001, 2004) refers to as ‘Derivation by Phase’. In this conception, syntactic computation is essentially ‘derivational’, but, at the same time, ‘representational’ in character in that the derived structures must satisfy some locality and licensing conditions at each ‘Phase’ of computation.

Chapter Three expands on the central role of cyclic computation in the derivational processes whereby structural dependencies and agreement relations obtain. As both Chapter Two and Chapter Three show, the derivational processes of the grammar conspire for the satisfaction of output conditions at the interface (the point in the derivation that Chomsky 2001, 2004 calls the ‘strong Phase’ or ‘Spell Out’), at the point of which ‘interpretability’ arises. Both Miyagawa’s (2010) ‘EPP-triggered movement’ analysis of agreement manifestations in natural language and Roberts & Roussou’s (2002) ‘T(ense)-criterion’ approach show that the EPP remains

(since its first inception in the framework of Chomsky 1981) a ‘general’ principle of the grammar as the main driving force of computations.

In the Phase-theoretic probe-goal-Agree system of Chomsky (2001, 2004, 2008), adopted in this thesis, ‘Merge’ and ‘Move’ form a composite operation along with the agreement processes (the operation ‘Agree’) which drive computations. This Phase-theoretic case-agreement framework supersedes the feature-checking account of syntactic derivation that was the hallmark of the ‘Minimalist Program’ of Chomsky (1995c). The syntactic Spec-head/head-head agreement configurations that arise from the cyclic application of Merge/Move processes in sentence structure seem to show a basic structural uniformity that, nonetheless, coheres with a certain amount of cross-linguistic parameterization. In these processes, ‘parameterization’ is conceived in terms of the feature structure of functional elements introduced in the computation to meet the requirement that ‘probe’ and ‘goal’ end up in a ‘matching/Agree’ relation that satisfies interpretability at the interface.

The process of ‘expletive-insertion’ cross-linguistically plays – in conjunction with the EPP – a fundamental role in, especially, subject-verb agreement processes. Expletives can be merged by base-generation in the so-called ‘edge’ positions (Chomsky 2001, 2004) of the ‘strong’ Phase heads – namely, [Spec, CP] and ‘outer’ [Spec, v*P] – and the Spec positions of the heads selected by these Phase heads – namely, [Spec, IP/TP] and [Spec, VP].

In Chapter Four, I apply the probe-goal-Agree analysis of the case-agreement phenomena, which I have been mainly reviewing in Chapters Two and Three, to the derivation of the micro-parametric VSO/SVO word orders in Arabic (the standard variety vs. the modern spoken dialects). Syntactic computation is now largely driven by the satisfaction of some ‘edge’ property (in relation to the EPP as a requirement that has to be met in the derivation of sentence structure). Given this new emphasis on ‘edge’ properties of syntactic structure, the A/A-bar distinction in movement processes would be better understood in terms of the feature structure of functional elements that relate them to the elements they ‘match/Agree’ with.

This conception of syntactic computation puts more emphasis on the feature-matching analysis of ‘Agreeing’ elements, where the core functional nodes C, T, and v* and (under the parameterized probe-goal-Agree conception of dependency formation I am advocating in this thesis) the core functional node Agr_S are

fundamental for an adequate understanding of the derivation of structural agreement configurations and their uniform representation at the interface for EPP satisfaction and interpretability at Spell Out.

It has been proposed (Rohrbacher 1994) that in V-raising languages, there is a cross-linguistic tendency for rich subject-verb agreement to correlate with the V-to-I raising process in the syntax proper since it is this movement process that licenses the elements involved in the very process. However, such a proposal does not seem to account for the case of subject-verb agreement in VSO constructions in SA, as a richly inflected language. Although SA shows evidence of V-to-I movement in VSO sentences, these sentences only show ‘partial’ (or ‘weak’) subject-verb agreement. Rather, the process of V to I seems to be a factor, among other possible factors, responsible for subject-verb agreement. The proposal developed here is that, in the derivation of SA VSO word order, verb-raising past the subject raised to the highest Spec position in the IP domain (i.e., the Spec of the T node, in the absence of an Agr_S node, in SA VSO word order, as proposed here) can account for the absence of rich subject-verb agreement in such a derivation.

The central role of ‘Tense’ (Roberts & Roussou’s 2002 ‘T-criterion’) in dependency formation is further upheld by the paramount role ‘criteria’ considerations (Rizzi 1997, 2006, Rizzi & Shlonsky 2007) play in the derivation of the IP domain of clause structure in its relation to the CP domain. These across-the-board ‘criteria’ considerations reinforce the conception of Tense (or the tense properties of syntactic structure) as the main factor involved in defining both the ‘deep’ thematic and the ‘surface’ scope-discourse properties of elements.

CHAPTER TWO

APPROACHES TO SENTENCE STRUCTURE AND PARAMETRIC VARIATION

2.0. Introduction

After introducing in this chapter the hypothesis I am putting forward as regards the close relationship that exists between subject-verb agreement and parametric variation in such closely related languages as Standard Arabic (SA) and Tunisian Arabic (TA) or Moroccan Arabic (MA), I deal in section 2.1 with some generalities about the structure of sentences in natural languages. In section 2.2, I have a look at the structure of the VP in relation to specifier (Spec) positions (including ‘edge’ positions in Chomsky’s 2001, 2004 Phase-theoretic framework) and to possible affinities between subject-verb agreement and object agreement in relation to the case-agreement system of the grammar (as in Sportiche 1998). In section 2.3, I introduce the framework of assumptions that I will adopt, with particular reference to the Phase-theoretic conception of the derivation of sentence structure and the particular relevance of ‘edge’ positions in that framework. Section 2.4 is a conclusion to the chapter.

The main focus of the thesis is on subject-verb agreement phenomena and subject positions in Arabic (both SA and the modern spoken dialects such as TA and MA) in such VSO and SVO sentences, as in (1) and (2) below, where either the verb or the subject is in initial position. (The presence or absence of the object is not immediately relevant to the central hypotheses to be investigated in this thesis).¹

¹ According to Mohammad (1989: Chapter 1), whereas the six possible word orders VSO, SVO, VOS, SOV, OSV and OVS between a subject DP, an object DP and a verb are all available in SA, only VSO, SVO and VOS word orders are available in the modern spoken dialects of Arabic. As Mohammad (1989: 9) mentions, this is due to the lack of overt phonological Case marking in the dialects.

As for the question of which word order is more ‘preferable’, Mohammad (1989: 2-4) argues that, although claims about ‘pragmatic neutrality’ in SA cannot be used to favour one word order over another in the ordering of a subject DP, an object DP and a verb, when Case marking fails to distinguish the subject and the object, VSO and SVO are the only acceptable word orders (examples adapted from Mohammad 1989: 4):

- (i) a. Daraba musa ʕiisaa
 PERF.hit-3MS Musa Isa
 ‘Musa hit Isa.’
 b. Musa Daraba ʕiisaa ‘Musa hit Isa.’
 c. * Musa ʕiisaa Daraba ‘Musa hit Isa.’
 d. * Daraba ʕiisaa musa ‘Musa hit Isa.’

(1) **VSO word order:**

- a. kataba T-Tulaab-u d-dars-a (SA)
wrote.3MS the-students-NOM the-lesson-ACC
'The students wrote the lesson.'
- b. kitb-uu T-Tulaab d-dars (TA)
wrote-3P the-students the-lesson
'The students wrote the lesson.'

(2) **SVO word order**

- a. T-Tulaab-u katab-uu d-dars-a (SA)
the-students-NOM wrote-3MP the-lesson-ACC
'The students wrote the lesson.'
- b. T-Tulaab kitb-uu d-dars (TA)
the-students wrote-3P the-lesson
'The students wrote the lesson.'

Apart from the fact that the modern spoken dialects of Arabic have lost the case morphology that marks the ending of nouns, such as Nominative Case and Accusative Case, the data in (1) is significant in that it points to a parametric difference in the realization of subject-verb agreement in such VSO sentences where SA (1a) does not show the same kind of subject-verb agreement we find in TA (1b). In contrast, the realization of subject-verb agreement in the SA sentence in (2a) and the TA sentence in (2b) is the same, as far as the agreement morphology on the verb *katab-uu*, in (2a), and *kitb-uu*, in (2b), is concerned. What is important in the data shown in (1) and (2) is that the agreement morphology on the TA verb does not show the kind of agreement asymmetry between the VSO and SVO word orderings, as in the SA equivalent sentences.

-
- e. * ʕiisaa Daraba musa 'Musa hit Isa.'
f. * ʕiisaa musa Daraba 'Musa hit Isa.'

Mohammad (1989), Fassi Fehri (1993) and Akkal & Gonegai (2000) claim that VSO word order is a 'basic' word order in Standard Arabic. As for the modern spoken dialects of Arabic, Ouhalla (1991) and Shlonsky (1997) claim that they tend to have SVO as a basic word order. Hoyt (2009: 654-657) presents an overview of claims as to whether V-initial word order or subject/A(gent)-initial word order is more prominent in the standard variety and the dialects of Arabic. As far as the dialects are concerned, Hoyt (2009: 657) states that: "although both A-initial and V-initial word orders are asserted as being basic in various dialects, both are attested, and the preference for one or the other is affected by a variety of grammatical and pragmatic factors".

In (1b) and (2b), the gloss under the TA verb *kitbuu* is 3P instead of 3MP (cf. example (2a) for SA) because TA does not have any feminine agreement marker on verbs in the plural – i.e., there is no masculine/feminine distinction in the agreement morphology on the verb in the plural in TA.

It should be noted here that, irrespective of whether the initial DP element is regarded as a ‘subject’ or a ‘Topic’ DP, this DP element has to be definite. Thus, in both SA and TA, an initial indefinite DP in SVO sentences yields an ungrammatical result at the interface, as in (3) below:

(3) SVO word order

a.	*Tulaab-un
students.INDEF-NOM	katab-uu
wrote-3MP	d-dars-a
the-lesson-ACC	(SA)
	‘Students wrote the lesson.’			
b.	*Tulaab
students.INDEF	kitb-uu
wrote-3P	d-dars
the-lesson	(TA)
	‘Students wrote the lesson.’			

In contrast, an indefinite subject DP in VSO word order is perfectly grammatical in both SA and TA:

(4) VSO word order:

a.	kataba
wrote.3MS	Tulaab-un
students.INDEF-NOM	d-dars-a
the-lesson-ACC	(SA)
	‘Students wrote the lesson’			
b.	kitb-uu
wrote-3P	Tulaab
students.INDEF	d-dars
the-lesson	(TA)
	‘Students wrote the lesson’			

The sentences in (3) vs. (4) may seem to be the kind of data which support an analysis of initial ‘subject’ DPs as ‘Topics’ in null-subject languages (Fassi Fehri 1993, Akkal & Gonegai 2000, Soltan 2006; see also Rizzi 2006). However, I will propose that, notwithstanding the fact that initial ‘subject’ DPs have to be definite in Arabic (as (3a) and (3b) show), the status of initial ‘subject’ DPs in SVO sentences as ‘Topics’ or mere ‘subjects’ is a question of micro-parameterization on the basis of which the derivation of subject-verb agreement configurations in the standard variety of Arabic differs from the derivation of subject-verb agreement configurations in the modern Arabic spoken dialects. Thus, I will propose that the ‘subject’ in such subject-initial

sentences in SA (as in (2a)) is realized as a ‘Topic’ DP, the position of which is higher in the structure of sentences than the position occupied by subjects. In contrast, in TA SVO word order (as in (2b)), I will propose that the initial DP element is a ‘subject’ merged in the structural subject position in the IP domain.

2.1. The Structure of IP and subject-verb agreement phenomena

As is typical of VSO languages, Arabic (both the standard variety and the modern spoken dialects) is a null-subject language.

In section 2.1.1, I introduce the problem of the subject position in null-subject/verb-raising languages. In section 2.1.2, I deal with the postulation of micro-parametric differences in the derivation of the VSO word order and the SVO word order in Arabic.

2.1.1. *The structural subject position of the clause in null-subject languages and the EPP*

Null-subject languages like Arabic and Italian exhibit some properties which set them apart from non-null-subject languages.² As will be taken up presently (see (5) below), the most important property of null-subject languages is that they freely allow the subject of the sentence to be missing. The Italian sentences in (5a-b) (Belletti 2001) and the TA sentences in (5c-d) are posited as having the respective partial structural representations in (5a’-b’) and (5c’-d’) below, where *e* is a null category.

(5) a. Parla ‘She/He speaks’ (Italian, Belletti 2001: 492)

b. Parlano ‘They speak’ (Italian, Belletti 2001: 492)

c. yitkallam ‘He speaks’ (TA)

d. yitkalmuu ‘They speak’ (TA)

a’. [IP *e* INFL [VP parla]]
speak.3S

b’. [IP *e* INFL [VP parlano]]
speak.3P

² TA and Italian pattern alike in contrast to SA in that the ‘discourse neutral’ word order in TA and Italian is SVO, not VSO as in Standard Arabic (see Mohammad 1989: 1, Fassi Fehri 1993: 39; Ouhalla 1991: 108, 114; Shlonsky 1997: 7).

(6) *e arriva un ragazzo*
'There arrives a boy'

(Italian)

According to Chomsky (1981: 240), the clustering of properties that has given rise to the name of 'pro-drop'/null-subject parameter reduces to the first two of the five properties in (7):⁶

(7) (i) missing subject

(ii) free inversion in simple sentences

(iii) 'long wh-movement' of subject

(iv) empty resumptive pronouns in embedded clauses

(v) apparent violations of the *[that-t] filter.

The property of 'missing subject' refers to the option of having an empty subject position where, nonetheless, a null category is inserted – namely, *pro*. The property of 'free inversion' refers to the option of having post-verbal subjects. These two properties are further reduced to one basic characteristic of null-subject languages – namely, the fact that they freely allow a *pro* element to occupy the structural subject position.

2.1.2. *The Derivation of VSO vs. SVO word orders and subject-verb agreement patterns in Arabic: micro-parametric differences*

After having reviewed in section 2.1.1 some basic assumptions about the derivation of the structure of sentences, I have a look, in section 2.1.2.1 below, at Koopman & Sportiche's (1991) (cf. Sportiche 1998) view on case and agreement. Section 2.1.2.2 deals with the hypothesis developed in Benmamoun (1992a) (following Mohammad 1989) that a null expletive *pro* is responsible for explaining the different subject-verb agreement patterns in VSO sentences in SA as opposed to the modern spoken Arabic dialects. In relation to the SVO word order (section 2.1.2.3), I deal with the question of the topic-like nature of subjects in SA and the related problem of whether subject agreement markers on verbs are incorporated pronouns. Section 2.1.2.4 summarizes

As shown in (ib), the only grammatical output for the English counterpart of the Italian sentence in (ia) has the DP *Giovanni* itself in the subject position of the clause.

⁶ The so-called Null Subject parameter (Rizzi 1982) is also known in the literature as the 'pro-drop' parameter (Chomsky 1982: 98, note 22; Jaeggli & Safir 1989: 1). Since the 'null subject' option of this parameter is characteristic of a certain type of languages, the literature refers to these languages as null subject or 'pro-drop' languages.

the main points reviewed in section 2.1.2 and suggests some implications for the proposal defended in this thesis as to the parametric character of the structural differences in question.

2.1.2.1. *Koopman & Sportiche (1991) and Sportiche (1989/1998)*

Koopman & Sportiche (1991: 212) hypothesize that, whereas the subject of a sentence may be overtly spelled out in [Spec, IP], it is inserted within the maximal projection of the verbal predicate (the VP-Internal Subject Hypothesis or the VISH) and then raises from [Spec, VP] to [Spec, IP] in “many (and perhaps all) languages”. In addition to subject-raising, the verb – in many languages including Arabic – moves out of VP. In this raising process, it adjoins to INFL so that the structure of SVO clauses in the overt syntax, in these languages, is $[_{IP} \text{Subject}_j \text{ V}_i\text{-I(NFL)} [_{VP} t_j t_i]]$, as represented in (8a) below (where t_i is the trace left after V-movement to I and t_j the trace of the raised subject). In VSO sentences, only verb-raising obtains so that the structure of the clause in the overt syntax, in these languages, is $[_{IP} \text{ V}_i\text{-I(NFL)} [_{VP} \text{Subject } t_i]]$, as represented in (8b):

(8) a.

b.

Subject-raising to the structural subject position of the clause would be driven by the need to satisfy some licensing condition on the derivation and representation of subject DPs in the grammar. The assignment of structural Case together with the satisfaction of the EPP justifies this raising process. Since the subject, raised to [Spec, IP] in (8a), enters into a Spec-head agreement relationship with INFL, Koopman & Sportiche (1991: 228) take the Spec-head agreement pattern to be the structural configuration under which structural Case assignment takes place – namely, a tensed INFL assigns Case to its specifier, since “[a]greement is the morphological reflex of a relation between INFL and its specifier, or more generally between a head and its specifier” (Koopman & Sportiche 1991: 221).⁷

⁷ The Spec-head agreement pattern was formulated in the revised Government and Binding theoretical framework of *Barriers* (Chomsky 1986a) to explain the relation between a *wh* operator (or a trace) in [Spec, CP] and the head of CP. As Rizzi (1990: 51-52) notes, this agreement pattern was, by that time, generally assumed for the theory of abstract syntactic case. This Spec-head agreement pattern was viewed, in the literature, as an alternative view to claims about head-government, which operates in terms of m-command (Rizzi 1990: 6). For example, Rizzi (1990: 59) assumes that in a structure like the following (his (85)):

(i) L’homme que je crois [t Agr [T être intelligent]]

"the Case feature originates in the main verb and is transmitted under government to Agr in Comp, which then assigns it to the subject trace". Nevertheless, Rizzi (1990: 93-94) maintains that no "actual transmission" is intended in the definition of agreement relations which follow the general agreement pattern of a head and a specifier (Rizzi, 1990: 51). Likewise, Chomsky’s (1989: 159-160) definition of chain algorithms no longer refers to 'transmission' of case or θ -role. The alternative explanation is formulated in terms of 'visibility' or what he calls the principle of Full Interpretation (FI). In Chomsky (1993, 1995c), visibility, the Chain Condition and FI are all subsumed under the morphological feature-checking account. In subsequent work (Chomsky 2001, 2004), it is assumed that agreement in case is only a by-product of the operation Agree and that no privileged Spec-head relation exists.

With particular reference to SA, Koopman & Sportiche (1991: 221) follow Mohammad (1989) in the assumption that when the subject, base-generated in [Spec, VP], fails to raise to the structural subject position [Spec, IP], as in (8b), a silent expletive is in [Spec, IP].⁸ In this case, [Spec, VP] becomes a NOM Case position, in which the subject kept *in situ* gets Case under government by INFL (Koopman & Sportiche (1991: 227-228).

These ideas about the possibility of the co-existence of two different modes for the assignment of structural Case are developed in Sportiche (1998:162) by reference to the Strong Correlation Hypothesis (see to this effect the discussion of Sportiche's 1998 raising-to-object analysis in section 2.2.1 below). Sportiche (1998: 103) maintains that, although the assignment of structural Case (both NOM Case and ACC Case) via the Spec-head agreement relation and agreement in ϕ -features are assumed to be mutually related, the grammar of languages maintains the possibility of structural Case also being assigned under government.

However, Sportiche (1998: 172) differs from Koopman & Sportiche (1991) in assuming that "when INFL is a Case assigner, it is a Case assigner by Agreement only". Thus, the structure of the clause in the VSO word order in SA, on these assumptions, is as in (9) below, where *pro* is a null expletive element that agrees with INFL (see section 2.1.1 for the legitimacy of positing such an element in sentence structure):

(9)

⁸ I do not represent the expletive in structure (8b) above (in contrast to structure (9) under Sportiche's 1998 assumptions of 'Case inheritance', see below) because Koopman & Sportiche (1991: 221) also allow [Spec, IP] to be missing altogether.

In a structure like (9), Sportiche (1998) assumes that the VP-internally base-generated subject DP, in a VSO language like SA, is ‘assigned’ Case, not by INFL under government, but via a mechanism of ‘Case transmission’ which operates between the null expletive in [Spec, IP] – being Case-marked via Spec-head agreement with INFL to which V attaches – and the post-verbal subject kept *in situ* in [Spec, VP].

Koopman & Sportiche’s (1991) and Sportiche’s (1989/1998) parameterization of the case-agreement system of languages in terms of Spec-head agreement and/or Case transmission is important in so far that it is the basis for Benmamoun’s (1992a) analysis of subject-verb agreement in SA. Benmamoun (1992a) conceptualizes agreement in ϕ -features and Case between the subject and the verb, in SA, as exclusively obtaining under the Spec-head agreement relation. As already discussed in relation to the SA sentence (2a) above, such an agreement configuration realizing ϕ -features and Case obtains whenever there is an initial subject DP in the sentence in SA. In (10a) below, I provide a partially bracketed SV(O) structure contrasting subject-verb agreement in SVO sentences and subject-verb agreement in VSO sentences in SA, as shown in (10b):

- (10) a. [_{IP} l-ʔawlaad-u_j [_{V-I}] jaaʔ-uu_i [_{VP} t_j t_i]] (SA)
 the-boys-NOM came-3MP
 ‘The boys came’
- b. [_{IP} [*pro*] [_{V-I}] jaa ʔa_i [_{VP} l-ʔawlaad-u t_j]] (SA)
 came.3MS the-boys-NOM
 ‘The boys came’

In (10a), full subject-verb agreement obtains since the fully inflected verb under I(NFL) – the head of IP – agrees in person and number with the raised subject in [Spec, IP]. As for the VS(O) structure in (10b), the verb fails to agree with the subject kept *in situ*. The result is that the verb bears a default set of ϕ -features (3rd person singular). Thus, only in configuration (10a) does NOM Case assignment obtain simultaneously with agreement in ϕ -features under the Spec-head agreement relation. In (10b), however, the subject in [Spec, VP] fails to be assigned NOM case via the Spec-head agreement relation and, as a consequence, no agreement in ϕ -features arises. NOM Case is assigned to expletive *pro* in [Spec, IP] and is ‘transferred’ from

pro to the subject in [Spec, VP]. Benmamoun (1992a) maintains that this ‘transfer’ does not depend on a government relation.⁹

In the following subsection, before proceeding to look at the controversy on the question of how the derivation of SVO structures arises in the grammar of Arabic, I discuss in more detail Benmamoun’s (1992a) account of the differences in the subject-verb agreement configurations in VSO word order between the standard variety of Arabic and the modern spoken Arabic dialects.

2.1.2.2. Arabic VSO word order: Benmamoun (1992a)

As briefly reviewed in the introduction to this chapter, the SVO word order (exemplified by (2a,b) above) shows essentially the same agreement pattern in both SA and the modern spoken dialects, such as MA (Benmamoun 1992a: 20) and TA. In contrast, two different agreement patterns obtain in the VSO word order. The two VSO sentences in (11) and (13) – repeated from (1a,b) –, and their corresponding syntactic structures in (12) and (14) (according to Benmamoun’s (1992a) analysis) exemplify the proposed parametric difference between the standard variety of Arabic and the modern spoken dialects. Full subject-verb agreement in the modern spoken dialects obtains even when the subject fails to raise to the structural subject position in [Spec, IP]:^{10,11}

- (11) *kataba* *T-Tulaab-u* *d-dars-a* (SA = (1a))
 wrote.3MS the-students-NOM the-lesson-ACC
 ‘The students wrote the lesson’

- (12) [_{IP} [*pro*] [_{V-I}] *kataba*_i [_{VP} *T-Tulaab-u* *t_i d-dars-a*]]

- (13) *kitb-uu* *T-Tulaab* *d-dars* (TA = (1b))
 wrote-3P the-students the-lesson
 ‘The students wrote the lesson’

⁹ Later, in Benmamoun (1995), Benmamoun rejects this explanation in terms of ‘Case transfer/transmission’ in favour of expletive replacement at LF à la Chomsky (1989).

¹⁰ The structure in (14) is based on the analysis of the agreement phenomena in SA and MA provided by Benmamoun (1992a). Benmamoun (1992a) does not provide a structure for the sentence he gives.

¹¹ Referring back to the comparative analysis of null-subject sentences in such languages as Arabic (SA and TA, for example) and Italian (see section 2.1.1 above), according to Rizzi (1990, note 26 to Chapter 2), there is an important word order difference with post-verbal subjects between Italian and Arabic (Bani Hassan Arabic in Rizzi’s 1990 account) in that the unmarked word order with post-verbal subjects is VOS in Italian, whereas it is VSO in Arabic.

(14) [IP [V-I] kitb-uu_i [VP T-Tulaab t_i d-dars]]

As discussed above, according to Benmamoun (1992a), the lack of full agreement in (11) follows from the assumption that the subject fails to overtly move to the structural subject position, thus allowing [Spec, IP] to be occupied by expletive *pro*, as represented in (12). In such a configuration, no Spec-head agreement relation is possible between the subject kept in [Spec, VP] and the verb which is marked with a ‘default’ number agreement. With reference to a sentence similar to (13), Benmamoun (1992a) assumes that expletive *pro* does not show up in [Spec, IP], as represented in structure (14). In such a structural configuration, agreement in ϕ -features (particularly, number agreement) and the assignment of NOM Case obtain under government by the inflectional head (to which the verb adjoins yielding the [V-I] inflectional complex). Whereas in SA (structure (12)) NOM Case can be ‘transferred’ to the thematic subject in [Spec, VP] at S-structure, due to a Spec-head relationship between I (the head of IP) and a null expletive *pro* in [Spec, IP], no such ‘transfer’ is available in the TA structure in (14) since, as Benmamoun (1992a) argues, the expletive is absent. Instead, I functions as a governing head in the TA structure in (14), and as such it is able to Case-mark the subject DP in [Spec, VP].¹²

The hallmark of Benmamoun’s (1992a) analysis of the parametric difference between SA and the dialects is that, unlike in the dialects, number agreement in SA only obtains under the Spec-head agreement relationship. On this assumption, in the case where the subject is post-verbal in SA, agreement in number between expletive *pro* (assuming it to be 3rd person) and the verb under I will fail since expletive *pro* lacks a number feature. By contrast, since expletive *pro* is precluded from being generated in the structural subject position in the dialects, the grammar compensates this lack by allowing both number agreement and NOM Case to obtain either via Spec-head agreement in the SVO word order, or under government in the VSO word order.

However, Benmamoun (1992a, footnote 10) notes that what remains unexplained on these assumptions is why the presence of a null expletive subject should be allowed in one null-subject language, but disallowed in another.¹³

¹² Recall that case morphology no longer shows on DPs in the Arabic dialects.

¹³ Benmamoun (1997, footnote 4) considers the possibility of positing “a different type of expletive in the VSO word order in Moroccan Arabic and Standard Arabic”, but rejects this possibility on the

According to him, one possibility is that “in languages with the expletive, Case can only be assigned to Spec, IP and therefore the expletive is needed to discharge Case and transfer it to the post-verbal DP. In languages without expletives, Nominative can be assigned directly to Spec, VP”.

Benmamoun’s (1992a) main standpoint in this analysis is that the difference in subject-verb agreement in VSO word order between the standard variety and the dialects cannot be elevated to the status of a parameter in its own right. Instead, he suggests analyzing it as an ‘epiphenomenon’ that has at its basis the general constraints of the grammar on referential dependency: if *pro* were allowed to be inserted in [Spec, IP] in the TA structure in (12) above, then it would have to be interpreted as a referential element not only agreeing with the verb, adjoined to I, via the Spec-head agreement relation, but also referentially dependent on the post-verbal subject in [Spec, VP].¹⁴ A violation of Principle C of the binding theory ensues because of the binding relation between two referential elements, i.e., *pro* and the post-verbal subject, in the same local domain (i.e., the domain of verbal inflection proper). Therefore, Benmamoun (1992a) discounts viewing the differences in the realization of the subject position in SA and the modern spoken dialects in the VSO word order as emanating from a parameter of syntactic variation. By that token, Benmamoun (1992a) dismisses an agreement-based analysis of such phenomena and opts for considering case assignment/‘transfer’ and thematic considerations in sentence structure as the basis of the differences in question.

However, an agreement-based analysis of such phenomena could still be entertained whereby the problem of referential dependency in Benmamoun’s account no longer arises.¹⁵ Miyagawa (2010) views the relation between the element in [Spec, IP] and [Spec, VP] as an agreement/movement relationship based on Agree.¹⁶ Agree

grounds that there is no independent motivation for such an expletive. Aoun *et al.* (1994: 200-1) also reject the assumption of there being a fully specified expletive *pro* with which the verb agrees in the modern colloquial Arabic dialects.

¹⁴ Benmamoun (1992a) refers to Chomsky (1986b) where binding entails referential dependency.

¹⁵ See also Roberts & Roussou (2002) for a conceptually similar analysis based on the notion of Tense-dependency (see Chapter Three).

¹⁶ In Miyagawa’s (2010) account, the relation of agreement/movement is between [Spec, TP] and [Spec, v*P] and their respective heads T and v*. T is a notational variant of I(NFL) under an account of sentence structure that does without the Split-IP hypothesis (Chomsky 1995b, 2001, 2004; see Chapter Three). Under the same account, the structure of VP is more complex with a lower V/ VP and a higher

is a derivational operation built up into the Merge and Move components of the grammar (Chomsky 2001, 2004; see section 2.3.2. below). Agree establishes an agreement relation between a Probe and a Goal introduced into phrase structure irrespective of whether movement is involved or not. By reference to the ‘Koopman-Sportiche (1991) intuition’ – i.e., moving the external argument DP into [Spec, TP] for case-agreement –, Miyagawa (2010: 9) states that: “... agreement requires a Spec-head relation [in] that Agree takes place to establish functional relations”. He adds:

The purpose of this movement is to keep a record of the functional relation beyond narrow syntax so that semantic interpretation and information structure make use of it. This, in effect, is Spec-head agreement but implemented as two independently motivated operations – Agree and Move.

This is what Miyagawa (2010: 4) calls the ‘agreement approach to the EPP’.

According to this approach, agreement is responsible for the kind of movement that establishes functional dependency relations between the core functional heads projected in sentence structure and their respective Spec positions, or what Miyagawa (2010: 7) calls ‘Probe-Goal Union’ – namely, “a goal moves in order to unite with a probe”. The only purpose of these dependency relations is the satisfaction of the EPP, i.e., the relation between a functional head and some XP.¹⁷ Thus, the relation between agreement and case, as in Koopman & Sportiche (1991), could be revised in terms of a more fundamental relation between agreement and the checking of an EPP-feature (see also Lasnik 1995, 2001 and Rothstein’s 1995 predication analysis of the EPP).

In light of this generalized Spec-head agreement and EPP-driven movement analysis of dependency relations obtaining in verb-initial structures in languages that interchangeably allow VSO and SVO word orders, I will now have a look at how

v/vP (see section 2.2. below for Chomsky’s 1995a,b early assumptions about the ‘light’ verb *v*, and section 2.3.2. for the difference between ‘light’ verb *v* and ‘light’ verb *v*^{*}).

¹⁷ The null category *pro* (both referential and expletive) could, in principle, be an instance of this XP, which would agree with the functional head (INFL) and, by doing so, satisfy the EPP. A case in point is Miyagawa’s (2010: 52) suggestion that Chinese ‘pro-drop’ instances where “small *pro*” (the term is Miyagawa’s) is specified with a ‘person’ feature (accounting for lack of verbal agreement inflection in the language). The existence of these ‘pro-drop’ cases may be confirmation that the ‘PGU’ applies universally. A similar suggestion (Miyagawa 2010: 47) is presented for Romance and (Bani-Hassan) Arabic, where “person agreement at T licenses *pro*-drop”.

- (16) SA SVO (Mohammad 1989 and Benmamoun 1992a, 2000b, Aoun *et al.* 2010)
 [IP T-Tulaab-u_j [V-I] katab-uu_i [VP t_j t_i d-dars-a]]

According to the Subject Theory, the ‘subject’ DP *T-Tulaab-u*, in (16), is raised out of its base position internal to VP (i.e., the VP-internal subject position), as discussed in 2.1.2.1 above.

As Aoun *et al.* (2010: 50) propose, in SVO sentences in Arabic, “... as far as the status of the preverbal subject is concerned, there is no difference between Arabic and English/French”. Although Aoun *et al.* (2010: 52) acknowledge that in such SVO instances the subject could theoretically be supposed to be in a higher projection above the verb in TP/IP, they question the hypothesis that parametric variation has anything to do with the syntax of subjects. In particular, Aoun *et al.* (2010: 57- 61) argue against the view that the position of preverbal subjects in Arabic could vary on the basis of the agreement asymmetry that shows up in VSO sentences vs. SVO sentences in SA, but not in the modern spoken dialects, as reviewed at the beginning of this chapter. Thus, Aoun *et al.* (2010) maintain that the representation of the basic structure for subject-initial sentences is essentially the same in Arabic (SA and the modern spoken dialects) as in other languages.

According to Aoun *et al.* (2010: 61), the main challenge to the hypothesis that initial ‘subject’ DPs are actually Topic or clitic-left dislocated elements comes from the context where an auxiliary verb and a lexical verb are used in the same sentence as in (17) below:

- (17) kaan-at T-Taalibaat-u ya-drus-na (SA)
 PERF.be-3FS the-students(F)-NOM 3-IMPERF.study-FP
 ‘The students were studying.’

In (17), the auxiliary verb *kaanat* ‘was/were’ is perfective/past and is marked for ‘partial’ agreement (i.e., third person feminine singular in (17)), but the lexical verb *yadrusna* ‘study/studying’ is imperfective and marked for full agreement (i.e., third person feminine plural). Aoun *et al.* (2010: 61) argue that the DP *TTaalibaatu* ‘the female students’ is presumably a subject DP in some Spec position between TP (the head position of which the auxiliary verb *kaanat* occupies) and the lexical verb *yadrusna* is in VP. However, this analysis is only tenable if we assume that the

sentence in (17) is basically mono-clausal, i.e., that both the auxiliary verb and the lexical verb are in the same clause.¹⁹

In this thesis, extending on Akkal & Gonegai's (2000) analysis of verbal inflection in subject-initial sentences in Arabic whereby the standard variety and the modern spoken dialects of Arabic differ parametrically as to the status of verbal inflection, I propose that the differences between the standard variety and the modern spoken dialects of Arabic are not confined to how the basic structure of subject-initial sentences is derived and/or how subject-verb agreement in SVO sentences arises in the syntax. Rather, I propose that there are parametric differences between SA and the modern spoken dialects, which also concern the derivation of V-initial sentences.

The proposal I am putting forward here is that the subject DP is systematically represented in the IP domain in a spoken modern dialect like TA or MA (whether the derived word order is VSO or SVO, as the two main word order manifestations in Arabic). In contrast, the derivation of sentences in SA systematically involves the splitting-up of the CP domain (Rizzi 1997) in both VSO and SVO word orderings. This proposal will account for the differences in the derivation of 'subject' DPs in SA as opposed to the modern spoken Arabic varieties such as TA and MA in relation to the extent to which the CP domain is involved in the derivation of these sentences. In TA (as a sample example of a modern spoken Arabic dialect in this thesis), my hypothesis is that the CP domain in its split form, à la Rizzi (1997), is never involved. In this conception, TA systematically projects the structure of IP as Agr_SP and both the subject and the verb are systematically bound to that domain, which would account for the absence of the agreement asymmetry in TA or MA.²⁰

2.1.2.3.2. *The Topic Theory (Akkal & Gonegai 2000, Fassi Fehri 1993,2000, Soltan 2006)*

The plausibility of treating subject-initial DPs as 'Topics' in SVO sentences in SA can be argued for on the basis of Akkal & Gonegai's (2000) analysis of subjunctive

¹⁹ I return to a different view maintaining a bi-clausal structure to such examples in SA in section 3.3.2.3 in my discussion of Benmamoun's (2000b, 2008) analysis of verbal inflection in SA. See also section 4.1.2.5.3 for Akkal & Gonegai's (2000) argument for a bi-clausal structure for sentences similar to (17).

²⁰ See Chapter Three, mainly, for the hypothesis that the structure of IP projects as Agr_SP in the relevant constructions/languages.

clauses, as in (18) below, modal clauses, as in (19), and interrogative clauses, as in (21) (adapted from Akkal & Gonenai's 2000: 8-9 sentences (24a-c)).

Sentence (18) below configures a lower clause embedded under a subject-initial matrix clause:

- (18) *ʔar-rijaal-u ʔuriidu ʔan y-akhruj-uu* (SA)
 the-men-NOM want(I) that 3-go.out-MP.SUBJ(unctive)
 'The men, I want them to go out.'

In (18), the DP *ʔar-rijaal-u* is topicalized across a clause embedded under the verb *ʔuriidu* 'I want'. The 'topicalized' DP is external to the embedded subjunctive clause *ʔan y-akhruj-uu* '...that (the men) go out' to the left of the inflected verb *ʔuriidu* 'I want' in the matrix clause. Still, the relationship between the inflected verb *y-akhruj-uu* in the embedded clause and the clitic left-dislocated DP *ʔar-rijaal-u* obtains, signalling that this relationship is established on the basis of what Akkal & Gonenai (2000) consider to be a resumptive pronoun, i.e., the subject agreement inflection *-uu* on the verb *y-akhruj-uu*. Thus, what is important for Akkal & Gonenai (2000: 7-8) is the pronoun status of the morpheme [uu] in (18), or the morpheme [uuna] in (19) below, which they consider as 'a fully-fledged Agr_S-pronoun'.

In contrast to SA, which "presents a discrepant picture in the sense that the verbal agreement morphology seems to turn on the relative order of the subject and the verb at the surface level" (Akkal & Gonenai 2000: 4), the relative order of the subject and the verb in a modern spoken Arabic dialect like MA or TA does not affect the morphological manifestation of subject-verb agreement (see examples (10a) vs. (10b) contrasting the SV(O) word ordering to VS(O) word ordering in SA, and examples (11) vs. (13) contrasting the VS(O) word ordering in SA to the VS(O) word ordering in TA). As Akkal & Gonenai (2000: 19) propose, this discrepancy in the representation of subject-verb agreement in SA vs. a modern spoken dialect such as MA is the basis for treating 'SA-type' languages (which would include Celtic languages as regards the Topic-like nature of subject-initial sentences) as different from 'MA-type' languages (including, for example, MA and Spanish).

Sentence (19a) and its ungrammatical counterpart (19b) present another argument in favour of considering sentence-initial DPs as Topics:²¹

- (19) a. ʔar-rijaal-u qad y-akhruj-uuna (SA)
 the-men-NOM perhaps 3-go.out-MP.IND(icative)
 ‘The men, they may go out.’

- b. *qad ʔar-rijaal-u y-akhruj-uuna

The topicalized/clitic left-dislocated nature of the initial DP in (19a) and (19b) can be accounted for by reference to Rizzi’s (1997) split-CP system, where there is a Finiteness (Fin) node expressing a specification of finiteness,²² generally reflecting “inflectional properties” linking it to Inflection in the IP domain (Rizzi 1997: 284; see Chapter Three). In Rizzi’s (1997) system, there is a Topic node (Top) higher than Fin and another one higher than Focus (Foc), which is higher than the lower Top position (in Rizzi’s 1997 system) above Fin, as represented in (20) below:

- (20) [_{CP} ... (Top) (Foc) (Top) (Fin) [_{IP} ...]]

The Top node that is relevant in the account of topicalized/clitic left-dislocated initial DPs in SA SVO sentences in (19a) and (19b) is the Top node that is higher than Foc in (20).

Thus, in (19a) (vs. the ungrammatical (19b)), the modal verb particle *qad* is presumably merged in a node to the left of the IP domain, on the assumption that the inflected verb raised out of v*P/VP is under T (itself raised to Agr_S).²³ On this

²¹ I will follow Akkal & Gonegai (2000), *contra* Fassi Fehri (2000), in not indicating the morpheme status of the indicative mood marker [na], in (19), which should be part of the agreement marker dominated by Agr_S in sentence structure.

²² Although Akkal & Gonegai (2000) do not refer to the split-CP system, they do refer to a possible Modal Phrase projection higher than Agr_SP (see section 4.1.2.2 on the position of ModalP in the split-CP system adopted in this thesis).

²³ Besides the respective positions of the verb and the modal particle *qad* to its left, another argument for the left-peripheral position of *qad* is Cinque’s (1999: 78) account of modality. Although Cinque (1999) is only concerned with an extended IP domain, his suggestion that ‘Mood’ and ‘Modal’ could be expressed via the same category as moods in some languages (or language types), but not in others, is reflected in the fact that modals are “typically independent words”, in contrast to moods “which are expressed in verbal morphology (Palmer 1986, 21)”. As far as the derivation of the sentence structure of SA – as conceived here – is concerned, ‘Mood’ and ‘Modal’ are manifested as two distinct categories. Thus, it is plausible to propose that ‘modals’, as verbal particles such as SA *qad*, are not generated in the IP domain, but are merged in some node in the split-CP domain. In this connection, Rizzi’s (1997) assumption that Fin is related to Inflection in the IP domain makes Fin a suitable candidate for hosting such verbal particles as SA *qad*. I return to a discussion of the possible Merge site of particle *qad* in section 4.1.2.1 in relation to the T-to-Fin raising process in SA VSO sentences.

account, *qad* might be assumed to be merged in Fin (or, possibly, in a Modal node in between Fin and Top; see section 4.1.2.1) and it follows the DP *ʔar-rijaal-u* in Top to the left of Foc.

The analysis of sentence (21) below in terms of sentence-initial DPs as Topics likewise relies on Rizzi's split-CP system:

- (21) *ʔar-rijaal-u maadhaa ʔakal-uu?* (SA)
 the-men-NOM what ate-MP
 'The men, what did they eat?'

In (21), the same cartography of positions as shown in (20) applies to account for the topicalized/clitic left-dislocated position of the DP *ʔar-rijaal-u* under Top to the left of Foc, the Spec position of which the wh-word *maadha* moves to.

However, the advocates of the topic nature of the subject in initial position, in SA, do not uniformly agree as to the position of the Topic DP in sentence structure and the nature of the highest functional projection in the IP domain. For Akkal & Gonegai (2000) and Fassi Fehri (1993, 2000), the subject is in a 'topicalized'/clitic left-dislocated position outside IP/TP, as represented in (22a) and (22b), respectively.

(22) SA SVO (Akkal & Gonegai 2000 and Fassi Fehri 1993, 2000)

a. (Akkal & Gonegai 2000)

[_{TopP} TTulaab-u_j [_{Top} Top $\emptyset$... [_{AgrSP} [_{V-T-AgrS} katab-uu_i] [_{TP} t_T [_{VP} t_j t_i d-dars-a]]]]]

Cinque (1999: 78) further suggests that different types of moods and 'modals' could be distinguished, but the peculiarity of modals is that their interpretive distinction is correlated with a structural one in that "[e]pistemic modals are located higher in clausal structure than root modals, in fact higher than T(Past)/T(Future) (and negation), apparently". This hierarchical structural distinction between 'moods' and 'modals', and also between different kinds of modals, may be another justification for locating the Arabic verbal particle *qad* in the left periphery portion of sentence structure, as I suggest above. Still one additional argument for the high structural status of *qad* is that negation cannot precede this particle, but can only follow it, as suggested by the contrast in grammaticality in (i) and (ii) below:

- (i) *qad laa y-aʔti* (SA)
 perhaps not 3-come
 (ii) **laa qad y-aʔti*
 not perhaps 3-come
 'He is perhaps not coming'

As the grammatical (i) shows, not only is *qad* higher than the tensed verb, but it is also higher than negation. In view of this structural hierarchy, Fassi Fehri's (1993: 30) suggestion that Negation as a functional head selects IP as a complement in SA may be a further argument as to the left-peripheral position of the modal head *qad* in (19a) in the text above and in the sample examples mentioned in this footnote.

b. Fassi Fehri (1993, 2000)

[_{TopP} TTulaab-u [_{Top} Top $\emptyset$... [_{AgrSP} *pro* [_{V-T-AgrS} katab-uu_i] [_{TP} t_T [_{VP} t_i d-dars-a]]]]]

In a structure like (22a), Akkal & Gonegai (2000) assume that the topic DP is moved outside the IP domain, projected as Agr_{SP}.²⁴ In this relation, Akkal & Gonegai (2000: 10) assert that: “What appears to be [in SA] an SV sequence on the surface must, therefore, be interpreted as a structure involving a topic”. Akkal & Gonegai (2000) also maintain that the *-uu* subject morpheme/pronoun in (22a) cannot be reduplicated in [Spec, Agr_{SP}] (which does not project) by the DP *T-Tulaab-u*, and that referential *pro* is not a necessary syntactic element in SVO structures in Arabic. By contrast, in a structure like (22b), Fassi Fehri (1993, 2000) assumes that the ‘subject’ DP is base-generated as a ‘topic’, and that referential *pro* has to be generated in sentence structure.

The suggestion that the relevant Top head the Spec position of which the DP *ʔar-rijaal-u*, in a sentence like (21) above, occupies is the Top node that is higher than the Foc node has to do with the fact that a Topic can only precede a focalized element and cannot follow it, as the ungrammaticality of the sentence in (23) below testifies:

- (23) **maadhaa ʔar-rijaal-u ʔakal-uu?* (SA)
 what the-men-NOM ate-3MP
 ‘The men, what did they eat?’

The only way for the DP *ʔar-rijaal-u* to follow the wh-word *maadhaa* is to come in a final position in the sentence as in (24) below:

- (24) *maadhaa ʔakala ʔar-rijaal-u?* (SA)
 what ate.3MS the-men-NOM
 ‘what did the men eat?’

In (24), if the DP *ʔar-rijaal-u* is in [Spec, TP] – the highest Spec position in SA VSO word order, as I will maintain later (see Chapter Three) –, then the morphologically ‘impoverished’ verb *ʔakala* ‘ate’ should be in some node in the Split-CP domain, in Rizzi’s (1997) system. This head node could either be Foc or Fin. I come back to the position of the verb in VSO sentences in section 4.1.2.1.

The examples in (18), (19) and (21) – and, to a certain extent, the grammaticality contrast in (19a) vs. (19b) in light of the evidence suggested in footnote 23 for such modal particles as *qad* and inflectional heads such as Negation

²⁴ Fassi Fehri’s (2000: 89, note 20) analysis – based on the distribution of affixes – is neutral between the projection of sentence structure as IP/TP or as Agr_{SP}.

laa – points to the plausibility of a Topic-based analysis of subjects in subject-initial sentences in SA. This is particularly interesting since, at first sight, verbal morphology in such SVO contexts, does not seem to help in arguing for either the Topic Theory or the Subject Theory (but see section 2.1.2.3.3. below).

A third advocate of the Topic Theory is Soltan (2006). Soltan (2006) assumes that an SA SVO sentence has the structure shown in (25) below:

(25) SA SVO (Soltan 2006)

[_{TP} TTulaab-u_j [_{V-T}] katab-uu_i [_{VP} *pro*_j t_i d-dars-a]]

Soltan (2006) assumes that the structure of an SVO sentence in SA is essentially a TP, as represented in (25). He maintains that the ‘subject’ DP is a Topic base-generated in [Spec, TP] co-referential with a referential *pro* in [Spec, VP].²⁵

Thus, with the exception of Soltan (2006), who argues that the Topic DP is base-generated in the highest Spec position in the IP domain (i.e, it is base-generated in [Spec, TP], co-referential with a resumptive *pro* in [Spec, VP]), Fassi Fehri (1993, 2000) and Akkal & Gonegai (2000) argue that ‘topicalized’ subject DPs are merged within a TopP projection in the CP domain, but according to different assumptions. On the one hand, under Fassi Fehri’s (1993, 2000) approach to ‘topicalized’ DPs, allowing [Spec, IP/Agr_SP] to be occupied by referential *pro* would account for the canonical subject position of the clause. On the other hand, Akkal & Gonegai’s (2000) contention is that the pronominal nature of Agr_S is sufficient to account for the canonical subject position and Agr_S need not project a Spec position. For them, the existence of a resumptive *pro* in the IP domain in such SVO instances is dismissed. Under their analysis, as the Topic DP is moved out of Agr_SP (in a Split-IP system), it A’-binds the trace it left behind in [Spec, VP].

I represent these different assumptions in Table 2.1 below (which also includes the assumptions of the Subject Theory (Mohammad 1989 and Benmamoun 1992a) for the sake of comparison):

²⁵ Ouhalla (1991) also assumes that, in the SA SVO word ordering, subjects are Topic DPs base-generated in [Spec, TP]. I postpone my discussion of Ouhalla’s (1991) assumptions on the derivation of SVO sentences vs. VSO sentences in SA to section 3.3.4.

Table 2.1. Subject-initial sentences in SA:

		IP structure	Nature of DP in initial position	Availability of referential <i>pro</i>
The Topic Theory	Fassi Fehri (1993, 2000)	Either Agr _S P or IP/TP (with no theoretical difference)	Topic (base-generated outside the IP domain)	<i>Pro</i> base-generated in [Spec, VP] and moved to [Spec, IP/Agr _S P]
	Akkal & Gonegai (2000)	Agr _S P (Specifierless)	Topic raised out of [Spec, VP] to a position outside Agr _S P	Unavailability of <i>pro</i>
	Soltan (2006)	TP	Topic base-generated in [Spec, TP]	<i>Pro</i> base-generated in [Spec, VP], co-referential with Topic in [Spec, TP]
The Subject Theory	Mohammad (1989) & Benmamoun (1992a)	IP	Basically, a Subject	Unavailability of <i>pro</i> in simple SVO sentences

2.1.2.3.3. Morpho-syntactic and morpho-phonological evidence for the topicalized/clitic left-dislocated nature of subjects in SA

Another kind of argument for subject-agreement affixes as ‘incorporated pronouns’ and for the topicalized/clitic left-dislocated nature of subjects in SA comes from morphosyntax.

In his morpho-syntactic analysis of subject-verb agreement configurations, Fassi Fehri (1993, 2000) argues for the pronominal nature of ‘affixes’ or ‘agreement markers’ on verbs in SA. Fassi Fehri (1993, 2000) takes it that these ‘affixes’ and other inflectional-morphemes (or i-morphemes, for short) represent designated positions in sentence structure to which the verb moves (for checking purposes, à la Chomsky 1995c, Chomsky & Lasnik 1993) resulting in a bracketing structure that

morpho-phonological rules at PF can handle. Fassi Fehri (1993, 2000) maintains that when verbs in SA are selected for the Numeration they are already derived with some form of ‘inflection’ – namely, Tense/Aspect and Voice. It is the role of the syntax to further manipulate verbs by linking them to the designated inflectional positions in syntactic structure. Thus, in the spirit of Chomsky’s (1995c) and Chomsky & Lasnik’s (1993: 20) arguments against a strong version of ‘lexicalism’ in syntax (see also Lasnik 1999, Chapter 5), Fassi Fehri (1993, 2000) argues for a weak lexicalist view of the derivation of SA verbs.

The strong lexicalist view of inflectional processes maintains that there is no difference, in principle, between inflectional and derivational processes as both are carried out in the lexicon independently of the syntax. As for the weak lexicalist view of inflectional processes, it maintains that verbs are already fully inflected when they are selected for the Numeration, but it is the role of the syntax to associate the inflectional properties of verbs with appropriate ‘hosts’ or ‘functional heads’ that ‘check’ their own properties against the properties of the lexical items (mainly, verbs and argument DPs). This is the ‘checking theory’ of inflectional morphology (see section 2.3 below).

Under the checking account of inflection (Chomsky & Lasnik 1993: 20), a lexical item like the verb *walk*, in English, could be syntactically derived according to two possibilities. One possibility is that the verb *walk* (as a root [walk]) and an inflectional feature of [tense] (one value of which is [past]) are taken from the lexicon as separate morphemes. Then, computational processes join the two items together. Another possibility is that “properties internal to the lexicon (...) form the word *walked* with the properties [walk] and [past] already specified”, and then ‘checking’ applies to the feature [past]. Either way, the view that is adopted here is that inflectional properties of verbs such as [past] are “checked against abstract features of the functional heads (rather than acquired as affixes)” (Lasnik 1999: 102).

According to Fassi Fehri (1993: 76), the strong lexicalist view of inflectional morphology in Arabic has it that “there is no bare (stem) form of the verb with which T and other i-morphemes can concatenate to form a conjugated verb”. Arguing against this view, he maintains that Arabic verbs cannot be taken to be unconcatenated constituents formed wholesale out of the syntax and that a weak lexicalist, stem-based, analysis of verbal morphology is necessary. As in the checking theory of Chomsky (1995c), Fassi Fehri allows a necessary degree of lexicalism

where the derivation of verbs and other inflected words is stem-based. According to this view, when lexically selected for the Numeration prior to syntactic derivation, Arabic verbs are already inflected for tense, aspect and voice. For example, for the Arabic verbal root *dxl* ‘enter/go in’, the forms in (26) below would have to be inserted in the syntax with the inflectional information about aspect, tense and voice:

(26) a. *dakhal* ‘entered’: past tense (PERF), active voice (SA)

b. *y-adkhul* ‘3-enters’: non-past tense (IMPERF), active voice

A more convincing piece of evidence that Arabic verbal inflectional processes – in particular, and word formation in general – are only ‘partially’ concatenative comes from such examples as in (27) below, where Arabic words include a number of operators and connectives, such as tenses, determiners, coordinators and also question and intensification markers:

(27) a. *sa-y-aDrib-uu-na-hu* (SA)
FUT-3-beat-MP-IND-him
‘They will beat him’

b. *la-sa-t-ajid-u-nna*: ‘indeed-will-you-find-IND-(emphatic)’ (you will find indeed)

c. *?a-wa-jalas-ta?*: ‘Q-and-sit(PERF)-you?’ (please, could you sit down)

d. *fa-l-walad-u*: ‘and-the-boy-NOM’ (and the boy)

e. *bi-quluub-i-him*: ‘in-hearts-GEN-their’ (in their hearts)

These examples could suggest that the formation of verbs/words is a concatenative, linear process done largely in the syntax. In particular, the examples in (27a-c) take the form of a word, but, syntactically, they are sentences.

Adopting a ‘checking’ view of verbal inflectional morphology, I follow Fassi Fehri (1993, 2000) in the assumption that the morphemes attached to the form [*y-aDrib*], in (27a), have to be derived in the syntax, each with its own inflectional projection. As for the form *y-aDrib* ‘3-beat’, it could be assumed that this form represents a morphological merger inserted in the syntax as it is.

As Fassi Fehri (2000: 88, footnotes 18 and 19) notes, the person morpheme and the tense morpheme are fused in one single morpheme, which is part of the stem so that the hyphenated form *y-aDrib* in (27a) – a combination of the root form [*Drb*], the person morpheme *y* and the vocalic melody [...*a...i...*] – is morpho-phonologically handled by the syntax as an indivisible entity *yaDrib* as evidenced from the vocalic

alternation of the /a/ and /u/ sounds in the verbal stems in the examples in (29) below. The /a/ and /u/ sounds in the vocalic melody [...a...a...] (in (24a,b)), or [...u...a/i...] (in (29c,d)) differentiate, respectively, the active from the passive voice in both the imperfective and the perfective forms of the verb in SA. The tree diagram in (31) below schematically shows this process.

- (28) a. The boy opened the door
b. The boy opens the door
c. The door was opened
d. The door is opened
- (29) a. **fataHa** l-walad-u l-baab-a (SA)
 opened.IND the-boy-NOM the-door-ACC
 ‘The boy opened the door’
b. y-**aftaHu** l-walad-u l-baab-a
 3-open.IND the-boy-NOM the-door-ACC
 ‘The boy opens the door’
c. **futiHa** l-baab-u
 opened.PASS.IND the-door-NOM
 ‘The door was opened’
d. y-**uftaHu** l-baab-u
 3-open.PASS.IND the-door-NOM
 ‘The door is opened’

Coming back to example (27a) above (repeated below as (30)) in connection with Fassi Fehri's (1993) argument for the 'partially' concatenative' nature of verbal inflectional processes in Arabic, Fassi Fehri (1993: 79-81) develops a feature-distribution model for the morpho-syntactic analysis of SA verbal inflection, where the i(nflectional)-morphemes Tense, Aspect, Voice, AGR and Mood are 'checked' against the inflectional properties of verbs via head-to-head movement processes involving V and the functional heads (or the i-morphemes, in Fassi Fehri's 1993 terminology) the verb adjoins to:

- (30) sa-y-aDrib-uu-na-hu (SA)
 FUT-3-beat-MP-IND-him
 'They will beat him'

It is these adjunction processes that create a bracketing structure as that in (31) below for the partial expression *y-aDribuu-na* from the example in (30):

(31)

This structure is subsequently manipulated by morpho-phonological processes merging the morphemes together.

Leaving aside the future modal category *sa-* in (30), according to Fassi Fehri (1993: 81), the sentence *yaDribuuna* 'They beat/are beating' would have a structural representation as in (32) below (adapted from Fassi Fehri's 1993: 81 structure (10)):

(32)

The process involving the derivation of (32) begins by raising the verb (*a*)*Drib* (as a stem) from V to T forming the 3rd person verb *y-aDrib*. After the complex *yaDrib* is formed, V-T raises to AGR and bracketing applies between *yaDrib* and the plural agreement morpheme *-uu*. Then V-T-AGR raises to Mood and bracketing applies between *yaDribuu* and the mood morpheme *-na*. When the derived structure is handed over to the morpho-phonological component of the grammar, the final form *yaDribuuna* is realized “deriving the right internal order of morphemes within the word, before phonological rules apply” (Fassi Fehri 1993: 84).

Fassi Fehri’s (1993) underlying premise for the derivation of the structure in (27) is that the *i*-morphemes are already generated in their base positions and verb movement applies to bring these morphemes together so that they can be handled morpho-phonologically at Spell Out when the derived structure is handed over to PF. Presumably, a referential *pro* is base-generated in [Spec, VP] to account for theta-role assignment to the subject position inside VP prior to merging the functional structure above VP, at the point of which the subject first merged in [Spec, vP/VP] undergoes a movement process and is merged again in some higher functional Spec position (see sections 2.2. and 2.3 below).

According to Fassi Fehri (2000: 83), person agreement placement as prefix (e.g., the 3rd person singular morpheme *y-* in (32) above) or as suffix (e.g., plural morpheme *-tum* in (33) below) correlates with whether the derived verbal form is in

the imperfective aspect or the perfective aspect, respectively. In this respect, the distinction in the placement of the person morpheme is significant in that it sheds light on the view that “imperfective verbs are Mood phrases (headed by Mood which is higher than T)”, as represented in (31) and (32) above, whereas no Mood phrase is projected when the verb is in the perfective aspect.²⁶

The structure of a perfective inflected verb such as *katabtum-aa* ‘you (both of you) wrote’ would be as follows:

(33)

The derivation of such a structure goes as follows: Person is a pure expression of T-features (Fassi Fehri 2000: 88, footnote 19) and it fuses with T forming a complex T which is realized as one node to which the verb raises. So bracketing in the syntax gives the morphological complex V-[Person-T] headed by T. Finally, the whole complex V-[Person-T] moves to AGR, which for Fassi Fehri (2000) is the realization of Number. The end product is the formation of the verbal inflectional complex V-[Person-T]-AGR, which at the interface/Spell Out is V-Person-Number.

²⁶ What remains to be explained is why it is the case that the adjunction of the imperfective verb to the prefix in a structure like (32) involves a right-adjunction process, whereas the adjunction of the perfective verb to the suffix in a structure like (33) involves a left-adjunction process. Presumably, since these processes are head-to-head adjunction processes involving a combined morphological and syntactic distribution of the abstract features (representing the functional nodes projected in the syntax) verbs adjoin to in the process of the derivation, the syntax analyses them as ‘substitution’ rather than ‘adjunction’ processes, as Fassi Fehri (1993, 2000) conceives them. This would account for how the [Person-T] ‘fused’ morpheme happens to be an integral part of the verbal stem under T. If this line of argumentation can be maintained, the V-[Person-T] ‘fused’ verbal inflectional complex ‘head-substitutes’ for the abstract tense ‘affix’.

I come back to a discussion of verbal morphology and its interaction with V-T movement in section 3.3.2, 3.3.3 and 3.3.4.

2.1.2.4. *Summary and implications*

In this section, I sum up the literature review I have been dealing with in subsections 2.1.2.1, 2.1.2.2, and 2.1.2.3 above. Of particular importance in this review is the conclusion I want to emphasize that the hypothesized analysis of dialectal differences between SA and the modern Arabic spoken dialects does not only concern the VSO word order. The SVO word order in Arabic would also be subject to a parametric analysis as regards the controversy over the projection of the IP domain in SVO sentences and the position of the preverbal DP in these sentences.

Irrespective of the specificities of the standpoints reviewed in section 2.1.2.3.2 above as regards Topic DPs in SVO sentences (schematically represented in Table 2.1 above), my hypothesis is that the parametric difference that sets the modern spoken dialects of Arabic apart from SA in the projection of the IP domain (in its relation to the CP domain) may prove to be a question of whether the initial ‘subject’ DP is in the IP domain (i.e., a subject DP moved to [Spec, IP] in the spirit of the VISH), as Mohammad (1989) and Benmamoun (1992a) argue, or a topicalized/left-dislocated position to the left of IP in [Spec, TopP] with a referential *pro* in [Spec, IP], as in Fassi Fehri (1993, 2000). In this conception, SA and the modern Arabic spoken dialects essentially differ in relation to where initial subjects in SVO sentences are representationally located in sentence structure – i.e., whether the subject is in [Spec, TopP] (which would be the case in SA) or within the IP domain (which would be the case in the modern spoken dialects).

In this light, as was the case for the derivation of the VSO word order in SA and the modern spoken dialects à la Benmamoun (1992a) (i.e., whether there is an expletive *pro* in these VSO instances: structure (12) vs. structure (14)), the derivation of SVO structures in SA, as opposed to the modern spoken dialects, could also prove to be a question of micro-parametric variation. In both cases (i.e., the derivation of VSO and SVO structures), the parametric difference would concern how the Phase-theoretic probe-goal-Agree system (Chomsky 2001, 2004, 2008) interacts with the feature structure of core functional heads projected in sentence structure in conjunction with the morpho-syntactic properties of lexical items in the

language/dialect in question (cf. Roberts & Roussou 2002, Roberts 2010a, Biberauer *et al.* 2010; see Chapter Three).

Table 2.2 below graphically represents the micro-parametric view that will be adopted in this thesis as it pertains to how the structure of IP projects in VSO and SVO word orders in SA as opposed to the modern spoken dialects:

Table 2.2. A Phase-theoretic probe-goal-Agree view of parametric variation in the derivation of VSO and SVO sentences in Arabic (SA vs. the modern spoken dialects, e.g., TA):

a. Arabic VSO sentences	(i) SA (see section 2.3.1. below, in relation to the guidelines in (50))
	(ii) TA IP = AgrsP (see Chapter Three)

<p>b. Arabic SVO sentences</p>	<p>(i) SA</p> <p>(basically, Fassi Fehri's 1993, 2000 view on Topic DPs; see (22b) above) IP = Agr_SP (see Chapter Three)</p>
	<p>(ii) TA</p> <p>IP = Agr_SP (see Chapter Three)</p>

In a nutshell, the null expletive *pro* analysis of the subject position in the VSO word order in Arabic, as envisaged by Benmamoun (1992a), legitimizes the view that the differences between SA and the modern spoken dialects in the derivation and representation of sentence structure in VSO sentences could be parametric. The hypothesis I am putting forward in this thesis is that this could also be true of the derivation and representation of sentence structure in SVO sentences in SA and the modern spoken dialects as pertains, in particular, to where initial subjects are located

in the derived structure. As can be seen from the preceding account of VSO and SVO word order alternatives in Arabic, the agreement analysis of these variations in terms of the EPP and generalized Spec-head agreement configurations, as in Miyagawa (2010) (cf. Roberts & Roussou 2002), proved fruitful in that it opens the door for an alternative view of the agreement phenomena in question.

In relation to the reviewed morpho-syntactic and morpho-phonological evidence for the incorporated pronoun analysis of verbal inflection in sentences exhibiting an initial subject DP in the SVO word order in SA, the hypothesis that has been proposed in this chapter is in favour of the status of the initial subject DP in such instances as a Topic-like constituent, clitic left-dislocated and being resumed by the subject pronoun morpheme on the verb.

In section 2.2 below, I will be concerned with the structure of the thematic domain of languages, namely, the VP. The subject-verb agreement phenomena I have just described with reference to SA sentence structure may be replicated for such phenomena that arise in object participle agreement – for example, in French – and the controversial raising-to-object structures in English.

2.2. The internal structure of VP

In this section, I will be dealing with the similarities between subject-verb agreement configurations like those reviewed in section 2.1 and agreement phenomena involving objects, as found in Romance languages like French. The section also deals with the controversy over object movement in English (Chomsky 1995b, Sportiche 1998). The similarities between these two cases of agreement/movement phenomena point to the possibility that the ‘agreement approach to the EPP’, as expounded mainly in Roberts & Roussou 2002 and Miyagawa 2010, applies more generally in natural language.

I first discuss the internal structure of VP in particular reference to the VISH (see section 2.1.2.1). In section 2.2.1, I deal with Sportiche’s (1998) raising-to-object analysis in English that parallels his treatment of raising-to-subject structures in such languages as SA, Welsh and Irish (see section 2.1.2.1 above). In section 2.2.2, I have a look at Chomsky’s (2008) assumptions about raising-to-object structures in light of his latest reformulation of the Phase-theoretic framework (see section 2.3.2 below for some early assumptions about ‘Phases’ in the derivation of sentences). Section 2.2.3 is a summary.

The hypothesis that subject DPs are base-generated in a Spec position within the verb phrase (within the spec position of the ‘light’ verb v^* for verbs taking agentive subjects) brought into focus the importance of specifier/subject positions in the derivation of sentence structure.²⁷ The *Barriers* framework (Chomsky 1986a) builds on such assumptions as pertains to the general requirement that some extraneous ‘outer’ position be targeted (called an ‘edge’ position in Chomsky 2001, 2004) in the process of deriving syntactic representations. A prototype example of such a requirement in *Barriers* is the VP-adjunction process that creates an escape-hatch for wh-moved objects. In a structure like (34) below (where $XP = VP$ and $ZP =$ wh-moved object), XP further projects to $XP^{\max}$, forming an adjunction structure. By reference to this structure, the derivation of object wh-extraction in an English structure like (35), for example, first targets an intermediate position whereby the wh-moved object (ZP in (34)) is adjoined to $VP (= XP$ in (34)) before it moves to the peripheral clausal position (i.e., [Spec, CP] in structure (35)):

(34)

(35) [_{CP} whom_i [_C did [_{IP} you [_{VP} t'_i [_{VP} see t_i]]]]]?]

The targeting of ‘edge’ positions in the derivation of sentences is the hallmark of recent developments in the conception of structural dependencies including movement and agreement processes particularly in connection with the local character of the movement of maximal and head constituents, mainly DPs and verbs, respectively, and the agreement configurations thereby generated in sentence structure. In such a conception, the only condition on the derivation and representation of sentences is that interpretability be satisfied (see section 2.3 below and Chapter Three).

²⁷ [Spec, vP] is absent in the vP/VP structure of raising/unaccusative verbs. See structure (36) below for early minimalist assumptions on ‘light’ verbs (Chomsky 1995c). I come back below to the Phase-theoretic distinction between the agentive light verb v^* and the unaccusative/raising light verb v (Chomsky 2001, 2004, 2008).

Along with the expansion of the structure of IP which has been taken to show evidence of an abstract AGR element that may interact with the tense properties of derived structural representations (Pollock 1989; Chomsky 1989), the internal structure of the VP has also been proved to be complex (Larson, 1988; Chomsky, 1995a, b). According to Chomsky (1995a: 422; 1995b: 331, 352), VP structures include two verb projections: an outer VP-shell (vP in (36) below) and an inner VP core. The structure of vP/VP includes at least the following:

(36)

In this structure, V is a lexical category at the lower part of the vP/VP. It maximally projects to VP with a possible Spec position. v is a ‘light verb’ at the higher part of the vP/VP. It maximally projects to vP with an obligatory Spec position (except for unaccusative/raising constructions). An argument DP, base-generated in [Spec, vP], is assigned the theta-role associated with the ‘external’ argument (according to the VISH) and undergoes DP movement to [Spec, Agr_SP/TP] for Case (alternatively, EPP) licensing.

Chomsky (1995b: 321) assumes that lexical verbs, inserted under the V node, obligatorily move to v (V-to-v raising) since v, selected in the initial Numeration, is a “light verb requiring a verbal affix”. In a V-raising language like French, V-to-v raising is a necessary precondition for tense feature licensing in particular (Pollock 1989; Biberauer & Roberts 2010: 265-268). In this case, the lexical verb will be as high as v to satisfy further movement of V to T. Nevertheless, whether the language is V-raising or not, the requirement of tense interpretation, within the verbal inflectional complex at LF must be satisfied; thus V-v will be as high as T in the end product at LF (cf. Roberts 2010a: 166-167).

2.2.1. Sportiche (1989, 1998 (Chapter 3))

In parallel to the raising (or non-raising) of the subject outlined in section 2.1.2 above, Sportiche (1998) argues for a raising-to-object analysis in English, as opposed to other languages such as French. To account for the cross-linguistic variation in the realization of object participle agreement (in the languages where such an agreement phenomenon occurs, e.g., in French), Sportiche (1998) assumes that the object is in a structural relationship of movement to, and/or agreement with, a higher Spec position in the lower part of vP/VP.

Sportiche (1998) shows on the basis of small clauses complement-selected by verbs like *consider* in English that objects, generally, raise from their base-generated position as complements of V to [Spec, VP] in a structure like (36) above (or, equivalently, in NP** in (37) below).²⁸ For Sportiche (1998: 95) the structure corresponding to vP/VP in (36) is as in (37), with NP** representing the position where objects are assigned Accusative Case after raising from NP*** (here $V^{\max}$ is the same as vP except that the intermediate verbal category v', above the lower VP, is not represented):²⁹

(37)

Sportiche (1998) provides the following evidence from small clauses for raising to object in English (the ungrammatical sentences (39a) and (39b) are Sportiche's 1998: 99 examples (22a-b); sentences (38a) and (38b) are provided for the sake of comparison (W = AP small clause)):

²⁸ I keep here to Sportiche's terminology for identifying the Spec and complement syntactic positions in $V^{\max}$ (vP), namely NP*, NP** and NP***.

²⁹ Structure (37) is to be compared to structure (40) below where VP* is the maximal projection of the higher VP (= vP or $V^{\max}$ in (37)) projected from the intermediate projection V' after verb-raising internally within the structure of vP/VP).

- (38) a. They consider John_i [W t_i [proud of himself]]
 b. [W t_i [How proud of himself]] do they consider John_i
- (39) a. *They consider John_i [W t_i [proud of each other]]
 b. *[W t_i [How proud of each other]] do they consider John_i

In the ungrammatical sentences (39a) and (39b) (vs. the corresponding grammatical sentences (38a) and (38b)), the lexical anaphor cannot take the matrix subject as antecedent. This grammaticality contrast suggests that AP preposing in (38b) carries along the trace of *John* as subject of the AP. Raising of the DP *John* out of the small clause leaves the trace *t_i* in AP, which undergoes preposing. This allows the reflexive pronoun *himself* to be locally bound by the trace. Thus, according to Sportiche (1998), *John* moves to a Spec position outside the small clause, but still within V^{max} (= VP* in (40) below).

In support of his raising-to-object analysis whereby *John* raises to a specifier position in the internal structure of the lower VP (i.e., [NP**, VP] where, as Sportiche 1998 argues, Accusative Case is assigned), Sportiche (1998) follows Larson's (1988: 342-343) proposal that lexical verbs move internally to VP* (i.e., the higher VP in (40) below) from a lower V position to a higher empty V position. This assumption would account for why the lexical verb *consider* raised from its base position inside the lower VP remains higher than the DP *John* raised to [NP**, VP]. Thus, in (38a) and (38b), the preposing of the W constituent cannot pied-pipe *John* since, if *John* were pied-piped it would fail to receive Accusative Case. The structure in (40) is the derived representation resulting from object-raising in (38a) whereby *John* moves from its base-generated position NP*** to the Spec position NP**.³⁰

³⁰ As will be shown below, in relation to French object participle agreement structures (see examples (43) and (44) below), Sportiche takes it that, contrary to English, French requires that an object DP stay *in situ*, and by that token, licenses the existence of a silent expletive *pro* in [NP**, VP]. As for English, it requires objects DPs to surface in NP** – i.e., the Accusative position – because the language does not license silent expletives. Note that, since French does not allow object DPs to raise to [NP**, VP], the raising-to-object structures in (38)/(39) cannot be reproduced in French.

(40)

Likewise, in a simple sentence like ‘I will see John’, the object DP is assumed to raise to [NP**, VP].

Further upholding his analysis of object-raising structures in English, Sportiche (1998:162) argues that the direct link that exists between the assignment of Accusative Case and movement to (and/or agreement with) a higher Spec position in the lower part of vP/VP (as in English raising-to-object structures such as those in (38) or in French participle agreement structures, as in (43) and (44) below), generalizes to Nominative Case assignment.

Sportiche (1998:162) refers to this generalization as the Strong Correlation Hypothesis whereby the assignment of structural Case (Accusative and Nominative) correlates with the agreement configurations that arise in different structural word orders (mainly SVO vs. VSO) in different languages. According to Sportiche (1998: 173) subjects receiving Nominative Case in languages such as French, English and Arabic (with SVO word order) behave like objects receiving Accusative Case in languages such as Dutch (and, possibly, English). Sportiche (1998) argues that, in these instances, subjects and objects are in a derived Spec position at S-structure (i.e., the Nominative position NP[^] (i.e., [Spec, IP]) in a structure like (41) below, for raised subjects, and the Accusative position NP** (i.e., [Spec, VP]) in a structure like (40) above, for raised objects). It is in these Spec positions that – parametrically – Case is assigned and agreement is triggered:

(41)

In contrast, subjects in Welsh, Irish or Arabic (with VSO word order) are not in the derived Nominative position NP[^] even though they receive Nominative Case. Sportiche's (1998) argument is that since in Welsh, Irish or Arabic (with VSO word order) subjects are not in the Nominative position, they do not trigger agreement. In this respect, they behave like French object DPs which are precluded from raising to the Accusative position [NP^{**}] (as opposed to sentences where French direct objects move as clitics or as wh-elements showing participle agreement).³¹ In what follows, I exemplify these affinities between object agreement and subject-verb agreement by reference to object participle agreement in French clitic structures (in contrast to the absence of such agreement with object DPs) and also by reference to subjects in the SA VSO word ordering (Sportiche 1998: 142-145; 168-173).³²

According to Sportiche (1998: 143), the properties of object participle agreement that make it comparable to subject-verb agreement in VSO languages like SA are as follows:

³¹ It might be the case that NP^{**} in [Spec, VP] systematically 'transmits' Case to the object base position NP^{***}. This would account for why Accusative Case is uniformly assigned even in structures where a clitic does not move through the Accusative position, as in structure (45) below corresponding to sentence (44a). However, the problem of how Case is 'transmitted' would not pose itself in a Phase-theoretic Minimalist framework where Case is not a property that is 'assigned', but is a by-product of the Merge/Move processes involved in Agree relations (whether actual subject-verb and/or object-verb agreement is morphologically manifested or not).

³² I come to a discussion of Sportiche's (1998) view on subjects in the SA VSO word ordering in relation to sentences like (48) below.

(42) The properties unifying subject-verb agreement in VSO languages and object participle agreement in languages such as French and Dutch:

- Object participle agreement is only possible with direct objects in the form of clitics or wh-words (moved dative indirect objects and locatives cannot trigger participle agreement)
- The extracted direct object must precede the participle
- Object participle agreement is optional (according to how movement proceeds)
- As in subject-verb agreement, participle agreement is a Spec-head agreement relation. In structures where subject DPs in the SA VSO word ordering are kept *in situ*, a process of ‘Case transmission’/‘Case inheritance’ between an EXPL *pro* and the *in situ* DP accounts for how Case is assigned in the absence of Spec-head agreement. The same ‘Case transmission’ process applies in the derivation of French object DPs, which are necessarily kept *in situ*.

Structure (45) below (Sportiche’s 1998: 144 structure (102)) exemplifies the case (corresponding to example (44a) below; cf. Sportiche 1998: 143) where object participle agreement in feminine gender in French is not necessarily morphologically marked on the participle.³³ As the minimal contrast between (44a) and (44b) shows, object participle agreement with clitics is optional. The optionality of such agreement is due to the fact that the clitic can skip the NP** Spec position in its movement to attach to the auxiliary verb higher up in the VP structure. As Sportiche (1998: 145) recognizes, this is essentially Kayne’s (1989a) analysis of such object participle agreement structures in French:

(43) ... avoir décrit/(*décrite) la robe (French)
to have described/(*described.F) the dress

(44) a. ... I’ (= la)_i avoir décrit t_i
it to have described

b. ... I’ (= la)_i avoir décrite t_i
it to have described.F

³³ Clitic movement is a combination of head-movement, wh-movement (adjunction to VP) and DP-movement (movement to [NP**, VP_k] in (45)) (Sportiche 1998: 143); thus, in structure (45), NP_j is wh-moved and adjoins to VP_h (skipping NP**). In [NP_j, VP], it is realized as both a maximal and a minimal category (NP_j and N in (45)) (see also Chomsky 1995b: 249) for the suggestion that clitics share XP and X⁰ properties).

(45)

Thus, in structure (45), NP_j skips the position NP^{**} and, as a consequence, participle agreement does not obtain. Adjunction to VP_h in (45) cannot trigger agreement because participles cannot agree with adjoined positions. In contrast, in (44b), the clitic presumably moves first to $[NP^{**}, VP_k]$, triggering agreement between NP^{**} and the raised participle. On this account, clitic movement of indirect objects and locatives does not trigger agreement on participles in French because they are barred from transiting through $[NP^{**}, VP_k]$, and can only move by adjoining to VP_h .

As for accusative DPs, they cannot trigger participle agreement as exemplified by the ungrammaticality of *décrite* in (46b) (= (43) vs. (46a) with the structural representation (47) below:

- (46) a. Jean a décrit la robe (French)
 John has described the dress
- b. *Jean a décrite la robe
 John has described.F the dress

(47)

According to Sportiche (1998), the absence of participle agreement in (46a/47) shows that the direct object *la robe* ‘the dress’ cannot be in NP**. If it were, it would have triggered object agreement since [NP**, VP] is the Accusative position where object participle agreement applies. Sportiche (1998: 168) argues that NP*** gets Accusative Case without being in the Accusative position (i.e., by inheritance from NP**). Since in structure (47) NP*** inherits Case from position NP**, Sportiche (1998: 168) assumes that a silent expletive *pro* is merged in NP**. According to Sportiche, silent expletives are not licensed in English and accusative objects in that language must surface in NP**, i.e., the Accusative position (see Sportiche’s argument in relation to structure (37) above for such a claim).

With reference to the same basic IP structure as that in (47) or (41) above, Sportiche (1998:172-173) points to the affinity between object participle agreement in French and the subject-verb agreement pattern in VSO word order in SA. Thus, Nominative Case could be assumed to be assigned to subjects or inherited by them via the same process that Accusative Case assignment/inheritance applies to objects. In this respect, the subject, in English or French, cannot surface as NP* in (47/41) (i.e., the Spec position of vP in structure (36) above). In Sportiche’s (1998) analysis, this is construed as meaning that NP* receives no Case in this position in these languages. Rather, the subject has to surface as NP^ exhibiting agreement with INFL (in a fairly

impoverished way in English). This means that when INFL is a Case assigner, it is a Case assigner by Agreement only.

In contrast, the external argument in SA (as reviewed in section 2.1.2.1 above) can surface in either position NP* or NP^ (examples from Mohammad, 1989; Sportiche's (146)):

- (48) a. iddaʕa r-riʕaal-u ʔanna... (SA)
 claimed.3MS the men-NOM that ...
 ‘The men claimed that ...’
- b. al-ʔawlaad-u katab-uu risaalat-an
 the-boys-NOM wrote-3MP letter-ACC
 ‘The boys wrote a letter’

In (48a), the verb gets a default third person singular agreement. Sportiche (1998) follows Mohammad (1989) in positing a null expletive responsible for the default agreement on the verb *iddaʕa* ‘claimed’ in (48a). Sportiche (1998: 173) argues that in such a VSO sentence in SA, subjects somehow inherit Nominative Case from NP^A and that some Case inheritance mechanism must be invoked here, in a similar way to the French examples of inheritance of Accusative Case, as seen above in relation to (46) and (47).

According to Sportiche (1998), the subject, in (48b), is in NP^A. In that position, agreement/Case is assigned as a consequence of Spec-head agreement between the fully-inflected verb *katab-uu* ‘wrote’ raised to INFL and the DP *al-ṣawlaad-u* in the specifier position of INFL (see section 2.1.2.1 above). In such a configuration, the verb obligatorily agrees in Person and Number.

2.2.2. Chomsky (2008) on Agree-feature inheritance

The latest Phase-theoretic framework (Chomsky 2008) also relies on the idea that agreement configurations in sentence structure are derived via a process of feature transmission or feature inheritance. The mechanism of Agree-feature inheritance in Chomsky (2008: 144-149) is conceived of in terms of the selectional relation between C and T and between the ‘light’ verb v^* (as a ‘strong’ Phase-head different from ‘light’ verb v of unaccusative structures; see section 2.3.2 below) and V. Feature inheritance (which replaces the notion of ϕ -completeness; see section 2.3.2) takes it that ϕ -features/Agree features are generated on Phase heads C and v^* (also, possibly, D) and inherited by the head they select as complement in sentence structure. T

inherits its ϕ -features from C and V inherits them from v^* . This process is universal and it reinforces the uniformity of computational processes in the architecture of the grammar. Thus subject-verb agreement configurations and object agreement are natural phenomena that need only be linked to Phase heads. In Chomsky's (2008: 148) own words:

... transmission of the Agree feature should be a property of Phase-heads in general, not just of C. Hence v^* , should transmit its Agree features to V, and probe of an object with structural Case by v^* should be able to raise it to Spec-V, as a step-by-step analogue to raising to Spec-T by C. That would yield the intriguing but puzzling conclusions about raising to Spec-V, particularly in ECM constructions, but perhaps generally.

2.2.3. Summary

In a nutshell, the cross-linguistic evidence reviewed above points to a wide array of parametric choices languages from various typological types choose from. The agreement analysis of these parametric choices shows promise in narrowing them down to a single parameter, namely, the EPP or what Bobaljik & Jonas (1996: 211) call 'the [Spec, TP] parameter'.³⁴ In this connection, the analysis has been helpful in pointing out the similarities between subject-verb agreement configurations – at the level of IP – and the agreement phenomena involving objects in French – at the level of vP/VP – in terms of movement processes or the Merge of EXPL elements (overt or null). The importance of these similarities has also been highlighted in relation to Chomsky's (2008) Agree-feature inheritance theory, briefly introduced in section 2.2.2 above, whereby agreement configurations are derived on the basis of probe-goal structural relationships (see section 2.3.2).

In the context of the proposal I am advancing in this thesis (see section 2.3 below and, in particular, Chapter Three), the projection of an Agr_S node for the derivation of subject agreement – maximally projecting to $Agr_S P$ – remains a parametrically free 'choice'. The projection of the structure of IP as $Agr_S P$ would be the consequence of the free interaction of morphological requirements of elements

³⁴ In Chapter Three and Chapter Four, I propose that the parameter in question is not whether the EPP applies in a given language or not. Rather, the parameterized probe-goal-Agree system, adopted here, links parameter variation to some uninterpretable 'edge' D-feature on functional heads at the highest level of the derivation of sentence structure.

selected for the derivation and the feature structure of functional elements projected into the syntax to meet these requirements. In addition to parameterizing the projection of Agr_S in clause structure, I will also provide a feature-checking/feature-valuation account of a variety of structural configurations that supports the thesis that the EPP remains a universal principle of the grammar whereby the surface positions of DPs are derived in the syntax either by Merge (mainly, the case of expletive DPs) or Move (mainly the case of argument DPs), in some edge position (either Spec or ‘outer Spec’ position, cf. Chomsky 1995b, 2001, 2004).

2. 3. Framework of Assumptions

2.3.1. Early Minimalist Assumptions on Agreement Relations

In the Minimalist guidelines of Chomsky (1995c), agreement is a question of checking via a Spec-head/head-head structural relation. The overwhelming concern with this general agreement mechanism in the generative theories of agreement and case advocated by such linguists as Koopman, Sportiche, Belletti and Rizzi was concomitant with the split-up of the IP domain into different functional projections on top of which was the Agr_S node (cf. Chomsky’s 1989 reformulation of Pollock 1989; see section 2.1.2. above).

These guidelines have generally kept intact the insight about the morphological properties of elements involved in the derivation of sentence structure. Lexical elements (verbs and associated arguments) projected into the syntax during the derivation of sentences rarely occur in their base position where they are first merged. In most cases, such elements appear in a position to which they necessarily move (‘overtly’ in the syntax itself or ‘covertly’ after the syntax) for morphological licensing purposes and to be ‘fully interpretable’ (i.e. to satisfy the principle of Full Interpretation or FI) at the interface levels PF and LF. What is more, languages are now assumed to ‘minimally’ vary in the syntax proper and abide by what Chomsky (1989) variably calls the ‘least effort’ or ‘economy’ principle/condition. This general principle is an even more overarching condition of UG than FI in that it legislates against ‘superfluous elements’ in both derivations and representations. In this conception, the ‘economy principles’ of the grammar allow only those derivations that involve no superfluous steps and lead to representations that contain no superfluous elements. The essential characteristic of the economy framework is that convergent

derivations involve only the ‘least costly’ or ‘shortest’ moves and yield those structural representations that could find a language-invariant interpretation at LF.

The effect of this revision of the theoretical apparatus of the grammar not only led to the dismissal of the notion of ‘government’ (as a ‘derivative’, but nonetheless, unifying structural notion in the Government and Binding theory, Chomsky 1981, 1986a,b) from the grammar, but also to the elimination of the two levels of representation D-structure and S-structure, leaving LF and PF as the only levels of representation. Nevertheless, considerable attention has been devoted to the question of whether subject-verb and/or object-verb agreement relations (including the checking of Case) could find the right characterization in terms of an Agr node being projected into the syntax as an independent syntactic head to set the right Spec-head agreement relations in clause structure in conjunction with the tense properties of natural languages.

Chomsky (1995b: 267-268) reformulates these earlier Minimalist assumptions by postulating that agreement features (the uninterpretable ϕ -features of T and its uninterpretable Case-feature, and the uninterpretable Case-features of object and subject DPs) are involved in movement operations only as ‘free riders’, i.e., they are only ‘derivatively’ involved in the checking procedure. This revision meant that computations are only driven by the uninterpretable features of the target (i.e., the D-feature of T in subject-verb agreement configurations or the Q-feature of C in the movement of wh-elements) in relation to ‘strength’ (i.e., the assumption that, in English, for example, the D-feature of T – which Chomsky (1995b) equates with the EPP – and the Q-feature of C are ‘strong’ and must be checked as quickly as possible).

As far as subject-verb agreement in English is concerned, Chomsky (1995b: 279-289) seeks to reduce both overt movement of DPs to the specifier of an inflectional position ([Spec, TP] in Chomsky 1995b, vs. [Spec, Agr_SP] in Chomsky 1995a: 425-426) and the direct insertion of expletives via Merge to the need to check a ‘strong’ (EPP) D-feature of the target. According to this view, Nominative Case on the raised subject DP and the ϕ -features on T, in relation to the interpretable ϕ -features of the subject DP, are checked as ‘free riders’ in the same checking configuration (Chomsky 1995b: 282). In *there*-constructions, the expletive element *there* has an uninterpretable D-feature directly involved in the checking procedure

since it checks the ‘strong’ (EPP) D-feature of T, in contrast to Case on the subject DP, which is only checked covertly as a ‘free rider’ (Chomsky 1995b: 287).

In relation to the postulation of Agr projections in the sentence structure of languages, Chomsky (1995b: 388, note 81; see also pp. 333, 351-352) argues that Agr is absent from the grammar of English. In particular, English does not present conclusive evidence of the presence of a ‘strong’ Agr node in sentence structure for the assignment of Accusative Case. It is on such a premise that Chomsky (1995b: 330, 333) questions the relevance of object-raising to some Spec position higher than the base position of objects in English in the absence of an Agr node for the purpose of Accusative Case assignment.

Chomsky’s main thrust in this reformulation is that the fundamental property [$\pm$ interpretable], “determined by bare output conditions” at the interface (Chomsky 1995b: 280), is the driving force for the feature-checking procedure. With respect to this property, the ϕ -features of argument DPs need not be checked because they are interpretable at LF (Chomsky 1995b: 285). Case, however, is always uninterpretable, and so are the ϕ -features of the T-node. The categorial D-feature of nouns is interpretable and, like their ϕ -features, need not be checked. Nevertheless, since a categorial ‘strong’ feature within the sublabels of the target (a D-feature for T and a Q-feature for C) must be checked (Chomsky 1995b: 278, 289), the D-feature of DPs and the wh-/Q-feature of Wh-elements will necessarily be involved in eliminating the ‘strong’ feature of the target. Due to the importance of [$\pm$ interpretable] features in the checking procedure, the interpretable features of argument DPs (and those of wh-moved elements) are always accessible to the $N \rightarrow \lambda$ computation (i. e., from the Numeration to LF), and can be involved in the multiple checking of targets, for example in raising structures (Chomsky 1995b: 284) and structures involving successive-cyclic wh-movement (Chomsky 1995b: 295).

In relation to the multiple checking of targets, Chomsky (1995b: 385, note 49) seeks to accommodate Watanabe’s (1991) layered case theory to his revised checking account. For Watanabe (1991), a Case-feature can be ‘validated’ when the target (T or V) overtly raises, thus allowing Case to be checked again. Chomsky’s (1995b) alternative account that does not involve case, is to allow the uninterpretable D-feature of T, as the target of movement (along with the uninterpretable D-feature of EXPL in embedded EXPL-constructions) to be exempt from ‘erasure’ – i.e., not being

eliminated entirely (Chomsky 1995b: 280) – when deleted after being checked by the interpretable categorial D-features of DPs. Much to the same effect, the *wh*-/Q-feature of moved operators in the case of successive-cyclic *wh*-movement in embedded interrogatives is involved in the multiple checking of the target. In such instances, the target C has a ‘strong’ Q-feature which must be ‘erased’, but can escape being eliminated when checked. As for the *wh*-/Q-feature of operators, it does not delete since it is interpretable, being a variant of D on DPs, and remains accessible to the $N \rightarrow \lambda$ computation (Chomsky, 1995b: 289-290).

In relation to subject-verb agreement in VSO word order in SA (as discussed in section 2.1.2.2), there have been two influential approaches to subject-verb agreement relying on PF-operations. The first approach within this trend is Aoun & Benmamoun’s (1999) and Benmamoun’s (2000a, b) ‘PF merger’ analysis. The second approach is Ackema & Neeleman’s (2003) ‘PF agreement weakening’. In the following few paragraphs, I will first discuss Aoun & Benmamoun (1999) and Benmamoun (2000a, b) and then turn to Ackema & Neeleman (2003).

Aoun & Benmamoun (1999) and Benmamoun (2000a, b) argue for an analysis of the absence of number agreement between the verb and the subject DP that is not tied up with deletion of uninterpretable features on the target of movement, i.e., I/T à la Chomsky (1995b). Instead, what is relevant in subject-verb agreement in such a context is a post-syntactic process of ‘PF merger’ between the verb and the ‘post-verbal’ subject DP. Aoun & Benmamoun (1999: 181) explain that in the process of raising higher than the subject in [Spec, IP/Agr_SP], the verb – being already generated with full agreement – cannot retain the number features due to the fact that “the inherent features on the noun spell out the relational agreement features on the verb. This, in turn, makes the number suffix redundant”. According to this analysis, the verb itself becomes the target since, in the process of being merged to the left of the subject – itself raised to [Spec, IP] –, it ‘loses’ its number features that fail to be ‘spelt out’ on it and “are not overtly realized by an affix” (Aoun & Benmamoun 1999: 181).

This approach to the problem of the VSO word order in Arabic and the accompanying agreement asymmetry that shows up in SA as against the modern spoken dialects (as reviewed in section 2.1.2.2 above) differs from the parametric approach to these differences adopted in this thesis in that it seeks an account of the absence of number agreement on the verb that entirely relies on PF phonological

processes involving the relation between the subject in [Spec, IP] and the verb raised past it. Through this emphasis on phonological properties of verbal inflection, Aoun & Benmamoun's (1999) 'PF merger' analysis of the absence of number agreement on verbs in VSO word order in SA seems to discard the possibility that expletive *pro*-insertion is a defining factor in agreement facts in Arabic – the standard variety and the modern spoken dialects – (see also Aoun *et al.* 1994: 200).

Notwithstanding the fact that their approach to the derivation of subject-verb agreement in the VSO word order in SA does not rely on the central role played by the feature structure of the target of verb movement and the 'checking' of uninterpretable features that follow from the raising of verbs to T, Aoun & Benmamoun (1999: 186) still allow some form of morphological feature checking à la Chomsky (1995b) in that they suggest that "movement of the subject outside the VP in the VSO order is driven by some feature on I", i.e., the EPP.

Apart from Aoun & Benmamoun's (1999) 'PF merger' claim for analyzing the absence of number agreement on verbs in VSO word order in SA, the suggestion that the derivation of VSO structures in SA, in part, involves a raising process of the subject DP to the structural subject position (i.e., [Spec, IP/TP]) is interesting enough in the context of the parametric account of the differences between SA and the modern spoken Arabic dialects adopted in this thesis. In fact, the structure I am adopting for the derivation of VSO sentences, in SA, which ties it up to the projection of the IP domain in its relation to the CP domain (in the context of the Phase-theoretic probe-goal-Agree system; see Table 2.2 at the end of section 2.1), is the same structure Aoun & Benmamoun (1999) adopt to uphold their 'PF merger' analysis. The derivation of a VSO sentence in SA is as in (49) below (repeated from Table 2.2):

(49)

However, neither the raising of the verb *per se* higher than T to a projection in the left periphery of the IP domain (as in Aoun & Benmamoun 1999), nor the availability or unavailability of expletive *pro* in the specifier of the highest projection in IP (as in Benmamoun 1992a), seems to help pin down the minimal unit of parametric variation opposing the standard variety to the modern spoken dialects of Arabic in the derivation of VSO sentences.

As for Ackema & Neeleman (2003: 699-703), they adopt a theory of agreement weakening in SA, where a context-sensitive rule of feature deletion at PF targets the [PI] feature in VSO word order configurations where agreement is restricted to person and gender to the exclusion of number (i.e, weak subject-verb agreement as opposed to full agreement between the verb and the subject in person, number and gender in SVO word order configurations). In their account of the agreement asymmetry in SA, the agreement weakening in subject-verb agreement configurations in VSO sentences is a context-sensitive rule of feature deletion that operates according to the mapping rule in (1) below in conjunction with the first of two general sets of post-syntactic allomorphy rules (i.e., the rule given in (51) below).

To begin with, Ackema and Neeleman (2003: 684) adopt the mapping rule in (50) which operates in the morphological module of the grammar at the phonology-syntax interface along with a set of post-syntactic allomorphy rules (as in (51) and (53) below):

(50) The right edge of syntactic XPs corresponds to the right edge of prosodic phrases (ϕ s).

Ackema and Neeleman (2003: 686-688) also adopt two types of post-syntactic allomorphy rules. First, Ackema and Neeleman (2003: 686) adopt a type of rules like the rule in (51) below:

$$(51) \{ \dots [{}_A F_1 F_2] \dots [{}_B F_1 F_3] \dots \} \rightarrow \{ \dots [{}_A F_2] \dots [{}_B F_1 F_3] \dots \}$$

An allomorphy rule like (51) deletes a morpho-syntactic feature, where ‘recoverability’ of deleted features operates under agreement on the basis of the premise that “... the terminal whose features are suppressed must be in a relation of agreement with a terminal whose features are not suppressed” (p. 688).

The import of this rule is that features of a terminal A can delete iff they are contained in the same local prosodic domain as a particular other terminal B. As a consequence of the application of this rule, the phonological realization of A in (51) is changed, according to the generalization in (52):

$$(52) \text{ “[I]f a particular terminal finds itself in the same prosodic domain as some other terminal, its phonological realization is altered” (p. 688).}$$

However, it is not always the case that a morpho-syntactic feature in the target of the rule is deleted when the change in phonological realization of the target occurs. This is the second type of allomorphy rules in Ackema and Neeleman’s (2003: 688) theory, as given in (53) below:

$$(53) \{ \dots A \dots [{}_B F_1 F_3] \dots \} \rightarrow \{ \dots <A \dots [{}_B F_1 F_3]> \dots \}$$

According to Ackema and Neeleman (2003: 688), such allomorphy rules as in (53) “can lead to an alternative spell-out of a terminal namely if the usual form of B is itself a phonological word”, but “does not delete a morpho-syntactic feature in their target”. An example of this type of rule is the phonetic realization of a pronoun as a clitic in the presence of another terminal in the same prosodic domain. In this case, the clitic forms a phonological word with its host (indicated by angled brackets in (53) above).

In Ackema and Neeleman’s (2003: 699-703) account of agreement weakening in SA, only in VSO word order is the verb contained within the same prosodic domain as the subject (in conformity with the mapping rule in (50) above). Ackema and

Neeleman (2003: 702) give the PF representations in (54a') and (54b') for both, respectively, VSO and SVO word orders (54a) and (54b) in SA:

- (54) a. [_{FP} [_F V] [_{IP} subject t_V [_{VP} t_V object]]]
 a'. {V subject} {object}
 b. [_{FP} subject [_F V] [_{IP} t_{subject} t_V [_{VP} t_V object]]]
 b'. {subject} {V object}

In (54a') and (54b'), a verb 'V' represents a terminal and is either spelled out in the same local prosodic domain as a particular other terminal – namely, 'subject' – or not. Thus, only in the PF representation in (54a'), representing the VSO word order in SA, is the verb contained in the same prosodic domain as the verb being raised to some F head position to the left of IP (cf. Table 2 in Chapter Two of this thesis and section 4.1.2.1). In contrast, in the PF representation in (54b'), representing the SVO word order in SA, the subject and the verb are contained in two different prosodic domains.

Thus, according to the feature-deletion allomorphy rule in (51) above, and the premise of 'recoverability' of deleted features under agreement, the verb in the VSO word order in SA is allowed to show a 'weak' form of subject-verb agreement as it is spelled out in the same prosodic domain of the terminal it is agreeing with, i.e., the subject. However, since in the SVO word order the verb and the subject do not share the same prosodic domain, the verb can only be spelled out with full subject-verb agreement features.

As Ackema and Neeleman (2003: 702) acknowledge, their theory based on post-syntactic 'weakening' of subject-verb agreement is similar to Benmamoun's (2000b) account of the post-syntactic process of 'PF merger' (see also Aoun and Benmamoun 1999 above for the same approach), in which the verb 'loses' its number features after it raises past the subject left behind in [Spec, IP/TP].

Although I agree with Ackema and Neeleman's (2003) claim that adjacency might not be the right syntactic condition under which the 'weakening' of subject-verb agreement features in VSO word order in SA operates, I do not share their assumption that "Locality is an effect of prosodic domain formation" (p. 690) within the grammar of a language. It is certainly the case that there are locality conditions that apply at the PF side of the grammar, as there certainly are adjacency rules also applying at that interface, but locality conditions on the derivation and representation of sentences in natural language are first and foremost 'syntactic' and have an effect

on both LF and PF. Under such a premise, the derivation of VSO and SVO sentences in SA operates on the basis of the feature structure of functional elements within the grammar of the language and the conditions this feature structure imposes on (subject-verb) agreement relations.

As will be argued in Chapter Three and Chapter Four, it is in terms of the general principle of T-dependency that the derivation of the agreement configurations is achieved cross-linguistically. As far as the varieties of Arabic are concerned, the account I provide as to the availability of the agreement asymmetry in SA, but its absence in such modern Arabic dialects as TA and MA (among other micro-parametric differences between these varieties of the same language), is based on the parameterization of the probe-goal-Agree relations in the derivation of the IP domain of sentence structure and its relation to the derivation of the CP domain.

The line of reasoning I will follow (see Chapter Three) in analyzing differences in agreement configurations in Arabic abides by the following general guidelines:

- (55) a. Rich agreement on V in VSO sentences is tied up with the presence of an Agr_S node, the feature content of which requires the insertion of expletive *pro* in [Spec, Agr_SP] (a ‘strong Phase’, in the terminology of Chomsky 2001, 2004; see below). The feature content of Agr_S is determined by the Spec-head/head-head dependency relations that are built up incrementally in the process of the derivation of sentence structure (see section 3.1.2).
- b. SA exhibits poor agreement in VSO sentences due to the non-projection of Agr_S . In this case, as the verb raises past the subject in [Spec, TP] expletive *pro* cannot be merged in the IP domain, but it can be phonologically realized as a pronominal clitic *-hu* in the CP domain (in both matrix and embedded sentences). This process depends on the presence of complementizer *ʔinna* ‘that’ merged in some node to the left of the raised verb in a split-CP system à la Rizzi (1997). The clitic *-hu* cliticizes to the complementizer head *ʔinna* (see section 3.3.4).

The strong Phase, in this case, is the position where the verb ends up attached to – a functional head *F* in a split CP-domain à la Rizzi (1997) – irrespective of the landing site of the subject DP, which remains in the IP-domain after having been ‘frozen’ in [Spec, TP] after Case has been checked/valued in relation to ϕ -feature

valuation and EPP satisfaction (cf. Chomsky 2001, 2004 for the valuation of Case on DPs in English).

The following section deals with the basic assumptions of the Phase-theoretic framework.

2.3.2. *The Phase-theoretic framework of Chomsky (2001, 2004)*

Chomsky's (2001, 2004) new agreement framework narrows down the scope of agreement configurations and functional projections to the bare minimum in that Spec-head agreement relations do not exist and are in reality just head-head relations operating under c-command in terms of identity (or, more accurately, non-distinctness of features). However, in light of the insights the Cartographic approach (see, among others, Guasti & Rizzi 2002, Rizzi, 2004a,b, 2006) has brought to syntactic structure, Chomsky (2004: 126, note 44) does not deny that Spec-head agreement may play an important role in the realization of "surface phrase structure" (Chomsky 2004: 114).³⁵

The Cartographic approach to syntactic structure has put forward the working hypothesis that 'interpretability' in the grammar does not merely arise as the outcome of the checking/valuation of uninterpretable features on functional heads (as in Chomsky's 1995c, 2001, 2004 Minimalist agreement framework), but could also be the outcome of 'criterial' conditions, whereby agreement configurations arise from the necessity of 'criterial satisfaction' (Rizzi 2006: 97-98) between a head and a category moved to the Spec of that head. It is this conception of how feature licensing works in syntactic structure that presented compelling evidence that Spec-head agreement relations do indeed exist (see Guasti & Rizzi 2002).

However, what remains important in Chomsky's (2001, 2004) feature-valuation framework is that the property of features as either being interpretable or uninterpretable in natural languages is dissociated from the strong/weak feature dichotomy that has been the hallmark of the feature-checking account of earlier frameworks (see section 2.3.1. above). What is more, lexical items have no categorial features and are inserted in phrase-markers as roots. In this framework, verbs differ from the nouns they semantically select in argument structure in not having an intrinsic set of ϕ -features of their own. It is the role of the functional categories

³⁵ See also Chomsky (2004: 126, note 45) in relation to McCloskey's (2001) work on the distribution of subject properties in Irish and the possibility that expletive *pro* could be 'externally merged' in [Spec, CP].

projected into syntactic structure to mediate the ‘functional relation’ that exists between verbs (and other predicates) and the DPs they associate with. Agreement in ϕ -features is the prototype manifestation of this functional relation between argument DPs and verbal predicates. The functional node T, for example, is allowed to have a certain set of uninterpretable ϕ -features, accounting for subject-verb agreement at the interface (cf. Chomsky 1995b: 377). Chomsky’s (2001, 2004) Phase-theoretic framework makes it a requirement that all functional heads, including C, have a certain set of these features.

In view of the paramount role ‘functional relations’ play in the syntax of movement and agreement processes (cf. Miyagawa: 2010: 9), the Phase-theoretic case-agreement system establishes a direct relation between the core system of formal features (ϕ -features, structural case, the EPP and A-movement, as interrelated notions) and the system of core functional categories T, C and *v*. In this case-agreement system, Agree operates to link the label LB of a ‘probe’ K (= LB (K)) with a ‘matching goal’ within the local ‘search’ domain of the probe (i.e., the head the probe selects as its complement and the Spec of that head). This ‘matching’ relation is what induces the uninterpretable features of the probe to be ‘checked’ or ‘valued’ by the goal. Probe and goal match if features are ‘valued’ for the goal and ‘unvalued’ for the probe. Matching between probe and goal is governed by the following premises (adapted from Chomsky (2001: 6)):

- (56) (i) Probe and goal must both be ‘active’ for Agree to be able to match between them.
- (ii) The probe (for example, T) must have a complete set of ϕ -features (it must be ϕ -complete, i.e., T_{COMPLETE}) to have its uninterpretable ϕ -features valued by the paired matching element (the goal).
- (iii) Case is the feature that activates DPs to enter a matching relation with the probe. This Case-feature on the goal is not matched (i.e., the probe does not carry a Case-feature), but it deletes under matching of ϕ -features. After valuation of Case on them, DPs are ‘frozen’ in place’.

The thrust of Chomsky’s (2001, 2004) matching/valuation mechanism, via which Agree operates, is that if uninterpretable features entered the derivation already valued, there would be no motivation for movement to apply to bring the probe and

the matching goal into an Agree structural relation. The values themselves would be redundant and there would be no justification as to why they should delete.

Example (57) below (Chomsky 2001: 7, example (4)) illustrates how Chomsky's (2001, 2004) case-agreement system works. In (57a), the 'probe' T (= P in (57a)) in the matrix clause (= β) is a raising construction. α is an infinitival, YP is VP, and SUBJ is the DP raised from the infinitival embedded clause as in (57b) and (57c). (57b) exemplifies the case where the embedded clause is a *there*-construction, with *there* being SUBJ raised out of the infinitival embedded clause. (57c) involves the raising of a DP (the direct object *several prizes*) to subject position. Chomsky notes that "awarded several prizes" in (57b) surfaces more naturally as "several prizes awarded":

(57) a. [β P [α [SUBJ [H YP]]]]³⁶

b. There are likely [T_{DEF} to be awarded several prizes].

c. Several prizes are likely to be awarded.

In (57a), T is a defective head (= T_{DEF}). It is a 'weak Phase' which is unable to determine case-agreement, but has an EPP-feature and a [person] feature, both of which must be valued.³⁷ The Phase-theoretic framework retains the assumption of earlier frameworks within the Generative tradition in connection with the EPP.³⁸ In a case like the raising structure in (57a), the EPP can either be satisfied by movement of a DP (the object *several prizes* in (57c)) to [Spec, IP/TP] in the matrix clause, or by insertion of expletive *there* into the embedded [Spec, TP] and subsequently raising *there* to matrix [Spec, TP]. According to this assumption, valuation of the EPP feature (or OCC(urrence)-feature) in the embedded clause, in (57b), is satisfied by *there* merged in [Spec, T_{DEF}]. As Chomsky (2004: 114) explains: "EXPL[etive] externally merged in Spec-T must delete the OCC-feature of T and lose its own uninterpretable features (if T is complete)".

³⁶ Chomsky (2001: 7) does not discuss the relevance of H in such a structure, but he later (p. 13) refers to H as the head of HP in his definition of the Phase-Impenetrability Condition in relation to the Phase-theoretic notion 'edge' (i.e., specifiers and adjoined elements).

³⁷ I return to the discussion of how the [person] feature of T_{DEF} is valued in relation to the discussion of (59b,c) below.

³⁸ See section 2.1.1 for frameworks that predate the Minimalist Program, and section 2.3.1 for Minimalist theories that predate the Phase-theoretic framework.

In relation to the raising process EXPL *there* undergoes, Chomsky's (2004: 114) assumption is that *there* in (57b) need only have a [person] feature to raise to the matrix subject position and value the ϕ -features of matrix T. This suggestion follows from the fact that after satisfying the EPP in embedded subject position, *there* still has its own [person] feature which could not be valued by the [person] feature of T_{DEF} in embedded subject position. Since T_{DEF} is not ϕ -complete and cannot determine agreement, [person] on EXPL *there* survives 'deletion'/'erasure' (see section 2.3.1 for Chomsky's 1995b conception of deletion processes in agreement relations). On this account, the relevant feature for raising *there* would be its [person] feature rather than the EPP.

However, the EPP feature associated with T in the matrix clause in (57b) could still be the motivating factor for the raising process of the EXPL (i.e., 'internally' merging EXPL in matrix [Spec, TP]) the same way as the EPP feature of the embedded clause has been the motivating factor for the 'insertion' process in the embedded clause (EXPL 'externally' merged in [Spec, TP]). In this connection, Chomsky (2004: 114) discusses two possibilities for how [person] on EXPL is valued, the second of which he seems to adopt. One possibility is that [person] on *there* in matrix [Spec, TP] is valued by the uninterpretable ϕ -features of T. Then the EPP feature on T in the matrix clause gets a value as a consequence of its Spec position being occupied after raising *there* to that position. Another possibility is that EXPL *there* in matrix [Spec, TP] is a head, and as such it probes and agrees with the ϕ -complete goal T (i.e., T_{COMPLETE} selected by C, the latter being a strong Phase determining agreement). In Chomsky's (2004: 114) own terms: "Suppose EXPL is a simple head, not formed by Merge. In a label-free system, EXPL is accessible without search as a probe and can match and agree with the goal T".³⁹

³⁹ These two possibilities are theoretically similar in that the matching/Agree relation between *there* in matrix [Spec, TP] and matrix T in (57b) can only apply after the DP *several prizes kept in situ* values the ϕ -features of matrix T via Long Distance Agreement (see the next paragraph for the discussion of such a process). Under Phase-theoretic assumptions, this matching relation could happen only if we assume that matrix T gets a value for its uninterpretable ϕ -features from the interpretable ϕ -features of the DP *several prizes* only after EXPL *there* is raised to matrix [Spec, TP]. It is only at this stage of the derivation that both the ϕ -features of matrix T and the [person] feature of *there* both get a value and are erased.

Chomsky's (2001, 2004) Phase-theoretic assumption that the T_{DEF} has a [person] feature, which T_{DEF} shares with EXPL, suits well Chomsky's (2004: 114) assumption that EXPL is a head rather than a phrase category.

The question that remains is that, since the matrix [Spec, TP] in (57b) has to be occupied by further raising *there* to the matrix subject position, how could the DP *several prizes* – which is kept *in situ* since it cannot raise over *there* (see the discussion of (59b,c) below) – have its Case-feature valued? The assumption is that if *there* is selected for the Numeration, the interpretable ϕ -features of the DP *several prizes* can only match and value the uninterpretable ϕ -features of matrix T by a process of Long Distance Agreement (LDA) without raising (Chomsky 2004: 114). Case on *several prizes* is valued as a consequence of the matching/Agree relation. Presumably, LDA also accounts for how the [person] feature of T_{DEF} is valued.⁴⁰

In (57c), in the absence of *there* in the Numeration, matching of *several prizes* and T_{DEF} of the embedded infinitival clause in the feature [person] induces raising of DP to [Spec, T_{DEF}], and as a consequence of DP raising, the EPP in the embedded [Spec, TP] position is satisfied. The DP *several prizes* is further raised to the matrix subject position where it values the full ϕ -set of the T node. As a result, Case on DP gets a value because matrix T is ϕ -complete, and the EPP is satisfied as a result of the raising process. As stated in (56iii) above, the uninterpretable Case-feature of a DP, not being a feature of the target, is assumed to be valued as a by-product of the matching/Agree relation. It is obvious that, in the Phase-theoretic framework, Case is no longer assumed to be a trigger of movement and agreement processes.

In an unaccusative structure like (58) below, the DP associated with the verb and T is a direct object (DO) (according to Chomsky 2001), which is selected by the ‘light’ verb *v* (which is different from the ‘strong’ Phase head ‘light’ verb *v**) which makes up the *vP* above *VP* is a weak Phase only, and does not project a Spec position. As in the raising example in (59) with EXPL *there*, agreement between DP and the verb is determined by (matrix) T:

⁴⁰ What is interesting in this account in relation to the nature of T (or Tense features) in natural languages (see section 3.1.1.2) is the assumption that, when T is defective in English, it enters the derivation with an unvalued [person] feature that seems to be intrinsic to it since it does not come from a C node selecting T as a complement in the embedded clause in a *there*-construction like (57b) above. If this is the right conclusion to draw for T_{DEF} in English, then the [person] feature of T_{DEF} is, in fact, engaged in some sort of agreement albeit ‘defective’ since it is not reflected in the subject-verb agreement configuration that obtains at Spell Out. This defective Agree relation would obtain at the intermediate ‘weak’ Phase in the embedded clause between T_{DEF} and EXPL, and no valuation of the person feature of *there* applies at this stage. As already discussed above, EXPL awaits the next ‘strong’ Phase to Agree with ϕ -complete T in the matrix clause, thus getting a value for its uninterpretable [person] feature at the ‘strong’ Phase level where LDA applies between the subject DP kept *in situ* in the embedded clause and T_{COMPLETE} in the matrix clause.

(58) ?There arrived three men. (Chomsky's 2001: 21, example (29a))

In (58), the interpretable ϕ -features of DO value both the uninterpretable ϕ -features of T and those of the 'light' verb *v*. The uninterpretable Case-feature of DO is valued as a by-product of the matching/Agree relation between ϕ -complete T and the DP, as was the case in the raising example (57b). The similarity between the two examples is further suggested by the Case value the *in situ* DP receives in both sentences, i.e., NOM Case. Due to its uninterpretable [person] feature, EXPL *there* raises to [Spec, TP] and its [person] feature gets a value because T is ϕ -complete. The EPP is satisfied as a consequence of the raising process.

Embedding (58) under a raising verb yields the structure in (59a), where EXPL = 'expletive' (adapted from Chomsky 2001: 19, examples (21a-c)):

(59) a. [C [T be likely [EXPL to arrive three men]]]

b. There are likely to arrive three men.

c. *Three men are likely there to arrive.

In (59b), EXPL values the EPP feature of T_{DEF} and then EXPL is raised, triggered by its [person] feature which gets a value because T, in the matrix clause is ϕ -complete. Since matrix [Spec, TP] is now occupied by EXPL, the EPP is satisfied. Both the [person] feature of T_{DEF} in the embedded clause and the ϕ -features of the tense node in the matrix clause are uninterpretable and, presumably, have to be valued by the interpretable ϕ -features of the *in situ* DP *three men* via the process of LDA.

As discussed in relation to the valuation of the Case-feature of the DP *several prizes* by LDA in (57b) above, the DP *three men* in (59b) is precluded from raising over EXPL which bars the application of Move. EXPL is raised instead, since it is closer to the target. LDA applies between ϕ -complete matrix T and the DP *three men*. The matching relation that results from this pairing values the ϕ -features of the matrix T node and, in turn, the Case-feature of the DP *three men* gets a value (i.e., NOM Case).

The movement and Agree processes (59b) and (57b) undergo suggest that what the derivation seeks to achieve is to minimize both the 'cost' and 'search' of computations: EXPL is 'closer' to the probe and its movement satisfies the EPP of the matrix clause with no so great a cost as would have resulted if *three men* were raised

instead. This, in turn, reinforces the suggestion discussed above as to the motivating factor in the raising of *there*, which might still be the EPP rather than the mere fact that EXPL has a [person] feature in need of valuation. In this case, [person] on the EXPL – a simple D category – would be like the Case-feature on full lexical DPs since the function of these features on such elements selected for the Numeration is to render the element to be raised ‘active’ as a trigger for movement (see (56i) above). The motivating factor of the raising process itself is to satisfy the EPP.

On this account, the derivation of (59c) cannot converge because raising *three men* over *there* in the embedded clause to satisfy the EPP in the matrix clause is not necessary and raising *there* minimally meets that requirement. The fact that the DP *three men* matches the matrix T in all features and, in principle, could be favoured as a goal over the EXPL (with a [person] feature only) is irrelevant for convergence of the derivation at the interface. In other words, movement (Move) is strictly local and has to apply successive-cyclically – or, in Phase-theoretic terms, by Phases – from one position in the derived structure to the next available position in the local ‘search’ domain of the probe (Chomsky’s 2001 Phase Impenetrability Condition). In contrast, Agree can apply by *long distance* and can apply across clause boundaries. Thus, in (59b) – as in (57b) – LDA is responsible for the Agree relation that obtains between the DP kept *in situ* and the φ -complete matrix T. LDA, thus, accounts not only for subject-verb agreement, but also for how the EPP is satisfied.

To sum up the assumptions of the Minimalist Phase-theoretic framework (as compared to the earlier Minimalist assumptions of Chomsky 1995a,b; see section 2.3.1) in the context of verbal inflection as conceived in this thesis, an important prerequisite of the analysis of raising processes, which Chomsky (2001, 2004) entertains for the case-agreement system in Phase-theoretic terms, is that elements undergoing raising have some feature (case on DPs or [person] on EXPL) that makes them ‘active’ in relation to the probe that seeks them.

Another important characteristic of the Phase-theoretic case-agreement framework is the assumption that EXPL in English has a [person] feature that has to be erased at the end of the process that raises EXPL in embedded contexts in satisfaction of the EPP in both embedded and matrix clauses. On this assumption, not only can the EPP be paired with another formal feature or features for convergence (i.e., the uninterpretable [person] feature of EXPL *there* (in Chomsky 2001, 2004), the

uninterpretable Case-feature of T and that of EXPL *there* (in Chomsky 1995a), or the uninterpretable D-feature of T and that of EXPL *there* (in Chomsky 1995b)), but the paired feature(s) can also survive ‘erasure’, after EXPL *there* satisfies the EPP in the embedded clause and raises to [Spec, TP] in the matrix clause to check the EPP again.⁴¹

Thus, the ‘checking’ and ‘deletion’ of uninterpretable features on EXPL elements in relation to T (i.e., Case on embedded T and on EXPL in the framework of Chomsky 1995a, the D-feature of embedded T and of EXPL in Chomsky 1995b, or [person] on EXPL in Chomsky 2001, 2004 in relation to T_{DEF} in embedded clauses), in the sample examples involving *there* constructions, does not necessarily ‘erase’ these features before Spell-Out (alternatively at the strong Phase). Since these features can escape being ‘erased’, they can still be ‘visible’ at the next strong Phase satisfying the EPP for interpretability of the structure at LF, and for any morphological ‘reflexes’ the valuation procedure yields at PF. In this connection, Chomsky (2004: note 45, p. 126) – in the context of his discussion of whether the Spec-head relation has a role to play in the grammar (Chomsky 2004: 114) – comments on the problem of accounting for the distribution of EXPL *pro* in Irish (citing McCloskey 2001). In particular, EXPL could be externally merged in the specifier position of the three core functional heads the Phase-theoretic framework of Chomsky (2001, 2004) is concerned with, i.e. v^* , T and C to satisfy some EPP feature of these heads.⁴²

⁴¹ In Chomsky (2001, 2004), [person] on EXPL survives ‘erasure’ to be able to further raise to matrix [Spec, TP], thus satisfying the EPP again in the matrix clause. In Chomsky (1995a: 431) the ‘intrinsic’ Case-feature of T and that of EXPL in *there*-constructions, involving an embedded clause, survive ‘erasure’ once the EPP is satisfied in the embedded clause. In the latter case, the consequence of Case not being ‘erased’ on EXPL, first merged in [Spec, TP] in the embedded clause, allows EXPL to raise to matrix [Spec, TP] (the specifier of TP in the embedded clause not being a Case position) not only to satisfy the EPP again in the matrix clause, but also to have its Case-feature ‘erased’ by matrix T. Similarly, the consequence of Case not being ‘erased’ on embedded T allows Case on the subject DP kept *in situ* to be checked ‘covertly’ against the Case-feature of embedded T. At the interface, all Case-features are appropriately checked and ‘erased’.

⁴² Taking the structure [XP [(EA) H YP]], Chomsky (1998: 102), states: “If H is v/C , XP is not introduced by pure Merge”. He explains this by tying external Merge of EXPL to *non*-Phase heads, i.e. H must be T, when T is not selected by a ϕ -complete C, i.e., when T is T_{DEF}. Nevertheless, the existence of V2-expletives which function as ‘expletive topics’ merged directly (by external Merge) into spec-CP when no other XP raises to the initial position before the verb (Holmberg & Platzack 1995, Bobaljik 2002) undermined this assumption.

2.3.3. *The Agreement Approach to the EPP (Miyagawa 2010)*

In the preface to his book *Why Agree? Why Move? Unifying Agreement-Based and Discourse Configurational Language*, Miyagawa (2010: x) introduces the notion of ‘EPP-triggered movement’ as follows:

‘EPP-triggered movement’ ... is the type of movement that ... refer[s] to a broader range of movement than just movement of the subject to Spec, TP. Included in this ‘general’ type of ‘last resort’ movement are certain head movements, which I discuss in conjunction with *pro*-drop, and movement of the A’ variety such as *wh*-movement.

In this move, Miyagawa (2010) is inspired both by Chomsky’s Phase-theoretic Minimalist framework (2001, 2004, 2008) and the kind of agreement framework expounded in Kiss (1995) where ‘agreement’ takes on a wider meaning by taking grammatical features such as Focus and Topic into account as features that trigger movement in the first place. This agreement approach to the EPP and to movement processes in general abides by the following premises (Miyagawa 2010: 4):

(60) - The occurrence of agreement always correlates with movement

- Number agreement is responsible for movement
- Agreement, not case, triggers movement

The last premise in (60) is already familiar from Chomsky’s Phase-theoretic framework (2001, 2004) as reviewed in section 2.3.2, above. As for the two first premises, they point to the necessity of an agreement trigger for the kind of movement Miyagawa (2010) is interested in – namely, ‘EPP-triggered’ movement.

Nevertheless, what differentiates Chomsky’s (2001, 2004) approach to the EPP and movement from Miyagawa’s (2010) is Chomsky’s (2001, 2004) view that the relation Agree is independent of movement and is only involved in head-head agreement relationships rather than head-head and Spec-head agreement relationships. As for Miyagawa (2010: 8-9), he contends that “... this intuition that agreement emerges as a specifier-head (Spec-head) relation is correct...” and that “... agreement requires a Spec-head relation by showing that Agree takes place to establish functional relations”.

The thrust of Miyagawa's (2010: 7-8) EPP-triggered movement approach to agreement is that the grammar of languages establishes functional relations between features on elements in the lexical layer and matching features on elements in the functional layer of sentence structure giving rise to such notions as "topic-comment", "subject of a clause", "focus", and content questions among many other modes of expression. According to Miyagawa (2010: 9), this result can only be implemented by the combination of the two independently motivated operations of the grammar – namely, Agree and Move.

2.4. Conclusion

The Phase-theoretic, parameterized probe-goal-Agree approach to the derivation of the VSO vs. SVO word orders in SA and the modern spoken Arabic dialects, as expounded in this chapter, will be significant in the two following Chapters (Chapter Three and Chapter Four) in pinning down the units of parametric variation in the derivation (and representation) of the functional domain – both IP and CP – cross-linguistically.

This approach primarily relies on the EPP-triggered movement analysis of the functional structure of sentences in natural language (Roberts & Roussou 2002, Miyagawa 2010, Roberts 2010a, Biberauer *et al.* 2010) and the import of the 'edge' feature Chomsky (2008) posits on C and v^* as independent of both the Agree-features and the EPP-feature in allowing free 'internal Merge' (i.e., Merge via Move) to any head. It is the processes involved in the valuation of these features, which ultimately bring the goal closer to the probe via movement within a feature-based probe-goal-Agree system of dependency relations within agreement configurations.

CHAPTER THREE

FUNCTIONAL STRUCTURE AND CROSS-LINGUISTIC VARIATION IN ITS REPRESENTATION

3.0. Introduction

In this chapter, I propose the working hypothesis that at least some languages project sentence structure as Agr_SP rather than as IP/TP. This hypothesis finds support in a system that postulates a direct relation between Move and Agree, and the Spec-head agreement relation as important ingredients in the derivation of IP and CP in sentence structure.

In addition to the important role Agr_S parametrically plays in the derivation of sentence structure, natural languages rely on the T-node in establishing dependency relations between the lexical layer of sentence structure (i.e., the domain of ‘thematic relations’ involving the verb and its arguments) and the functional layer (i.e., the domain of ‘functional relations’).

Section 3.1 of this chapter deals in more detail with the working hypothesis I have put forward in sections 2.2 and 2.3.3 – namely, the fundamental role of Spec-head/head-head Agree relations (in particular, Miyagawa’s 2010 ‘EPP-triggered movement’ analysis of agreement) and that of an Agr_S node in setting the right configurational dependency relations in sentence structure for subject-verb agreement. The cross-linguistic variation in the formal means by which subject-verb agreement finds its expression in sentence structure is further upheld in sections 3.2, 3.3 and 3.4 in a system of probe-goal Agree structural configurations that govern the dependency relations between the elements projected in sentence structure. In section 3.2, I address the problem of EXPL-insertion crosslinguistically. In section 3.3, I deal with the expression of tense/aspect, mood, and modality in the SA verbal agreement system. I also discuss the hypothesis of the non-projection of $\text{Agr}_S(\text{P})$ in the sentence structure of SA in the VSO word order and pin down the main difference between SA and TA in terms of this hypothesis. Section 3.4 is a conclusion to the chapter.

3.1. Some Minimalist assumptions about functional structure in derivations

In section 3.1.1 below, I have a look at how subject-verb agreement is conditioned, in particular, by the dependency relations that bind the projection of the IP domain to the CP domain. In addition to this close relationship between the projection of the two fundamental domains of functional structure cross-linguistically, the parametric availability of an Agr_S node and its interaction with the formal properties of Tense set further structural restrictions on word order properties in V-raising/null-subject languages, particularly in relation to the availability of Spec positions (Bobaljik & Jonas's 1996: 211 '[Spec, TP] parameter').

In section 3.1.2, I further discuss the central role of the Spec-head agreement relation in relation to Miyagawa's (2010) 'agreement approach' to the EPP and Roberts & Roussou's (2002) 'Tense-criterion' hypothesis in the derivation of functional structure in natural language. Section 3.1.3 is a summary.

3.1.1. Verbal Inflection and the Structure of IP and CP

The early Minimalist approach to the cross-linguistic analysis of the agreement facts obtaining in the inflectional domain of sentences (Chomsky 1995c) highlighted the notion of 'feature checking'. According to Chomsky (1993: 178), the checking domain is "'heterogeneous', an 'elsewhere' set". The idea was that the domain of feature checking under Agr projections (specifically projected for this purpose in the higher functional layer of sentence structure) and that of θ -role assignment are disparate though essentially related for the well-formedness of structural representations (cf. Chomsky, 1995a: 403-4). Later (in Chomsky 1995b), the role of autonomous agreement heads for subject (Agr_S) as well as object (Agr_O) agreement was restricted. A further step (in Chomsky 2001, 2004) was the restriction on the role of the Spec-head agreement relation. Chomsky (2001, 2004) argued that agreement is essentially a head-head structural relation (see Chapter Two, section 2.3.2).

However, according to the Cartographic approach to syntactic structure (Cinque 1999, Rizzi 2006, Guasti & Rizzi, 2002; see also Kayne 2000), the restriction applying to the Spec-head agreement relation is perhaps best looked at as a theoretical guideline or a notational variant of the basic structure that has been adopted for the study of parametric and micro-parametric variation ever since Pollock (1989). In this light, Chomsky's (1995b, 2001, 2004) revision in the Minimalist framework of case-

agreement relations, where the Agr_S head no longer figures as a core functional category, is not a dismissal of the possibility that languages could still, parametrically, project the structure of sentences as Agr_SP. Chomsky (1995b: 351), for example, explains that Agr_S could still be allowed to occur in sentence structure in some languages or even some constructions in some languages (for example, in multiple-subject constructions (MSCs)):

It [i.e., Agr_S] appears in MSCs, but lacks independent motivation elsewhere, as matters now stand. For languages of the French-English type, then, Agr is not in the lexicon (unless MSCs appear marginally, with extraposition). Agr therefore occurs in highly restricted ways.

Opting for that parameter (i.e., projecting the sentence as Agr_SP instead of simply as IP/TP) would trigger the right setting for Spec-head agreement configurations – at least at the IP level – in the languages that could be postulated to have an Agr_S node above the T node.

Section 3.1.1.1 below is a discussion of how the structure of IP could be posited to project as Agr_SP. As part of the view that an Agr node is projected in the syntax of some languages, I have a look at Kayne's (1989b, 2000) idea that an abstract AGR element is responsible for establishing a special case of subject-verb agreement in (a variety of) English. Section 3.1.1.2 highlights the central role the tense properties of sentences play in the derivation of IP and CP. Section 3.1.1.3 deals with Bobaljik & Jonas's (1996) and Bobaljik & Carnie's (1996) parametric approaches to the derivation of Agr_SP.

3.1.1.1. The Structure of IP as Agr_SP and Parameters of Variation in the Realization of Subject-verb Agreement

Allowing Agr_S to be, parametrically, projected as a functional head in the syntax (linked via a dependency relation to the projection of the T node in IP and the C node in CP), the structure in (1) would be normally derived in a pro-drop (not necessarily V-initial) language like Italian or TA:

(1)

In (1), the lexical verb first attaches to the ‘light’ verb *v*, and then the *V-v* complex moves to *T*, which also raises to attach to the *Agr_S* node. These adjunction processes ultimately yield the composite complex *V-v-T-Agr_S*. I will come back below, in this section, to Bobaljik & Carnie’s (1996) cross-linguistic characterization of these processes, particularly in relation to the theoretical possibility that [*Spec*, *TP*] does not project in some languages, (as the representation in (1) shows). In section 3.3 below, I put forward the proposal that *Agr_S* is the minimal unit of parametric variation in Arabic.

Looking first at the sentence structure of English, Van Gelderen’s (1993) suggestion that the loss of the V2 effect in declarative sentences in English was concomitant with the relocation of Tense features from *C* to *I* may point to the possibility that sentences in English simply project as *IP/TP* directly complement-selected by *C*. I come back below to the importance of Tense (and the features associated with the *T*-node in sentence structure) in establishing dependency relations in the derivation of sentences cross-linguistically. The features associated with the *T*-node of sentence structure are either interpretable or uninterpretable. In addition to this fundamental dichotomy, which has survived the major revisions Chomsky’s (1995b) Minimalist program has undergone, these features differ on the Phase-

theoretic assumption – in Chomsky’s (2008) revised probe-goal-Agree system – that some of these features are inherent to T, but others are inherited by T from C. Table 3.1 below shows the breakdown of the feature composition of T in the IP domain according to a conception of feature valuation as found in Chomsky’s (2008) feature-inheritance theory, and, in particular, in Roberts’ (2010a,b) and Biberauer and Roberts’ (2010) copy deletion theory:

Table 3.1. The feature composition of Tense in the IP domain of functional structure

Features on T	Inherent to T	Inherited by T in the IP domain from C
a. [+interpretable]	T(ense)-features (= [<i>i</i> T])	–
b. [-interpretable]	Matched Features	
	<ul style="list-style-type: none"> • V-features • a D-feature (= [<i>u</i>D]) 	<ul style="list-style-type: none"> • ϕ-/Agree features (= [<i>u</i>ϕ])
	Non-matched Features	
	<ul style="list-style-type: none"> • EPP feature 	

As Table 3.1 above shows, only the T-features on T in the IP domain are [+interpretable] (i.e., [*i*T] on T), and there are no [+interpretable] features that T inherits from C. As for [-interpretable] features, these are either inherent to T – namely, T’s unvalued V-features (Biberauer and Roberts 2010: 265) and the D-feature that Roberts (2010a: 108, 113) posits on T to account for the parametric availability of *pro* in [Spec, TP] in some null-subject systems. T also inherits [-interpretable] features from C – namely, ϕ -/Agree-features (Chomsky 2008: 144-149) and, possibly, its EPP-feature (Chomsky 2008: 157).

However, as Table 3.1 also shows, the [-interpretable] EPP-feature is different from the other [-interpretable] features of the T-node in that only the EPP-feature is a non-matched feature. By contrast, the categorical V- and D-features and the ϕ -/Agree features have to match ‘non-distinct’ features on agreeing elements in the process of subject-verb agreement. This difference might be an indication that the EPP-feature is

actually an intrinsic property of the T-node, which plays the essential role that used to be attributed to NOM Case in earlier Minimalist theories (Chomsky 1993, 1995a,b) – namely, providing the necessary trigger for displacement processes in the overt syntax.

As I will be dealing with later (see section 3.3 and 4.3, in particular), the uninterpretable D-feature, which Roberts (2010a,b) posits to be an intrinsic property of the T-node in null-subject languages, may be a more widespread feature in the grammar of languages cross-linguistically. In the probe-goal-Agree system I am adopting, the [*u*D]-feature is posited to be a characteristic property of the higher functional domain of clause structure in a system where the INFL node splits into T and Agr_S (see section 3.1.1.3) and the C node into Force and Finiteness (see section 3.3.4).

The dependency relation between C and I/T in English might have triggered another aspect of feature association or feature sharing of the kind Rizzi (1990) describes in terms of Agr-in-Comp that establishes Spec-head/head-head agreement configurations in CP in relation to IP. The sample examples Rizzi (1990: 51-53) discusses in this context involve wh-extraction of subjects both in matrix and embedded contexts, as in (2) and (3) below:

(2) a. Who do you think [*t*' Ø [*t* left]]

b. * Who do you think [*t*' that [*t* left]]

(3) a. Who Ø [*t* left]

b. * Who did [*t* leave]

Rizzi (1990) proposes that in both (2a) and (3a) an abstract Agr element (represented by Ø in (2a) and (3a)) is present in C triggering the necessary Spec-head agreement configuration in CP (between Ø and *t*' in (2a), and between Ø and *who* in (3a)) for the licensing of the subject wh-trace *t* in the Spec position of the head C selects as complement in sentence structure – namely, I/T. Thus, in (2a) and (3a) the licensing of *t* in the subject position [Spec, IP/TP] follows from both the Spec-head agreement relation in C and the head-head agreement relation between C and I/T. Rizzi (1990: 57) explains that in the grammatical cases (2a) and (3a) “by transitivity C agrees with the maximal projection of I, its complement IP”, thus allowing I to agree with its own Spec for the licensing of the subject trace in [Spec, IP].

In contrast, in (2b) and (3b) C is already occupied by some lexical element (the lexical complementizer *that* in (2b) and the auxiliary *did* in (3b)). Thus, Rizzi's (1990) assumption is that there is no Agr element in C in (2b) and (3b), and that Spec-head agreement in CP cannot be triggered. Similarly, no head-head agreement relation can ever be established between C and I/T in these subject wh-extraction cases, and Spec-head agreement in IP fails to arise. The subject trace *t* in [Spec, IP/TP] in these wh-constructions remains unlicensed ruling (2b) and (3b) out.

Thus, it is in terms of the mechanism of Agr-in-Comp that the parallel in the grammaticality/ungrammaticality of the wh-constructions in (2) and (3) finds a plausible explanation suggesting that a certain dependency of functional relations is operative in sentence structure in both the IP and the CP domains.

Similar to Rizzi's (1990) Agr-in-Comp analysis is Kayne's (1989b, in Kayne 2000: 190-3) proposal of a manifestation of an AGR element in the sentence structure of a variety of English previously studied by Kimball & Aissen (1971). Kayne (1989b, 2000) proposed that the postulation of the parametric option of an abstract AGR element in C could explain the contrast in agreement configurations exemplified by (4a) vs. (4b) below:

(4) a. Which girls do the boy think should be invited? (Kayne's 2000 (18): 193)

b. *Which girl does the boys think should be invited? (Kayne's 2000 (19): 193)

As Kayne (1989b, 2000) puts it, since the abstract AGR element does not dominate an affix in the IP domain, in (4a), "we take the bare form of English present tense verbs not to bear any suffix" (Kayne 2000: 191). Kayne proposes that, in a sentence like (4a), AGR is free to raise to C. In contrast, in (4b), AGR dominates an affix in the IP domain, i.e., the *-s* of the auxiliary *does*. Thus, in (4b), AGR cannot raise independently to the CP domain. As Kayne (2000: 194) maintains, the raising of the abstract AGR element in (4a) is not the same as the raising of the auxiliary *do* in that sentence (similarly for the auxiliary *does* in (4b)). Therefore, besides the assumption that AGR raises to C in the grammatical (4a), Kayne (1989b, 2000) maintains that raised auxiliaries – such as *do* and *does* (4a) and (4b), respectively – occupy "a head position below AGR".¹

¹ Building on Pollock's (1989) assumptions of a Split-IP domain, Kayne (2000: 194-197) maintains – *contra* Pollock (1989) – that, in English, auxiliary verbs (*do*, *have* – in some of its uses – and *be*) do not end up in the highest functional position F₁, in the IP domain below C, but only raise as far as F₂, as a

According to Kayne's (1989b, 2000) assumptions, the raising process of AGR to C in (4a) has the effect of coindexing the abstract AGR element raised to C and the wh-phrase *which girls*. As pointed out in the previous paragraph, this agreement configuration does not obtain in (4b) where the abstract AGR element is assumed not to be in C. In this case, AGR fails to be coindexed with the appropriate XP element. In Kayne's (2000: 192) own terms: "coindexing -s with the wh-phrase will never hold". (Kayne 2000: 193).

It may be the case that the abstract AGR that Kayne (1989b, 2000) postulates in the variety of English in question is an additional feature associated with C that enters into the characterization of the C-T dependency. More generally, Kayne's (1989b, 2000) analysis is reminiscent of the kind of analysis that Rizzi (1990) refers to as *Agr-in-Comp*, which relates to the licensing of the traces of wh-moved subjects (as the discussion of (2) and (3) above shows) and/or the licensing of a certain array of specifier and head positions linking the IP domain to the left periphery (Rizzi 1997). As already discussed (see, in particular, sections 2.2.3 and 2.3.2), a similar trend of investigation has been proposed by the Phase-theoretic framework in Generative Grammar (Chomsky 2001, 2004) and more recently by Chomsky (2008) in relation to the mechanism of 'feature inheritance'.²

3.1.1.2. *The nature of Tense in natural languages and its role in agreement in IP and CP*

In the cross-linguistic characterization of functional structure, not less important than the projection of *Agr_S* is the role of Tense in establishing the right dependency relations in IP and CP. As far as the tense properties of sentence structure are concerned, there have been two different, but reconcilable, claims about the nature of

lower functional head position in the IP domain. Taking into account the positioning of adverbs (as adjoined to maximal positions, and never to nonmaximal positions) and Negation (as a head *Neg*), Kayne (2000:195-196) assumes that an adverb like *probably*, in (i) below, is adjoined to the maximal projection of *F₂*, and that when *Neg* is present (as in (i)), the adverb is adjoined to *NegP*:

(i) John probably wasn't there

To account for why the auxiliary verb *was* under *F₂* in (i), ends up to the left of *Neg*, Kayne (2000) assumes (following Pollock 1989) that *Neg* occurs below *F₁* but above *F₂*, and that (contrary to Pollock 1989) *was* adjoins only to *Neg* rather than moving on from *Neg* to *F₁*.

² In section 4.3.2, I return to a reconsideration of Kayne's analysis in terms of Agree-feature inheritance.

Tense in natural language. The first view has it that Tense (i.e., the abstract functional T-node of sentence structure) is ‘referential’/‘anaphoric’ in nature. This is the view held by most practitioners in the linguistic tradition of Transformational Generative Grammar since its first inception in the nineteen fifties. The second approach to the nature of Tense in natural language has been predominant ever since Stowell’s (1981) investigation of the interaction of argument/thematic structure and predication. This approach has focused on the question of syntactic predication that bears on agreement phenomena (Stowell 1996).

However, both views (i.e. the ‘referential’/‘anaphoric’ view of Tense and the ‘predication’ view) can be reconciled in the sense that they seem to square with Chomsky’s (2001: 12) conjecture that T may be a substantive category paralleling the projection of the verbal element in the thematic domain of clause structure.³ In fact, the claim that T is a syntactic predicate linked in some way to the (verbal) predicate in clause structure was proposed in Rothstein’s (1983: 19) syntactic predication analysis of IP structure, whereby a predicative XP – essentially the VP – needs ‘saturation’ or ‘closure’ by an argument XP, its ‘syntactic subject’ (i.e., the ‘external’ argument in [Spec, IP/TP]). Rothstein (1983: 130) thus derives the EPP property of T from syntactic predication.

A similar claim about the connectedness between V and T – and by ‘extension’ V, T and C – was proposed by Grimshaw (2000: 116) in her view that the core functional categories I and C share the feature complex [verbal] with the lexical category V, since I and C are ‘extended projections’ of V bearing the same categorial specification for purposes of structure dependency formation.

In this connection, Biberauer and Roberts’ (2010: 265) assumption that two kinds of structural connectedness are established in sentence structure “distinguishing T’s tense (i.e., ‘verbal’ or V-related) properties from its agreement ϕ - (i.e. ‘nominal’ or D-related) properties” directly links the suggestions about the connectedness between the thematic domain and the functional domain of sentence structure

³ The same claim has recently been made in Biberauer & Roberts (2010) under a parametric theory of syntactic variation much like the one proposed in this thesis, where feature-valuing in the probe-goal-Agree system varies parametrically. As already discussed several paragraphs above, Biberauer & Roberts (2010: 265) claim that T comes to the derivation with an unvalued V-feature. In their conception, T is inherently verbal but it lacks argument structure. They adopt a version of the Minimalist program similar to Chomsky’s (1995b) – albeit in a different guise – where T is generated not only with T-features and V-features, but also – parametrically – a D-feature. I return to such issues in section 3.2 below.

discussed above to the parametric, probe-goal-Agree account Biberauer and Roberts (2010) entertain for the feature-valuation model they propose. Thus, depending on whether structural dependency relations are based on V-related properties or on D-related properties of the functional nodes T (and, possibly, C) in relation to V in sentence structure, the grammar will set different parametric restrictions and licensing conditions on what could be derived and what could not be derived in the language.

Granting that this much is reasonable enough, it seems that the complex of ϕ -features to be checked/valued in the functional structure of clauses, in a V-raising language like TA, are more plausibly associated with Agr_S, which, according to the structure of sentences proposed in (1) above, is the highest functional projection in the IP domain that needs to be saturated as in Rothstein's (1983) proposal for the relation that binds V to T. Nevertheless, I am putting forward the proposal that Agr_S does not project in VSO word order in SA, as a closely-related language to TA. Not projecting Agr_S is, then, a parametric choice SA opts for (in contrast to TA which systematically projects Agr_S whether the derived structure surfaces as SVO or as VSO).

Due to the absence of Agr_S in the derivation of SA VSO sentences (and, in turn, the unavailability of EXPL *pro* in the IP domain due to the non-projection of Agr_S), the projection of [Spec, TP] becomes a requirement for EPP satisfaction at the IP level, whereby the subject is raised out of [Spec, v*P] to fulfill that requirement in [Spec, TP]. The verb is then raised further up past the subject. Presumably, this raising process is triggered by some feature (or feature complex) associated with a functional head position *F* in the split-CP domain (Rizzi 1997). Postponing the discussion of the structural status of the functional head *F* to section 3.3, projecting *F* in the sentence structure of VSO instances in SA triggers the right setting for the kind of agreement configuration SA VSO word order exhibits.

3.1.1.3. Bobaljik & Jonas (1996) and Bobaljik & Carnie (1996) on the Derivation of Agr_SP

Bobaljik & Jonas (1996) propose the idea that agreement, the EPP and the Spec-head agreement relation are structurally related in the derivation of sentences (see section 2.3.3, and section 3.1.2 below, for a more recent Minimalist analysis of this idea).

In an analysis primarily interested in the properties of Transitive Expletive Constructions cross-linguistically, Bobaljik & Jonas (1996: 200; see also footnote 6 on the same page) argue that Agr_S (or Agr_O) cannot project in the syntax if it is

specifierless since the specifier of such a projection is a ‘potential’ target for movement of the subject. According to Bobaljik & Jonas (1996) not only does [Spec, Agr_SP] project in a language like Icelandic, but the language also allows T to have a specifier position (the so-called ‘[Spec, TP] parameter’) in the so-called Transitive Expletive Constructions (see also Chomsky 1995a: 425-431).

Bobaljik & Carnie (1996) develop a similar parametric analysis to that of Bobaljik & Jonas (1996), particularly in relation to the importance of [Spec, TP] in word order differences in V-raising languages. Bobaljik & Carnie (1996) explain the main difference in the derivation of the relevant structures in Irish (a VSO language) and French (an SVO language), both of which exhibit overt verb movement, in relation to the T-node in overt syntax. Their analysis is grounded in the Minimalist assumptions of Chomsky (1993) of the strength of category features on functional nodes. Bobaljik & Carnie (1996: 225-229) argue against both a verb-to-Comp and a subject-and-object-*in-situ* analysis of Irish VSO word order. Instead, they (Bobaljik & Carnie 1996: 230-233) argue that the derivation of VSO word order in Irish results from the raising of the lexical subject DP to the projected specifier position of the T-node due to a strong N-feature on T. The subject DP checks its features (including case) in that position. The verb (actually the [V+ Agr_O] complex]) moves to T and then the whole [[V+ Agr_O] T] complex moves to Agr_S deriving the VSO word order.⁴ The tree structure in (5) below represents this process:

⁴ In the representation in (5), I ignore Bobaljik & Carnie’s (1996) discussion of object raising to [Spec, Agr_OP] and verb movement to Agr_O since these processes do not directly bear on the discussion.

(5) Irish VSO:

By contrast, the specifier position of the T-node, in a V-raising language like French, is not projected. The T-node raises up to attach to Agr_S and the verb raises to attach to the inflectional complex [Agr_S T-Agr_S]. In Bobaljik & Carnie's (1996: 234) account of SVO word order in French, T-to-Agr_S is explained in terms not only of strong V-features on Tense that have to be checked in the overt syntax, but also in terms of strong N-features of Tense (whereby the subject DP is inserted in [Spec, T-Agr_S]. The subject DP moves to the specifier of this complex (essentially a verbal complex at LF) yielding the tree structure in (6) below:

(6) French SVO:

On this account, the difference between Irish and French concerns the V-features of Tense, which are strong in French necessitating T to raise to Agr_S, but weak in Irish disallowing T-to-Agr_S as an independent raising process (Bobaljik & Carnie 1996: 234-235). In Bobaljik & Carnie's (1996: 235) own terms:

By hypothesis, Irish has weak V-features and thus T need not (and so cannot) raise independently to Agr_S. ... Note that in Irish T does, in effect, raise overtly to Agr_S, but only as a step in the sequence of head movements V → Agr_O → T → Agr_S. This difference correlates with the possibility of checking the N-features of Tense in the specifier of TP (Irish) as opposed to in the specifier of Agr_SP (with the complex head [T + Agr_S] (French)).

Although Bobaljik & Carnie's (1996) analysis of VSO word order in V-raising languages is important in that it binds the parametric difference between the Irish-type languages and the French-type languages to the availability or unavailability of [Spec, TP] in the derivation of the relevant structures, it runs counter to Bobaljik & Jonas's (1996) assumption that Agr_S cannot project unless it has a specifier position. More generally, this analysis does not take into account the kind of 'last resort' movement

Miyagawa (2010) bases on the premise of an EPP-triggered analysis of agreement that relies on the central role of Spec-head agreement under the highest functional projection in the IP domain, as mentioned earlier in this section (see also section 3.1.2.2 in relation to Roberts & Roussou's 2002 guideline in (7) below).

Bobaljik & Carnie (1996: 232) further assume that, in a structure like (5), for Irish, covert movement occurs at LF, whereby the subject raises from [Spec, TP] to a newly projected [Spec, Agr_SP] to check agreement features and Case against Agr_S. The problem with this assumption is that, on Chomsky's (1993) Minimalist assumptions, 'covert movement' (or 'feature-attraction') applies to 'weak' features on a head that could not be 'checked' via Spec-head agreement in the syntax proper. In this case, the Spec position of Agr_S would be superfluous at LF; and so would be the head Agr_S since both functional positions – i.e., [Spec, Agr_SP] and Agr_S – would be associated with 'weak' features that play no role at all in the derivational process and/or in interpretation, which is overruled on the Minimalist assumptions of 'economy of derivation' Chomsky's (1993) framework abides by.

To sum up, the cross-linguistic characterization of word order and agreement configurations in terms of the availability or unavailability of functional projections and associated specifier positions is significant in that it points to an available generative paradigm that could serve as a framework for an adequate account of parametric variation in terms of the potential availability of an Agr_S node, the specifier position of which would be fundamental in accounting for subjecthood and varying subject properties in a variety of closely-related languages.

In the following section, I argue that, over and above the potential availability of an Agr_S node accounting for parametric variation between closely related languages of the Arabic/Semitic or Celtic kind, parametric variation also concerns the Spec-head/head-head agreement relations that are established via movement and the properties of the functional node the verb raises to in the IP domain – namely, Tense or the node that embeds Tense features in the syntax – namely, Agr_S or C (Roberts & Roussou 2002).

3.1.2. The role of the Spec-head agreement relation and the Tense-dependency in the derivation of functional structure

This section highlights the role of T (tense features) in relation to the possible projection of an Agr_S node in the IP domain in establishing the Spec-head/head-head

dependency relations that would account for parametric and micro-parametric differences in subject-verb agreement configurations. In section, 3.1.2.1, I further review Miyagawa's (2010) agreement approach to movement and the EPP (see also section 2.3.3) in relation to the fundamental role Spec-head agreement plays in the derivation of sentences. Section 3.1.2.2 is a discussion of Roberts & Roussou's (2002) T-criterion analysis that makes similar predictions to those of Miyagawa (2010) about sentence structure and the 'functional relations' incrementally built up in it.

3.1.2.1. The central role of the Spec-head agreement relation (Miyagawa 2010)

The account of the derivation of functional structure I am proposing essentially relies on a characterization of sentence structure in terms of a 'last resort' analysis of movement processes of the kind Miyagawa (2010: x) links to an EPP-triggered analysis of agreement. In this approach, movement and agreement are associated with the availability of specifier positions that establish 'functional relations' between lexical items (essentially verbs and their associated arguments) and functional heads in terms of "Spec-head agreement [...] implemented as two independently motivated operations – Agree and Move" (Miyagawa 2010: 9). As in Chomsky (2001, 2004), the Agree relation guarantees that agreement features are checked/valued at each 'strong Phase' (v*P and CP) and that the EPP is satisfied, whereby interpretability at 'Spell Out' follows.

According to Miyagawa (2010: 9), the Spec-head agreement relation between a functional head and some XP is what underlies both agreement and movement, since movement only plays the role of bringing the goal of the Agree relation close to the probe that seeks that goal, i.e., establishing a Spec-head agreement configuration between the two elements. In doing so, Agree and Move help breach the gap between narrow syntax and information structure so that semantic interpretation is available at each Phase of the derivational process. Miyagawa (2010: xi) justifies this line of argumentation in that:

Without agreement and movement, human language would be a shadow of itself for expressing human thought, impoverished to the degree that it would not be able to express such common notions as topic-comment, subject of a clause, focus, and content questions.

In relation to Miyagawa's (2010: 4) assertion that agreement and movement always co-occur, one important corollary of an adequate account of parametric variation in subject-verb agreement configurations in V-raising/null-subject languages is that such variation cannot be the result of verb movement *per se*. The feature structure of functional elements projected in the process of the derivation and the Spec-head/head-head agreement configurations that verb movement helps build up are important ingredients in this parametric account.⁵ An approach to subject-verb agreement configurations that only partially takes into account the feature structure of functional elements would lack in generality since it limits itself to properties of sentence structure that do not rely on the fundamental role 'functional relations' play, in the syntax proper, in the derivation and representation of sentences. This is the case with Aoun & Benmamoun's (1999) account of the agreement asymmetry in terms of the PF phonological properties of verb movement in the derivation of VSO structures in a language like SA (see section 2.3.1). Such an account misses out the importance of the 'functional relations' Move and Agree processes create in the syntax proper and the Cartography of functional head and specifier positions that could shed new light on parametric variation in such configurations.

As I mentioned in section 3.1.1 above, the derivation of VSO sentences in Arabic finds a plausible parametric account in terms of an Agr_S node – along with the base-generation of expletive *pro* in [Spec, Agr_SP] in the modern spoken dialects of Arabic – that would mediate the Spec-head/head-head Agree dependency relations in the functional structure incrementally derived via Merge/Move.

This section has focused on the argument that satisfying the EPP at the highest level of sentence structure at the 'strong Phase' is the trigger for Move and Agree, in the first place. Spec-head agreement – over and above Move and Agree – plays a central role in producing such a result at the relevant Phase. In the next subsection, I have a look at Roberts & Roussou's (2002) T-criterion and the role the T-dependency plays in accounting for the distribution of expletive subjects cross-linguistically.

⁵ The sample examples Miyagawa (2010: 47, 52) mentions are those of languages that lack 'overt' verbal agreement inflection but still manifest 'person agreement'. This is the case of Chinese 'pro-drop' and the kind of 'pro-drop' and 'person agreement' that is concomitant with V-raising processes in Romance and (Bani Hassan) Arabic.

3.1.2.2. *Roberts & Roussou's (2002) T-criterion analysis: The T-dependency and the distribution of expletive subjects*

Miyagawa's (2010) account of movement and agreement in terms of EPP-based Spec-head/head-head agreement dependency relations is reminiscent of Roberts & Roussou's (2002; henceforth, R&R) 'T(ense)-criterion' and its relation to parametric variation in the derivation and representation of sentences. The T-criterion is an attempt to point to the paramount role of both Agr_S and C in relation to the T node in unifying two seemingly unrelated structural phenomena: the EPP (Chomsky 1982, 1995c), and the V2 effect. R&R (p. 127) state the T-criterion (in their conception, the EPP) as follows:

(7) The head containing T must have a filled specifier.

The guideline in (7) has the effect of reducing the EPP – the subject requirement, in R&R's terminology – and the V2 effect to a property of T in connection with the functional position where T is spelled out after the derivation is handed over to the PF component of the grammar. In other words, "... the 'subject requirement' arises when T is realized in the IP domain, while the 'V2 requirement' arises when T is spelled out in the CP domain" (R&R: 125). In the first case, it is [Spec, IP/Agr_SP] that has to be occupied by some DP element. In the second case, it is [Spec, CP] that has to be occupied by some XP element (not necessarily a DP). This formulation of the T-criterion in terms of a basic Spec-head agreement relationship between a head and some XP element makes the EPP similar to 'criteria' of the kind proposed by Rizzi (1996: 64) in his formulation of the Wh-criterion (see also Rizzi 2006).⁶

Following Chomsky's (1995b) conception of the EPP as the necessity of checking the D-feature of T by the subject (as an XP category), R&R argue that the focus should not be on the simple restatement of the EPP as a 'subject requirement', but rather on an explanation of why it is the case that both the EPP and V2 involve T. Relying on the 'T-criterion' as a kind of "generalized EPP", R&R argue that a more satisfactory explanatory theory of the EPP would be to link the two requirements as

⁶ Rizzi (2006: 98) dubs the same principle (i.e., the T-criterion) the 'Subject Criterion' which arises in A-movement involving the checking/valuation of Case at the interface. In A'-movement involving wh-moved elements – hence, the name 'Wh-criterion' –, however, no Case-checking is assumed to be involved, and the trigger of wh-movement is the structural requirement that wh-elements reach their final landing site in the CP domain – by definition, a 'criterial position' (the term is Rizzi's 2006: 98).

both involving Spec positions, i.e., [Spec, CP] as far as the ‘V2 requirement’ is concerned and [Spec, IP] as far as the ‘subject requirement’ is concerned.

Similarly to Miyagawa’s (2010) EPP-triggered analysis of agreement, the ‘T-criterion’ analysis argues for parametric – and micro-parametric – variation in terms of a Spec-head relation between the head containing T (or, the head that is related to T in the IP domain – namely, Agr_S) and the Spec position of the functional head that T attaches to. Interestingly enough, the conception of the Spec-head agreement relation in the Phase-theoretic framework (Chomsky 2001, 2004), as only being relevant at the ‘strong Phase’ (i.e., the interface, which obtains cyclically at the v*P and CP levels), may be an argument (*pace* Chomsky 2004) in favour of the role the Spec-head agreement relation plays in dependency and agreement configurations. Spec-head agreement would be the result of the application of the Agree relation as it obtains at the strong Phase after all Merge/Move processes have applied. At the strong Phase, all features end up being valued for convergence at the Interface.

An even more compelling argument for the T-criterion, as formulated in (7) above, is that both the ‘subject requirement’ and the ‘V2 requirement’ can be satisfied by an expletive, as (8) shows (R&R: 126):

- (8) a. Es wurde getrunken (German)
 It was drunk
 ‘People were drinking’
- b. There’s a fly in my soup.

In (8a), the auxiliary verb *wurde* occupies the C node, and T is therefore realized in that position. The expletive *es* has to be inserted in [Spec, CP] for the satisfaction of the V2 requirement for the lack of any other element that can occupy that position. In (8b), likewise, Tense is realized in the IP domain, but, due to the failure of the subject argument DP to raise to [Spec, IP], expletive *there* is inserted in that position, instead.

According to (R&R: 131), the features that realize the ‘T-dependency’ (or the ‘C-Agr_S-T dependency’) are those associated with Agr_S. In [-Finite] embedded raising clauses in English (as in the embedded contexts in *there*-constructions reviewed in 2.3.2), Agr_S may be absent in the lower clause (R&R: 136). R&R argue that, in this case, identification of the T dependency in the lower clause operates with Agr_S in the matrix clause.

Similar to R&R's 'T-dependency' analysis, Alexiadou & Anagnostopoulou (1998) develop an approach to EPP satisfaction in clause structure where Agr_S figures as the highest functional node in the IP domain. In Alexiadou & Anagnostopoulou's (1998) account, EPP feature-checking is achieved either via the realization of the features of Agr_S as a head (i.e., via V-raising to T and Agr_S in VSO languages) or via the realization of those features as a specifier (i.e., via DP-raising to [Spec, Agr_SP]). Nevertheless, this approach to EPP satisfaction at the highest level of functional structure in IP runs counter to Roberts' (2010a: 166-167) argument that satisfaction of the EPP (and, as a side effect, agreement in ϕ -features/case) obtains independently of V-movement *per se*. According to Roberts (2010a), head movement (i.e., movement of V to T) is dissociated from EPP-driven movement since "EPP-features of T do not attract V-elements" (Roberts 2010a:167). The explanation Roberts (2010a:107-109) gives for this dissociation is that, in the case of V-to-T movement, the goal of the Agree relation is 'defective' in that the features in which the probe P and the goal G agree are a subset of the features of P (i.e., V-*v* and T agree in ϕ -features and these are a subset of T). As Roberts (2010a: 166) also notes, there is "a general incompatibility between incorporation and EPP features".

As will be discussed in section 3.2.1.2 below, Roberts (2010a) argues that satisfaction of the EPP, in this instance of probe-goal-Agree relation, is by filling up [Spec, TP] with a D element that not only values the EPP-feature of T, but it also satisfies the requirement that a 'defective' goal in [Spec, TP] matches and values the uninterpretable D-feature on T (i.e., [*u*D] on T) in V-raising/null-subject languages. Thus, in Roberts' (2010a) parametric account of the differences between null-subject and non-null-subject systems in the derivation of subject-verb agreement configurations, over and above the ϕ -features – which T inherits from C (possibly, together with the EPP feature, (Chomsky, 2008: 157)) –, the feature on T that specifically enters into the definition of 'defective' goal in null-subject languages is an additional intrinsic D-feature. In this case, T's D-feature matches the D-feature of a subject D – namely, *pro* – necessitating it to raise to [Spec, TP] (or be inserted in [Spec, TP] via Merge in the case of EXPL *pro*) for 'checking' purposes. According to Roberts (2010a: 108), in a null-subject language, "in order to license a null subject

(which involves deletion of a null pronoun in SpecTP), T must have ϕ -features, D-features, and an EPP-feature”.⁷

In other cases – as in the derivation of VSO structural representations in SA vs. TA –, the process of *pro*-insertion in [Spec, TP] may not be the right process for EPP satisfaction and ϕ -feature valuation at the IP level (in this connection see footnote 7 above). This might be the case where the availability of the intrinsic D-feature, which Roberts (2010a,b) associates with T, is parametrically missing in such typologically closely-related languages (i.e., in SA vs. in TA).

3.1.3. Summary

In this section, I have highlighted the central role of T – and its features, whether inherited or not, à la Chomsky (2008) – in establishing the kind of functional Spec-head/head-head dependency relations involved in the valuation of agreement features. These C-Agr_S-T dependency relations – and the specifier positions they involve – are argued to account for the parametric and micro-parametric structural agreement configurations arising from differentiations in the feature structure of functional elements that is responsible for the differences in agreement configurations at Spell Out.

Thus, in light of the postulated feature composition of Tense in the IP domain (see Table 3.1 above), the availability or unavailability of features (or combination of features) on functional heads lies at the centre of the differentiations in question. In this respect, the parametrically available option of projecting an Agr_S node (maximally projecting as Agr_SP), and whatever feature, or features, Agr_S is generated with would be the trigger for the T-to-Agr_S raising process discussed in section

⁷ Roberts (2010b: 67, footnote 10) assumes that the condition for copy (pronoun) deletion is that one set of features has to delete. Since, in the case of *pro*, as a ‘defective’ goal, *pro*’s features are a subset of the probe T, it is the goal’s feature(s) that delete. On this account, the deletion of the features of *pro* (ϕ -features and D for referential *pro*, and a D-feature only for EXPL *pro*) entails the deletion of *pro* itself at PF after the uninterpretable ϕ -features on T – along with its additional uninterpretable D-feature, in the case at hand – get a value, and thus, survive deletion. In this valuation procedure, the interpretable D-feature on *pro* links [*u*D] on T to ϕ -feature specification. Since all features are valued, *pro* deletes after having satisfied the EPP at Spell-Out in [Spec, TP]. As I will discuss later (see section 3.3.4 and Chapter Four), in SA VSO word order, *pro* fails to be instantiated in the IP domain and, instead of being deleted at PF, it is morphologically realized as a clitic pronominal element in the CP domain in case the assertive clause-type particle element *ɸinna* ‘that’ is merged under a declarative C node. In this case, since [Spec, TP] still has to be occupied for the satisfaction of the EPP in the IP domain, the subject raises from [Spec, v*P] to meet that requirement. After raising to T, the verb further raises to the CP domain to attach to some functional node *F* in a split-CP system à la Rizzi (1997).

3.1.1.3. In particular, T-to-Agr_S (with V-*v* attached to T) would, independently, account for the combination of features Roberts (2010a: 108) attributes to T in the IP domain (i.e., a D-feature in addition to ϕ -features and an EPP feature, in the relevant languages) and could shed new light on a possible account of parametric variation in agreement configurations cross-linguistically (see, in particular, section 3.3 below).

In the next section, I expand on the theoretical significance of the dependency-based analysis of agreement configurations for expletive-constructions in light of Chomsky's Phase-theoretic framework.

3.2. The probe-goal-Agree system: Agreement features and structural dependencies

The Phase-theoretic framework of assumptions (Chomsky 2001, 2004; see section 2.3.2) claims that feature strength on T and C is not the real trigger of Merge/Move processes. In Chomsky (2001, 2004) – and likewise in Chomsky (2008) – parametric variation is no longer accounted for in terms of a 'strong' D-feature on the core functional categories of sentence structure (see section 2.3.1 for how 'feature strength' was conceived in earlier Minimalist frameworks). Nevertheless, the [$\pm$ interpretable] dimension remains a core prerequisite of the case-agreement system in conjunction with the EPP.

In addition to this major revision of the architecture of the functional structure of natural languages, Chomsky (2004) argues that the Spec-head agreement relation can no longer figure as the basis of the procedure whereby uninterpretable features are eliminated in the course of the derivation for convergence at the interface, and that the very process of merging elements in the derived structures is the only factor responsible for valuing any uninterpretable features in the sublabels of functional heads. Nevertheless, as Miyagawa's (2010) movement analysis of agreement and the EPP directs attention to, when considering how both Agree and Move concur to achieve the satisfaction of the EPP, there are good reasons to suppose that the Spec-head agreement relation is responsible for that result at the 'strong Phase' level when the derived structure is transferred to the interface for interpretation.

By making a difference between Agree-features (= ϕ -features) and a certain Edge feature (EF), the framework of assumptions of Chomsky (2008: 148) brings another dimension into the account of Agree relations and the EPP. Since ϕ -feature valuation and satisfaction of the EPP in clause structure in the C-T Phase are

interrelated in the Phase-theoretic approach (Chomsky 2001, 2004, 2008), Chomsky (2008: 157) assumes that in addition to the essential dissociation between the EF and ϕ -features, a similar dissociation could be entertained between the EF and the EPP. Thus, as represented in Table 3.1 above, the formal features that enter into the kind of subject-verb agreement operating at the IP/TP level are actually features that are associated with C in the first place. Thus, T's role in such subject-verb agreement configurations is only 'derivatively' obtained via the essential C-T structural dependency relation that binds the two functional nodes, T and C, together.

In Chomsky's (2008) feature-inheritance conception of the dependency relation that links T to C, the dissociation between the EF and the other formal features that T and C share is also significant in that singling out the EF as an exclusive property of C that is not shared by T accounts for why subject wh-elements are attracted to C, rather than to T.⁸

In a similar approach to the feature structure of functional categories that enter into the probe-goal-Agree system to that of Chomsky (2008), Roberts (2010a: 108, 113; see section 3.1.2.2 above and section 3.2.1.2) postulates a D-feature on T that accounts for why [Spec, TP] has to be occupied by some element by PF in the relevant languages. Nevertheless, unlike the EF on C, T's D-feature would somehow be associated with the EPP, particularly so, since – as Chomsky (2008: 157) suggests – C does not keep its EPP-feature, but transmits it to T. The association that I am proposing between the parametrically available D-feature and the EPP makes the so-called 'subject requirement' (R&R: 125) an essential ingredient in any account attempting to shed light on differences in the realization of subject-verb agreement dependency relations cross-linguistically. I take up the role of D-features in the derivation of the T-dependency in section 3.2.1.2 below.

As far as the postulated D-feature on T is concerned, this line of argumentation seems plausible since, as I have discussed in section 3.1 in relation to

⁸ This is not quite true, because in Chomsky's (2008) system two copies are generated in the process of wh-moving a subject in English matrix clauses: one copy lands in [Spec, TP] and the other lands in [Spec, CP]. For reasons of linearization at the PF side of the grammar, only the highest copy is spelled out. I come back to a discussion of such Merge processes in section 3.2.1.1 below, in the context of the parallelisms that exist between C and T in terms of features and the Merge/insertion processes driven by these features. Again, this parametric account will show that the feature structure of the functional elements involved in these processes may trigger different requirements as to how the T-dependency is realized in different languages (as, for example, in English wh-moved subjects vs. TA wh-moved subjects), and perhaps also in the same language (as for example, subject wh-extraction, as studied by Chomsky 2008 vs. subject wh-extraction from an embedded clause involving a *there*-construction; see section 3.2.1.1).

Miyagawa 2010 and R&R, the EPP only applies at the highest level of functional structure (i.e., T selected by C in English) before the derivation is handed over to PF and LF at the ‘strong Phase’. At the strong Phase, Move applies to bring the matching elements (i.e., T and whatever element happens to be in its Spec position) close to each other so that some form of agreement can obtain. Thus, it seems that at the IP/TP level, Agree-features and the EPP always coincide, and that the D-feature (in conjunction with V movement in VSO sentences) could be argued to be generated higher than the first Merge site of the T-node before T ‘reemerges’ in sentence structure (as in Rouveret’s 2010 system of feature ‘fission’; see right below). According to the cross-linguistic account of the derivation of sentences that parametrically vary due to differing probe-goal functional relations in terms of Move and Agree, the tense features and, parametrically, the postulated D-feature on T (in Roberts’ 2010a: 108, 113 analysis) would rather reside either in Agr_S or in C than on T. In the account provided here, T – in the relevant languages/structures – is associated with T because of the raising process of T to either Agr_S or to C.

In a different cross-linguistic typology of V1 (and V2) structures from the typology adopted in this thesis, Rouveret (2010: 240-243), proposes that tense features, which originate on T in the IP domain, are passed on (by a process of ‘Fission’) to the immediate superordinate category in sentence structure. In Germanic languages, with the exception of English, tense features are passed on to C. In typologically different languages in the Germanic paradigm (including Icelandic, Yiddish), T ‘reemerges’ and projects a ‘proxy’ T category with a second Spec position for the satisfaction of the EPP under Rouveret’s (2010: 244) assumption that “the EPP position can never coincide with the one dedicated to the valuing of T’s [phi]”.⁹ In Rouveret’s (2010) account, although the [EPP] feature is interpretable on T, it still has to be satisfied – in the languages that allow T to ‘remerge’ – and to meet the EPP requirement for convergence at the Interface.

Thus, in the probe-goal-Agree approach to parametric variation adopted in this chapter, it seems that the Spec-head/head-head dependency relations would play a

⁹ According to Rouveret (2010: 245, footnote 32), English is different from all the other Germanic languages in that there is no independent [tense] feature on T in English. In Rouveret’s (2010) system of the ‘scattering’ of tense and agreement features, the consequence is that the English T-node in the IP domain does not need to ‘remerge’, and the EPP, in English, is not a requirement of sentence structure as it is in the other Germanic languages. A further consequence is that English lacks both the ‘Remerge’ option and the ‘fission’ on C option (see, in that respect, Rouveret’s 2010: 246 table summarizing his parametric variation account of T’s features).

central role in the kind of parametric variation I am arguing for in terms of feature complexes at the highest level of sentence structure. In particular, this is where the role of Agr_S becomes paramount. In connection with this, I will propose in section 3.3 that Agr_S is the minimal unit of parametric variation in Arabic accounting for the micro-parametric difference in the manifestation of subject-verb agreement. Of particular importance in this respect is that the projection (or non-projection) of an Agr_S node in the overt syntax in V-raising languages – with VSO and SVO as alternative word orders – is dictated by the feature structure of core functional categories and the dependency relations thereby generated in sentence structure.

Before capitalizing on the parametric role Agr_S plays in Arabic (and perhaps more generally in similar language types), I discuss in section 3.2.1 below the relevance of the ‘probe-goal-Agree’ system in light of the importance of EXPL-insertion in an account of subject-verb agreement manifestations relying on the Spec-head/head-head agreement relations underlying the C-Agr_S-T dependency (which, as reviewed in section 3.1.2.2 above, is the cornerstone of the T-criterion – i.e., the EPP). Section 3.2.2 is a summary.

3.2.1. EXPL-insertion in a probe-goal-Agree system of dependency relations

Section 3.2.1.1 reviews the process of EXPL-insertion cross-linguistically. By reference to Romance null-subject languages, section 3.2.1.2 deals with EXPL-insertion in the context of the probe-goal-Agree system of dependency relations and the role of D-features on agreeing elements in setting the right conditions on the Spec-head/head-head agreement configurations responsible for interpretability of the structures at the interface at Spell Out.

3.2.1.1. A typology of EXPL-insertion structures cross-linguistically

In Chomsky (2001, 2004), the locus of ϕ -agreement in simple sentences – in a strict SVO language like English – is T, complement-selected by a ϕ -complete C. In Chomsky (2008), ϕ -completeness is replaced by a theory of Agree-feature ‘inheritance’ whereby T ‘inherits’ its ϕ -features from C, thus highlighting the essential dependency relation T and C engage in in structural terms. As far as T is concerned, it seems that a system like that of Roberts (2010a), discussed in section 3.1.2.2 (see also section 3.2.1.2, below), in connection with expletive subjects in a

variety of languages, makes stronger assumptions than Chomsky's (2001, 2004) in that it posits a D-feature accounting for parametric variation at the IP level cross-linguistically.

As I will discuss in this section and the next, the satisfaction of the EPP at the highest level of sentence structure, in the probe-goal-Agree system, is concomitant with the valuation of Agree-features. Satisfaction of the EPP also coincides with the Merge sites of some elements, such as EXPL DPs (like *there* in English or *es* in German) or wh-words (expletive or 'contentful', which is the specific case of German-type languages; see the examples in (9) and (10) below). These elements are inserted in the process of the derivation either via 'internal Merge' as in the process of wh-movement to [Spec, CP] or via 'external Merge' whereby EXPL is inserted at the highest level of sentence structure at the strong Phase in the C-T system. Depending on the properties of the language in question, the Merge site could be either [Spec, CP] or [Spec, IP].

As reviewed above, the probe-goal-Agree system and R&R's T-criterion approach make similar assumptions as to the role that EXPL and other elements, such as wh-words, play in the derivation of dependency relations in sentence structure both at the level of IP and that of CP due to the special relationship that links T to C. According to both approaches, EXPL could be merged directly into [Spec, CP], as in (9) or in [Spec, TP], as in (10):

(9) EXPL-insertion in [Spec, CP]:

a. V2 or topic expletives

[_{CP} Það klaruðu_j [_{TP} margar mýs_k [_{VP} ostinn_i [_{VP} alveg [_{VP} t_k [_{VP} t_j t_i]]]]]]]
 there finished many mice the-cheese completely
 'Many mice completely finished the cheese'

(Icelandic, adapted from Alexiadou & Anagnostopoulou 2001: 199; their (17))

b. Wh-expletive pronouns

[_{CP} Was glaubst du, ... [_{CP} welchen Mann_i [_{TP} sie [_{VP} t_i [_{VP} liebt t_i]]]]]]?
 what believe you which man she loves
 'Which man do you believe that she loves'

(German, adapted from Felser 2003: 52; her (17))

(10) EXPL-insertion in [Spec, TP] – subject expletives:

- a. [_{CP} C [_{TP} There [_T [_{VP} arrived a man]]]]
- b. [_{CP} C [_{TP} There_i [_T seems [_{TP} t_i [_T to [_{VP} have arrived a man]]]]]]]

In connection with the Icelandic Transitive Expletive Construction in (9a), Alexiadou & Anagnostopoulou (2001: 209-212) argue that the EPP and Case are ‘checked’ in two different positions in relation to T in a multiple-specifier/multiple-adjunction approach like that of Chomsky (1995b) or an approach similar to Bobaljik & Jonas’s (1996), briefly discussed in section 3.1.1.3 above. Alexiadou & Anagnostopoulou (2001) assume that the subject DP *margar mýs* in (9a) overtly moves to a Spec position – namely [Spec, TP] – different from that occupied by EXPL *Það*. Thus, EXPL *Það* is inserted in a higher Spec position for EPP satisfaction. In theory, this position could either be [Spec, CP] or [Spec, Agr_SP]. Nevertheless, on Alexiadou & Anagnostopoulou’s (2001: 212, footnote 23) assumption that the projection of an Agr_(S) node just provides a landing site for the verb in Icelandic Transitive Expletive constructions (thus, not projecting a Spec position),¹⁰ the position of EXPL-insertion would be [Spec, CP]. Alexiadou & Anagnostopoulou (2001) argue that the subject in [Spec, TP] checks Case.¹¹

Alexiadou & Anagnostopoulou (2001: 209) contend that the same conclusion applies to the derivation of VSO word order in Arabic, Celtic and the kind of Romance languages that allow VSO word order, where the EPP is also checked in a higher position than that of the subject (presumably, remaining in [Spec, vP] in these languages; cf. Koopman & Sportiche 1991). On their assumptions, the EPP in these languages is checked not via phrasal movement, but via V-raising to I/Agr_(S) because of a D-feature on V that allows it to satisfy the ‘strong’ D-feature of T, i.e. the EPP according to Chomsky’s (1995b) Minimalist approach (see also Alexiadou &

¹⁰ In Alexiadou & Anagnostopoulou’s (2001: 212, footnote 23) own terms: “... an Agr is inserted as a proxy, in order to create a landing site for the verb, without playing any other role in the checking relations”.

¹¹ According to Alexiadou & Anagnostopoulou (2001: 211-212), the Case-feature of T could be checked in either of two ways according to the specificities of the language in question. One possibility is that the lexical subject moves to [Spec, TP] to check T’s Case-feature leaving EXPL to be merged higher (presumably, in [Spec, CP]). The second possibility is to allow Case to be checked covertly without phrasal movement. In this case, the subject remains *in situ* in [Spec, vP]. Under their approach, these two Case-checking possibilities coincide with the two options of EPP-feature checking – namely, by Merging EXPL in [Spec, CP] (as in Icelandic) or by raising V to I/Agr_S (as in the VSO languages they discuss).

Anagnostopoulou 1998). In this case, VSO sentences in V-raising languages will have a structure where the Spec position of the highest projection in the IP domain (i.e. I/Agr_S) is not necessarily projected in the syntax (see section 3.1.1.3 for Bobaljik & Carnie’s 1996 similar assumptions about the derivation of VSO structures in Irish).

Notwithstanding Alexiadou & Anagnostopoulou’s (2001) contention that the EPP can be checked by V in VSO languages (or the languages allowing VSO word order), the position where EXPL is merged for EPP satisfaction, is consistently assumed to be higher than any other position in clause structure. The EPP-related Spec position could be [Spec, TP] or [Spec, Agr_SP] – under the assumption that Agr_S projects a Spec position as soon as it is introduced in sentence structure –, or [Spec, CP] – under the assumption that C is always associated with T (or T-features).¹²

In the German construction (9b), the EXPL wh-pronoun *was* ‘what’ is merged in the [Spec, CP] position of the matrix clause. As for the ‘contentful’ wh-phrase *welchen Mann*, it partially moves to the [Spec, CP] position in the lower clause, landing first in the ‘outer Spec’ of vP (‘outer Spec’ of v*P in Chomsky 2001, 2004). As in the Icelandic example in (9a), the EXPL in (9b) is directly merged in a higher Spec position associated with a ϕ -complete T (in Chomsky’s 2001, 2004 Phase-theoretic terminology).

The English unaccusative *there*-constructions in (10) show a similar insertion process. As already pointed out in Chapter Two, the ultimate purpose of having *there* inserted in English *there*-constructions is to satisfy the EPP-feature of T, whether T is selected by C (as in (10a)) or not (as in the embedded clause in (10b)).

In all the cases just reviewed in connection with the Merge processes involved in the derivation of (9) and (10), the EPP is valued after the Merge processes conspire with Agree to bring the goal of the matching/Agree relation closer to the probe seeking that goal, and merge it – by a raising process or else by a pure Merge process – in the highest Spec position the derivation has introduced in conformity with the Spec-head/head-head structural dependency relations resulting from the Merge

¹² This is actually Rouveret’s (2010: 244-245) conclusion in his system that allows T to ‘Remerge’ and project a second Spec position or to ‘fission’ onto C. In Rouveret’s (2010) system – discussed above – the tense features of T and its EPP feature could coincide in the languages where the EPP is a requirement. This possible correlation between the valuation of tense and the EPP on T obtains, in the relevant languages, because the ‘Remerge’ or ‘fission’ of T for the satisfaction of T’s tense features will coincide with the projection of a higher Spec position – namely, second Spec of TP or Spec of CP – for the satisfaction of the EPP, which “can never coincide with the one dedicated to the valuing of T’s [phi]” (Rouveret 2010: 244).

processes themselves and the feature makeup of the functional category or categories that triggers these Merge processes in the first place.

In this connection, if Roberts (2010a: 167) is right in his assumption that V-elements are not EPP-checkers, then the element responsible for checking the EPP will also be responsible – under Roberts’ (2010a,b) approach – for checking a D-feature of the T-node in [Spec, TP] in the relevant languages.¹³ This is indeed Roberts’ (2010a) assumption in relation to the null-subject languages he is concerned with (see, in particular, the next section). In this case, the D-feature that Alexiadou & Anagnostopoulou (1998) argue to be the trigger of V-raising in the VSO languages they discuss is actually not a property of V, but a feature of the probe T itself – different from the EPP – that requires an element to raise to (or be inserted in) its Spec position.

As discussed earlier, at the stage in the derivation where T is introduced at the IP level (in a language like English or Arabic) and seeks a matching goal to value its EPP-feature, only a D-element can be merged in syntactic structure to check that feature. In this respect, the EPP is a universal of syntactic structure that is not parameterized. What is parameterized, according to Roberts (2010a: 108-113), is the additional D-feature on T that Roberts (2010a,b) links to the null-subject parameter (see section 2.1.1). The parameterization of T’s D-feature explains Roberts’ (2010a,b) assumption that the D-feature on T in a null-subject system like the Milanese variety among the Northern Italian dialects (in Roberts 2010a; see section 3.2.1.2 below) or TA (see the discussion in relation to example (13) below) is checked by a null element *pro* merged in [Spec, TP/IP]. If this assumption is correct, then the D-feature of T should be absent in a language like English.

However, the sample examples of EXPL constructions discussed above in this section (see also section 3.1.2.2) and in section 2.3.2 suggest that Roberts’ (2010a,b) parametric characterization of T’s additional nominal D-feature and its effect in triggering particular Merge and probe-goal Agree processes probably applies more

¹³ In the case of Niuean, as studied by Massam (2000: 111), where VSO is argued to be derived by remnant VP-fronting to [Spec, TP], the process by which VP is raised to [Spec, TP] is dissociated from the type of V-to-T movement process Roberts (2010a) is interested in. V-to-T movement depends on rich T-features in T that attract V to raise to T. Since Niuean does not show evidence of rich inflection at the level of IP, then Roberts’ (2010a) conclusion is that the kind of VP-fronting Niuean has is actually not movement of a V-element. As such, VP-fronting in Niuean could still be a process that values the EPP feature of T, and would not be a counter-example to Roberts’ (2010a) generalization that V-elements are not EPP-checkers.

generally cross-linguistically. What I am proposing here is that Roberts' (2010a,b) postulation of a D-feature as a defining property of T in null-subject languages should be equated with Chomsky's (2001, 2004) [person] feature on T_{DEF} in a language like English in that both coincide with the satisfaction of the EPP in the relevant examples. Thus, the T-node in an English-type language could also be assumed to be endowed with an intrinsic D-feature in those instances where a D-element is merged (externally, by first Merge only, or internally, by first and then second Merge, as in English embedded *there*-constructions) in [Spec, TP]. This is the assumption I am making in relation to *there*-insertion in finite matrix contexts or infinitive embedded contexts since *there* is the right D-element that could be assumed to be the counterpart of the null EXPL element *pro*.

The very existence of EXPL-constructions cross-linguistically accounts for why EXPL elements (for example, *there* in English; *es* in German, and *pro* in null-subject languages) could be merged in the dedicated Spec positions that actually coincide with the EPP cross-linguistically – namely, [Spec, IP/TP] and [Spec, CP]. In my view, the two features on T (i.e., T's EPP feature and its 'parameterized' D-feature) remain different, however, in that they only co-exist in certain contexts – namely, in sentences where T raises to Agr_S or to C as in EXPL-constructions in the relevant languages, where a D-feature of the relevant functional node (Agr_S or C) is involved.¹⁴

Coming back to the movement processes that are involved in the derivation of wh-constructions *per se*, such instances show how Roberts' (2010a) parameterized characterization of the feature composition of T can again be viewed as a more general aspect of the functional categories that the probe-goal-Agree system considers to be the Phase heads (C, T, and v*) that drive the computation from the Numeration to LF. Again, the relevant structures are generalizable across language types (in particular, whether the language is a null- or a non-null-subject language). In this respect, I will have a look at the English wh-construction in (11) below (Chomsky's

¹⁴ In passing, this parametric characterization of T's additional nominal D-feature could be given as a new interpretation of Bobaljik & Jonas's (1996: 211) '[Spec, TP] parameter' in that the D-feature – as an 'edge' feature in the system of parametric variation I am proposing – and T's EPP feature will be satisfied in the same Spec position in some languages (TA vs. SA VSO structural representations), or in certain contexts in a given language (as, for example, in English *there*-constructions), due to T-to-Agr_S (which, in some way, corresponds to Rouveret's 2010 assumption about T's 'Remerge' option).

2008: 149 example (10)), comparing it later to the kind of wh-constructions TA exemplifies:

(11) a. C [T [who [_{v*} [see John]]]]

b. Who_i [C [who_j [T [who_k v* [see John]]]]]

c. Who saw John?

Chomsky (2008) contends that movement of a wh-phrase out of the subject position in v*P that yields the wh-question in (11c) forms two different chains: (a) an A'-A chain (chain₁), and (b) an A-chain (chain₂). Chain₁ links *who_k* in [Spec, v*P] to *who_i* in [Spec, CP] – a typical A'-position. Chain₂ links *who_k* in [Spec, v*P] to *who_j* in [Spec, TP] – a typical A-position. Since the two copies of the wh-phrase target two different positions in the derived wh-question, it is plausible to argue that two different features are valued in each chain. If Chain₂, linking [Spec, v*P] to [Spec, TP], is arguably responsible for valuing T's Agree-features and its EPP feature (both of which, presumably, are transmitted from C to T; cf. Chomsky 2008: 144-149, 157), chain₁ values a certain Edge feature (EF) that C withholds from transmitting to T. For reasons of linearization processes in the PF component, only the first copy (involved in Chain₁ <*who_i*, *who_k*>) gets a phonological matrix. The second copy (involved in Chain₂ <*who_j*, *who_k*>) remains silent.

Chomsky's (2008: 149, example (12)) evidence for two different copies *who_i* and *who_j* in (11b)) in subject wh-extractions comes from such contrasts as in (12):

(12) a. Who was [who] never seen?

b. *Who was there never seen?

In (12a), the square-bracketed lower wh-moved copy *who* is silent. If, prior to the deletion of the wh-copy *who*, at PF (as argued above), no other element can occupy the landing site of this lower wh-copy, then the ungrammaticality of the wh-extraction case in (12b) is explained: *there* in (12b) cannot be inserted in the position where the lower copy of *who* is supposed to land.

In TA wh-constructions, as in (13a) with the structural representation in (13b), the process of wh-movement relies on the presence of an EXPL *pro* in subject position at the IP /AgrsP level:

- (13) a. Shkuun illi *pro* shaaf-ik?
 who that saw-you
 ‘Who saw you?’

(TA)

b.

The TA wh-question in (13) shows a familiar process peculiar to null-subject languages. According to Rizzi (1982), due to the possibility of having EXPL *pro* occupy [Spec, IP/Ag_{SP}] in null-subject languages, subject wh-extraction in these languages operates directly from the post-verbal position (namely, [Spec, v*P] in (13b)). If Biberauer (2010: 195) is right in claiming that “... only English, MSc [Main Scandinavian] and, on the deletion analysis, canonical NSLs [Null-Subject Languages] have a canonical subject position in the sense of the original EPP, i.e. a position which must always be occupied either by a subject or a subject-related expletive”, then we can directly link the availability of *pro* in the TA subject wh-question in (13), and the availability of the wh-copy *who* in the corresponding English subject wh-question in (11) to the necessity of valuing the EPP in [Spec, IP/TP].

However, the question that comes to mind is the following: since the process of wh-moving a subject question-word out of a Spec position lower than IP (i.e., [Spec, v*P] in the case at hand) is no longer related to the null-subject parameter (as Rizzi 1982 originally proposed it to be), why is it the case that English subject wh-extraction, as in (11), and TA subject wh-extraction, as in (13), involve different processes for satisfying the EPP in [Spec, IP/TP]? The natural answer to that question

– in the context of the parameterization approach to the feature structure of the core Phase heads in the syntax we have been dealing with in this section – is that English and TA differ in some property of T (present on T in TA, but absent in English), which is different from the EPP-feature, although somewhat related to it since both features are valued in the same position– i.e., [Spec, IP/Agr_SP].

As discussed above, the relevant parameterized property that allows a null *pro* D-element to be merged in [Spec, IP/TP] is a [*u*D] feature of the probe that is valued by an interpretable D-feature on the goal. The effect this feature has on structural representations (and dependency relations in derivational terms) is to relate D on T to ϕ -feature specification, and by that token, pronominalizing the structural subject position of clauses for EPP satisfaction. As Roberts (2010a: 80) puts it, “... *pro* is just like an overt pronoun; its non-overtness is purely a PF matter”.

If that much is reasonable enough, the specific feature D on I/T in those examples involving a silent element, in a null-subject language like TA, could only be an instantiation of a null EXPL *pro* element, the D-feature of which licenses the uninterpretable counterpart D-feature on I/T. Presumably, a silent copy of the wh-moved subject in [Spec, IP/TP] could not satisfy such an inherent feature in TA and similar null-subject languages.

Further evidence from EXPL-associate pairs in English and TA suggests that the EXPL analysis of subject wh-extractions is also available in English. This evidence involves *there*-associate pairs in such contrasts as the following (Chomsky 1995c: 158, example (50), which Chomsky assigns to Safir 1985):

(14) a. [_{wh} How many men] did John say that there were *t_{wh}* in the room?

b. *[_{wh} How many men] did John say that *t_{wh}* were in the room?

(14b) is a common *that-t* violation that is obviated in (14a) by virtue of *there*-insertion. As Chomsky (1995c: 158) notes, this is essentially Rizzi’s (1982) analysis of wh-extraction of subjects in Italian, with the only difference that the EXPL in English-type languages must be overt, whereas it has to be null in null-subject languages (namely, *pro*).

The TA examples in (15) are the counterpart of the English examples in (14):

(15) a. [_{wh} Qaddash min raažəl] qul-t (illi) *pro* kaan-uu *t_{wh}* fii l-biit? (TA)
 how many of man say-2S that be-3MP in the-room
 ‘How many men did you say were in the room?’

- b. *[_{wh} Qaddash min raažəl] qul-t (illi) humə kaan-uu t_{wh} fii l-biit?
 how many of man say-2S that they be-3MP in the-room
 ‘How many men did you say were in the room?’

(15a) is the TA grammatical counterpart of the English EXPL-associate pair in (14a). Over and above valuing the EPP-feature of T in (15a), EXPL *pro* presumably also values T’s intrinsic D-feature. On this account, EPP satisfaction in [Spec, IP/TP] and valuing the [*u*D] on I/T coincide in null-subject languages allowing a null EXPL *pro* to be merged in that position in subject wh-extraction cases so that the subject in [Spec, v*P] could be wh-moved directly from a post-verbal position – assuming V-v-to-T raising applies. The wh-question (15b) shows that, in TA, nothing other than a silent EXPL *pro* can occupy [Spec, IP]; hence, the ungrammaticality of spelling out the EXPL as a pronominal (*humə* in (15b)) in that position. The fact that English shows evidence of the involvement of EXPL-associate pairs in some instances of subject wh-extraction (as in (14)) lends credence to the EXPL *pro* analysis of the counterpart subject wh-extraction cases in a null-subject language like TA (see Table 3.2 below).

Thus, this parallelism between English and TA in EXPL-associate pairs may point to the conclusion that, in an embedded context in English like (14a), the D-feature of T may be available even if T in such an embedded context is not T_{DEF}, and normally would not be instantiating the [person] feature of Chomsky (2001, 2004).¹⁵ The hypothesis that T in such a context does indeed instantiate a D-feature is suggested by the observation that the wh-phrase *how many men* in (14a) wh-moves over *there* in the embedded subject position of a ϕ -complete T (as a complement of the embedded C, which is a ‘strong’ Phase head) in apparent violation of Chomsky’s (1995c) Minimal Link Condition or Chomsky’s (2001) Phase Impenetrability Condition.¹⁶

¹⁵ In relation to my discussion of the examples in (9) and (10) above, I have suggested that the D-feature as a defining property of T in null-subject languages should be equated with Chomsky’s (2001, 2004) [person] feature on T_{DEF} in a language like English in that both features coincide with the satisfaction of the EPP in the relevant examples, and that perhaps the [person] feature on T_{DEF} in English is the manifestation of the D-feature that Roberts (2010a,b) and Biberauer *et al.* (2010) argue is a defining property of T in null-subject languages.

¹⁶ The same conclusion seems to be true of movement of a wh-phrase out of a matrix clause involving a *there*-construction, with the exception that *there*-insertion is not obligatory in this case, as exemplified in (ia,b) below:

- (i) a. [_{CP} [How many men]_i were [_{TP} there [t_i in the room]]]
 b. [_{CP} [How many men]_i were [_{TP} t’_i [t_i in the room]]]

A possible explanation (in the framework of Chomsky 2001, 2004) for why EXPL does not violate any licensing or locality conditions of the grammar is that the Case-feature of the wh-trace t_{wh} in (14a) is valued by LDA and, in turn, ϕ -features on embedded T and [person] on *there* are valued and delete, as well. EXPL is ‘frozen in place’ and rendered inactive for the probe-goal-Agree system, which no longer ‘sees’ EXPL as a goal to be raised, and the wh-phrase *how many men* is free to wh-move over EXPL. In any case, this derivational scenario is actually the same as that involved in the derivation of the TA interrogative construction in (15a): the wh-phrase *qaddash min raaʒal* is wh-moved over EXPL *pro*, and this raising process does not violate any licensing or locality conditions of the grammar.

What I am suggesting here is that *there* in such an embedded context as in (14a), which is comparable to the context where EXPL *pro* is used in the TA example (15a), might have an interpretable [person]/D-feature. As Biberauer (2010) argues for the null pronominal D-element *pro*, as discussed above, the D-feature of *there* in English and *pro* in a null-subject language like TA has the effect of relating D on T to ϕ -feature specification necessitating some element to be merged in the highest subject position in the clause being derived for EPP satisfaction. If this suggestion about the interpretability of the [person]/D-feature of *there* in the embedded clause of (14a) could be maintained, it would generalize to all instances of merging *there* in clause structure, i.e., whether T is T_{DEF} (as in certain embedded clauses) or T_{COMPLETE} (as in matrix clauses). Table 3.2 below, provides a summary of the different contexts,

In this case, the postulated D-feature would be available in both (ia) and (ib). The suggestion that a D-feature may be available in the wh-questions in (ia) and (ib) may point to the conclusion that in such wh-questions where *be* is used as the auxiliary verb undergoing subject-verb inversion, the postulated D-feature – as an ‘edge’ feature in the system of assumptions I am proposing – may coincide with the ‘edge’ feature (EF) Chomsky (2008) assumes is generated on C (cf. Chomsky 1995b: 289-290 for the assumption that Q-features on elements in CP are variants of the D-features of DPs and the T-node). In this case, the D-feature I am positing for both (ia) and (ib) need not be generated in the IP domain, but need only obtain in the CP domain. This assumption coincides with the assumption that Agr_S may be missing in such cases of wh-movement irrespective of the presence of *there* in the Numeration in the wh-question in (ia). Due to the absence of Agr_S in (ia) and (ib), the T node, under which the auxiliary verb *be* is merged in the IP domain, raises to C with which T is associated via the C-T dependency. At the same time, the Wh-criterion of Rizzi (1996) requires that [Spec, CP] be overtly realized in these wh-questions. In (ia), the D-feature I am postulating to be an intrinsic feature of EXPL (*there*, in (ia)) is interpretable and need not be valued. In this case, the insertion of *there* is entirely in response to the requirement that the EPP be satisfied in [Spec, TP] in English, but not the checking of a D-feature on T. Thus, the derivation of (ia) is assimilated to that of (ib) in terms of an ‘edge’ feature generated at the highest head position in sentence structure – namely C.

exemplified above, in which the D-feature of T-Agr_S in relation to EXPL-associate pairs in English and TA could be parametrically available:

Table 3.2. The parametric availability of an interpretable D-feature on T-Agr_S in English and TA

Type of EXPL-associate construction involving a D-feature on T-Agr _S	English	TA
EXPL-associate pairs in simple sentences	e.g.: <i>There</i> arrived three men	e.g.: <i>pro</i> jaw thlaatha EXPL came.3P three rjaal men 'There arrived three men'
EXPL-associate pairs in infinitival raising contexts	e.g.: <i>There</i> seems to have arrived a man	-
EXPL-associate pairs in subject wh-extraction in simple sentences	-	e.g.: Shkuun illi <i>pro</i> jaa? who that EXPL came 'Who came?'
EXPL-associate pairs in subject wh-extraction in embedded contexts	e.g.: [_{wh} How many men] did John say that <i>there</i> were <i>t</i> _{wh} in the room?	e.g.: [_{wh} Qaddash min how many of raajəl qul-t (illi) man say-2S (that) <i>pro</i> kaan-uu fii l-biit? be-3MP in the-room 'How many men did you say were in the room?'

Maintaining that [person] on *there* is actually an interpretable D-feature linked – quite like EXPL *pro* in a null-subject language like TA – to an intrinsic unvalued D-feature of T in the examples discussed above, I come back to Chomsky's (2001, 2004) characterization of DP-movement processes in raising constructions in embedded contexts where both a DP subject and *there* are selected for the Numeration (see

section 2.3.2). Of particular importance is the contrast in structures (16b) and (17b) below (which are the structural representations for sentences (54b) and (54c), respectively, in section 2.3.2, repeated below as (16a) and (17a); adapted from Chomsky 2001: 19, examples (21b,c)):

(16) a. There are likely to arrive three men.

b. [_{CP} C [_{TP} There_i are likely [_{TP} t_i [_{TDEF} to arrive three men]]]]

(17) a. *Three men are likely there to arrive.

b. *[_{CP} C [_{TP} Three men_i are likely [_{TP} there [_{TDEF} to arrive t_i]]]]

According to Chomsky's (2001, 2004) Phase-theoretic framework, the structure in (16b) converges at the interface not because the derivation seeks the most appropriate candidate to be raised to the matrix [Spec, TP] position in terms of ϕ -feature specification, but because the derivation is only interested in raising an element close enough to matrix T for EPP satisfaction, which, in (16b), happens to be *there* – first inserted in embedded [Spec, TP] in satisfaction of the EPP, as well. LDA operates to guarantee that whatever feature T_{DEF} has (i.e., the [person] feature of Chomsky 2001, 2004, or, the intrinsic D-feature in the present account) in the embedded clause and the ϕ -features of T_{COMPLETE} in the matrix clause are appropriately valued and deleted. The same logic works pretty well for an explanatory account of the ungrammaticality of (17b). Although both the lexical subject *three men* and *there* are equally able to satisfy the EPP, the derivation seeks to raise the closest element to matrix [Spec, TP]. In this case, raising *three men* over *there* violates the licensing and locality conditions of the grammar.

As I have discussed in relation to (52b) in Chapter Two (repeated below as (18), Chomsky's (2001, 2004) assumption is that the [person] feature of *there* survives deletion at the embedded IP level after checking the EPP in [Spec, T_{DEF}] and is raised to matrix [Spec, TP], not only to check a second instance of the EPP, but also – supposedly – to have its own uninterpretable [person] feature 'erased' and valued by the ϕ -features of T_{COMPLETE}, in the matrix clause:

(18) There are likely [T_{DEF} to be awarded several prizes].

However, as I suggested in passing in footnote 40 in Chapter Two, the uninterpretable feature T_{DEF} has seems to be intrinsic to it since T_{DEF} in such raising

contexts is not selected in sentence structure by a C node. If this conclusion about the feature structure of T_{DEF} could be maintained, the parametric difference between English and TA in the feature structure of T – in relation to EXPL elements in such wh-movement contexts as (14) and (15) – is no longer relevant. As discussed above, English and TA seem to be fairly similar in the derivation of EXPL-associate pairs. EXPL elements, in this conception, would enter the derivation with an interpretable intrinsic D-feature that matches the intrinsic uninterpretable D-feature of the T node that awaits valuation and deletion at Spell Out at the highest level of the derivation of sentence structure, which also coincides with the satisfaction of the EPP.

This suggestion would account for why [person] on EXPL in Chomsky's (2001, 2004) account survives deletion and cannot be 'erased' in the embedded clause in such an example as (16b) – namely, it is not because [person]/D on EXPL is not valued and 'erased' that EXPL is able to further raise to matrix [Spec, TP], but because this feature does not need valuation in the first place.¹⁷ What is important in this account – as in Biberauer's (2010) and Roberts' (2010a,b) accounts – is that, besides the D-feature on T that EXPL values, the ultimate purpose of the insertion and/or raising process is to satisfy the EPP at the 'strong' Phase in the derivation. It is perhaps this close relationship that exists between the D-feature on EXPL (matching the D-feature of T) and the EPP cross-linguistically that makes the status of EXPL elements quite peculiar among other D-categories. The Merge of these elements does not seem to be driven by their own feature structure. Rather, it is the feature structure of the target that requires their presence – namely, the satisfaction of the EPP at the level where T (or T's feature complex) is introduced. This is indeed the conclusion that such an approach as Miyagawa's (2010) EPP-triggered movement analysis of agreement or that of R&R's T-criterion in relation to the T-dependency would also have us reach.

What remains to be determined is whether the relation between EXPL-insertion and T in embedded contexts in raising structures could generalize to all contexts involving *there* in English, as I suggest above.

Before looking in more detail at EXPL-insertion structures in null-subject systems in the next section in relation to the theoretical import of D-features on EXPL

¹⁷ Recall that in Chomsky (2001, 2004), valuation of Case on DPs and [person] on EXPL is what renders them active in the process of valuing the EPP on T. Reinterpreting [person] on EXPL as [D], the role of [D] on EXPL is to link [μ D] on T-Agr_S to ϕ -feature specification for the EPP satisfaction.

elements and associated functional heads, I would like to comment on the typology of EXPL-insertion structures cross-linguistically in light of the discussion of the merge site of EXPL elements in this section. If Chomsky (2008: 148-149, 157) is right in his suggestion that not only ϕ -features, but also the EPP-feature are ‘transmitted’ by the ‘strong’ Phase heads C and v^* to the heads they select as complements in sentence structure (i.e., respectively, T and V – with which C and v^* share the features they transmit), then EXPL-insertion should theoretically be allowed in the Spec position of any of these heads.

Apart from the fact that this is not true for [Spec, v^*P] (the position where referential DP subjects receiving the ‘agentive’/‘experiencer’ θ -role are inserted; see section 2.3.2), EXPL-insertion in [Spec, CP] has been argued to be a possible process in a number of languages, as for example, the evidence from Germanic languages reviewed above, and also McCloskey’s (2001) suggestion that EXPL *pro* could be inserted in [Spec, CP]. Likewise, EXPL *pro*-insertion in [Spec, VP] has been argued by Sportiche (1998) to take place in relation to object DPs in French (see section 2.2.1 for Sportiche’s 1998 analysis).

3.2.1.2. EXPL-insertion in Romance null-subject systems: The role of D-features (Roberts 2010a, Biberauer et al. 2010)

In this section, I discuss the assumption that, at least in some languages, the role of T in agreement configurations not only depends on the availability of the Spec-head/head-head agreement relation, but also on the availability of EXPL elements that set specific requirements on the T-node and the realization of the subject position in sentence structure. Under a T-to-Agr_S analysis, as assumed in the parameterized probe-goal-Agree approach adopted here, the fundamental relation in question is established between the D-feature on T (in fact, T adjoined to Agr_S) and a ‘defective’ goal – i.e., a *pro* element as assumed in Roberts’ (2010a) analysis of some varieties of null-subject languages such as the Northern Italian dialects. As Roberts (2010a: 102) argues, in some of these varieties, subject clitics are weak pronouns rather than subject agreement markers, and as such, may also play the role of ‘defective’ goals.

According to Roberts (2010a: 110), in some Northern Italian dialects “where the subject is null, there is a *pro*, which, following Cardinaletti & Starke 1999, I take to be a weak pronoun in SpecTP licensed by the features of T”. Building on Poletto’s (2000a) study of subject clitics in the northern Italian dialects, Roberts (2010a) shows

how the characterization of the feature structure of the core functional category T in terms of a defining D-feature relates to the null-subject parameter and to parametric variation in general. Following Poletto (2000a), Roberts (2010a: 106-107) suggests that in the Northern Italian dialects (with such characteristics as in (19a-c) below) “... the subject clitics are seen as ‘raddoppiamento dell’accordo’ (agreement doubling), ... as ‘extra’ subject agreement markers”, or else, “ ... manifestations of unvalued ϕ -features associated with T in some way”.

In this respect, Roberts (2010a: 106) assumes that null-subject systems could be characterized by the following typology in relation to subject clitics (SCLs) and verbal inflection (the verbal agreement marking paradigm), as in (19) below:

- (19) a. SCL [-agr], V [+agr] (a non-redundant null-subject system)
- b. SCL [+agr], V [+agr] (a fully redundant null-subject system)
- c. SCL [-agr], V [-agr] ((usually) a complementary system)
- d. SCL [+agr], V [-agr] (a non-null-subject system)

As I will be dealing with presently, the description of languages in terms of a binary [$\pm$ Agr] typology applied to the subject pronoun system and to the verbal agreement system is meant to show the extent to which these systems interact for a possible characterization of the null-subject parameter. According to this typology, the language types in (19a-c) have a positive setting for the null-subject parameter thus allowing for null-subjects. In contrast, the language system in (19d) has a negative setting for the null-subject parameter.

To take the simplest case (19b) first, this null-subject system (exemplified in Table 3.3 below for the Fiorentino variety) has, at least, five different agreement markings on verbs. Thus, these markings count as [+agr]. Likewise, the subject pronoun system distinguishes at least five persons. The null-subject system in (19c) (exemplified in Table 3.4 below for the Carrara variety) is characterized by [-agr] for both the subject pronoun system and verbal agreement markings. This null-subject system has fewer agreement markings on verbs than the variety in (19b), but still it distinguishes, at least, five persons if the verbal agreement markings and subject pronouns are taken together. The variety in (19a) (exemplified in Table 3.5 below for the Como dialect) is characterized by [+agr] for the verbal agreement markings, but as

[-agr] for the subject pronoun system. In this variety, the verbal endings are fully differentiated, but there are fewer than five distinct subject pronouns. Finally, in the non-null-subject system in (19d) (exemplified in Table 3.6 below for French), the subject pronoun system is characterized as [+agr] given the total differentiation of these pronouns. In contrast, the verbal agreement endings do not provide enough distinctions as the subject pronoun system does, and as such these verbal endings are characterized as [-agr].

In addition to the assumption that the subject clitics and the verbal agreement markings, combined, have to distinguish at least five persons, Roberts' (2010a) analysis of the typological types in (19a-c) as null-subject systems relies on the primary assumption, mentioned above, that subject clitics in such varieties are instances of 'agreement doubling'. In this light, Roberts (2010a: 109) differentiates null-subject varieties of Northern Italian dialects with characteristic (19c) from other null-subject varieties with characteristics (19a,b), and non-null subject systems with characteristic (19d).

According to the typology in (19) above, the varieties classified under (19c) are characterized as '(usually) complementary systems', which makes them similar to type (19b). This typological similarity concerns the extent to which subject clitics and verbal inflection covary and instantiate T's unvalued ϕ -features in relation to T's D-feature. Taking the Carrara variety and the Fiorentino variety as sample examples of similar agreement-doubling languages, Roberts (2010a) provides the following subject-verb agreement paradigms:¹⁸

Table 3.3 (Type (19b)): A fully redundant null-subject system; e.g., the Fiorentino dialect (Roberts 2010a: 106)

S	1	(E) parlo	('I speak', etc.)
	2	Tu parli	
	3 (M)	E parli	
	3 (F)	La parla	
p	1	Si parla	
	2	Vu parlate	
	3 (M)	E parlano	
	3 (F)	Le parlano	

¹⁸ See also, below, the discussion of the Milanese variety, of type (19c), in relation to how D-features relate to the null-subject parameter.

Table 3.4 (Type (19c)): (Usually) a complementary system; e.g., the Carrara dialect (Roberts 2010a: 108-109)

S	1	a dɔrmə
	2	tə dɔrmə
	3 (M/F)	i/al dɔrmə
p	1	a durmiŋ
	2	durmitə
	3 (M/F)	i/al dormənə

(‘I sleep’, etc.)

In Roberts’ (2010a) description of the subject-verb agreement paradigm in Table 3.3, at least five persons are distinguished. In this system, both subject agreement and verbal agreement markers count as [+agr], and in this respect, “the clitics and the verbal endings covary, both indicating the person and number of the subject” (Roberts 2010a: 106). Similarly, in the subject-verb agreement paradigm in Table 3.4, Roberts (2010a: 106-107) mentions that the subject clitics and the verbal agreement markers (combined together) distinguish at least five persons. Thus, in a (usually) complementary system, although both subject agreement and verbal agreement markers count as [-agr], they provide distinct agreement marking for each person in case they are taken together. As Roberts’ (2010a: 107-108) description of such subject-verb agreement paradigms as in Table 3.3 and Table 3.4 indicates, notwithstanding the different morphological manifestations of ‘covariation’ between the subject clitics and the agreement markings in these two closely-related dialects, both subject clitics and agreement markings play a role in “... somehow instantiating T’s ϕ -set ... as uninterpretable features” (Roberts 2010a: 108), thus allowing null subjects in relation to D-features to co-occur with overt subject DPs in the IP domain, both of which are relevant for the valuation of T’s features (namely, T’s ϕ -set, its D-feature and its EPP feature; see Roberts 2010a: 108).

As for type (19a), it is exemplified by such varieties as the Como variety with the subject-verb agreement paradigm in Table 3.5 below:

Table 3.5 (Type (19a)): A non-redundant null-subject system; e.g., the Como dialect (Roberts 2010a: 108)

S	1	dɔrmi	
	2	ta dɔrmat	
	3(M/F)	al/la dɔrma	
P	1	durmum	
	2	durmuf	
	3(M/F)	i/al dormaŋ	

(‘I sleep’, etc.)

As Table 3.5 shows, the Como dialect’s verbal inflection system is fully differentiated. However, the subject-clitic system, counting as [-agr], does not covary with, or complement, the different agreement markings on the verb, counting as [+agr]. Thus, this system provides only a ‘partial’ indication of a doubling style of analysis for subject clitics.¹⁹

In contrast to the null-subject systems in (19a-c) is the non-null-subject system exemplified by French, with characteristic (19d). In this non-null-subject system, verbal agreement markers count as [-agr] in that these markers do not covary with the subject pronominal system, counting as [+agr]. Roberts (2010a) concludes that French subjects are not clitics but weak pronouns in [Spec, TP]. The French subject-verb agreement paradigm is exemplified in Table 3.6 below:

Table 3.6 (Type (19d)): A non-null-subject system: e.g., French (Roberts 2010a: 107)

S	1	Je dors [dɔR]	
	2	Tu dors [dɔR]	
	3	Il/elle dort [dɔR]	
P	1	Nous dormons	
	2	Vous dormez	
	3	Ils/elles dorment	

(‘I sleep’, etc.)

¹⁹ With reference to the subject-clitic system in (19a-c), Roberts (2010a: 109) maintains that this system may be an indication of “the possibility of a ‘doubling’ style of analysis for subject clitics, according to which features of the D of the subject DP may be realized in the probe T as a consequence of the Agree relation between the two elements”. In this connection, Roberts (2010a: 114) makes reference to a ‘doubling typology’, whereby various kinds of doubling could account for the differences between the three varieties of null-subject systems mentioned in (19a-c). According to Roberts (2010a: 114), this typology may ultimately be linked to how “the features of the subject DP are copied onto T in relation to T’s D-feature”. Roberts (2010a: 114) further assumes that this variation in feature copying may involve what he refers to as ‘full copying’ as opposed to ‘partial copying’. He, nevertheless, leaves the question of this variation open. The copy (pronoun) deletion theory of Roberts (2010a,b) and Biberauer (2010), mentioned earlier in this section may also be helpful in pinning down the minimal units of parametric variation in other null-subject systems such as SA vs. TA/MA.

In Table 3.6, judging from the fact that the singular forms *dors* (for 1st person singular and 2nd person singular) and *dort* (for 3rd person singular) are homophonous, these three singular forms do not provide a reliable distinction in terms of the morphological feature of person. In this case, the subject-verb agreement system of French does not provide enough distinctions in terms of person agreement markings, and the speaker/learner has to have recourse to the pronominal system to make the appropriate distinctions. Thus, on the basis of such an example, Roberts (2010a) concludes that the difference in spelling for the singular persons is not a determining factor for the type of distinction that sets null-subject systems apart from non-null-subject systems.

Coming back to the null-subject systems in (19a-c), Roberts (2010a: 114) assumes that in these language types, “features of the subject DP are copied onto T as a consequence of the agree relation; all of these are null-subject systems, where T has a D-feature, thereby making the subject D a defective goal. This gives rise to clitic doubling involving the subject D and the subject agreement on the verb”. Of particular importance in the context of how D-features relate to the null-subject parameter is the null-subject system of type (19c) exemplified by the Milanese variety (sentences (20a,b); Roberts’s 2010a: 112 examples (119a,b)):

- (20) a. *El fio el mangia l pom* (Milanese)
 the boy he eats the apple
 ‘The boy eats the apple’
- b. *Un quidum el riverà in ritart*
 a somebody he will-arrive in late
 ‘Somebody will arrive late’

As shown in (20), the subject clitic *el* co-occurs with a ‘subject’ DP – an instance of a Clitic Left Dislocation, i.e., a ‘topicalized’ subject outside the IP domain proper, which *el* resumes. If Roberts (2010a: 110) is right in characterizing subject elements like *el* in (20a) as clitics cliticized to the verb under the inflectional node T in this null-subject variety, then a null subject *pro* in the structural subject position of the clause (i.e., [Spec, TP] in Roberts’ 2010a account) is obligatorily present realizing subject D-features in conjunction with T. According to Roberts (2010a: 112) the assumption that *pro* is merged in the subject position of null-subject sentences “is also necessary if we are to maintain our assumption that T always has an EPP-feature in these dialects”.

Under such assumptions, the characterization of the null-subject property in terms of the parametric availability of an additional D-feature on the highest functional head in the IP domain opens up the possibility of the potential association between D-features, Agree features, and the EPP for the expression of agreement at the highest level of functional structure at the IP level.

3.2.2. *Summary*

In this section, I have been concerned with the role of EXPL elements in accounting for the parametric variation in the realization of the subject position and the valuation of T's morphological/agreement features. Different accounts of how languages (including null-subject systems) parametrically vary in this respect have been discussed. I first reviewed some earlier accounts about EXPL-insertion processes in the grammar of Germanic and null-subject languages. Then, in a comparison of English and TA subject wh-extraction cases, I have tried to show that the parametric availability of a D-feature on T/Agr_S accounts for the differences in the realization of the subject position in these cases. Nevertheless, although English and TA differ somewhat in this respect, the availability of EXPL-associate pairs cross-linguistically shows that the two languages (i.e., English and TA) may resort to similar processes in extraction strategies – namely, by merging an EXPL element in subject position. The role of D-features and D/DP elements is further discussed in relation to the copy pronoun theory (Roberts 2010a and Biberauer *et al.* 2010).

In the next section, I discuss the role of Agr_S in accounting for the differences between typologically similar languages such as SA and TA, as two varieties of Arabic, in the derivation of the C-(Agr_S)-T dependency, arguing that Agr_S could be a minimal unit of parametric variation in Arabic.

3.3. The subject-verb agreement system of Arabic

3.3.1. *Introduction*

In light of the parametric account I have been entertaining in the previous sections in terms of differences in the projection and derivation of sentence structure as Agr_SP or as TP, the hypothesis according to which an Agr_S node projects in the clause structure of a null-subject language like TA, or, in a typologically different language like English (in EXPL-associate pairs, see Table 3.2), has been fruitful in delimiting the

parametric boundaries that make typologically different languages look similar, and typologically similar languages look different.

In this context, the account I have proposed above shows that the insertion processes resulting in EXPL-associate pairs (such as the insertion of *pro* as a referential null element or null expletive, according to the structure being derived, or the insertion of *there* in English) are not merely in response to the requirement that the subject position of sentence structure be occupied by some element at the interface as in the traditional account (Chomsky 1982: 79; Chomsky & Lasnik 1993: 123). EXPL-insertion processes may also be in response to the feature structure of the core functional nodes of sentence structure including the T-node in both the IP domain and the CP domain in their interaction with syntactic predication.

Thus, in terms of the feature-valuation mechanism and the probe-goal-Agree system (Chomsky 2001, 2004, 2008; Roberts 2010a, Biberauer and Roberts 2010), valuation of the EPP feature on T in the IP domain may not be the driving force of these insertion processes. In this respect, the morphological feature that has been the centre of interest, in my parametric account of the relevant structures, is a certain D-feature that (*contra* Roberts 2010a and Biberauer *et al.* 2010) I have proposed to be an intrinsic and defining feature of the Agr_S node projected higher than the T node in sentence structure. Nevertheless, since – in the EXPL-associate constructions I have been concerned with – the T node necessarily raises to the Agr_S node, my proposal has been that the interpretable D-feature on *pro* (in TA) and on *there* (in English) is responsible for the valuation of [*u*D] on Agr_S, and, by that token, linking [*u*D] on Agr_S to ϕ -feature specification for EPP satisfaction in [Spec, T-Agr_SP].²⁰

Similar considerations apply in relation to the different realization of subject-verb agreement configurations in SA and TA. The parameterized probe-goal-Agree system of structural dependency relations would set different requirements in terms of

²⁰ The same is true in non-finite raising structures, in English, involving the process of *there*-insertion in the Spec position of infinitival clauses, as discussed in section 3.2.1.1. The T node in such an embedded context is T_{DEF}, and, as such, it is presumably not endowed with the relevant D-feature. Nevertheless, the assumption that T_{DEF} is, in fact, endowed with a D-feature could be maintained since *there*-insertion in Spec of T_{DEF}, in English, links T's D-feature in the embedded clause to T merged at the highest level of sentence structure where Spell Out operates. In terms of the probe-goal-Agree system and the C, (Agr_S), T dependency approach to subject-verb agreement configurations, the valuation of [*u*D], in this case, operates on the inflectional complex T-Agr_S in the matrix clause to which T in the embedded clause is anaphorically related (cf. R&R's 'clause union' notion (p. 136)), and both [*u*D] features are satisfied. At the level of Spell Out, where the complex T-Agr_S is formed in the matrix clause, *there* inserted in the Spec of T_{DEF} is raised to [Spec, T-Agr_S], thus satisfying the D-feature at that level resulting in EPP satisfaction in the matrix clause.

the parametric availability of Agr_S and its intrinsic D-feature in VSO word order configurations in the relevant language.

In this section, I first discuss some assumptions about subject agreement morphology (including ‘mood’ morphology), verbal inflection and modality that are held by most linguists in the Arabic linguistics tradition. Thus, in section 3.3.2, I consider the contrasts that show up in the perfective and the imperfective forms of verbs in SA in order to identify how tense, aspect and mood are encoded on verbal forms. In section 3.3.3, I deal with the distinction between agreement/mood and modality (including negation) in subject-verb agreement configurations in SA. This distinction mainly concerns the encoding of person and tense in the perfective and the imperfective and how this difference in tense encoding interacts with modality.

Then, in section 3.3.4 below, I deal with my proposal for the main parametric difference that sets SA apart from the modern Arabic dialects as regards the representation of elements (phonetically realized at PF, or left null at the interface) in subject position in VSO structural representations. Section 3.3.5 is a summary of the main points dealt with in section 3.3.4. Section 3.3.6 deals with implications as to the nature of T (namely, the feature-makeup of tense) in relation to the different structural representations SA and TA exhibit in the probe-goal-Agree system discussed in section 3.2.

3.3.2. Tense/aspect, mood and subject-verb agreement in the perfective vs. imperfective form of verbs in SA

Apart from the two distinct stem forms and the accompanying vocalic melody that differentiates the perfective from the imperfective in SA, the difference between the two verbal forms is further manifested in the encoding of subject agreement – namely, it is encoded in the form of both a prefix and a suffix in the imperfective, but merely as a suffix in the perfective. In section 3.3.2.1, on the basis of the suffixal nature of number subject agreement in the imperfective, I will propose that the suffixal morphology in the imperfective represents a single morpheme in each paradigm cell that encodes both number subject agreement and mood. In contrast, in the perfective, there are no mood distinctions in the suffixal morphology. Thus, the difference between the two verbal inflectional paradigms in SA is shown to be simply in how tense/aspect information is encoded on the verb: whereas, in the perfective, the agreement morphology is purely suffixal and encodes both subject agreement and

tense/aspect information, it is the prefixal morphology of the verb, in the imperfective, that encodes tense/aspect information.²¹

In section 3.3.2.2, I will discuss the difference in the encoding of subject agreement in the perfective and the imperfective. This difference is simply a difference in the encoding of subject agreement and not a difference in how sentence structure projects in terms of an additional Mood Phrase (= MoodP) that projects higher than IP in the imperfective (*contra* Fassi Fehri 1993 as reviewed in 2.1.2.3.3). In section 3.3.2.3, I deal with my proposal that this difference does not correlate with a difference in V-to-T movement either (*contra* Benmamoun 2000b, 2008).²² Section 3.3.2.4 is a summary.

3.3.2.1. Tense/aspect, agreement and mood in SA

Table 3.7 below gives the inflectional paradigm of the verb *kataba* ‘write’ in both the perfective aspect and the imperfective aspect (cf. Benmamoun 2000b: 20 and Aoun *et al.* 2010 who provide inventories of the perfect and imperfect paradigms in SA similar to what is being described in this section):

²¹ In this respect, aspect and tense on the SA verb are not only encoded on stems by also on the morphology affixed to the verb. Recall from section 2.1.2.3.3 the discussion of Fassi Fehri’s (1993, 2000) contention that, in SA, tense on the verb is an integral part of the verb itself as a lexical property, not only in the imperfective (the prefixal morpheme/tense) but also in the perfective (the suffixal morphology/tense).

²² Benmamoun (2000b, 2008) argues that present tense T in Arabic lacks the categorial feature [+V], which is also a characteristic of verbless sentences. In these instances, Benmamoun (2000b, 2008) argues that V-to-T movement does not occur. I come back to a discussion of this issue in section 4.1.1.2.

Table 3.7. The perfective and imperfective conjugation of the verb *kataba*²³

		Subject pronominal System	Perfective aspect	Imperfective aspect		
				Indicative mood	Subjunctive mood	Jussive mood
S	1 M/F	anaa	katab-tu	ʔa-ktub-u	ʔa-ktub-a	ʔa-ktub
	2 M	anta	katab-ta	ta-ktub-u	ta-ktub-a	ta-ktub
	2 F	anti	katab-ti	ta-ktub-iina	ta-ktub-ii	ta-ktub-ii
	3 M	huwa	katab-a	ya-ktub-u	ya-ktub-a	ya-ktub
	3 F	hiya	katab-at	ta-ktub-u	ta-ktub-a	ta-ktub
D ²⁴	2 M/F	antumaa	katab-tumaa	ta-ktub-aani	ta-ktub-aa	ta-ktub-aa
	3 M	humaa	katab-aa	ya-ktub-aani	ya-ktub-aa	ya-ktub-aa
	3 F	humaa	katab-ataa	ta-ktub-aani	ta-ktub-aa	ta-ktub-aa
P	1 M/F	naHnu	katab-naa	na-ktub-u	na-ktub-a	na-ktub
	2 M	antum	katab-tum	ta-ktub-uuna	ta-ktub-uu	ta-ktub-uu
	2 F	antunna	katab-tunna	ta-ktub-na	ta-ktub-na	ta-ktub-na
	3 M	hum	katab-uu	ya-ktub-uuna	ya-ktub-uu	ya-ktub-uu
	3 F	hunna	katab-na	ya-ktub-na	ya-ktub-na	ya-ktub-na

The inflectional/temporal system of SA is characterized by an aspectual dichotomy that differentiates the perfective and the imperfective. The perfective form of the verb

²³ This conjugation is characteristic of verbs in the SVO word ordering where S can be a phonologically realized or non-realized Topic DP. In the VSO word ordering, only the third person singular (feminine or masculine, depending on the gender agreement feature of the post-verbal DP) shows up on the verb (see section 2.1.2 for a discussion of the derivation of SVO and VSO word orders in SA vs. modern spoken Arabic dialects like TA and MA).

²⁴ There is no first person dual in Arabic. For the expression of the involvement of two people in an event or situation, the first plural form is used in such cases.

is used in the expression of past events.²⁵ As for the imperfective form of the verb, it is used in the expression of non-past events.²⁶ Table 3.7 shows that this aspectual difference is not only manifested in a distinction of stems, but also in the different affixation patterns the agreement morphology is associated with in the perfective vs. the imperfective. Whereas the agreement inflection on the imperfective verb takes the form of both a prefix (which encodes person in addition to tense) and a suffix (which encodes number/gender and mood), the agreement inflection on the perfective verb is uniquely suffixal (encoding subject-verb agreement in ϕ -features and, on Fassi Fehri's 1993, 2000, 2004 view, tense).

As can be seen in Table 3.7, the subject pronominal system shows some cases of partial correspondence between the form of the pronoun and the suffixes of the perfective form, as in the second person dual *antumaa katab-tumaa* and in the second person feminine plural *antunna katab-tunna*. As Givón (1976: 183) mentions in relation to the Semitic perfect conjugation, “the suffixal conjugation of the perfect ... bear[s] some unmistakable relationship to some unmistakable pronoun series” as evidence that, at some historical point, the VS syntax became a dominant feature of the language (on a par with the SV word order, which, as already mentioned in Chapter Two, is a close alternative to the VS order). Benmamoun (2000b, 2008) proposes that person agreement in Semitic languages evolved out of a pronominal clitic taking the form of a suffix in the perfective aspect/past tense and the form of a

²⁵ Dahl (1985: 79) notes that the perfect(ive) tends to be used for past events. Bahloul (2008: 47–66) enunciates the contexts in which the perfective is tied up with a past tense interpretation, a present tense interpretation, a future tense interpretation or a gnomic interpretation.

²⁶ In negative sentences, the imperfective can also be used in the expression of a past event (see section 4.1.2). The past tense interpretation of the imperfective verb can also occur in another context – namely, in embedded clauses selected by a matrix perfective verb – as in (i) (to be compared to (ii)) (examples from Fassi Fehri 2012: 15):

- (i) *qaal-a* *l-ii* *?inna-hu* *ya-ktub-u* *r-risaalat-a* (SA)
 PERF.say-3MS to-me that-him 3-IMPERF.write-MS.IND the-letter-ACC
 ‘He said to me that he was writing the letter’
- (ii) *qaal-a* *l-ii* *?inna-hu* *katab-a* *r-risaalat-a*
 PERF.say-3MS to-me that-him PERF.write-3MS the-letter-ACC
 ‘He said to me that he wrote/had written the letter’

In (i), the imperfective verb *yaktubu* ‘he is writing’ has the past interpretation ‘he was writing’, which is dependent on, and simultaneous (or ‘anaphoric’) with, the act of saying in the past as given by the matrix verb *qaala* ‘he said’. In contrast, in (ii), the event described by the verb *kataba* ‘he wrote’ is anterior to the saying.

prefix in the imperfective aspect/present tense. However, the historical relationship between the subject pronominal system and the so-called pronominal clitics is more transparent in the case of the suffixal morphology of the perfective than in the case of the prefixal morphology of the imperfective (see, in particular, the second person masculine/feminine dual and the second person masculine and feminine plural).

3.3.2.2. *The imperfective in SA: the problem of the characterization of the suffixal morphology*

According to Fassi Fehri (2000: 81-82; 1993: 79-81), the derivation of agreement inflection on the imperfective verb involves fusion of morphemes for the encoding of gender and number as one suffix, and the encoding of person and tense through prefixation (Fassi Fehri 2000: 88, footnote 19). These processes of suffixation and prefixation are also assumed to represent an instance of fission of subject agreement morphemes and their discontinuity in the encoding of person (by use of prefixation) and of number/gender (by use of suffixation). However, the so-called ‘mood suffixes’ of the imperfective form of the SA verb may turn out to be unconcatenatively encoded together with the agreement morphology (encoding number/gender). In order to test this hypothesis, I first begin with a description of such suffixes in the singular and the first person plural. Then, I deal with the suffixal morphology of the other forms of the imperfective verb.

In the singular (except for the second singular feminine) and the first person plural forms of SA imperfective subject-verb agreement paradigms, a two-way contrast holds distinguishing the indicative and the subjunctive uses of the imperfective verb from its jussive use. Whereas an *-u* suffix is added to the root of the verb *kataba* in the imperfective in the indicative use, and an *-a* suffix in the subjunctive use, no jussive suffixal morphology is phonetically realized on the imperfective verb in SA.²⁷ Thus, in the first person masculine/feminine singular and the second person masculine singular, the 3rd person of the singular, and the 1st person

²⁷ An epenthesis process applies to the imperfective form of the SA verb in the jussive in the context of ‘the linking hamza’ (= ʾ) that necessarily appears with the definite article // at the beginning of the word. In such contexts, a suffix *-i* is phonetically realized on the non-suffixed verb in the jussive as an epenthetic vowel (thus different from the *-u* and *-a* suffixes that show up, respectively, in the indicative and in the subjunctive uses of the imperfective verb. The // sound undergoes a process of assimilation when followed by a vowel (apenthetic or not), as in *ya-ktub-u r-risaalat-a* ‘he writes the letter’ and in *lam ya-ktub-i d-dars-a* ‘he did not write the letter’, where the // sound is assimilated to a /r/ sound and to a /d/ sound, respectively.

masculine/feminine plural of the SA subject agreement system, the subject agreement suffix *-u* also encodes the indicative mood, and the suffix *-a* also encodes the subjunctive mood. For example, a 3rd person singular masculine verbal form like *ya-ktub-u* ‘he writes/ he is writing’ is an indicative form by virtue of carrying a subject agreement suffix *-u*. Similarly, a 3rd person singular masculine verbal form like *ya-ktub-a* is a subjunctive form by virtue of carrying the subject agreement suffix *-a*.

In contrast to the realization or non-realization of the suffixal agreement morphology in the singular and the first person plural in the contexts discussed above, there is consistently some suffixal agreement morphology phonetically realized in all the remaining forms of the imperfective paradigm in the indicative, the subjunctive and the jussive.²⁸ Nevertheless, in this respect, the subjunctive and the jussive pattern alike as against the indicative in losing a part of the suffixal agreement morphology – namely, the /na/ ending form of the *-uuna* suffix in the second and third person plural masculine, and the /ni/ ending form of the *-aani* suffix in the second and third person dual masculine and feminine. Leaving aside for the moment the discussion of the encoding of mood on the imperfective verb in the plural and the dual, I will focus first on the encoding of subject agreement on the imperfective verb in SA. Taking the verb in the indicative as a representative form as far as the suffixal morphology of the imperfective verb is concerned, Table 3.8 below gives a breakdown of the morpho-syntactic composition of the plural forms of the verb *kataba* ‘write’ taking into account both suffixes and prefixes:

Table 3.8. Morpho-syntactic composition of the second and third person plural forms (M/F) of the verb *kataba* in the indicative use of the imperfective:

Plural masculine	2	ta-	ktub	-uuna
	3	ya-	ktub	-uuna
Plural feminine	2	ta-	ktub	-na
	3	ya-	ktub	-na

²⁸ This is also the case for the suffixal agreement morphology *-iina* of the second person singular feminine.

In Table 3.8, the prefixed subject agreement system of the plural forms consistently distinguishes second person *ta-* from third person *ya-*. This distinction does not, however, encode gender since each of these prefixes is used for both the masculine and the feminine. As for the suffixal morphology of these plural forms, it is consistent in making the distinction between masculine and feminine irrespective of person: *-uuna* is used for both second and third person masculine, whereas *-na* is used for both second and third person feminine. The present account of these plural forms goes against Bulos's (1965: 4-7) claim that, in the imperfective (indicative) form *yaktubuuna*, the encoding of gender (masculine) in the suffix *-uu(na)* is redundant since, as Bulos (1965) assumes, the prefix *ya-* already expresses gender (in addition to person). However, as my discussion of Table 3.8 above shows, the suffixal morphology of the imperfective only encodes number/gender subject-verb agreement, whereas the prefix encodes person agreement and tense as one fused entity (Fassi Fehri 2000: 88, footnote 19). Thus, there does not seem to be a redundant encoding of gender morphology in a form like *yaktubuuna*.

A similar breakdown of the morpho-syntactic composition of the verb *kataba* can be given in relation to the suffixes and prefixes of the dual, as in Table 3.9:

Table 3.9. Morpho-syntactic composition of the second and third person dual forms (M/F) of the verb *kataba* in the indicative use of the imperfective:

Dual masculine	2	ta-	ktub	-aani
	3	ya-	ktub	-aani
Dual feminine	2	ta-	ktub	-aani
	3	ta-	ktub	-aani

Table 3.9 shows that, in contrast to the morpho-syntactic composition of the plural forms, the prefixal morphology of the dual does not consistently distinguish person since *ta-* is employed for both second plural masculine and for second and third plural feminine. Furthermore, the suffixal morphology of the dual masculine and feminine does not make any distinction in terms of person and gender since it is *-aani* for all forms.

As far as the expression of both subject agreement and mood in the suffixal morphology of the imperfective verb is concerned, Bulos (1965: 37) suggests that the morpheme *-iina*, *-uuna* or *-aani* represents a composition of a number/gender morpheme *-ii-*, *-uu-* or *-aa-* and a mood morpheme *-na* or *-ni*. Under Bulos's (1965: 37) analysis, the difference between the imperfective verb used in the indicative and its use in the subjunctive and jussive in SA is that *-na* and *-ni* are dropped out in the subjunctive and the jussive.

However, there is evidence in the grammar of SA that the suffixal plural masculine morphology, taken as a whole (i.e., *-uuna*), may be an instantiation of a number/gender agreement morpheme rather than of the composition of two separate morphemes – namely, an agreement morpheme (i.e., *-uu*) and a ‘mood’ suffix (i.e., *-na*) (*contra* Bulos 1965). Benmamoun (2000b: 30-31) and Pesetsky and Torrego (2001: 336) point out that the so-called ‘mood suffixes’ of the imperfective indicative verb across all three numbers of the subject-verb agreement system correspond to the agreement/case suffixes found on NOM Case-marked DPs, as Table 3.10 below shows (adapted from Pesetsky and Torrego 2001: 336, example (17)):

Table 3.10. Suffixal morphology on NOM Case-marked DPs and imperfective verbs in SA

Singular	Dual	Plural
<u>ʔaT-Taalib-u</u> the-students-MS.NOM	<u>ʔaT-Taalib-aan(i)</u> the-students-MD.NOM	<u>ʔal-muʕallim-uun(a)</u> the-teachers-MP.NOM
<u>ya-ktub-u</u> 3-IMPERF.write-MS.IND	<u>ya-ktub-aan(i)</u> 3-IMPERF.write-MD.IND	<u>yu-ʕallim-uun(a)</u> 3-IMPERF.teach-MP.IND

The occurrence of these ‘mood suffixes’ both on verbs and NOM Case-marked DPs may be an indication that this ‘mood’ morphology is actually a reflection of subject-verb agreement at Spell Out and cannot be dissociated from the inflectional morphology expressing number/gender subject agreement in SA. In this connection, Bulos (1965: 6-7) also considers the fact that since the prefix *ya-* can occur without the *-uun(a)* suffix as in *ya-ktubu* ‘he writes’, in Table 3.10, or in *yu-ʕallimu* ‘he teaches’, and since the *-uun(a)* suffix can occur without the *ya-* prefix as in *muʕallimuun(a)* ‘teachers’, the prefixal and suffixal morphology of the imperfective

form of the SA verb cannot be taken to make up a “one verb-subject affix” (*contra* Harris 1947: 285 who entertains that view).

In relation to the *-na* suffix of the two feminine plural forms of the SA imperfective indicative verb (i.e., 2nd plural feminine and 3rd plural feminine as in Table 3.8 above) *taktubna* and *yaktubna*, Bulos (1965: 39) suggests that, since this suffix is preserved on the imperfective verb used in the subjunctive and jussive, it not only expresses aspect but also gender and number (in the absence of ‘mood’ distinctions in these forms in the subjunctive and the jussive). Although in this case no correspondence similar to the correspondence that exists in the plural masculine morphology can be established between the agreement suffix *-na* of feminine plural forms (as in *yuṣallimna* ‘they(F) teach’) and the agreement/case suffix of the corresponding DP (i.e., *ṣal-muṣallimaat-u* ‘the-female teachers-NOM’), it still holds that the *-na* feminine plural suffix is the counterpart of the *-uuna* masculine plural suffix of the subject-verb agreement system of the imperfective indicative verb. In this case, the fact that the feminine plural suffix *-na* is preserved in the subjunctive and the jussive may have to do with the possibility that if it were the case that this suffix was dropped there would be no indication of any encoding of number and gender agreement on the plural form of the imperfective verb.

An analysis of mood and agreement in SA (as expressed by the suffixal morphology of the imperfective verb) similar to Bulos’s (1965) morphological analysis has been undertaken by Fassi Fehri (1993) in his morpho-syntactic analysis of verbal inflection in SA (see section 2.1.2.3.3). As in Bulos’s (1965) morphological analysis of the plural suffixes on the imperfective verb, Fassi Fehri (1993: 79-81) considers the so-called ‘mood suffix’ of the imperfective form of the SA verb as a separate entity. Nevertheless, although mood suffixes may be considered to project in the syntax as a head Mood above the AGR node harbouring number/gender morphemes, they are basically unconcatenatively represented with these number/gender morphemes. In the morpho-syntactic terms of Fassi Fehri’s (1993, 2000) analysis, as discussed above, both the agreement morpheme and the ‘mood’ morpheme are ‘fused’ in one single suffix on the imperfective verb.²⁹

²⁹ Shlonsky’s (1997: 101) view on the imperfective paradigm in SA is similar to Fassi Fehri’s (1993) in that mood and agreement ϕ -features on verbs in the inflectional domain of sentences are ‘fused’, but he does not represent ‘mood’ as a separate syntactic node in sentence structure as Fassi Fehri (1993) does.

3.3.2.3. Benmamoun (2000b, 2008): A non-fusional analysis of SA verbal inflection

In this section, I discuss Benmamoun's (2000b, 2008) approach to the derivation of verbal inflection, which Benmamoun (2000b, 2008) argues rests on the presence or absence of a [+V] feature on T – namely, the difference between a perfective/past tense interpretation of sentences vs. an imperfective/present tense interpretation of sentences, respectively. This difference is also the basis of Benmamoun's (2000b, 2008) analysis of small clause structure where either a past tense or a present tense interpretation arises in the derivation bound to the presence or absence, respectively, of a V position in the small clause selected by the T node in sentence structure. The alternative I will be proposing is based on the head-head dependency relations, which are established in terms of T-features associated with V-*v* and T (along with C (= Fin)). Thus, this proposal here mainly rests on a [*u*T] feature on *v*, which gets valued/identified in the process of deriving verbal inflection in SA – i.e., the raising of V to T.

In Benmamoun (2008), the problem of characterizing the different affixation patterns in the imperfective/present tense form of the SA verb and its perfective/past tense form in the syntax is accounted for in derivational terms rather than in terms of a difference in how sentence structure projects in the derivation of the different forms of the verb as in Fassi Fehri (1993, 2000).³⁰ According to Benmamoun (2008: 122-123), whereas the perfective/past tense verb raises to T in order to 'check' a verbal feature on the T node, the imperfective/present tense verb does not raise to T because, in this case, T lacks the verbal feature. Benmamoun (2008: 122-123) claims that this derivational, feature-checking, difference between the perfective/past tense and the imperfective/present tense forms of the SA verb can account for the affixation patterns for person agreement that differentiate the two forms.³¹ Taking the verb *kataba* in the second person feminine singular as a representative example, Benmamoun (2008: 122-123) differentiates the suffixation pattern of the perfective/past tense verb *katab-ti* 'you(FS) wrote' with the prefixation pattern of the

³⁰ In section 2.1.2.3, I have proposed, following Fassi Fehri (1993, 2000) and Akkal & Gonegai (2000), that agreement on the verb in SA is a case of pronominal cliticization in morpho-syntactic terms (see section 2.1.2.3.3 in particular).

³¹ Although Benmamoun (2000b, 2008) refers to person agreement as being 'pronominal', this only follows from the fact that, historically, "person agreement evolved out of a pronominal clitic" (Benmamoun 2000: 122).

imperfective/present tense verb *ta-ktub(-iina)* ‘you(FS) write/are writing’, as represented in (21a) vs. (21b) below:³²

- (21) a. The derivation of the perfective/past tense prefixation pattern in SA (Benmamoun 2008)

- b. The derivation of the imperfective/present tense suffixation pattern in SA (Benmamoun 2008)

In (21a), the root of the perfective verb *katab* is merged first under the V node within the VP. Then, on Benmamoun’s (2008) assumption that the T node associated with a perfective/past tense verb, is specified for a [+V] feature, the lexical verb raises to T for feature-checking purposes. The affixation pattern arises as a person and number/gender suffix phonologically realized in the second person feminine singular as *katabti*. In (21b), the root of the imperfective verb *ktub* is also merged under the V node within the VP, but, unlike the case of the root of the perfective verb *katab*, the T node associated with *ktub* is not specified for a [+V] feature, and, as such, it does not

³² Benmamoun (2008) does not represent the so-called ‘mood’ morphology *-iina* on the root *ktub* of the imperfective verb in (21b).

trigger the movement of the imperfective verb, which remains lower than the T node in the structure of the sentence and gets the phonological matrix *taktub(iina)* at Spell Out. Thus, according to Benmamoun (2008: 123), the prefixation versus the suffixation patterns of verbal inflection in SA are to be accounted for in terms of “a syntactically grounded dependency involving categorial features”. This difference is exclusively defined in terms of the categorial feature [+V] (present on T when the verb is perfective, but absent on T when the verb is imperfective).

However, contrary to the assumption of the present analysis of verbal inflection in SA that the T-feature of tense is also a feature of verbs (i.e., [*u*T], as the unvalued uninterpretable counterpart of [*i*T] on T) in the syntax of languages, Benmamoun’s (2008) analysis is not compatible with the view that, in SA, the T-feature of tense would be the driving force for verb movement in the syntax irrespective of the perfective/imperfective dichotomy.³³ In addition, on the assumption that the tense morphology in verb-raising languages is ‘rich’ enough (Roberts 2010a: 162-164; Biberauer & Roberts 2010: 265), the [*u*T] feature of the functional *v* element – to which the verb merged in V attaches – would systematically be triggered to raise to T. Thus, according to this view, even if T does not have a [V] feature that needs to be valued in the imperfective paradigm in SA, on Benmamoun’s (2008) assumptions, the verb (either perfective or imperfective) would still have to raise because of the ‘rich’ [*u*T] feature of *v* it is associated with, which is triggered to raise to T.³⁴

As far as the so-called verbless sentences in SA are concerned (sentence 22a), Benmamoun (2000b, 2008) assumes that they lack the VP lexical structure above the

³³ As far as the perfective/past tense paradigm is concerned, Benmamoun (2000b: 25) acknowledges that “the exclusively suffixal agreement pattern on verbs always indicates that the verb is in the past tense”, and that “... [T]he perfective verb carries past tense features”. However, Benmamoun (2000b) considers these features to be different from the categorial [+V] and [+D] features that drive derivations.

³⁴ If this account of the dependency relation that exists between T and V in syntactic structure is reasonable enough, then it would also be true that [*u*V] on T could be universally absent on T. The raising process of V-to-T (actually, V adjoined to *v* and then raised to T on the assumptions adopted in this thesis) would exclusively be accounted for on the basis of the *v*/V’s ‘rich’ [*u*T] feature (corresponding to the rich [*i*T] feature on T) that the raising of a verb to T is possible in V-raising languages. I will leave this issue open. Nothing of what follows hinges on whether [*u*V] exists on T or not. I return below in this section – in relation to my discussion of sentences with auxiliary *kaana* ‘be’ in SA – to Roberts’ (2010a: 162-164) view about the pre-syntactic formation of verbal inflection as [V+T] compounds inserted as such in the syntax.

small clause predicative structure (i.e., AP/PP/NP in (22b) below, adapted from Benmamoun 2008: 115):³⁵

(22) The feature structure of T in ‘verbless’ sentences in SA (Benmamoun 2008)

- a. *ʔal-walad-u dhakiyy-un/fii l-bayt-i/tilmiidh-un*
 the-boy-NOM intelligent-NOM/in the-house-GEN/pupil.INDEF-NOM
 ‘The boy is intelligent/in the house/ a pupil.’

b.

In (22b), Benmamoun (2000b, 2008) assumes that there is no V projection and that the T-node, bearing the present-tense feature, lacks the categorial [+V]-feature, but is specified for the categorial [+D]-feature. According to the discussion above, Benmamoun (2000b, 2008) claims that the absence of the [+V]-feature on T is characteristic of the contexts where the present tense interpretation of a sentence arises in the syntax, as the verbless sentences in (22a) show.

As discussed above, although Benmamoun’s (2000b, 2008) theory allows V(P) to project for the Merge process of imperfective/present tense verbs, the T-node in such a derivation is not different from the T-node in a structure like (22b) for verbless sentences. Thus, the feature structure of a T-node selecting as complement an imperfective/present tense verb is as represented in (23b) for sentence (23a):

(23) The feature structure of T with imperfective/present tense verbs in SA (Benmamoun 2008)

- a. *ʔal-walad-u ya-ʔkul-u*
 the-boy-NOM 3-IMPERF.eat-MS.IND
 ‘The boy eats/is eating.’

³⁵ In the structures in (22b), (23b), (24b) and (25b), the subject DP in [Spec, TP] originates from the specifier position of the small clause AP/PP/NP.

b.

In (23b), the imperfective verb *ya?kulu* ‘eats/is eating’ remains within the VP, as there is no [+V] feature on T to ‘check’.

By contrast, whenever T is interpreted as [+Past], it is specified for both [+D] and [+V], as represented in (24b) for sentence (24a) below:

(24) The feature structure of T with perfective/past tense verbs (Benmamoun 2008) in SA

- a. ?al-walad-u ?akal-a
 the-boy-NOM PERF.eat-3MS
 ‘The boy ate.’

b.

In (24b), the [+V]-feature is available because a perfective/past tense verb is merged under V whereby the [+Past] interpretation of the sentence arises in the syntax. The perfective verb *?akala* raises to T to ‘check’ the [+V] feature on T. Benmamoun (2000b, 2008) claims that the structural configuration in (24b) also obtains in the contexts where the auxiliary verb *kaana* is used to refer to a past situation, as represented in (25b) for sentence (25a):

(25) The feature structure of T with the auxiliary verb *kaana* in SA

- a. ?al-walad-u kaana dhakiyy-an/fii l-bayt-i/tilmiidh-an
 the-boy-NOM PERF.be.3MS intelligent-ACC/in the-house-GEN/pupil.INDEF-ACC
 ‘The boy was intelligent/in the house/ a pupil.’”

b.

In (25b), Benmamoun (2000b, 2008) assumes that the auxiliary verb *kaana* is merged under V and is raised to T to ‘check’ the V-feature of [+Past] T to check the [+V] feature of T.

Under the assumptions adopted in this thesis in relation to clause structure formation, whether the auxiliary verb *kaana* is merged in the so-called predication sentences in Arabic (the standard variety and the dialects) or not, the V position is assumed to project along with the functional portion of vP/VP headed by the light verb *v*.³⁶ The V head selects a clausal constituent – namely, either a SC complement, as in (26), or a CP (= ForceP) complement in a biclausal structure (see structure (28) below):

³⁶ In this respect, I differ from Benmamoun (2000b, 2008) in the assumption that the null copula V position, which Benmamoun (2000b, 2008) argues against, is not just V, but a complex of a null copula V raised to the functional *v* position. The complexity of the structure selected by the T node in ‘verbless’ sentences is also a cornerstone of Aarts’s (1992) analysis of small clauses in English. However, Aarts (1992: 180) argues that the internal structure of the SC contains an I-node (marked [-tense]/[+Agr], which depends on the T-node of the higher tensed clause for its interpretation) and a VP constituent headed by a null copular verb *BE* selecting an NP, AP or PP complement. As for Sportiche’s (1998, Chapter 3) conception of small clauses (see section 2.2.1), a SC, complement-selected by a lexical verb like *consider* in English for example, has two V positions. The lexical verb moves internally to VP from the lower V position to the higher empty V position. In Chomsky (1995b: 321), this internal movement of verbs is conceived of in terms of V-to-*v* raising whereby a verb inserted under the V node obligatorily moves to a functional *v* position, as assumed here (see also the beginning of section 2.2).

(26)

In (26), the ‘empty’ v position of the vP selected by the T node of the matrix clause has uninterpretable T -features (i.e., $[uT]$ on v) linking it to T . V moves to v irrespective of whether the auxiliary verb *kaana* ‘be’ is merged in V or not. The last step represented in (26) is the raising of $V-v$ to T . This movement process is characteristic of structures where the V position is lexicalized by merging a verb (either a copula or a lexical verb) in that position. Thus, in (26), the auxiliary verb *kaana* is merged under V , and is raised to v . Then the complex $[V-v]$ moves further up to T . $[uT]$ on v is valued as a consequence of Agree.³⁷ Since the structure exhibits the SVO word ordering, $Agrs(P)$ projects above T . a Referential *pro* is merged in $[Spec, AgrsP]$ raised out of the $Spec$ position of the small clause. The DP *?al-walad-u* is

³⁷ I come back below to a discussion of the case where the auxiliary verb *kaana* is not in the Numeration.

realized as a Topic merged in [Spec, TopP] in the split-CP domain (see section 2.1.2.3.2, for the assumptions of the Topic Theory adopted in this thesis).³⁸

In the instances where both the auxiliary verb *kaana* and a lexical verb are present in the Numeration, the structure of these sentences can, theoretically, be assumed to be either mono-clausal or bi-clausal. Aoun *et al.* (2010: 61) assume that such sentences are mono-clausal. Thus, under Aoun *et al.*'s (2010: 61) assumption, sentence (27a) below would have structure (27b):³⁹

- (27) a. kann-at T-Taalibaat-u ya-drus-na (SA)
 PERF.be-3FS the-students(F)-NOM 3-study-FP
 'The students were studying.'

b.

In (27b), the imperfective verb *yadrusna* 'they(F) study' is used in conjunction with the auxiliary verb *kaana*. On Benmamoun's (2000b, 2008) assumption that the imperfective verb is merged in V and remains in that position throughout the derivation, the auxiliary verb *kaanat* would be merged in a position higher than V, which, as represented in (27b), could be an Aspect head (Asp) position projecting above VP. Then the auxiliary verb is raised to 'check' the V-feature of [+Past] T.

The alternative analysis adopted here is that such sentences, where both the auxiliary verb *kaana* and a lexical imperfective verb are selected for the Numeration,

³⁸ The Top node projects in the split-CP domain à la Rizzi (1997) (see section 2.1.2.3.2). As shown in (26) above, I assume that Top is endowed with an [*i*D] feature that is essential for its interpretation as part of the licensing of the T-dependency at the interface (see section 4.1.2.4 for a discussion of the feature structure of functional elements in sentence structure).

³⁹ Aoun *et al.* (2010: 61) do not provide a structure or a detailed analysis for this sentence.

have a bi-clausal structure (cf. Akkal & Gonegai 2000: 13-14). On this assumption, the structure of (27a) would rather be as in (28):⁴⁰

(28)

Contrary to Aoun *et al.*'s (2010) analysis where, as shown in (27b), the DP *TTaalibaatu* 'the female students' is a 'subject' DP merged in (or raised to) a Spec position below T, the bi-clausal analysis of such sentences, as represented in (28), takes the DP *TTaalibaatu* to be a 'Topic' DP externally merged in [Spec, TopP] in the left periphery of the lower clause projecting as AgrsP. The lexical verb (i.e., V adjoined to *v*) is triggered to raise to T in the lower clause as a consequence of the

⁴⁰ In section 3.3.4 below, I come back to the structure of IP in VSO word ordering and the assumption that the verb is in some low position in a split-CP system à la Rizzi (1997) where the highest head projection is Force. As Aoun *et al.* (2010: 70-71) acknowledge, the position of the auxiliary verb *kaana* in (28) is higher up to the left of TP/IP (see section 4.1.2.1). The same should be true of the negative auxiliary verb *laysa* inserted under Neg and raised to T, contrary to assumptions made in Benmammoun (2000b: 55) (see section 4.1.2.1). I return to a detailed analysis of such SA VSO bi-clausal sentences and their SVO counterparts in section 4.1.2.5.

As discussed earlier in this section, the complex [V-v] is phonetically empty in ‘verbless’ predication sentences in SA where the auxiliary verb *kaana* is not in the Numeration. In this case, the V position is occupied by a null copula V. Thus, the SA sentence in (29a) below would have the representation in (29b):

-
- ```

graph TD
 IP_TP[IP/TP] --> T[T]
 IP_TP --> vP[vP]
 T --> iT["[iT]"]
 T --> vP
 vP --> v[v]
 vP --> VP[VP]
 v --> V1[V]
 v --> v["v"]
 V1 --> theta["θ"]
 v --> tF["[tF]"]
 VP --> V2[V]
 VP --> SC_PP["SC (=PP)"]
 V2 --> ti["ti"]
 SC_PP --> PP["?al-walad-u fii l-bayt-i"]

```

<sup>41</sup> In view of the raising process of V to  $v$ , the [ $\mu$ T]-feature would actually be a feature of the functional element  $v$  in accordance with Chomsky's (2001, 2004, 2008) probe-goal-Agree system.

(30)

- 131

b.

In (31b), the auxiliary verb *kaana* is merged in V and raised to *v*. The complex V-*v* raises further up to T (thus, yielding the past interpretation of (31a)). As in (29b), the [uT]-feature of *v*, in (31b), is presumably valued as a consequence of a head-head agreement relation between T and *v*, irrespective of the raising of V-*v* to T. Since structure (31b) exhibits the VSO word ordering, the subject DP *?al-walad-u* raises to [Spec, TP], and the complex V-*v*-T raises to Fin.

As already discussed above, Benmamoun (2000b, 2008) argues against a null copula V analysis of ‘verbless’ predicational sentences in SA. Benmamoun (2000b, 2008) uses evidence based on the syntactic properties of the auxiliary verb *kaana*, as in (33a), and other similar head elements (i.e., the Neg element *laysa* ‘not’, as in (33b), and the aspectual head element *laazaala* ‘still’, as in (33c)) to argue against the existence of a null copula V position in the so-called ‘verbless’ sentences. Thus, according to Benmamoun (2008), contrary to the ‘verbless’ sentence in (32) where no ‘verbal’ element is phonetically realized, the sentences in (33a-c) show evidence of a verbal (or verb-like) element that has the same syntactic behaviour in each case (adapted from Benmamoun 2008: 113-114):





actually not an ACC Case feature, but a [+F] feature that has the “same phonetic realization as accusative Case” (p. 333).

Evidence that the feature that is relevant in the licensing of the nominal predicate in the sentences in (33) is not Case-related comes from grammaticality contrasts as in (34a) vs. (34b) (adapted from Alharbi 2000: 53) and in (35a) vs. (35b):

(34) a. ?anta las-ta huwwa (SA)  
you.MS NEG-2MS he

b. \*?anta las-ta -hu  
you.MS NEG-2MS -him(CL)  
‘You are not him’

(35) a. ?anta kun-ta huwwa (SA)  
you.MS PERF.be-2MS he

b. \*?anta kun-ta -hu  
you.MS PERF.be-2MS -him(CL)  
‘You were him’

In (34a), as the English gloss shows, the pronominal predicate *huwwa* ‘he’ is a nominative pronoun. In (34b), the ACC Case-marked counterpart *-hu* (phonetically realized as a clitic element) to the pronominal predicate *huwwa* in (34a) is ungrammatical. The same is true of the sentences in (35a, b) where the copular verb used is *kaana*. To account for the ungrammaticality of (34b) (likewise for (35b)), Alharbi (2000: 54) assumes that: “... [A] predicate, either nominal or pronominal, does not receive/check case, but copy [sic] the features of the subject ... in Arabic”. In a probe-goal-Agree system à la Chomsky (2001, 2004, 2008), this assumption amounts to saying that some essential Agree relation links the nominal/pronominal predicate to the subject of predication.

Having argued against the claim that the head elements *kaana*, *laysa*, *laazaala* and *?inna/?anna* in SA have the property of ‘assigning’ Case, how can we characterize the [+F] feature that enters into the relation between the (null) copula V and the nominal/pronominal predicate in (32), (33a-c), (34a) and (35a)? Sticking to the cases in (33a-c) above and the apparent phonetic realization of the [+F] feature as an ACC Case feature, the nature of the [+F] feature appears to be distinct in the case of complementizer *?inna/?anna* versus the case of the copular elements *kaana*, *laysa* and *laazaala*. I first discuss the nature the [+F] feature in relation to complementizer

*ʔinna/ʔanna*. Then, I discuss the nature the [+F] feature in sentences with the auxiliary *kaana*, the negation marker *laysa* and the aspectual head *laazaala*.

As far as the complementizer *ʔinna/ʔanna* is concerned, the [+F] feature may turn out to be akin to some ‘tense’ property that interacts with the tense/modal properties of the sentences (namely, the T-features that are shared by Fin and T) as *ʔinna/ʔanna* being merged in Force selects Fin, which itself selects T. A similar assumption would apply in relation to the auxiliary verb *kaana*, the negation marker *laysa* and the aspectual head *laazaala*, as these elements relate to T and the functional predicate head *v* in terms of T-features.

However, unlike the case of the [+F] feature of *ʔinna/ʔanna*, the [+F] feature of the copular verbal elements *kaana*, *laysa* and *laazaala* has a bearing on syntactic predication, as it relates to the two syntactic predication head nodes T and *v*. Thus, irrespective of the phonetic realization of the [+F] feature of the copular verbal elements *kaana*, *laysa* and *laazaala* as ACC Case on the nominal predicate of the SC, I assume that this feature might be involved in dependency relations and in predication linking them to T for interpretation at the interface.<sup>42</sup>

Such an analysis would conform to Roberts’ (2010a: 162) assumption that auxiliaries lack V-features but bear interpretable T features, (i.e., [*i*T] features). Roberts (2010a: 162) claims that [*i*T] features trigger auxiliaries to incorporate into T. In the probe-goal-Agree system proposed here, the auxiliary verb (e.g., *kaana* in structure (29b) and structure (31b) above) would first attach to *v* and then raise further up to T. The same applies to the copular elements *laysa* and *laazaala* in the derivation of (33b) and (33c), respectively.

Roberts (2010a: 166) also proposes that it is on the basis of partial reprojection of T that the T-features in T (and C) attract verbs to raise in V-raising configurations in Celtic languages and Germanic V2 languages. The same would be true of Semitic languages such as SA. In such V-raising languages, verbs are morpho-phonologically handled by the syntax as a compound element [V+T] (V and a fully specified T) (Roberts 2010a: 163-164).<sup>43</sup> Such [V+T] compounds are formed in the Numeration

<sup>42</sup> The [+F] feature of *laysa* is presumably more a question of modality and ‘focus’ properties of NEG elements in SA, but it interacts with ‘tense’ as a consequence of dependency relations linking the [+F] feature to V-*v* and to T (and, ultimately, to C (= Fin)) (see section 4.1.2.4). I deal with a more detailed discussion of the feature structure of NEG elements in section 4.1.2.5.

<sup>43</sup> Roberts (2010a) does not mention infinitives in his account of V-to-T movement processes in a language like French.

pre-syntactically and are inserted in the syntax as such (cf. the particular Distributed Morphology view of inflectional morphology as elaborated in Müller 2006). An important assumption of such a framework is that it is the T-features of the [V+T] compound element that determine the formation of TP, and that this formation does not depend on V-features (Roberts 2010a: 164). On this account, a form like *yaktub(u)* ‘he writes’ in SA (as discussed in section 2.1.2.3.3), is morpho-phonologically handled by the syntax as a compound element [V+T] (V and a fully specified T) where person, tense/aspect and the vocalic melody [...a....u...], expressing active voice in *yaktub(u)* ‘he writes’ (vs. [...u...a...] as in *yuktabu* ‘it is written’ for the passive), are ‘fused’ (Fassi Fehri 1993, 2000).

Benmamoun’s (2000b, 2008) analysis of verbal inflection rests on the main difference between the two forms of the verb in SA in that, whereas the imperfective has a basic prefixed tense morphology, the perfective has a basic suffixed tense morphology.<sup>44</sup> This salient distinction between the two opposite affixation patterns as a representation of tense verb morphology in SA is the cornerstone of the difference between perfectivity/past tense and imperfectivity/present tense in Arabic. However, under the assumptions of the present analysis, whether the verb takes the perfective/past tense morphology or the imperfective/present tense morphology in SA is independent of the [V-v]-to-T raising process. Thus, the raising of V-v to T is necessarily involved in the derivation of verbal inflection in a V-raising language like SA.<sup>45</sup>

#### 3.3.2.4. *Summary*

As far as verbal inflection is concerned, it seems that the suffixal morphology of the imperfective form of SA verbs cannot be dissociated from the expression of the so-called ‘mood morphology’ in the subject agreement system of SA. In this conception, the suffixal morphology of the imperfective (encoding number/gender) is also an expression of ‘mood’ in the SA imperfective conjugation. As for the prefixal

<sup>44</sup> As the title of this subsection indicates, I have characterized Benmamoun’s (2000b, 2008) analysis of verbal inflection as ‘non-fusional’ as opposed to Fassi Fehri’s (1993, 2000, 2004, 2012) claims about the fusional character of verbal inflection in SA where the imperfective is characterized as a ‘Prefixed Tense’ (PT), as against the perfective which is characterized as a ‘Suffixed Tense’ (ST).

<sup>45</sup> The problem of delimiting boundaries between morphemes (agreement, aspect/tense, mood) has also been observed in relation to other languages. For example, Tallerman (1997: 627) asserts that, in Welsh, “... there are no uniquely identifiable tense and agreement morphemes”.

conjugation of the imperfective, not only does it express imperfective aspect (which fuses with ‘tense’ according to Fassi Fehri 1993, 2000, 2004), but also person.

As for the salient distinction between the prefixation and suffixation patterns on SA verbs, it is a morpho-syntactic expression of how the perfective/past tense differs from the imperfective/present tense in SA. I have assumed that the suffixal (basically person, but also number/gender) tense agreement morphology of the perfective is not correlated with any differences in the derivation and representation of sentences when compared to the prefixal tense morphology (encoding person to the exclusion of number/gender) of the imperfective (*contra* Benmamoun 2000b, 2008). The derivation of both the perfective and imperfective forms of the verb in SA would involve the V-to-T raising process.

### 3.3.3. *Mood and modality as two distinct categories in the SA subject-verb agreement system*

In relation to the representation of mood and modality in the grammar of SA, I will be arguing that modality is a separate category that projects its own node in SA sentence structure.<sup>46</sup> Nevertheless, as R&R (p. 130) point out, mood and modality are both tied up with the temporal status of an event and, by that token, are linked to the inflectional node I/T as the basis of the dependency relations that link the IP domain to the CP domain. In the presence of an Agr<sub>S</sub> node in clause structure, the C-T dependency has to be mediated by Agr<sub>S</sub> for ‘interpretive’ reasons (R&R: 131), which have to do with the T-criterion and identification of the relevant features (namely,  $\phi$ -features and/or D-features and the EPP) involved in the agreement relations established in the structure being derived (see section 3.1.2.2).

In Stowell’s (2007) theory of tense, the role syntax plays in establishing such dependency relations on the basis of temporal/modal properties of syntactic structure and the temporal status of an event determines the semantics of tense.<sup>47</sup> According to

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<sup>46</sup> As already noted in Chapter Two (see footnote 23), Cinque (1999: 78) observes that there is cross-linguistic variation in the expression of mood and modality, either by the same category or by two different categories. The analysis of modality I will be defending is similar to Joutteau’s (2005) view that there is a Modal projection in the lower part of the split-CP domain above FinP (see section 4.2.2).

<sup>47</sup> According to R&R (p. 142), the same is true for the tense/mood system of the clause that relates to the ‘binding’ relation that exists between C (= Fin) and T in a split-C system where Fin and T agree in some ‘temporal properties’ (Rizzi 1997: 283-284). In the system of probe-goal-Agree dependency relations adopted in this thesis, whether Agr<sub>S</sub> projects or not, the C-T dependency relation in the derivation of sentence structure is systematically a relation that binds T to C (= Fin) since in the cases

Stowell (2007), the clause – i.e., TP – is headed by T(ense) “as the highest predicate in the clause” (Stowell 2007: 440). T takes VP as complement in syntactic structure. Semantically, the VP expresses the ‘event time’ (ET) in the clause. As R&R point out, ET actually follows from the ‘speech event time’, which is given by C. Tense (i.e., the T node) provides the ‘reference time’ (RT). RT essentially mediates the relationship between V(P) and C. In other terms, the temporal properties of a clause are derived from the interaction of C, T, and V.

Given these assumptions about the ‘interpretive’ characteristics of the dependency relations that link verbs to the functional projections that syntactically (as much as semantically) bind them, the tense and agreement properties of verbs, including mood and aspect, interact with modality and negation markers for the expression of [+Past] or [-Past] events (see the examples in (39)–(41) below).<sup>48</sup> Nevertheless, when no modality and/or negation markers are used in sentence structure in matrix clauses, the imperfective form of the verb can only express a [-Past] event, as in (37), in contrast to the perfective form of the verb which is used for [+Past] events, as in (36):

- (36) a. ?aT-Taalib-u      katab-a      d-dars-a      (SA)  
          the-student-NOM PERF.write-3MS the-lesson-ACC  
          ‘The student wrote the lesson.’
- b. ?aT-Tullaab-u      katab-uu      d-dars-a  
          the-students-NOM PERF.write-3MP the-lesson-ACC  
          ‘The students wrote the lesson.’
- (37) a. ?aT-Taalib-u      ya-ktub-u      d-dars-a      (SA)  
          the-student-NOM 3-IMPERF.write-MS.IND the-lesson-ACC  
          ‘The student writes/is writing the lesson.’
- b. ?aT-Tullaab-u      ya-ktub-uuna      d-dars-a  
          the-students-NOM 3-IMPERF.write-MP.IND the-lesson-ACC  
          ‘The students write/are writing the lesson.’

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where T-to-Agr<sub>S</sub> applies, T remains in a direct binding relation with the next higher head in sentence structure, i.e. Fin.

<sup>48</sup> In (36)–(42), I use the SVO word order since only in this case is subject-verb agreement marked for the plural when the subject DP is plural. In these examples, I only discuss the general characteristics of the data. I return to a more detailed analysis in the subsequent sections in this chapter for both the VSO and the SVO word orderings in Arabic.

In (36a) and (36b), the sentences express an event in the past. The verb *kataba/katabuu* is used in the perfective aspect. In (37a) and (37b), the sentences express an event in the present. The verb *kataba* is used in the imperfective form – namely, *yaktubu/yaktubuuna*.

In the presence of a modality or a negation marker in the sentence, the tense properties of the sentence depend on the relation between the modal or the negation marker and the verb in its perfective or imperfective form. To begin with, recall that Fassi Fehri (1993, 2004) points out that the future tense is not instantiated by an inflectional marker in the tense system of SA. In this respect, the expression of the future in SA is generally made by the use of the modal particle *sa-* or its non-affixal variant *sawfa* in affirmative contexts as in (38) where the imperfective form of the verb must be used:<sup>49</sup>

- (38) a. *ʔaT-Taalib-u sa-ya-ktub-u d-dars-a (SA)*  
the-student-NOM MOD(FUT)-3-IMPERF.write-MS.IND the-lesson-ACC  
‘The student will write the lesson.’
- a’. *ʔaT-Taalib-u sawfa ya-ktub-u d-dars-a*  
the-student-NOM MOD(FUT) 3-IMPERF.write-MS.IND the-lesson-ACC  
‘The student will write the lesson.’
- b. *ʔaT-Tullaab-u sa-ya-ktub-uuna d-dars-a*  
the-students-NOM MOD(FUT)-3-IMPERF.write-MP.IND the-lesson-ACC  
‘The students will write the lesson.’
- b’. *ʔaT-Tullaab-u sawfa ya-ktub-uuna d-dars-a*  
the-students-NOM MOD(FUT) 3-IMPERF.write-MP.IND the-lesson-ACC  
‘The students will write the lesson.’

The sentences in (38) assert that the subject of the sentence (i.e. the singular DP *ʔaT-Taalib-u* ‘the student’ in (38a,a’) and the plural DP *ʔaT-Tullaab-u* ‘the students’ in (38b,b’)) is certainly writing the lesson in the future.

Similarly to the modal particle *sa-*, the negation markers *lam* and *lan* are also exclusively used with the imperfective form of the SA verb. However, unlike the particle *sa-* (and the modal marker *qad*, see sentences (41a,b) and (42a,b) below), *lam* and *lan* inflect for tense. As shown in examples (39a,b) and (40a,b) below, the use of negation as a preverbal marker – namely, *lam* for [+Past] events and *lan* for [-Past] events – determines the tense properties of the sentences:

<sup>49</sup> The expression of a future event can also be made by the use of other modal/tense markers as in the use of the negation marker *lan* (see examples (40a,b)) or in the use of the modal *qad* (see examples (42a,b)).

- (39) a. ?aT-Taalib-u      lam      yaktub-i      d-dars-a      (SA)  
          the-student-NOM NEG.PAST 3.IMPERF.write-MS.JUSS the-lesson-ACC  
          ‘The student did not write the lesson.’
- b. ?aT-Tullaab-u      lam      yaktub-uu      d-dars-a  
          the-students-NOM NEG.PAST 3.IMPERF.write-MP.JUSS the-lesson-ACC  
          ‘The students did not write the lesson.’
- (40) a. ?aT-Taalib-u      lan      yaktub-a      d-dars-a      (SA)  
          the-student-NOM NEG.FUT 3.IMPERF.write-MS.SUBJ the-lesson-ACC  
          ‘The student will not write the lesson.’
- b. ?aT-Tullaab-u      lan      yaktub-uu      d-dars-a  
          the-students-NOM NEG.FUT 3.IMPERF.write-MP.SUBJ the-lesson-ACC  
          ‘The students will not write the lesson.’

In (39a,b), the negation marker *lam* encodes past tense. In this dependency relation between Neg and the tense/finiteness properties of sentences in SA, the imperfective verb that is selected by T in such an instance of negation has to be in the jussive. In (40a,b), the negation marker *lan* encodes future tense. The imperfective verb related to such an instance of negation has to be in the subjunctive. Thus, the expression of tense in these sentences is the outcome of the interaction between the tense/aspect properties of the verb and the tense/modality properties of negative markers. This interaction is the basis via which the C-T dependency in sentence structure is interpreted at the interface.

In contrast to the modal particle *sa-* and the negation markers *lam* and *lan*, the modal *qad* can be used with a perfective/[+Past] verbal event and with an imperfective/[-Past] verbal event, as exemplified in sentences (41a,b) and (42a,b), respectively:

- (41) a. ?aT-Taalib-u      qad      katab-a      d-dars-a      (SA)  
          the-student-NOM MOD PERF.write-3MS the-lesson-ACC  
          ‘The student has, indeed, written the lesson.’
- b. ?aT-Tullaab-u      qad      katab-uu      d-dars-a  
          the-students-NOM MOD PERF.write-3MP the-lesson-ACC  
          ‘The students have, indeed, written the lesson.’
- (42) a. ?aT-Taalib-u      qad      ya-ktub-u      d-dars-a      (SA)  
          the-student-NOM MOD 3-IMPERF.write-MS.IND the-lesson-ACC  
          ‘The student might write the lesson.’

- b. ʔaT-Tullaab-u      qad      ya-ktub-uuna      d-dars-a  
the-students-NOM MOD 3.IMPERF.write-MP.IND the-lesson-ACC  
‘The students might write the lesson.’

Whereas in (41a,b), the modal element *qad* is used in conjunction with the perfective form of the verb *kataba*, in (42a,b) *qad* is used in conjunction with the imperfective form of the verb. The combination of modal *qad* with either perfectivity, as in (41a,b), or imperfectivity, as in (42a,b), is correlated with a meaning difference in each pair of sentences depending on the aspect/tense of the verb. In (41a,b), the modal *qad* is used with the perfective verb *kataba/katab-uu* to affirm that an event/action has taken place. In (42a,b), the modal *qad* is used with the imperfective verb *yaktubu/yaktubuuna* to express possibility of an event/action in the future. Thus, these particular examples are witness to the semantic information that tense/modal categories, such as *qad* in SA (in combination with the aspectual information encoded on verbal stems), contribute to how the C-T dependency is interpreted at the interface.

The sentences in (38)-(42) are important in showing that tense properties are not exclusive to verbs, but verbs share these properties with the items they are related to in sentence structure via the C-T dependency. This sharing of tense/modality properties in the derivation of sentences in SA is a straightforward indication of the feature-sharing mechanism on the basis of which the C-T-dependency is identified. However, the interaction between pre-verbal modality and/or negation markers with tense is not always morphologically encoded on the items in question. Thus, whereas the negation markers *lam* and *lan*, in (39) and (40), carry a morphological indication that some tense property is encoded on them, the modal elements *sa-* (and its variant *sawfa*), in (38), and *qad*, in (41) and (42), do not show any indication of such an encoding.

In the next section, I discuss the parametric character of the derivation of subject-verb agreement configurations in VSO structural representations in SA vs. such modern spoken Arabic dialects as TA, MA, LA in terms of the presence or absence of an Agr<sub>S</sub> node in IP.

#### 3.3.4. On the absence of Agr<sub>S</sub> in the SA VSO word order

In light of Roberts’ (2010a) typology of null-subject systems and the hypothesis that some languages would allow *pro* to be merged in [Spec, TP], I propose, in this section, that the process of *pro*-insertion in [Spec, Agr<sub>S</sub>P] is absent in the derivation of



VSO structural representations in SA. Thus, in SA VSO sentences, the Agr<sub>S</sub> node does not project, and the highest Spec position in the IP domain is [Spec, TP] to which the lexical subject is raised out of [Spec, vP] for the satisfaction of the EPP requirement. In this respect, the C, (Agr<sub>S</sub>), T structural dependency may be differently involved in the derivation of the relevant structures in the two languages of main concern (i.e., SA and TA).

It is in terms of the parametric availability of the intrinsic D-feature of T(-Agr<sub>S</sub>) in SA and TA that a possible characterization of this difference in structural dependency relations in these typologically closely-related languages could be provided.

In this context, Ouhalla (1991) pointed out that the variation that exists between languages could be captured in terms of a theory of parameterization that involves the role functional categories play in movement processes (see also Roberts & Holmberg 2010). Ouhalla's (1991: 4) aim in such an approach to parametric variation is to develop "a theory of typology which bases itself exclusively on the properties of functional categories". Thus, for Ouhalla (1991: 57), the I-elements TNS and AGR (which, Ouhalla 1991: 49 conceives as 'affixes' to which the verb – in V-raising languages – raises) are derived differently in sentence structure "along typological lines" and in response to the morphological properties of the affixes in question such as the property of 'NOM Case assignment'.

Ouhalla (1991: 57) takes it that, in Berber and Arabic, Tense (TNS) is higher than AGR. Ouhalla (1991: 117) further assumes that, in V-raising languages of the Berber/Arabic type, the VSO word order is derived by V-raising to AGR and then to TNS, leaving the subject behind in [Spec, VP]. Ouhalla (1991: 29) claims that a nominal pleonastic element (i.e., EXPL-*pro*) is inserted in [Spec, AGRP] to satisfy what he calls the Predication Requirement. Again, as reviewed in relation to Rothstein's (1983) syntactic predication analysis in section 3.1.1.2., Ouhalla's (1991) account of EXPL *pro*-insertion in the derivation of VSO structures in Berber and Arabic is in essence similar to Chomsky's (1982) EPP by virtue of which the structural subject position has to be occupied by some element in the syntax (see also section 2.1.1). In this case, the insertion of EXPL *pro* in the structural subject position (here, [Spec, AGRP]) is necessary for the licensing of the predicate (Ouhalla: 1991: 30). On this account, according to Ouhalla (1991: 126), the derivation of a VSO

structure in Arabic/Berber looks like the tree structure in (43) below (adapted from Ouhalla's (35)):

(43)

As for the derivation of the SVO word order in languages of the Berber/Arabic type, Ouhalla (1991: 117) assumes that “preverbal subjects are essentially topics base-generated in Spec of TNSP and are coindexed with a resumptive *pro* which occupies the Spec of AGRP and acts as the subject of the sentence”, as represented in (44) (adapted from Ouhalla's (22)):

(44)

However, the assumption that T (TNS in Ouhalla's 1991 account) is higher in sentence structure than Agr<sub>S</sub> (AGR in Ouhalla's 1991 account), in Berber/Arabic-type languages, is no longer necessary if the T node is assumed to raise overtly in the syntax to Agr<sub>S</sub> (Chomsky 1993: 195; Bobaljik & Carnie 1996: 234, see section 3.1.1.3). On this account, V-raising targets the T node within the inflectional complex [T-Agr<sub>S</sub>] deriving the right order of inflectional morphemes. Thus, in a language like SA, the agreement morpheme is clearly outside other morphemes forming the verb as exemplified by the imperfective aspect in SA (Fassi Fehri 1993: 84; see section 3.3.2.2 above for a morphological analysis of the affixes of imperfective verbs).

The assumption that the verb moves to the T node, which attaches to the Agr<sub>S</sub> node that projects higher than the T node, is necessary in view of Fassi Fehri's (1993: 79-81) account of the adjunction structures verbs help create as they raise to the inflectional nodes projected higher in sentence structure (see footnote 26 in Chapter Two). The relevant structures are repeated below as (45b), for the imperfective verb in (45a), and (46b), for the perfective verb in (46a):

- (45) a. y-aDrib-uuna (SA)  
 IMPERF.3-beat-MP.IND  
 'They beat/hit'

b.

- (46) a. *katabt-umaa* (SA)  
 PERF.write-2.M/FD  
 ‘you (both of you) wrote’

b.

In these structures, the adjunction of the imperfective verb to the ‘tense’ prefix, for an expression like *y-aDribuu-na* ‘they beat him’ in (45b), involves a right-adjunction process, whereas the adjunction of the perfective verb to the ‘agreement’ suffix, for an expression like *katabtum-aa* ‘you (both of you) wrote’ in (46b), involves a left-adjunction process.

My assumption has been that since these head-to-head adjunction processes involve a combined morphological and syntactic distribution of the abstract features (representing the functional nodes projected in the syntax), the grammar analyses the raising of the verb as a ‘substitution’ rather than an ‘adjunction’ process. Thus, assuming that T-to-Agr<sub>S</sub> is undeniably an adjunction process, V-raising to T, in the [T-Agr<sub>S</sub>] inflectional complex, head-substitutes for the abstract tense ‘affix’ rather than adjoins to it. This account is also in keeping with the assumption, made earlier, that the [Person-T] ‘fused’ morpheme is an integral part of the verbal stem raised to T<sup>50</sup>. Under this interpretation, structures (45b) and (46b) would have representations as in (47) and (48), respectively:

<sup>50</sup> As briefly discussed in section 3.3.2.3, in Roberts’ (2010a: 163-164) theory of the partial reprojection of T in V-raising languages, T and V form a compound element in VP formed pre-syntactically. Roberts (2010a: 164) further assumes that V-to-T movement is actually “internal merger of V+T with vP rather than ... external merger of T combined with internal merger of V to T”. On this view, V and T seem to be morphologically inseparable entities in V-raising languages of the Celtic and Semitic type.

(47)

(48)

Irrespective of Ouhalla's (1991) parametric account of the different ordering possibilities of the inflectional morphemes in the IP domain that languages opt for, Ouhalla's (117, 126) assumption that Tense, in Berber/Arabic-type languages, is the highest node in the IP domain may, after all, be correct as far as the derivation of SA VSO word order is concerned. In this context, if the right order of the two inflectional nodes T and Agr<sub>S</sub> – in the cases where both of them project – is universally determined by the grammar of languages, opting for not projecting Agr<sub>S</sub> in VSO word order in SA (see section 2.3.1, in particular) means that the projection of the IP level of sentences proceeds first by merging the structure of vP with T.<sup>51</sup> The next step in the derivation of the VSO structure involves the application of the V-v → T raising

<sup>51</sup> I will continue to represent the raising of V (to which v attaches) to T as an adjunction structure for the sake of convenience.

process, and the addition of a Spec position to T', which then maximally projects as TP. In view of the option of not projecting an Agr<sub>S</sub> node above T in VSO structural configurations in SA, T is the highest functional projection in the IP domain that fulfils the requirement of syntactic predication as in Rothstein (1983). Thus, the computation proceeds by applying DP raising to [Spec, TP] to satisfy the EPP. These processes are represented in intermediate structure (49) below:

(49) The SA VSO word order (TP Phase)

As already discussed (see section 2.3.1), the verb (actually, the [V-v-T] inflectional complex) raises further up to attach to a node *F* in the split CP domain, thus bypassing the subject in [Spec, TP], as represented in (50) below:

(50) The SA VSO word order (CP Phase)

In contrast, in the derivation of a VSO structure in TA, when T is introduced in sentence structure it raises to Agr<sub>S</sub> forming the inflectional complex [Agr<sub>S</sub> T-Agr<sub>S</sub>]. As discussed in section 3.1.1.3, Agr<sub>S</sub> cannot project in the syntax unless it also projects a Spec position. Thus, to derive the VSO word order in TA two head-raising processes have to be posited to occur separately, after which a Spec position is added to the highest functional projection at the IP level – i.e., as T raises to Agr<sub>S</sub>, V-v raises to T. In this case, since it is the complex T-Agr<sub>S</sub> that realizes the highest functional projection in the derived VSO structure, the addition of a Spec position to T' does not apply. Thus, after the head raising V-v → T and T → Agr<sub>S</sub> processes have applied (see Bobaljik & Carnie 1996), the computation proceeds by merging a Spec position to Agr<sub>S</sub>P to derive the highest level of IP. To finally derive the VSO structure in TA, the computation proceeds by merging an EXPL *pro* in [Spec, Agr<sub>S</sub>P], as represented in (51) below:

(51) The TA VSO word order

The raising processes discussed in relation to structures (49-51) show that the [Agr<sub>S</sub> T-Agr<sub>S</sub>] inflectional complex could be conceived as the ‘locus’ of agreement relations and parametric variation in the null-subject languages exhibiting the SVO word order as a possible alternative to the VSO word order. In this respect, raising the verb to T-Agr<sub>S</sub> and EXPL *pro*-insertion in [Spec, Agr<sub>S</sub>P], in TA, is a plausible parametric account of the essential difference in the representation of the IP domain in TA vs. SA. The assumption that the projection of Agr<sub>S</sub> in clause structure requires merging a Spec position to form Agr<sub>S</sub>P in the IP domain conforms to Rizzi’s (1982) assumptions about the ‘strength’ of Agr in the IP domain. In this connection, it is due to some defining property of the Agr<sub>S</sub> node (i.e., Agr<sub>S</sub>’s D-feature under the assumptions of the present analysis) that both the head raising processes V-v → T and T → Agr<sub>S</sub>, along with the EXPL-*pro* insertion process, define the strong Phase in the IP domain in TA and, by that token, ‘rich’ subject-verb agreement arises in such VSO configurations. The same is true for the kind of subject-verb agreement that obtains in *there*-constructions in English in the different contexts reviewed above; (see the summary of these contexts in Table 3.2). The parallels between EXPL-associate pairs



in English and their counterparts in TA, as reviewed in section 3.2.1.1, are evidence that these pairs do indeed exist and that TA VSO sentences are parameterically different from their counterpart VSO sentences in SA.

Thus, with respect to the process of EXPL-insertion in the IP domain – as discussed earlier in relation to the derivation of subject wh-questions in TA (see section 3.2.1.1) –, TA is closer to English than to SA. Both TA and English have recourse to EXPL-insertion, which operates in the IP domain to derive EXPL-associate pairs. In these constructions, the EXPL is finally merged – via first or second Merge – in [Spec, Agr<sub>S</sub>P] to value a [*u*D] feature on the inflectional complex [T-Agr<sub>S</sub>], and to satisfy the EPP at the highest level of sentence structure in the IP domain where Spell Out applies.<sup>52</sup>

In relation to the feature-valuation procedure in general, the parametric choice of not projecting Agr<sub>S</sub> in SA VSO word order (where ‘rich’ subject-verb agreement fails to obtain) points to a major difference in the subject-verb agreement configurations at the IP level in SA and TA. Since in SA VSO sentences subject-verb agreement operates with T, T would lack the right feature complex for determining the full set of the agreement features involved in the Agree relation at the IP level – by definition, a ‘weak’ Phase’ since (rich) agreement cannot be determined at that Phase. Nevertheless, similar to the case of T<sub>DEF</sub> in English embedded infinitives in raising contexts, some kind of subject-verb agreement already obtains at this stage of the derivation (i.e., (3<sup>rd</sup>) person agreement, which is not morphologically manifested in English). Thus, similar to the case of T<sub>DEF</sub> in English embedded raising contexts, I propose that the parametric option of not projecting Agr<sub>S</sub>, in SA, sets the right agreement configuration for a ‘defective’ T in that language, whereby T is no longer selected by C in conjunction with an Agr<sub>S</sub> node, as it is in TA. Nevertheless, as already mentioned, EPP satisfaction is operative at this ‘weak’ Phase of the derivation just as it is in English embedded contexts in the *there*-constructions discussed in section 3.2.1.1 (see also section 2.3.2).

As a consequence of the non-projection of Agr<sub>S</sub> in VSO word order, SA exhibits a ‘poor’ subject-verb agreement pattern, and EXPL *pro* fails to be represented in the IP domain. Instead, *pro* can be merged in the CP domain where it

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<sup>52</sup> In Jouini (2012), I further analyze the structure of dependency relations in TA, not only within IP, but also within DP, and show that the derivation of both domains is subject to the same dependency relations.

necessarily gets a phonological matrix whereby it is realized as an EXPL clitic pronoun *-hu*. EXPL *-hu* cliticizes to the matrix declarative complementizer head *?inna* ‘that’ (as shown in (52) below) in the cases where matrix *?inna* is merged in sentence structure. I assume that the EXPL clitic *-hu* is first merged in the Spec position of a Top node projected to the left of the verb under some *F* node in the split CP à la Rizzi (1997). Then the EXPL clitic cliticizes to the complementizer head *?inna*. These processes are represented in the structure in (53) for the sentence in (52):

- (52) *?inna-hu*                      *?akala*    *l-?awalaad-u*    *khubz-an*                      (SA)  
           that-EXPL(ACC)    ate.3MS    the-boys-NOM    bread-ACC  
           Lit: ‘The boys, indeed, ate some bread /It is indeed the case that the boys ate  
                   some bread’

(53) The SA VSO word order: V-raising to CP

In (53), the process whereby EXPL *-hu* is phonetically realized in [Spec, TopP] is bound to the realization of the C node as *ʔinna* ‘that’ signalling that the sentence is declarative in clausal type. In the VSO structure (53), the position to which the verb ends up attached denotes the strong Phase where features get spelled out after being ‘identified’ at the interface. At that stage of the derivation, Agree relations apply and link the highest C node (Force, under which *ʔinna* is inserted), to Top (from which Spec *-hu* cliticizes to *ʔinna*), and to the functional node *F* (to which the inflectional complex [V-*v*-T] is raised).<sup>53</sup>

Thus, in the derivation of the SA VSO sentence (52), as represented in (53), the subject DP raised to [Spec, TP] defines a lower ‘weak’ Phase. Nevertheless, the fact that the DP *l-ʔawlaad-u* is marked for NOM Case is confirmation of the assumption that some kind of subject-verb agreement has already taken place at the level of IP before the inflectional complex [V-*v*-T] raises to CP. Presumably, the raising of [V-*v*-T] to the functional node *F* in CP could be tied up to the feature structure of functional categories in the CP domain in SA and the probe-goal-Agree system of dependency relationships the raising of [V-*v*-T] to *F* helps create (see section 4.1.2.1).

I first introduced the internal structure of the split CP (Rizzi 1997) in section 2.1.2.3.2 in connection with the assumption that initial DPs in SA are Topics base-generated in the Spec position of a TopP maximal projection in the CP domain. I further consider here the split-CP system in relation to the nature of the *F* node the inflectional complex [V-*v*-T] raises to. According to Rizzi (1997), the CP domain is more elaborate than was previously thought in that it takes the form of a Force-Finiteness system in interaction with a Topic-Focus system (although some languages do not seem to make use of all the available positions, e.g., French (Rizzi 1997: 286)). The structure of CP in this conception takes the form of a Topic-Focus system sandwiched in between ForceP and FinitenessP (=FinP), as represented in (54) below:

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<sup>53</sup> Rizzi (1997: 286) alludes to the analogous status of the Top node, in the CP domain, and the Agr<sub>s</sub> node, in the IP domain, in relation to predication. I leave the status of the node(s) the inflectional complex [V-*v*-T] raises to open for the moment returning to a detailed discussion of the different raising processes that link the CP domain to the IP domain, à la Rizzi (1997), in Chapter Four.

(54) The Split-CP domain as conceived of in Rizzi (1997)

Structure (54) shows that not only can topicalized elements, merged in Top(ic)P, precede or follow focused elements, merged in Foc(us)P, but the Topic projections can be recursive as indicated by the asterisk on both TopP\* projections in (54). Another characteristic of this structure is that, according to the different kinds of left-peripheral elements that each functional node in the split-CP domain harbours, each maximal projection may have a potential Spec position.<sup>54</sup>

Rizzi (1997: 284) assumes that languages vary in the extent to which they ‘replicate’ IP information in the CP domain, particularly in relation to mood, modal and finiteness elements. As already discussed above in connection with the lexicalized C element *ʔinna* in structure (53), the Force node in the split-CP domain bears the function of signalling ‘clausal type’ (Rizzi 1997: 283). In SA, the complementizer *ʔinna* (or its variants *ʔan* and *ʔanna*) would naturally be located under Force indicating that the derived sentence is declarative in clause type.

As also discussed in relation to structure (53), I assume that the so-called ‘lexicalized expletive’ (Mohammad 1989; Shlonsky 2000) or ‘expletive topic’ (Fassi Fehri 1993), which cliticizes onto its host to the left, is located in [Spec, TopP]. If the parallelism Rizzi (1997: 286) suggests exists between Top (in the CP domain) and

<sup>54</sup> I return to a revised system of the split-CP domain in section 4.1.2.1.

Agr<sub>S</sub> (in the IP domain) is correct, then the claim that the EXPL clitic *-hu* is located in [Spec, TopP] finds further support in that both the lexicalized version of EXPL *pro* and the null EXPL itself are merged in the Spec position of a node that is related to the argument DP of the predication relation – i.e., to the subject DP of the clause in subject-verb agreement configurations.

The lexicalized EXPL element not only encodes person but could also, optionally, encode gender. Ouhalla (1991: 125-126) and Fassi Fehri (1993: 38-39) cite the following examples:

- (55) a. ?inna-hu            zaara-nii            thalath-u            shaaʕiraat-in            (SA)  
           that-EXPL.3MS visited.3MS-me three.M-NOM poets.F-GEN  
           Literally: ‘It visited me three poets’
- b. ?inna-ha            zaarat-nii            thalath-u            shaaʕiraat-in  
           that-EXPL.3FS visited.3FS-me three.M-NOM poets.F-GEN  
           Literally: ‘It visited me three poets’

In (55a,b), the subject is feminine notwithstanding the fact that the numeral *thalathu* is marked for masculine gender (as opposed to *thalathat-u* in which the *-t* morpheme expresses feminine gender). Thus, although the subject is feminine, the gender expression on the DP *thalath-u shaaʕiraat-in* does not seem to be a determining factor in subject-verb agreement at the IP level. This agreement configuration seems to point to the fact that the verb (which I am assuming is in the CP domain) seems to obligatorily agree with the EXPL clitic (i.e., *-hu* in (55a) and *-ha* in (55b)) rather than with the lexical subject.<sup>55</sup> Nevertheless, due to the absence of a fully realized Agr<sub>S</sub> node in the derivation of SA VSO sentences (as represented, for example, in (53) above), this agreement configuration is, presumably, not an instance of  $\phi$ -feature agreement that is directly linked to the satisfaction of the EPP in the IP domain. Rather, as I will discuss in Chapter Four, this agreement configuration seems to be an instance of the identification of a D-feature on the Top node in the CP domain in relation to the T-features of the Fin and T. In such instances, feature licensing is more a question of ‘identification’ rather than feature valuation (cf. R&R, Ouhalla 1993).

<sup>55</sup> See, however, the sentences in (59) below for some seemingly recalcitrant cases.

The same is true of cases where the subject is a simple singular feminine DP, as shown in (56) below:

- (56) a. *ʔinna-hu            zaara-nii            shaaʕirat-un* (SA)  
           that-EXPL.3MS visited.3MS-me poet.F-NOM  
           Literally: ‘It visited me a poet’
- b. *ʔinna-ha            zaarat-nii            shaaʕiraat-un*  
           that-EXPL.3FS visited.3FS-me poet.F-NOM  
           Literally: ‘It visited me a poet’

As was the case in (55), the lexicalized EXPL cliticized onto *ʔinna*, in (56), again optionally encodes gender. Again, the verb seems to obligatorily agree with the clitic rather than with the subject DP. As discussed in the previous paragraph, I assume that this agreement configuration is not an instance of  $\phi$ -feature agreement related to the satisfaction of the EPP in the IP domain.

Fassi Fehri (1992: 134-135) provides other examples of optional gender agreement in SA with [- HUMAN] DPs (the sentences in (57) below) and with, the so-called, ‘broken’ plural nominals that are formed by altering the structure of the singular DP (the sentences in (58) and (59)). These plural DPs are feminine in gender:<sup>56</sup>

- (57) a. *dhahaba            saaʕat-un            mina l-layl-i* (SA)  
           has passed.3MS hour.INDEF-NOM of the-night-GEN  
           ‘An hour of the night has passed’
- b. *dhahaba-t            saaʕat-un            mina l-layl-i*  
           has passed.3FS hour.INDEF-NOM of the-night-GEN  
           ‘An hour of the night has passed’
- (58) a. *jaaʔa            l-kilaab-u* (SA)  
           came.3MS the-dogs-NOM  
           ‘The dogs came’
- b. *jaaʔa-t            l-kilaab-u*  
           came.3FS the-dogs-NOM  
           ‘The dogs came’

<sup>56</sup> According to Roman (1990: 46-48) this instance of ‘feminine Gender’ marking, which gives rise to ‘feminine pseudo-agreement’ between the verb and the subject DP, has “mistakenly” been analysed as ‘third person feminine’ (see footnote 89, p. 46). This observation is relevant in the current context in that it dissociates the kind of agreement in sentences (55)-(59) from  $\phi$ -feature agreement linked to EPP satisfaction, as I am proposing.

- (59) a. ?inna-hu            jaaʔa       l-kilaab-u                                  (SA)  
that-EXPL.3MS came.3MS the-dogs-NOM  
Lit: ‘It is indeed the case that the dogs came’
- b. ?inna-ha            jaaʔa-t      l-kilaab-u  
that-EXPL.3FS came.3FS the-dogs-NOM  
Lit: ‘It is indeed the case that the dogs came’
- c. ?inna-hu            jaaʔa-t      l-kilaab-u  
that-EXPL.3MS came.3FS the-dogs-NOM  
Lit: ‘It is indeed the case that the dogs came’

The sentences in (59a) and (59c) are of particular interest in the context of my contention that such instances of apparent subject-verb agreement in the IP domain are actually instances of ‘Criteria’ that are different from the processes involved in the valuation of uninterpretable features in the case-agreement system of languages. In (59c), the clitic *-hu*, marked for 3<sup>rd</sup> masculine singular agreement morphology does not agree with the verb marked for 3<sup>rd</sup> feminine singular agreement (apparently agreeing with the ‘broken’ plural subject DP *al-kilaab-u* ‘the dogs’). In (59a), the reverse is true: the clitic *-hu* agrees with the verb, and the verb does not seem to agree with the subject DP. Nevertheless, as I have discussed in relation to the sentences in (55) above, the agreement configuration in question seems to be dissociated from the kind of ‘rich’  $\phi$ -feature agreement, which – at least, in Arabic – obtains under an Agr<sub>S</sub>P projection in the IP domain, as repeatedly discussed in this chapter.

Fassi Fehri (1993: 92, note 28) cites the sentences in (60) below from Syrian Arabic (from Barlow & Ferguson 1988). These sentences pattern like the sentences in (58) and (59), and, as such, seem to present an argument for an SA-type of the derivation of VSO sentences in Syrian Arabic:

- (60) a. ?ijaa-ni                      makatiib                      (Syrian Arabic)  
           came.3MS-me letters  
           ‘I got some letters’
- b. ?ijit-ni                      makatiib  
           came.3FS-me letters  
           ‘I got some letters’

In (60a), subject-verb agreement in 3<sup>rd</sup> singular masculine agreement features does not seem to be with the feminine subject *makatiib* ‘letters’ (a ‘broken’ plural nominal). According to Fassi Fehri (1993: 92, note 28), subject-verb agreement in (61a) is ‘null’





structures in SA – is not an instance of  $\phi$ -feature agreement that is linked to the satisfaction of the EPP in the IP domain.

In this connection, Fassi Fehri (1993: 34) states that: “...  $\phi$ -feature or AGR specifications can only be licensed by argumental (or referential) subjects”, and that expletive subjects “... are not sufficient licensors of these features”. Fassi Fehri (1993: 34, 38-39) further maintains that although expletives do not play a direct role in licensing AGR feature specifications in VSO structural representations in SA, VSO sentences may exhibit an instance of an expletive topic, as in (62) below (Fassi Fehri’s 1993: 39 example (76)) or (55), (56) and (59) above:<sup>58</sup>

- (62) ?inna-ha laa t-aʃma l-ʔabSar-u (SA)  
 that-her NEG 3F-be blind the-eyesight.PL-NOM  
 Lit: ‘Eyesights do not become blind’

Fassi Fehri (1993: 34, 38-39) claims that this is also true of Arabic dialects other than SA as in (63a-c) from MA:<sup>59</sup>

- (63) a. \*ra-h ja l-ulaad (MA)  
 EXPL-MS came.3MS the-boys  
 Lit: ‘There came the boys’  
 b. ra-h jaw l-ulaad  
 EXPL-MS came.3P the-boys  
 Lit: ‘There came the boys’  
 c. ra-hum jaw l-ulaad  
 EXPL-3P came.3P the-boys  
 Lit: ‘There came the boys’

Fassi Fehri (1993) interprets *ra-h/ra-hum* in (63a,b) (see also the sentences in (65) and (66) below) literally as ‘see-him(it)/see-them’, since these elements can be decomposed into *ra* – a non-inflected form of the Arabic verb *raʔa* ‘see’ – and a clitic pronoun *-h/-hum*. Fassi Fehri (1992: 130; 1993: 41) assumes that *ra-h* and its variants *ra-ha* and *ra-hum* are expletive and topic-like in nature and that they occur in Spec of an AGR node in satisfaction of the EPP. Fassi Fehri (1993: 41) further assumes that: “AGR on the predicate does not necessarily agree with the form of the

<sup>58</sup> As already reviewed in section 2.1.1, Fassi Fehri (1993: 39) takes SA to have a basic VSO word order.

<sup>59</sup> The same sentences in (63a-c) (as well as in (64a,b) below) can be reproduced in TA.

expletive (which is in its Spec), while it does so with the postverbal argumental subject”.

However, judging from the ungrammaticality of the verb *ja* ‘came’ in (63a) vs. the grammatical form *jaw* ‘(they) came’ in (63b,c), subject-verb agreement seems to exclusively obtain in the IP domain irrespective of the form the so-called expletive topic element takes – namely, *ra-h* in (63b) and *ra-hum* in (63c). Thus, these expletive topic elements do not seem to occupy the structural subject position in the IP domain – namely [Spec, IP/Agr<sub>S</sub>P]. Rather, these elements seem to be located in some peripheral Spec position, which I propose to be an adjoined position to IP/Agr<sub>S</sub>P in the derivation of such MA sentences.

Another argument for the suggestion that the ‘expletive topic’ elements *ra-h*, *ra-ha*, *ra-hum* are presumably in a peripheral position to the left of the element occupying the structural subject position (and that they are not the elements with which the inflected verb in (63b,c) agrees) comes from such SVO sentences in MA as (64a,b) below (Fassi Fehri 1993: 41):

- (64) a. ra-ha            Hlima waqfa  
EXPL-FS Hlima standing.FS  
'It is Hlima standing up.'
- b. ra-h                 Hlima jaa-t  
EXPL-MS Hlima came-FS  
'It is Hlima (who) has come.'

As noted earlier in relation to *ra-h/ra-hum* in (63b,c), Fassi Fehri (1992, 1993) assumes that these elements are in the IP domain. Nevertheless, assuming that the DP *Hlima* in both (64a) and (64b) occupies the Spec of AGR (= Agr<sub>S</sub>), as the highest Spec position in the IP domain determining subject-verb agreement at Spell Out in such SVO sentences, positioning *ra-h* and its variants in the IP domain seems difficult to maintain.

My guess is that such sentences introduced by the ‘expletive topic’ element *ra-h*, or one of its variants *ra-ha*, *ra-hum*, represent a ‘residue’ of SA VSO sentences introduced by the matrix complementizer *?inna* to which an EXPL clitic pronoun

-*hu/-ha* gets attached, as in sentences (55)-(59) above.<sup>60</sup> Both elements involve some peripheral position to the left of the subject DP, which remains in the IP domain. The difference between SA VSO sentences and VSO sentences in such modern spoken dialects as TA and MA is that agreement configurations in these VSO instances are parameterized according to the feature structure of the functional nodes that participate in agreement relations and according to how the C, (Agr<sub>S</sub>), T dependency is established via these configurations.

On this account, the agreement configurations obtaining in such sentences as (63b,c) and (64a,b) (likewise for the sample sentences in (65) and (66) below) do not represent counterevidence to the analysis I am proposing in relation to the derivation of the VSO word order in TA or MA as modern spoken dialects of Arabic. As discussed in relation to structure (51) above, EXPL *pro*-insertion in [Spec, Agr<sub>S</sub>P] remains a legitimate process in the modern spoken dialects of Arabic, whereby full subject-verb agreement under an Agr<sub>S</sub>P projection in VSO sentences finds ample justification.

Makhoukh (1998) and Aoun *et al.* (1994) entertain similar assumptions to those made by Fassi Fehri (1992, 1993) in relation to the absence of an agreement relation between the verb and an EXPL element in SA and the other Arabic varieties. According to them, the agreement relation in VSO sentences in Arabic holds directly between the verb and the post-verbal argument subject, and not between the verb and an EXPL element in the Spec of IP/Agr<sub>S</sub>P. The sentences in (65) and (66) below are from MA and Lebanese Arabic (LA):

- (65) a. *ra-ha nejHat meryem* (MA)  
EXPL-FS succeeded-3FS Meriem  
‘Meriem has succeeded.’
- b. *ra-h Radi takhud meryem minHa*  
EXPL-MS will get.3FS Meriem a grant  
‘Meriem will get a grant’ (Makhoukh 1998: 246)

<sup>60</sup> Talmudi (1981: 24) assumes that the verb *ra* ‘see’ has a demonstrative function. In this respect, this verb may have undergone a process of ‘grammaticalization’ whereby it has assumed the function of a presentative particle that in a way asserts the truthfulness of the proposition being introduced by the particle, very much like *?inna/?anna* does in SA. Under such an interpretation, a possible alternative translation to the ‘grammaticalized’ verb *ra* ‘see’ at the beginning of such sentences as in (63) and (64) (as well as (65) below) would be something like ‘I assert that ...’ or ‘It is indeed the case that...’.

- (66) a. fakkar                  ?inno        raaHo   l-baneet  
thought.3MS that.3MS left.3P the-girls  
'He thought that the girls left.'
- a'. \*fakkar                  ?innun        raaHo   l-baneet  
thought.3MS that.3P left.3P the-girls  
'He thought that the girls left.'
- b. fakkar                  ?inno        raaHit   zeena.  
thought.3MS that.3MS left.3FS Zeena  
'He thought that Zeena left'
- b'. \*fakkar                  ?inna        raaHit   zeena.  
thought.3MS that.3F left.3FS Zeena  
'He thought that Zeena left'
- (Aoun *et al.* 1994: 202)

The sentences in (65) pattern like the sentences in (63) above. Again, the assumption that the topicalized elements *ra-h* and *ra-ha* occupy the structural subject position is dubious. Rather, an EXPL *pro* can be assumed to be merged in [Spec, Agr<sub>S</sub>P] determining subject-verb agreement at Spell-Out. As discussed in relation to (63), I assume that *ra-h* and *ra-ha* in (65) are left-adjoined to Agr<sub>S</sub>P.

The same assumption about an EXPL *pro* seems to apply to the sentences in (66). Subject-verb agreement at Spell Out obtains in number/person (sentence (66a)) and number/person and gender (sentence (66b)).<sup>61</sup> According to the assumptions about agreement features in syntactic structure made earlier (see, in particular section 2.1.2, and sections 2.3.1 and 2.3.3), number agreement will only arise if the right Spec-head agreement relation is available configurationally. Although Aoun *et al.* (1994: 200-203) acknowledge the role of Spec-head agreement relations in determining subject-verb agreement configurations and that “there may very well be an expletive element preverbally in the VS cases”, in the varieties of Arabic they are interested in – namely, SA, MA and LA –, they maintain that the agreement relation is not mediated by expletive *pro*.

As I have discussed in relation to structures (50) and (51) above, I am proposing that the derivation of VSO structural representations in SA differs from the derivation of VSO sentences in such spoken dialects of Arabic as TA, MA and LA in

<sup>61</sup> As in TA, LA and MA do not have any feminine agreement marker on verbs in the plural and the verb morphology for the plural is the same for the masculine and feminine plural. On this account, subject-verb agreement in (66a) is actually an instance of agreement in all  $\phi$ -features, irrespective of whether gender is phonetically realized on verbs in the plural or not.

terms of the presence or absence of an Agr<sub>S</sub> node and, thereby, the presence or absence of an EXPL *pro* in [Spec, Agr<sub>S</sub>P]. On this account, the assumption that the verb in VSO sentences in SA, is not under an Agr<sub>S</sub> node (or a complex T-Agr<sub>S</sub> node) already discounts an analysis whereby an EXPL *pro* is in the highest Spec position in the IP domain in SA that would mediate the subject-verb agreement relation at that level. Rather, besides the probe-goal-Agree relation that holds between the verb and the post-verbal subject raised to [Spec, TP] (as a ‘weak’ Phase at the highest Spec position in the IP domain in SA) the EXPL clitic pronoun phonetically realized in a position to the left of, and adjacent to, the verb in the split-CP domain determines a strong Phase in terms of which the T-dependency in SA VSO sentences is ultimately established.

Under such assumptions, the agreement configurations, as pertaining to verb morphology and the relation between the IP domain and the CP domain in SA and the other dialects of Arabic (such as MA, TA, Syrian Arabic, and LA), as discussed in relation to the sample sentences in (63)-(66) above, again shows that there is some variation as to how these agreement configurations are manifested in clause structure. In this light, Aoun *et al.*’s (1994) analysis of subject-verb agreement in Arabic misses the very issue the authors set out to address in the first place – namely, the parametric character of structural agreement relations and representations. The important point in this connection is that Aoun *et al.*’s (1994: 200-203) analysis does not exclude altogether the availability of EXPL *pro* in the structural subject position of the varieties they are concerned with. The authors simply exclude the possibility that the EXPL has anything to do with subject-verb agreement. On the assumptions I have been entertaining thus far, the nonexistence of the EXPL in the Spec position of the highest inflectional node (i.e., [Spec, TP]) in SA VSO word order may happen to be the answer to the parametric character of the structural agreement relations in question.

### 3.3.5. Summary

In this section, I have been concerned with the parametric character of the derivation of subject-verb agreement configurations in VSO structural representations in SA vs. such modern spoken Arabic dialects as TA, MA and LA. I have proposed that the variation in question concerns an Agr<sub>S</sub> node in the specifier position of which an EXPL *pro* is merged at the level where Spell Out applies. Thus, whereas TA, MA

and LA – as modern spoken dialects of Arabic – project Agr<sub>S</sub> in VSO sentences, SA does not.

In SA VSO sentences, the subject is assumed to raise to [Spec, TP] where some form of third person singular subject-verb agreement defines a ‘weak’ TP Phase. The T-dependency is thus not determined by subject-verb agreement at the level of IP. After having first raised to T in the IP domain, the verb moves further up to some *F* functional head position in the split CP domain. I return to a feature-based account of the raising of V (actually, V-*v*) to T and to *F* in Chapter Four.

In the following subsection, I have a look at how the assumption of different realizations of the T-dependency in the IP domain accounts for the difference in subject-agreement configurations in SA and TA.

### 3.3.6. *Different realizations of the C-(Agr<sub>S</sub>)-T dependency in VSO sentences in SA and TA*

Biberauer and Roberts (2010: 265) point to the necessity of “distinguishing T’s tense (i.e., ‘verbal’ or V-related) properties from its agreement  $\phi$ - (i.e. ‘nominal’ or D-related) properties ...”. Abiding by the feature-valuation system such a distinction is linked to, the process of verb-raising to the inflectional domain of sentence structure concerns primarily the relation between T’s unvalued V-features and V’s unvalued T(ense)-features.<sup>62</sup> Nevertheless, this process, whereby tense inflection is appropriately interpreted at the interface, arises concomitantly with the process whereby  $\phi$ -agreement between the subject DP and the verb arises in the IP domain (as discussed in section 3.3.4. in relation to Berber and Arabic).

In the probe-goal-Agree system of structural dependency relations that parametrically vary according to the feature structure of functional categories, the interrelatedness of these, nonetheless, distinguishable processes has been primarily presented in this chapter as an argument against a V-raising style of EPP-feature checking/valuation. V-raising *per se* does not determine the kind of subject-verb

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<sup>62</sup> I have assumed in my discussion of Benmamoun’s (2000b, 2008) analysis of SA verbal inflection in section 3.3.2.3, that [*u*V] on T could be universally absent on T and that the raising process of V-to-T would exclusively be accounted for on the basis of the *v*/V’s ‘rich’ [*u*T] feature that triggers its raising to the T node in V-raising languages (see footnote 34 above).

agreement we find in richly-inflected V-raising languages.<sup>63</sup> Such a system also goes against Chomsky's (1995b) suggestion that verbs 'overtly' move only as a 'phonological' process, whereby V-raising may be categorically different from XP-movement processes in the syntax. As discussed in this chapter in relation to Roberts' (2010a) and Roberts & Biberauer's (2010) arguments for a parameterized probe-goal-Agree system, raised verbs will still be involved in the 'valuation' procedure at Spell Out whereby the derived structure is transferred to both LF and PF for interpretation. This is so because such a raising process is an integral part of the process by which the C, (Agr<sub>S</sub>), T dependency is derived in sentence structure. By that token, any raising process in the grammar will have to be involved in some valuation procedure and will have to have a bearing on interpretation at LF.

As discussed in section 3.3.4, Berber and SA/TA are languages where the VSO word order alternates with the SVO word order. Nevertheless, in Berber and TA, the VSO word order exhibits full subject-verb agreement (sentences (67) and (68), respectively), whereas SA does not (sentence (69)):

- |                                                                                                                       |                                    |
|-----------------------------------------------------------------------------------------------------------------------|------------------------------------|
| (67) <i>sqaḍ-n timgharin lbrat.</i><br>sent-they the women the letter<br>'The women sent the letter'                  | (Berber)                           |
|                                                                                                                       | (Ouhalla, 1991: 124) <sup>64</sup> |
| (68) <i>bṣaṭh-u n-nsaa l-jwaab</i><br>sent-3P the women the-letter<br>'The women sent the letter'                     | (TA)                               |
| (69) <i>baṣaṭha-t n-nisaaʔ-u r-risaalat-a</i><br>sent-3FS the women-NOM the-letter-ACC<br>'The women sent the letter' | (SA)                               |

In the TA and Berber sentences in (67) and (68), according to my analysis, the T-node is directly associated with the Agr<sub>S</sub> node thus directly linking  $\phi$ -feature agreement specification (person, number and gender) on the raised verb and EPP-feature valuation – whereby [Spec, Agr<sub>S</sub>P] has to be occupied – to tense interpretation at Spell Out. As for the SA sentence in (69), I have adopted the hypothesis whereby

<sup>63</sup> The claim I am making here in relation to V-raising languages of the Semitic/Celtic type may also be true of matrix V2 sentences in a language like German (see section 4.1.2.1), and the importance of the uninterpretable T-feature of V-*v* as the trigger for V-raising in such languages (see section 3.3.2.3).

<sup>64</sup> I kept Ouhalla's (1991) glosses where the agreement inflection on the verb is interpreted as a pronominal affix, i.e., as a nominal argument of the verb, making Berber's agreement inflection similar to SA's (see section 2.1.2.3.3).

Agr<sub>S</sub> is not projected in sentence structure in the SA VSO word order. Since T is not directly associated with an Agr<sub>S</sub> node, the highest Spec position for  $\phi$ -feature and EPP-feature valuation in the IP domain is [Spec, TP].

Table 3.11 below provides a breakdown of the feature structure of functional categories in the IP domain in TA and SA, as discussed in the previous sections:

Table 3.11. The C-(Agr<sub>S</sub>-)T dependency and the feature-structure representation of the IP domain in VSO sentences in TA and SA

| Feature structure                                                                                        | TA VSO sentences                                                                                                                                                                                                          | SA VSO sentences                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agr <sub>S</sub> : D-feature (as an edge feature in the IP domain)                                       | <ul style="list-style-type: none"> <li>- T-to-Agr<sub>S</sub> raising process</li> <li>- Projection of [Spec, Agr<sub>S</sub>P]</li> <li>- EXPL <i>pro</i> insertion in [Spec, Agr<sub>S</sub>P]</li> </ul>               | <ul style="list-style-type: none"> <li>- Absence of the T-to-Agr<sub>S</sub> raising process</li> <li>- Non-projection of [Spec, Agr<sub>S</sub>P]</li> <li>- In the absence of Agr<sub>S</sub> in the IP domain, EXPL <i>pro</i>-insertion does not apply in the IP domain.<sup>65</sup></li> </ul> |
| T: <ul style="list-style-type: none"> <li>- EPP feature</li> <li>- <math>\phi</math>-features</li> </ul> | <ul style="list-style-type: none"> <li>- EPP valuation in [Spec, Agr<sub>S</sub>P]</li> <li>- <math>\phi</math>-feature valuation in [Spec, Agr<sub>S</sub>P] associated with the EPP and D-feature valuation.</li> </ul> | <ul style="list-style-type: none"> <li>- EPP valuation in [Spec, TP]</li> <li>- <math>\phi</math>-feature valuation in [Spec, TP] associated with the EPP .</li> </ul>                                                                                                                               |

Recall my proposal in section 3.3.4 that the projection of Agr<sub>S</sub> in sentence structure determines a strong Phase in Arabic. In TA, the process by which T-to-Agr<sub>S</sub> applies, coupled with the process via which V-v raises to T, will determine subject-verb agreement. In SA VSO sentences, the T-to-Agr<sub>S</sub> process does not apply because of the absence of Agr<sub>S</sub>. The strong Phase does not obtain at the IP level, which I have assumed to be a ‘weak’ Phase in the derivation of these sentences.

<sup>65</sup> As discussed above, SA VSO sentences allow the possibility of lexically realizing EXPL *pro* as an EXPL clitic pronoun *-hu/-ha* in the event that the complementizer *?inna/?anna* is used (both in matrix and embedded contexts). In this case, the D-feature that (in TA VSO sentences) obtains in the IP domain is associated, in SA VSO sentences, with the functional projection in the split-CP domain (namely, Top) that parallels Agr<sub>S</sub> in the IP domain (see footnote 53).



I have also proposed that the [V-*v*]-to-T raising process in SA may prove to be a substitution process rather than an adjunction process. Thus, in the first step of the derivation of VSO sentences in SA, the verb already inflected for person and tense raises to T, as a ‘substitution’ rather than ‘adjunction’ process. Thus, T, in SA, necessarily projects a Spec position for EPP satisfaction. In this respect, the difference between the SA VSO word order and the TA VSO word order concerns the nature of the highest inflectional node the verb raises to in conjunction with the dependency relations established within the derived structure for the valuation and/or identification of features including the satisfaction of the EPP within the IP domain.

In this conception, it is due to the different character of the Spec-head/head-head structural agreement relations – fundamental for the representation of subjects at the IP level – that the derivation of VSO structural representations in TA and in SA proceeds via different paths. In TA, the [V-*v*-T-Agr<sub>S</sub>] inflectional complex is under an Agr<sub>S</sub>P maximal projection whereby, in the VSO word ordering, Spec-head agreement applies with an EXPL *pro* in [Spec, Agr<sub>S</sub>P] for EPP satisfaction. In SA, my assumption has been that EXPL *pro*-insertion does not apply at the IP level in VSO sentences. In this case, Agr<sub>S</sub> does not project above TP, and Spec-head agreement for EPP satisfaction applies between the [V-*v*-T] inflectional complex and the subject DP in [Spec, TP].

As discussed in section 3.2.1.1, EXPL-insertion processes, as in a null-subject language like TA, or as in English *there* -associate pairs, not only involve an additional D-feature that requires merging an EXPL element under the highest maximal projection in the IP domain (i.e. Agr<sub>S</sub>P) for EPP satisfaction, but also the process whereby T raises to adjoin to Agr<sub>S</sub> and EXPL is inserted in [Spec, Agr<sub>S</sub>P] to value [*u*D] on Agr<sub>S</sub>. This probe-goal-Agree system of dependency relations establishes the desired subject-verb agreement configuration whereby valuation of [*u*D] on Agr<sub>S</sub> is ultimately linked to  $\phi$ -feature specification and EPP satisfaction. Thus, in a null-subject language like TA, which exhibits full subject-verb agreement in the VSO word order, agreement in the IP domain is concomitant with the [V-*v*]-to-T and T-to-Agr<sub>S</sub> raising processes, and with EXPL *pro*-insertion in [Spec, [<sub>V-V-T-AgrS</sub>] Agr<sub>S</sub>P] rather than with V-raising *per se*.

V-raising in the IP domain also applies in SA, but the adjunction of T to Agr<sub>S</sub> does not apply in this language in the derivation VSO sentences. Rather, – as I will discuss in more detail in Chapter Four – the V-raising process by which the verb,

raised to T raises further up past the subject DP in [Spec, TP] is linked to some identification process in the split-CP domain involving the verbal inflectional [V-v-T] complex raised to some *F* head position.

Under such assumptions as to the differences in the realization of the C(-Agr<sub>S</sub>)-T dependency in Arabic, an account of the parametrically different subject-verb agreement configurations that arise in the derivation of VSO sentences in SA and the corresponding sentences in TA at the IP level in terms of a parameterized probe-goal-Agree system of feature-valuation finds a justifiable explanation. The following sentences in (70a,b) and (72a), from SA, corresponding to those in (71a,b) and (72b), from TA, show such differences in agreement configurations:

- (70) a. *kharaj-a/\*kharaj-uu*                      *l-ʔawlaad-u*                      (SA)  
           went out-3MS/went out-3MP the- boys-NOM  
           ‘The boys went out’
- b. *kharaj-at/\*kharaj-na*                      *l-banaat-u.*  
           went out-3FS/went out-3FP the-girls-NOM  
           ‘The girls went out’
- (71) a. *kharj-uu/\*kharj*                      *l-ulaad*                      (TA)  
           went out-3P/went out-3MS the-boys  
           ‘The boys went out’
- b. *kharj-uu/\*kharj-t*                      *l-bnaat.*  
           went out-3P/went out-3FS the-girls  
           ‘The girls went out’
- (72) a. *man qaala ʔinna-hu                      ʒaaʔa                      l-ʔawlaad-u?*                      (SA)  
           who said    that-CL(ACC) came.3MS the-boys-NOM  
           ‘Who said that the boys came?’
- b. *shkuun qaal illi jaa-w                      l-ulaad?*                      (TA)  
           who    said that came-3P the-boys  
           ‘Who said that the boys came?’

In the absence of Agr<sub>S</sub>, in the SA sentences in (70a,b), the full set of  $\phi$ -feature specification on the [V-v-T] inflectional complex does not appear (*kharaj-a* vs. *\*kharaj-uu* in (70a) and *kharaj-at* vs. *\*kharaj-na* in (70b)). As proposed in section 3.3.4, the [V-v]-to-T raising process is necessarily involved in some subject-verb agreement which is linked to the satisfaction of the EPP at the highest level the derivation reaches in the IP domain, i.e., [Spec, TP] where the raised subject DP values the uninterpretable  $\phi$ -features of the T node giving rise to the so-called, 3<sup>rd</sup>

person singular ‘default’ agreement configuration. In the TA sentences in (71a,b), the inflected verb is under an Agr<sub>S</sub>P projection, which is responsible for the full agreement pattern (*kharj-uu* vs. \**khraj* in (71a) and *kharj-uu* vs. *kharj-t* in (71b)).

In the wh-questions in (72), the same subject-verb agreement relations apply. In the SA wh-question in (72a), the verb (or, the [V-v] complex) first raised to T agrees with the subject DP raised to [Spec, TP], where valuation of the uninterpretable  $\phi$ -features of T by the subject DP applies. This probe-goal Agree relation only gives rise to ‘partial’ subject-verb agreement (*jaaʔa*). The EPP is, nonetheless, satisfied as a reflection of the probe-goal-Agree relation. Since in the derivation of such VSO sentences as in (70) (and, likewise, in the wh-construction in (72a)) SA opts for expanding the CP domain into Fin and Force (à la Rizzi 1997, see section 3.3.4) – where the Top-Foc system is activated –, the inflected verb further raises to some *F* node in the spilt-CP domain.

In the TA wh-question in (72b), however, the raising of T to Agr<sub>S</sub> applies, and the raised verb agrees with an EXPL *pro* merged in [Spec, Agr<sub>S</sub>P] giving rise to full subject-verb agreement (*jaaw*) at Spell Out.

As in Roberts’ (2010a: 114) typology of ‘clitic doubling’ configurations in the Romance null-subject systems that Roberts (2010a) is interested in (see section 3.2.1.2), the differences in subject-verb agreement configurations in SA and TA may ultimately be linked to how the process of feature-valuation applies at the highest level of the derivation of the IP domain in relation to T’s D-feature.<sup>66</sup> Presumably, it is due to the absence of T’s D-feature (and the accompanying absence of Agr<sub>S</sub> in the projection of the IP domain in SA VSO word order) that feature valuation (assuming that it involves some ‘feature copying’ mechanism) may involve ‘partial copying’ of the subject agreement features, in SA, as opposed to ‘full copying’ of those features in TA. The presence of EXPL *pro* and the projection of Agr<sub>S</sub>(P) in TA VSO structural representations would account for this difference in the feature-valuation mechanism in subject-verb agreement configurations.

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<sup>66</sup> In section 3.2, I have proposed that the D-feature, which Roberts (2010a) and Biberauer *et al.* (2010) assume to be an additional feature of T, could rather be conceptualized as an ‘edge’ feature that is the property of an Agr<sub>S</sub> node that parametrically projects higher than T, in the IP domain. The assumption of the existence of an additional D-feature at the IP level has been fruitful in accounting for such subject-verb agreement configurations as those that obtain in EXPL-associate pairs in English and TA.

### 3.4. Conclusion

In this chapter, I have proposed an analysis of sentence structure cross-linguistically in terms of a parameterized probe-goal-Agree system of subject-verb agreement configurations. The cornerstone of such an approach has been the proposal that sentence structure parametrically projects as Agr<sub>S</sub>P in some languages (e.g., TA vs. SA in the VSO word order) or in some constructions in a particular language (e.g., *there*-constructions in English). The role of EXPL-insertion (in such instances of Agr<sub>S</sub>(P) projection) has been linked to the availability of D-features that not only represent a defining property of the null pronominal element *pro* (both referential and EXPL), but also of the functional head that such D-elements (*pro* in null-subject languages, or *there* in English) are associated with in terms of the valuation process.

The probe-goal-Agree framework of feature-licensing that has been the cornerstone of the parametric account of the so-called EXPL-associate pairs reviewed and further analysed in this chapter helped show that EXPL elements like *pro* and *there* share the property of entering the derivation with an intrinsic interpretable D-feature, which matches an uninterpretable D-feature on the probe they are related to, thus satisfying licensing conditions and Tense interpretation at the interface. In these terms, the feature-valuation processes that underlie the probe-goal-Agree dependency relations in sentence structure represent the only licensing conditions via which subject-verb agreement configurations ultimately obtain cross-linguistically.

## CHAPTER FOUR

### STRUCTURAL DEPENDENCIES IN THE HIGHER FUNCTIONAL FIELD OF ARABIC AND OTHER V-RAISING LANGUAGES

#### 4.0. Introduction

As proposed in the previous chapters, the status of verbal inflection, in the derivation of sentence structure in a richly inflected language like Arabic, depends on the raising process of V to I. There is a strong correlation between the course the derivational process takes and the agreement patterns that emerge in sentence structure at the output of formal syntax. In this respect, it has been proposed (Rohrbacher 1994) that there is a tendency for rich subject-verb agreement to correlate, cross-linguistically, with the V-to-I raising process in the syntax proper since it is this movement process that licenses the elements involved in the very process. However, such a proposal does not seem to account for the case of subject-verb agreement in VSO constructions in SA, as a richly inflected language. Although SA shows evidence of V-to-I movement in VSO sentences, these sentences only show ‘partial’ (or ‘weak’) subject-verb agreement. Rather, the process of V to I seems to be a factor, among other possible factors, responsible for subject-verb agreement. The proposal developed here is that, in the derivation of SA VSO word order, verb-raising past the subject raised to the highest Spec position in the IP domain (i.e., the Spec of the T node, in the absence of an Agr<sub>S</sub> node, in SA VSO word order, as proposed here) can account for the absence of rich subject-verb agreement in such a derivation.

In this perspective, the sentence structure of SA and the morpho-syntactic processes involved in the derivation of verbal inflection (including subject-verb agreement configurations) would allow for instantiations of categories that would normally lie outside the domain of inflection proper in the structure of sentences with some discourse-related interpretation (Rizzi 1997, 2004a, Holmberg 1999, Chomsky 2001).<sup>1</sup> In SA, such categories not only include the Topic and Focus heads familiar

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<sup>1</sup> The reference here is to the IP-CP continuum where C complement-selects IP (and where feature valuation for subject-verb agreement obtains at the strong Phase). When the CP system splits à la Rizzi (1997), it expresses a specification of finiteness, generally reflecting ‘inflectional properties’ (Rizzi 1997: 284) though not encoded in terms of verbal inflectional affixes that must be valued in the process of syntactic computation. To anticipate much of the discussion that follows, the assumption that not all these ‘finite’/‘temporal’ elements need be involved in some checking/valuation procedure at Spell Out (Rizzi 2006, Holmberg 1999 for Wh-/Focus structures; cf. R&R for Topic-comment structures) may

from Rizzi's (1997) split-CP approach, but also Negation and Modal(ity) nodes.<sup>2</sup> For example, Fassi Fehri (1993, 2004) points out that the future tense is not an instantiation of an inflectional marker in the tense system of SA. Rather, it is a modal category. Granting that this much is correct, this tense/modal category would be linked to the articulated system of structural relationships in the CP layer of sentences that relates to the C-Tdependency. Such a category and other similar temporal/finite elements would be instantiated by a Modal node in the CP domain and would be linked to the agreement manifestation at the IP level.

In this chapter, I will focus on the tense properties of functional projections in IP and CP and how these properties interact with modality and negation within a feature-based approach to probe-goal-Agree structural relations and Rizzi's (1997) split-CP system. By reference to this same probe-goal-Agree system, the chapter also revisits earlier assumptions introduced in Chapter Two about the topic properties of initial DPs in SVO word order configurations in SA and highlights the role of a Topic projection (i.e. TopP) in the expression of a 'higher' predication relation in the derivation of SVO structures and relative clauses. As for the derivation of VSO structural configurations in SA, the chapter shows the importance of the tense/modal properties of SA sentence structure in the projection of the articulated left-periphery of IP including TopP.

In light of Rizzi's (1997) split-CP analysis introduced in Chapter Three, section 4.1 deals with the interaction of tense and modality properties of the sentence structure of SA in the derivation of VSO and SVO structural configurations and the respective Focus and Topic interpretation of sentences at Spell Out. In section 4.1, I also look at the position of the NegP projection in SA. I propose that there is evidence for two NegP projections in the grammar of SA, and that the Merge of SA negation elements is driven by the functional feature(s) these elements are endowed with. In section 4.2, I discuss the derivation of wh-dependencies in Arabic showing how SA

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turn out to be crucial for an understanding of the phenomena that arise in the derivation of V-raising structures. These elements are, nonetheless, subject to the satisfaction of criteria that abound in A'-dependencies/Operator-variable binding relations where Spec-head and head-head agreement relationships are equally paramount.

<sup>2</sup> In this connection, I adopt later (see section 4.1.2.1) a reformulated architecture of the Split-CP domain adapted from Poletto (2000b) and Jouiiteau (2005) in relation to modal and negation elements above FinP.

and TA differ in that respect. In section 4.3, a possible extension of the feature-based analysis of the left periphery as analysed in sections 4.1 and 4.2 to V2 languages (such as German and Dutch) or residual V2 structural configurations in English is discussed in relation to a feature-sharing conception of Chomsky's (2008) notion of feature inheritance.

## **4.1. The derivation of the higher functional field and the split-CP domain of SA**

### *4.1.1. Introduction*

As discussed in section 2.1.2. (see, in particular, section 2.1.2.4 which summarizes that discussion), I have proposed a micro-parametric analysis of both VSO and SVO word orderings in Arabic whereby SA differs from a modern Arabic spoken dialect like TA in the representation of the subject position at the interface in both of these constituent orderings. SA VSO word order seems to be 'basic' (Mohammad 1989, Fassi Fehri 1993, Akkal & Gonegai 2000). TA and the other modern Arabic spoken dialects tend to have SVO as a 'basic' and more 'discourse neutral' word ordering (Ouhalla 1991, Shlonsky 1997). This difference in the prominence of one word order over another in SA vs. the modern Arabic spoken dialects may be related to a difference in how VSO and SVO sentences in SA and the modern Arabic spoken dialects are syntactically derived and, as far as the derivation of VSO sentences are concerned, the availability of the agreement asymmetry in SA as opposed to TA.

As proposed in Chapter Two and further discussed in Chapter Three, SA VSO word order differs from the VSO word order in a modern Arabic spoken dialect like TA in that only in SA is the subject raised out of *vP/VP*. The post-verbal status of the subject in SA VSO word order is derived by first raising the verb to T. Then the subject raises to [Spec, TP] for EPP satisfaction. Finally, the verb is further raised (together with *v* and T, to which the verb has attached) to some node in the split-CP domain of Rizzi (1997), thus deriving the post-verbal position of the subject in SA VSO word order. These processes in SA are represented as in (1) below (reproduced from section 3.3.4):

(1) SA VSO word order

In (1), *F* designates the Functional projection in CP to which the V-*v*-T complex raises (see section 4.1.2.1).

In contrast, in the TA VSO word ordering, whereas the verb is raised to the inflectional domain (projecting as Agr<sub>S</sub>P), the subject DP remains *in situ* in [Spec, *v*P/VP] in a post-verbal position, as represented in (2):



(2) TA VSO word order

In relation to the TA VSO structure (2), my assumption has been that, whereas in SA VSO sentences expletive *pro* is not instantiated in the highest Spec position in the IP domain for EPP satisfaction (i.e., [Spec, TP] in (1) above), TA VSO sentences require the projection of AgrsP and its Spec position for expletive *pro* insertion and EPP satisfaction. As represented in (2), the verbal complex V-v-T is raised to the Agrs node and does not raise further up.

As for the derivation of SVO sentences in Arabic, the tree structures in (3) and (4) illustrate the difference in the derivation of SVO sentences between SA and TA, respectively:

(3) SA SVO word order

(4) TA SVO word order

According to these tree representations, SA micro-parametrically differs from a modern spoken dialect like TA. In the SA SVO structure (3), the preverbal subject DP is base-generated in a ‘topicalized’, left-dislocated position (i.e., in the [Spec, TopP] position of Rizzi’s 1997 split-CP system).<sup>3</sup> In contrast, a subject DP in TA SVO word order, as represented in (4), would be systematically raised out of [Spec,  $\nu$ P/VP] and internally merged in [Spec, Agr<sub>S</sub>P]. However, both SA and TA SVO sentences have Agr<sub>S</sub>P as the highest maximal projection at the IP level (with T raised to Agr<sub>S</sub> forming the V- $\nu$ -T-Agr<sub>S</sub> complex).

In section 4.1.2 below, I discuss the interaction of the tense and modal properties of sentences (including modal and negation markers) in the derivation of SA VSO and SVO word orderings.

#### 4.1.2. *The interaction of modality, negation, tense and topics in SA VSO and SVO sentences*

In this section, I develop my proposal for the derivation of the VSO and SVO word orderings in SA.

Beginning with VSO sentences, the verbal complex V- $\nu$  raised out of  $\nu$ P/VP to the inflectional domain attaches to T and the verbal inflectional complex V- $\nu$ -T thus formed is further raised past the subject DP itself raised to [Spec, TP], as seen above in (1). The second raising process of the inflected verb involves some node (or nodes) in the split-CP domain (i.e., ForceP ... FinitenessP (FinP), possibly with a TopicP (TopP) projection, a NegationP (NegP) projection – in negative sentences – and a ModalP (ModP) projection located in between ForceP and FinP).

I assume that both the ForceP and the FinP projections are represented in the structure of matrix sentences in SA. That the ForceP projection is potentially represented in sentence structure allows for the possibility that a lexical complementizer like *Ɂinna* functions as a matrix complementizer (irrespective of whether the sentence is VSO or SVO). In 4.1.2.1, I first propose that, in the SA VSO word order, the raised verbal inflectional complex V- $\nu$ -T attaches to Fin, but does not go further than that head position in the split-CP system. In 4.1.2.2, I deal with some basic assumptions about the derivation of SA VSO sentences, including my assumption concerning the projection of a potential Topic Phrase in such VSO

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<sup>3</sup> The ellipsis ‘...’ in (3) is meant to point to the existence of other functional nodes above IP/Agr<sub>S</sub>P, and below TopP, as in Rizzi (1997), Poletto (2000b) and Joutteau (2005).

sentences in matrix contexts. In sections 4.1.2.3, 4.1.2.4 and 4.1.2.5, I have a look at the modal/tense properties encoded by verbs and the particles or markers (including negation markers) verbs interact with in the derivation of SA VSO sentences. In section 4.1.2.6, I deal with the interaction of these modal/tense properties in the derivation of SA SVO sentences where the initial DP figures as a Topic DP.

#### *4.1.2.1. The T-to-Fin raising process in SA VSO sentences*

In this section, I attempt to show that a uniform analysis of the derivation of VSO sentences in Celtic/Semitic languages with ‘basic’ VSO word ordering is a possible alternative to analyses that claim that inflected verbs (i.e., the V-*v*-T complex) in such languages do not systematically raise to a designated position outside the IP domain. Thus, in this section, the discussion will focus on a comparative analysis of VSO structural configurations in Celtic/Semitic languages with ‘basic’ VSO word ordering (namely, in Irish and SA) not only in terms of the distribution of tense/modality properties (i.e., preverbal particles, such as modality and negation markers), but also in terms of the distribution of subject properties in relation to agreement on verbs. The same analysis will be claimed to extend to matrix declarative V2 sentences in a V2 language like German.

Such an account based on the distribution of subject agreement properties will allow a *prima facie* characterization of the similarities (and differences) in the relevant formal properties encoded by verbs or somehow expressed by preverbal particles and/or the placement of subject DPs in Celtic/Semitic and V2 languages. The next step will be to show how this account can be translated in terms of the feature-based account I have been developing in Chapter Three and the beginning of this chapter – in particular, the role of T-features and D-features in the derivation of sentences.

In the aim of configuring the structural underpinnings upon which such an account can be envisaged, I introduce the extended analysis of the architecture of the split-CP domain as conceived of in Poletto (2000b), Benincà & Poletto (2004) and Jouisseau (2005). Whereas Rizzi (1997), in his split-CP analysis (as reviewed in section 2.1.2.3.2 and section 3.3.4), designates two TopP projections (one below FocP, and another above FocP), Poletto (2000b) and Benincà & Poletto (2004), argue that the lower TopP is not instantiated in the architecture of the split-CP domain cross-linguistically. Instead, this lower part of the split-CP domain above FinP is



to focalize the verb” – namely, Focus. The evidence Aoun *et al.* (2010: 70-71) provide for the raising process of (auxiliary) verbs in SA to a higher node than the highest functional head in the IP domain – i.e., T – comes from existential constructions involving the locative pro-form *hunaaka* ‘there’, as in (6a), with a representation as in (6b) (Aoun *et al.*’s 2010: 71 (63)):

- (6) a. *kaan-a hunaaka Taalib-un fii l-Hadiiqat-i* (SA)  
 PERF.be-3MS there student.INDEF-NOM in the-garden-GEN  
 ‘There was a student in the garden’

b.

As (6b) shows, the functional head position the SA auxiliary verb *kaana* ‘be.Past’ in VSO word order occupies is higher than TP, the latter being for Aoun *et al.* (2010) the highest projection in the IP domain in such VSO structural configurations. The auxiliary verb *kaana* appears in F to the left of the locative pro-form *hunnaka* which is merged in [Spec, TP].

Aoun *et al.* (2010: 215-216) assume that FP, in SA, can be designated as Rizzi’s (1997) FocusP. Aoun *et al.*’s (2010: 215-216) conception of the architecture of the split-CP domain differs from Rizzi’s (1997) in that “FinP stands for TP; it is where the tense features are projected” (p. 215). Thus, in Aoun *et al.*’s (2010) conception of the architecture of the split-CP domain, the only position that projects above TP and Rizzi’s (1997) lower TopP projection is the Focus head, which, for

Aoun *et al.* (2010), is the position where the verb in SA VSO structural representations is spelled out.<sup>5</sup>

However, as reviewed below in connection with German V2 declarative clauses and Old Irish V-to-C configurations (Carnie *et al.* 1994, R&R), the raising of T to a low head position in the CP domain preceded by other X(P) elements, such as raised subject DPs in V2 contexts in German and negation particles in VSO structural configurations in Old Irish, is possibly an indication that the verb raises to a position that is lower than Laka's (1990: 100)  $\Sigma$  head node or Rizzi's (1997) Focus head position.<sup>6</sup> As far as SA VSO configurations are concerned, in light of an extended cartographic analysis of the split-CP domain (as represented in (5) above, where a Modal head node projects higher than TP (and FinP) but below FocP), the verb does not move higher than modal particles and/or negation markers like *qad* and *lam/lan* (see the sentences in (15) and (16) below).<sup>7</sup> Given this cartography, if verbs in SA move higher than T in VSO configurations as Aoun *et al.* (2010) propose, then the raised verb would still be in a lower head position than Focus.

On this account, I propose that the head the verb (auxiliary or lexical) raises to in SA VSO structural configurations is Fin. The representation for (6a) should thus be as in (7) below:

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<sup>5</sup> In Aoun *et al.*'s (2010: 215-216) system, Rizzi's (1997) lower and higher TopP projections are reserved for Clitic Left Dislocated elements. Except for the structure in (6b) above, Aoun *et al.* (2010) do not provide an articulated structural representation of the split-CP system they adopt in its relation to the structure of IP.

<sup>6</sup> According to Laka (1990: 98-99), there is variation in the projection of  $\Sigma$ P cross-linguistically. Whereas,  $\Sigma$  projects below T in English-type languages, it projects higher than T in Basque. As discussed above, Laka (1990) claims that  $\Sigma$  houses both the head Neg and whatever head plays the role of 'emphatic affirmation' in syntactic structure. Note that this is also Jouitteau's (2005) standpoint on negation and modal markers as represented by structure (5) above. However, as discussed below, SA presents evidence that the Neg head (for negation markers like *lam* and *lan*) and the Mod head (for 'emphatic' modal markers like *qad/laqad*) should have separate projections in the split-CP system of SA.

<sup>7</sup> I discuss such VSO configurations in the sentence structure of SA in section 4.1.2.2 below.

(7)

In (7), CP splits into ForceP and FinP as the two main projections at the opposite sides of the split-CP domain (what Rizzi 1997: 296-297 calls the Force-Finiteness system). Disregarding, for the moment, the Topic-Focus system (designated by the ellipsis ‘...’ in (7)), the auxiliary verb *kaana* ‘be’, first merged under V in the SA structure in (7), subsequently adjoins to an empty *v* position. Then the verbal complex V-*v* raises to T before being raised to Fin. As discussed in section 3.3.2.3, the relevant feature that governs the dependency relation that exists between verbs – auxiliary or lexical – and T would be a T-feature (*contra* Benmamoun’s 2000b, 2008 assumptions about the relevance of some [+V] feature on T). Thus, the auxiliary verb *kaana*, being merged directly under T, would be endowed with an [iT] feature matching the [iT] feature of T, and thus, satisfying the condition on the identification of tense features in a sentence like (6a) with representation (7). As for the raising of T (with V-*v* attached to T), assuming that whatever features T has are



passed down from Fin (Chomsky 2008) to T, it might be the case that the [*i*T] feature on Fin, shared with T, is ‘rich’ enough to cause [T-*v*-V] to raise to Fin in SA (cf. ‘richness’ of agreement features in Roberts’ 2010a: 164 account of V-to-T movement in V-raising languages).

The analysis of Aoun *et al.* (2010: 70-71) as to the position of auxiliary *kaana* in (6)/(7) in some F position higher up to the left of TP/IP should carry over to the position of the negative auxiliary *laysa* at Spell Out as represented in (8b) below for sentence (8a):<sup>8</sup>

- (8) a. *lays-a hunaaka Taalib-un fii l-Hadiiqat-i* (SA)  
 NEG-3MS there student-NOM in the-garden-GEN  
 ‘There is not a student in the garden.’

b.

<sup>8</sup> I come back to the feature structure of such NEG elements as *laysa*, *maa*, and the ‘tensed’ NEG markers *laa/lam/lan* in section 4.1.2.5.

In (8b), *laysa* is inserted under Neg and raised to T. Then the [Neg-T] complex is raised to Fin above TP. As structure (8b) shows, the structural position of *laysa* to the left of the locative pro-form *hunaaka* ‘there’ in subject position in [Spec, TP] is the same as the position of auxiliary *kaana* to the left of the the locative pro-form *hunaaka* ‘there’ in subject position in [Spec, TP] in (6)/(7). As discussed in section in section 3.3.2.3, the adjunction of V to the empty *v* position systematically occurs in the derivation of copular sentences irrespective of the presence or absence of auxiliary *kaana* in the Numeration.

This analysis, based on the relevance of T-features on functional projections as the driving force of computations, goes against assumptions made in Benmamoun (2000b: 55) as regards the derivation of negative sentences with *laysa*, which are based on the importance of [+V] features in the derivation of verbal inflection in SA, and perhaps, universally (Benmamoun 2000b: 160, footnote 13; see section 3.3.2.3). Benmamoun’s (2000b: 55) argument goes as follows: The Neg element *laysa*, being marked for ‘past tense’ morphology (which is, nonetheless, not related to a past tense interpretation of the situation described, as the English gloss in (8a) shows), cannot move to T because T (being [+Present]) is not marked as [+V]. Thus, *laysa* “does not need to move to tense given that there is no [+V] feature that would drive this movement” (p. 56). Benmamoun (2000b: 56) concludes that the Neg element *laysa* remains in between T and V – namely, under the Neg head projected in the IP domain. However, as (8b) shows, the Neg element *laysa* is clearly above the highest functional projection within the IP domain – namely, TP.

Thus, after being raised from V-*v* to T, *kaana* in (7b) raises to Fin. A similar raising process to Fin applies in the case of *laysa* in (8b) subsequent to the raising of *laysa* from Neg to T. The raising of *kaana*, in (7b), and *laysa*, in (8b), to Fin satisfies the identification requirement on Fin’s [*i*T] feature shared by the Finiteness head in the split-CP domain and the Tense node in the IP domain. On this account, the dependency relation between *kaana* and *laysa* and the functional heads T and Fin in SA is tied up with the identification of [*i*T] features for the proper representation of the C-T dependency at the interface.

The T-to-Fin raising process, via which (auxiliary) verbs move to C, is also assumed to be operative in other languages. R&R propose that the derivation of V2 declarative sentences in German and VSO sentences in Old Irish involves the raising

of inflected verbs or auxiliaries to Fin. In R&R's (p. 140) proposal, this raising process is triggered by a [+Fin] feature on the host node.

As far as VSO sentences in Irish are concerned, Carnie *et al.* (1994: 90–92) discuss such examples as in (9a,b), with the bracketed representations in (10a,b) (adapted from Carnie *et al.*'s 1994: 92 examples (25) and (26)):

(9) a. Beirid                                      in fer   in claideb                                      (Old Irish)  
       carries(ABSOLUTE) the man the sword  
       'The man carries the sword.'

b. Ní    beir                                      in fer   in claideb.  
       NEG carries(CONJUNCT) the man the sword  
       'The man does not carry the sword.'

(10) a. [<sub>CP</sub> [<sub>C</sub> Beirid<sub>i</sub>                                      [<sub>IP</sub> t<sub>i</sub> [<sub>VP</sub> in fer   [<sub>V'</sub> t<sub>i</sub> in claideb]]]]]  
       carries(ABSOLUTE)                                      the man                                      the sword

b. [<sub>CP</sub> [<sub>C</sub> Ní    [<sub>IP</sub> beir<sub>i</sub> + INFL                                      [<sub>VP</sub> in fer   [<sub>VP</sub> t<sub>i</sub> in claideb]]]]]  
       NEG   carries(CONJUNCT)                                      the man                                      the sword

According to Carnie *et al.* (1994: 92), the verb moves to the C position in (10a). In this case, the verb is inflected for the absolute morphology *beirid*. In (10b), the C position is occupied by the negative particle *ní*. In this case, the verb is assumed to be in a lower position than C “at the edge of IP” and the inflection on the verb is a more basic conjunct morphology (e.g., *beir* in (10b)).

On the basis of such sentences (9a,b), Carnie *et al.* (1994: 86–87), argue that in Old Irish two alternative hypotheses – namely, the Weak V2 Hypothesis and the Left Edge of Inflection Hypothesis – could be put forward for the derivation of Irish VSO sentences.<sup>9</sup> The first hypothesis is spelled out as in (11):

(11) The Weak V2 Hypothesis ( $V \rightarrow C^\circ$ )

VSO order is derived via head movement of the verb to  $C^\circ$ . There is a requirement that  $C^\circ$ s in VSO languages be filled, but the specifier of C need not be filled.

According to the hypothesis in (11), a possible derivation of a VSO sentence in a VSO language would be as in (12) below:

<sup>9</sup> Carnie *et al.* (1994) argue that the raising of V-to-C is only attested in Old Irish (see example (9a) above). Modern Irish VSO structural configurations may be different (but see the discussion in relation to (18) below).

(12) [V-T/INFL] to C in Irish

In (12), the verb moves to INFL in its way to C, leaving the subject behind in [Spec, IP]. Although Carnie *et al.* (1994: 86–87) propose that (12) is a possible derivation for sentence (9a), they note that they remain agnostic as to the actual placement of the subject (i.e., either in [Spec, VP] or in [Spec, IP]). As for the evidence Carnie *et al.* (1994: 90–92) propose for the so-called ‘filled C° requirement’, it comes from the placement of enclitic pronouns (object clitics and relative markers) in the conjunct form of the verb as opposed to their absence when the verb is in the absolute form. In Carnie *et al.*’s (1994: 92) own words: “when the verb has raised to C° it takes the absolute morphology. When the verb is in any other position ..., it takes the more basic conjunct form”. Carnie *et al.* (1994: 92) also assume that the raising of V to C is actually an incorporating process whereby [INFL + V] incorporates into a null C° that is morphologically realized differently from the conjunct form of the verb (see the examples in (9)/(10) above). They argue that, in absolute first position, the verb forms “vary depending upon what type of complementizer is present in the clause ... lend[ing] support to the theory that these verbs are in fact in C°”.

The second hypothesis Carnie *et al.* (1994: 87) put forward is the Left Edge of Inflection Hypothesis, as spelled out in (13):

(13) The Left Edge of Inflection Hypothesis ( $V \rightarrow \text{INFL}$ )

VSO order is derived via head movement of the verb to the highest inflectional head ( $\text{Agr}_S$ ). Arguments appear in surface positions lower than this head. There is no (overt) raising to C°

According to this second hypothesis, the derivation of a VSO sentence in a VSO language could be as in (14) below:

(14) V to T/INFL in Irish

In (14), the verb remains lower than C – namely, under INFL. Although Carnie *et al.* (1994) refer to Agr<sub>S</sub> in (13) as the highest inflectional head in the IP domain, they use INFL in (14) as a shorthand to represent the highest inflectional node in the IP domain. According to Carnie *et al.* (1994), this structure accounts for the negative sentence (9b) where what occupies C is the negation marker *ní*.

In such a negation context, R&R (p. 143) argue that the Old Irish Neg element *ní* is directly merged in the C position where “what is merged are inflectional features (these features might be thought of as comparable to the marked clause-type features)”. R&R’s (p. 143) reference to ‘inflectional features’ is significant in pointing out that, although these features are essential in the identification of the C-T dependency, they remain different from the features involved in clause typing.<sup>10</sup>

However, such an analysis of negation contexts in Irish does not, in itself, rule out the possibility that verbs are still able to raise to C in such negation contexts as (9b). On such an account, negation markers such as *ní*, in Old Irish, would be merged in a separate projection to the left of the verb raised to C.

Such an assumption about the feature structure of negative sentences in relation to a VSO language like Old Irish is also relevant to the derivation of VSO sentences in SA, as in (15) and (16) below:

- (15) a. lam            yaktub-i                      T-Taalib-u            d-dars-a            (SA)  
           NEG.PAST 3.IMPERF.write-MS.JUSS the-student-NOM the-lesson-ACC  
           ‘The student did not write the lesson.’

<sup>10</sup> In section 4.1.2.4, I return to a detailed characterization of the feature structure of the head nodes that project in the split-CP domain of SA VSO configurations in relation to clause type and to the ‘inflectional features’ R&R (p. 143) link to Fin and NEG elements, in particular.

- b. *lam*            *yaktub-i*                            T-Tullaab-u            d-dars-a  
 NEG.PAST 3.IMPERF.write-MS.JUSS the-students-NOM the-lesson-ACC  
 ‘The students did not write the lesson.’
- (16) a. *lan*            *yaktub-a*                            T-Taalib-u            d-dars-a            (SA)  
 NEG.FUT 3.IMPERF.write-MS.SUBJ the-student-NOM the-lesson-ACC  
 ‘The student will not write the lesson.’
- b. *lan*            *yaktub-a*                            T-Tullaab-u            d-dars-a  
 NEG.FUT 3.IMPERF.write-MS.SUBJ the-students-NOM the-lesson-ACC  
 ‘The students will not write the lesson.’

As already discussed in section 3.3.3, the negation marker *lam* encodes past tense, which cooccurs with the imperfective verb in the jussive as in (15a,b). As for the negation marker *lan*, it encodes future tense, which cooccurs with the imperfective verb in the subjunctive as in (16a,b). In terms of the tree structure in (7) above, the Neg node would project in between ForceP and FinP in Rizzi’s (1997) architecture for the split-CP domain. Thus, the structure of a negative sentence like (15a), for example, would be as in (17):<sup>11</sup>

<sup>11</sup> In contrast to *laysa*, which starts out below T (see the discussion in relation to (8) above), *laa* and its ‘temporal’ variants *lam* and *lan* are assumed here to be merged higher than T in a second Neg head projection (see section 4.1.2.5).

On this account, in the VSO sentences (15) and (16), the feature that seems to be involved in the ‘identification’ of the Neg elements *lam* and *lan* is a tense feature – namely, the [*i*T]-feature of the Fin head projection in (17) with which negation, as a head that projects in sentence structure in its own right, interacts. The same is true of the relation of the Neg elements *lam* and *lan* and the T node. Under such assumptions, the identification of [*i*T]-features on Fin and T is essential for tense interpretation at the interface. The same raising and identification processes apply in the derivation of sentences where a Mod(ality) (and/or Foc) head projects in the split-CP domain.<sup>12</sup>

In a split-CP system of the kind argued for by Poletto (2000b), Benincà & Poletto (2004) and Joutteau (2005), as discussed above, both the raised verb and the Neg element, in a negative context such as Old Irish (10b), could be assumed to be in the CP domain at Spell Out where the Neg element *ní* would be merged in a higher head position than the position of the raised verb in Fin. This conception of the split-CP domain could provide an alternative view to Carnie *et al.*’s (1994: 92) proposal that the verb exhibiting the conjunct form, in Irish, is not in C (= Fin).

On this account, the plausibility of an analysis of VSO structural configurations whereby the T-to-Fin raising process would apply uniformly in VSO languages of the Celtic and Semitic type (cf. Joutteau 2005) and in languages exhibiting the V2 phenomenon (cf. Schwartz & Vikner 1996, R&R) could still be maintained.

An argument for such a [V-T]-to-C analysis in Modern Irish could also be based on McCloskey’s (2001: 159) conception of sentence structure where three XP positions are clearly outside of VP, as represented in (18):

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<sup>12</sup> Mod projects in the Focus sublayer above Fin, as represented in structure (5) above (repeated here for convenience):

(i) [<sub>ForceP</sub> [Hanging TopicP [Scene setting [Force [<sub>TopP</sub> Topic [<sub>FocP</sub> Focus [<sub>Mod(al)P</sub> Neg [<sub>FinP</sub> ... ]]]]]]]]]

In SA, structure (i) would incorporate two separate functional projections above FinP: Neg(P) projecting above FinP, and Mod(P) projecting above NegP, as represented in (ii):

(ii) [<sub>ForceP</sub> [Force [<sub>TopP</sub> Topic [<sub>FocP</sub> Focus [<sub>ModP</sub> Mod [<sub>negP</sub> Neg [<sub>FinP</sub> ... ]]]]]]]

In sections 4.1.2.2 and 4.1.2.4, I adopt a structure like (ii) to extend on Joutteau’s (2005) analysis of the split-CP domain as far as the distribution of modal and negation elements in SA is concerned.

(18)

Position 1 of structure (18) is the canonical position for expletives cross-linguistically.<sup>13</sup> Position 2 harbours NOM Case-marked DPs. Position 3 harbours ACC Case-marked DPs. McCloskey (2001: 159) suggests that, in Irish, “the finite verb occupies a position between Position One and Position Two”. However, if the position of an expletive like *Það* ‘there’ in Icelandic, for example (see footnote 13), could be assumed to be higher than position 1 in (18), McCloskey’s (2001) cartography of the inflectional domain could still support an analysis whereby Irish verbs, in VSO sentences, raise above position 1 and position 2 to C (= Fin, in the split CP system considered here) yielding the VSO word ordering.

In light of such a cartography, Carnie *et al.*’s arguments for both a V-to-I/T and a V-to-C analysis of VSO sentences in Irish, discussed above, could be reformulated in terms of an account whereby verbs in VSO sentences in Irish

<sup>13</sup> McCloskey (2001: 159) gives the example of transitive expletive constructions in a V2 language like Icelandic, as in (i):

- (i) *Það klaruðu margar mýs ostinn alveg* (Icelandic)  
 there finished many mice the-cheese completely  
 ‘Many mice completely finished the cheese’

According to McCloskey (2001: 159), the expletive *Það* ‘there’ is in Position 1 of structure (18). Position 2 is occupied by the raised NOM subject *margar mýs* ‘many mice’, and Position 3 by the raised object *ostinn* ‘the-cheese’. However, another account of such sentences is Alexiadou & Anagnostopoulou’s (2001: 209-212) account, reviewed in section 3.2.1.1, whereby expletives in transitive expletive constructions in Icelandic are higher than TP (i.e., in [Spec, CP]), as represented in (ii):

- (ii) [<sub>CP</sub> *Það klaruðu*<sub>j</sub> [<sub>TP</sub> *margar mýs*<sub>k</sub> [<sub>VP</sub> *ostinn*<sub>i</sub> [<sub>VP</sub> *alveg* [<sub>VP</sub> *t<sub>k</sub>* [<sub>VP</sub> *t<sub>j</sub>* *t<sub>i</sub>*]]]]]]]  
 there finished many mice the-cheese completely  
 ‘Many mice completely finished the cheese’

Thus, in the event that Agr<sub>S</sub>P does not project in such V2 constructions in Icelandic, both the expletive and the verb would be higher than TP, i.e., in the CP domain as structure (ii) shows.



(Modern or Old Irish) raise to a position similar to the position of their counterpart in SA. In the event that Irish VSO word ordering patterns like SA VSO word ordering as far as the absence of expletive *pro* in the IP domain is concerned,<sup>14</sup> verbs in both VSO types (i.e., Celtic and Semitic) could be in Fin in the split-CP domain.

On this account, the claim I am putting forward for a uniform cartography of the structure of VSO sentences in Celtic/Semitic languages with ‘basic’ VSO word ordering (possibly, extending to matrix V2 declarative contexts) would be based on the requirement of [*i*T]-feature identification at the interface in such structural contexts. This uniform cartography would configure the verb, first raised to T, in Fin at Spell Out.

In the subsequent sections, I will revisit the expanded structure of the split-CP domain, as conceptualized by Poletto (2000b), Benincà & Poletto (2004) and Jouisseau (2005) (see (5) above). In this respect, I will show that the Neg node that projects above FinP in SA is just one instantiation of a number of similar nodes forming the lower Focus sublayer for elements bearing some modal and/or focus properties in relation to the tense/finiteness properties of sentences. However, unlike for Jouisseau (2005), NegP would be yet another instantiation of a Focus projection separate from ModP in SA (see section 4.1.2.5).

In particular, in sections 4.1.2.2 and 4.1.2.3, I show how Jouisseau’s (2005) Modal head should be reserved, in SA, to such emphatic elements as the modal element *qad* and the presentative assertive element *la*, which can co-occur with *qad* forming one morphologically realized lexical item – namely, ‘*laqad*’.<sup>15</sup> In section 4.1.2.4, I assume that the assertive elements *la* and *laqad* are merged under the Foc head in the split-CP domain, which would project, in affirmative contexts, as the

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<sup>14</sup> See Jouisseau (2005: 387) for an argument that satisfaction of the EPP via expletive *pro* insertion could still be assumed to be operative in Modern Irish, even in the ‘salient unaccusatives’ on the basis of which McCloskey (1997) argued against the existence of the EPP in Irish. If Jouisseau (2005) is right in linking VSO word ordering to expletive *pro* insertion in Modern Irish, then the derivation of V-initial sentences in Modern Irish would constitute a simple case of V-to-T movement with no further raising to C in contrast to the SA VSO word ordering and to the V2 phenomenon with subject DPs in German. I have previously assumed that, in SA VSO word order, expletive *pro* is not merged in the structure at the IP level due to the absence of Agr<sub>S</sub>(P) in such a configuration. Nevertheless, the EPP remains a universal principle in the analysis advocated here, which can either be satisfied in [Spec, TP], as in the VSO configurations discussed above, or in [Spec, CP/FinP], as in expletive transitive constructions in Icelandic and other matrix V2 contexts with expletives or raised subject DPs in [Spec, FinP]. In section 4.3 below, I return to such matrix declarative V2 contexts involving a subject DP – referential or expletive – in German.

<sup>15</sup> See structures (37b) and (38b) in section 4.1.2.4.

counterpart of the negation particle *maa* merged under the Foc head in negative contexts. I also assume that the head of ModP and the head of NegP would both interact with verbal inflection (mainly, tense represented as [*i*T]-features on both T and Fin, in terms of the C-T dependency and the feature structure of functional elements adopted in this thesis; see section 4.1.2.4).<sup>16</sup>

In addition to the head-head agreement processes involved in the ‘identification’ of the inflectional properties of sentences in VSO languages in relation to the placement of negation and other modal elements with respect to verb movement, the feature-based account adopted here also relies on a Spec-head agreement relationship for the derivation of wh-dependencies and/or operator-variable relationships involved in Focus and Negation preposing.

In this respect, as dealt with in section 4.2 below, I adopt an analysis of the licensing conditions under which wh-dependencies are represented at the interface in terms of an additional [WH]/Focus feature, different from clause-type features on Force and Fin’s [*i*T] feature(s), which will account for the XP raising process involved in the derivation of these dependencies. In these instances, my assumption is that two feature-matching processes seem to be at work. In addition to the identification of [*i*T] features for the well-formedness of the C-T dependency at the interface, the relationship between the wh-element and the Focus head is established in terms of the morpho-syntactic ‘checking’/valuation of the relevant features – namely, interpretable vs. uninterpretable [WH]-features. The valuation of these features establishes head-head and Spec-head agreement relations in terms of which the C-T dependency is identified at Spell Out.

#### *4.1.2.2. The interaction of tense and modality in the derivation of SA VSO sentences*

In the aim of pinning down the structural distribution and function of preverbal particles and markers in relation to raised verbs in SA VSO sentences, in this section, we first have a look at the head (= Force) that bears the function of signalling ‘clausal type’ in the split-CP system (Rizzi 1997: 283). The derivation of VSO sentences will be viewed as the outcome of the interaction of these particles and markers with the

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<sup>16</sup> In section 4.1.2.5, I also develop my proposal for the position of NegP within the sentence structure of SA where two different structural positions seem to be justified in accordance with the parameterized probe-goal-Agree system of dependency relations assumed in this thesis.

modal/tense properties encoded by verbs. The potential projection of a Topic Phrase in VSO sentences in matrix contexts will also be discussed.

In SA, Force can be lexically realized even in a matrix context, whereby the complementizer *?inna* is externally merged under Force.<sup>17</sup> In matrix declarative contexts, *?inna* is optional irrespective of word ordering possibilities (i.e., whether the sentence is VSO or, alternatively, SVO). In embedded contexts, *?inna* (or one of its variants, see footnote 17) has to be merged in the structure of the sentence to introduce the embedded clause.

As far as matrix contexts without complementizer *?inna* in the VSO word ordering are concerned, the split-CP domain of the VSO sentence (19a) would include the projection of FinP and ForceP above TP, as structurally represented in (19b):

- (19) a. *jaa?-a                      ?al-?awlaad-u                      (SA)*  
           PERF.come-3MS the-boys-NOM  
           ‘The boys came.’

<sup>17</sup> In embedded contexts, the form of the declarative complementizer differs according to the type of verb introducing the embedded clause. Verbs of request or command such as *sa?ala* ‘ask’ or *?araada* ‘want’ take as complement a clause introduced by the complementizer *?an*. The imperfective verb of the complement clause selected by verbs of request/command takes the subjunctive form as in (ia,b) below:

- (i) a. *?amar-a-hu                      ?an ya-f?al-a                      haadhaa                      (SA)*  
           PERF.order-3MS-him that 3-IMPERF.do-MS.SUBJ this  
           ‘He ordered him to do this.’
- b. *?amar-a-hu                      ?an laa ya-f?al-a                      haadhaa*  
           PERF.order-3MS-him that NEG 3-IMPERF.do-MS.SUBJ this  
           ‘He ordered him not to do this.’

When used in embedded contexts, the complementizer *?inna* is selected by the verb *qaala* ‘say’:

- (ii) *qaal-a                      ?aHmad-u                      ?inna l-walad-a                      kaan-a                      fii l-Hadiiqat-i                      (SA)*  
           PERF.say-3MS Ahmad-NOM that the-boy-ACC PERF-be-3MS in the-garden-GEN  
           ‘Ahmad said that the boy was in the garden.’

All other verbs (with the exception of verbs of request/command, as mentioned above) select a clause introduced by the complementizer *?anna*. ECM verbs like *?i?taqada* ‘believe’ and *Hasaba* ‘think, believe’ can take a complement clause introduced by *?anna* or a clause which is the counterpart of a ‘raising to object’ structure in English. Thus, sentences with ECM verbs in SA are as in (iii) or (iiib):

- (iii) a. *?i?taqad-tu                      ?anna r-rajul-a                      qad jaa?-a                      ?amsi                      (SA)*  
           PERF.think-1S that the-man-ACC MOD PERF.come-3MS yesterday  
           ‘I thought that the man came yesterday.’
- b. *?i?taqad-tu                      r-rajul-a                      qad jaa?-a                      ?amsi*  
           PERF.think-1S the-man-ACC MOD PERF.come-3MS yesterday  
           ‘I thought that the man came yesterday.’

b.

Although in (19b) complementizer *ʔinna* is not part of the structure, the assumption is that the CP domain still splits into Force(P) and Fin(P). However, no other functional head is required to project in such a structure, and the Force head remains empty. The verbal inflectional complex V-*v*-T, realized as the ‘partially’ inflected verb *jaaʔa* ‘came’, raises to Fin.

Another matrix VSO word order configuration is a structure where the Force node is lexically realized by *ʔinna*, as represented in (20b) for sentence (20a):

- (20) a. *ʔinna-hu jaaʔ-a ʔal-ʔawlaad-u* (SA)  
           that-it PERF.come-3MS the-boys-NOM  
           ‘The boys came.’

b.

In (20b) (similarly for (21b) below), in case the matrix complementizer *ʔinna* is merged under the Force head an EXPL pronominal clitic *-hu* has to be inserted into the structure and a TopP is necessarily projected. Recall from section 3.3.6 my proposal that such an EXPL element is base-generated in [Spec, TopP] and that it phonologically cliticizes to the complementizer *ʔinna* to its left. In terms of the feature structure adopted here, the insertion process of *-hu* in [Spec, TopP] could be conceived of as the realization of a ‘higher predication’ in the split-CP domain (Rizzi 1997) whereby a D-feature (namely, [iD] on Top) is involved in a Spec-head agreement relation in association with the subject DP of the clause (cf. Rothstein

1983, 1995 conception of syntactic predication).<sup>18</sup> In structure (19b), however, no complementizer is lexically realized, and the cliticization process cannot be realized.

<sup>18</sup> The role Top plays as a ‘higher predication’ node in the split-CP domain is comparable to syntactic predication as expressed by TP and VP in the inflectional domain of sentence structure (Rothstein 1983, 1995). Thus, elements inserted in [Spec, TopP] are assumed to be resumed by some pronominal resumptive element in the IP domain. These pronominal elements, resuming subject and object DPs or other XP elements, are clitic-like (see section 2.1.2.3 for the view, adopted in this thesis, that subject agreement morphology on SA verbs may be an instance of a pronominal clitic).

According to Benincà & Poletto (2004: 64-65), the two Topic positions that project higher than the Focus field (Hanging Topics, or HT, and Dislocated Topics, or LD) have different properties. HT, which projects higher than complementizer elements, allows the resumptive element to be a tonic pronoun or a full DP. This is not the case for LD, which projects lower than complementizer elements. However, it seems that, in SA, the interpretation of a Topic element (either LD or HT) higher than a complementizer is not distinct from a Topic element lower than the complementizer, as there seems to be no significant difference in interpretation between the position of these elements to the right or to the left of the complementizer in that language:

- (i) a. *ʔinna haadhaa r-rajul-a laa ʔa-ʕrif-u-hu* (SA)  
 that this the-man-ACC NEG 1-PERF.know-MS.IND-him  
 ‘The fact is that, this man, I do not know him.’  
 b. *haadhaa r-rajul-u ʔinna-nii laa ʔa-ʕrif-u-hu*  
 this the-man-NOM that-I.ACC NEG 1-PERF.know-MS.IND-him  
 ‘This man, the fact is, I do not know him.’

In both (ia) and (ib), the object Topic DP *haadhaa r-rajul-u/-a* ‘this man’ is resumed by an object resumptive pronoun *-hu* on the verb *ʔa-ʕrif-u* ‘I know’. The ordering between the Topic DP and the complementizer *ʔinna* appears to be free. When the Topic element is an adverbial co-occurring with the object Topic, the same free ordering possibilities obtain:

- (ii) a. *haadhaa r-rajul-u fii l-Hadiiqat-i ʔinna-nii qaabal-tu-hu* (fii-ha) (SA)  
 this the-man-NOM in the-garden-GEN that-I.ACC PERF.meet-1S-him (in-it)  
 ‘This man, in the garden, the fact is, I met him there/in it’  
 b. *fii l-Hadiiqat-i haadhaa r-rajul-u ʔinna-nii qaabal-tu-hu* (fii-ha)  
 c. *ʔinna haadhaa r-rajul-a fii l-Hadiiqat-i qaabal-tu-hu* (\*ʔfii-ha)  
 d. *ʔinna-nii fii l-Hadiiqat-i haadhaa r-rajul-u qaabal-tu-hu* (\*ʔfii-ha)

In (ii), the ordering possibilities between the object Topic, the complementizer *ʔinna*, and the adverbial appear to be free. These ‘free’ ordering possibilities are possibly due to the non-distinctness of Topic elements in the split-CP domain of SA. However, a difference in acceptability can be detected between the resumption of these topicalized elements within the sentence. Whereas, an object Topic has to be resumed by a resumptive pronoun on the verb (*-hu* in the examples above), this is not the case with adverbials. In (iia,b), the inflected preposition *fii-ha* ‘in-it’, resuming the prepositional adverbial *fii l-Hadiiqat-i* ‘in the garden’, higher than the complementizer *ʔinna*, can be left out. In (iic,d), the presence of the inflected preposition, resuming the prepositional adverbial *fii l-Hadiiqat-i* ‘in the garden’, seems to render the sentences less acceptable. This minimal contrast between (iia,b) and (iic,d) is interesting in so far that it constitutes a parallel distinction to Benincà & Poletto’s (2004) differentiation between the properties of HT and LD in terms of the nature of the resumptive element HT and LD allow.

Irrespective of the presence or absence of a resumptive process in structures similar to (iic,d), Ayoub (1981: note 43 to Chapter 1; quoted in Shlonsky 2000: 333, footnote 9) observes that whenever an adverbial PP follows *ʔinna/ʔanna*, as in (iii) below, the sentence becomes “peu productive” or less acceptable:

As already introduced in the previous section, there is also the option, in SA, of merging the verb along with the modal element *qad* as in (21a) below. Merging *qad* into the sentence structure of (20a) above requires the projection of the Mod head, as represented in (21b) for sentence (21a):

(21) SA VSO with matrix complementizer *ʔinna* and modal *qad*

- a. ʔinna-hu qad    jaaʔ-a                    ʔal-ʔawlaad-u  
     that-it    MOD PERF.come-3MS   the-boys-NOM  
     ‘Indeed, the boys came.’

- 
- (iii) ʔinna ʕinda-ka ya-naam-u                    zayd-un                    (SA)  
     that   at-you   3-IMPERF.sleep-MS.IND   Zayd-NOM  
     ‘(the fact is) that Zayd sleeps at your place.’

However, Fassi Fehri (1982: 45; quoted in Shlonsky 2000: 333, footnote 9) observes that “...PPs peuvent être topicalisés dans les déclaratives enchâssées sans problèmes (... PPs can be topicalized in declarative embedded clauses without problem)”. Fassi Fehri’s example is as in (iv) below:

- (iv) ʔa-Zunn-u ʔanna fii baghdaad-a    HaSal-a    l-ʔittifaaq-u                    (SA)  
     1.think-S    that    in Bagdad-ACC   happened the-agreement-NOM  
     ‘I think that, in Bagdad, the agreement took place.’

Further testing would be appropriate to spell out the right conditions under which a prepositional adverbial can follow the complementizer *ʔinna/ʔanna* and whether it could be resumed. I leave this issue for future research.

b.

In (21b), both a TopP and a ModP project in between Force(P), realized as *?inna*, and Fin(P) where the verbal inflectional complex V-v-T is phonetically realized (i.e., the ‘partially’ inflected verb *jaa?a* ‘came’. Unlike in (19b) and (20b), the Mod node that projects in the structure of (21b) allows an element like *qad* to be merged in that position and be construed in conjunction with the verb *jaa?a* ‘came’.

Under these assumptions, a VSO sentence not introduced by *?inna* differs from a similar VSO sentence introduced by *?inna* in that the Force head position at the highest level of the CP layer (as with C in a non-split CP layer) is not lexically realized and remains empty. Nevertheless, in all the three structures (19b), (20b) and (21b) discussed above, the verbal inflectional complex V-v-T is assumed to raise to Fin.

Sentence (21a), where *?inna* and *qad* co-occur, is an alternative to sentence (20a), where only *?inna* is merged in the split-CP domain. As Ouhalla (1993: 280) points out, the role the elements *?inna* and *qad* play in sentence structure is “to assert the truthfulness of the proposition expressed by the sentence”. In this respect, the



assertive interpretation of the proposition in which these elements appear is the outcome of the interaction of the features *?inna* and *qad* are associated with and the temporal/modal properties of the sentence. Nevertheless, as I will discuss in relation to examples (27a,b) in section 4.1.2.3 below, the assertive role played by *?inna* in sentence structure may be different from the assertive role played by *qad*.<sup>19</sup> It seems that the difference in the assertive function of *?inna* and *qad* in SA boils down to the presence of a certain ‘focus’ feature that is an inherent property of the head nodes that project in the ‘Focus sublayer’ in the lower part of the split-CP domain above Fin. This feature, being interpretable, would be an essential ingredient in the relation between these head nodes and the [*i*T] feature(s) of Fin and T.<sup>20</sup>

What is true of modal *qad* seems also to be true of other modal elements that contribute to the assertive interpretation of the proposition. Thus, the NEG markers *lam* and *lan*, seen in such examples as (15) and (16) above, contribute to the assertiveness of the proposition expressed by the verbal event (see also section 4.1.2.5 below).

In section 4.1.2.3 below, I return to the problem of characterizing the nature and function of modal *qad* in sentence structure building on the suggestions made in Bahloul (2008) in his study of *qad/laqad* and the interaction of this modal with other modality/assertion markers in the sentence structure of SA.

#### 4.1.2.3. *The nature and function of qad in the tense/modal system of SA*

In relation to the main function a modal like *qad* plays in the sentence structure of SA, Bahloul (2008: 77) notes that: “... there seems to be some dispute in the literature regarding the function of QAD. The question remains whether this verbal particle interacts with the temporal, aspectual, or modal (emphatic) interpretation of the verbal event”. These different properties of *qad* are reviewed and discussed under the headings in (i)-(iii) below:

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<sup>19</sup> Section 4.1.2.3 reviews and extends on Bahloul’s (2008) analysis of modal *qad* and the confirmatory kind of emphasis this modal brings about in the sentence where it is used (irrespective of whether *?inna* is merged under Force or not).

<sup>20</sup> The properties of the FocP projection involved in wh-dependencies seem to be somewhat different in terms of interpretability. As will be discussed in section 4.2, the ‘focus’ feature involved in such dependencies, within the split-CP domain, is subject to a valuation process similar to the valuation of  $\phi$ -features, within the verbal inflectional complex, in subject-verb agreement configurations at the level of IP.

(i) *Qad as an aspect-related element*

An aspectual analysis of the verbal complex [*qad* + perfective verb] can be found in Wright (1996, Vol. II: 3) who notes that the combination of *qad* and the perfective verb “implies that the act is really finished and completed just at the moment of speaking”. Al-Aswad (1983) also adopts an aspectual analysis of [*qad* + perfective verb] in which he proposes that the SA perfective verb (as in *kataba ar-risaalata* ‘He wrote the letter’) is the equivalent of the English past tense. As for the instances where the perfective verb is preceded by *qad* (as in *qad kataba ar-risaalata* ‘He has written the letter’), Al-aswad (1983) proposes that the verbal form [*qad* + perfective verb] is the equivalent of the English present perfect.

According to Bahloul (2008), Al-Aswad’s (1983) proposal does not adequately account for the data. Bahloul (2008: 67) points to the contrast in (22a) between the expected English gloss ‘\*The boy has come yesterday’ (on Al-Aswad’s 1983 assumptions) and the correct English gloss ‘The boy came yesterday’. Similar contrasts to that mentioned by Bahloul (2008) can be provided as in the expected English gloss ‘\*This scientist has died in 1995’ for example (22b) and the correct English gloss ‘This scientist died in 1995’:

- (22) a. *qad jaaʔ-a                      ʔal-walad-u    ʔamsi*                      (SA)  
      *qad* come.PERF-3MS the-boy-NOM yesterday  
      ‘The boy came yesterday.’/\*‘The boy has come yesterday.’
- b. *qad maat-a                      haadha l-ʔaalim-u                      sanat-a    1995*  
      *qad* die.PERF-3MS    this        the-scientist-NOM year-ACC 1995  
      ‘This scientist died in 1995.’/\*‘This scientist has died in 1995.’

In (22a,b), although it is the verbal complex [*qad* + perfective verb] that is used, the correct English equivalent of the combination of *qad* and the perfective verb is the English simple past, and not the English present perfect as the semantically incorrect gloss ‘has come’, in (22a) and ‘has died’, in (22b), shows.

(ii) *Qad as a temporal marker*

Unlike Wright’s (1996) and Al-Aswad’s (1983) aspectual analysis of the verbal complex [*qad* + perfective verb], other linguists have focused on the function of modal *qad* as a temporal indicator of a recent past (Ibn-Hisham 1359, Er-Rayyan

1986). According to Ibn-Hishaam (1359, Vol. I: 294), the difference between the verbal forms [ $\emptyset$  perfective verb] and [*qad* + perfective verb] is that the verbal form without *qad* does not include a specific temporal indication of the verbal event except for the fact that its occurrence precedes the speech time. In contrast, the [*qad* + Perfective Verb] form includes a specific temporal indicator – namely *qad* – signalling the occurrence of a recent event in the past. On this account, Ibn Hishaam (1359, Vol. I: 294) contrasts sentence (23a) to sentence (23b) (examples quoted in Bahloul 2008: 73):

- (23) a. qaam-a                                      zayd-un                                      (SA)  
           PERF.stand up-3MS   Zayd-NOM  
           ‘Zayd stood up.’
- b. qad qaam-a                                      zayd-un  
           *qad* PERF.stand up-3MS   Zayd-NOM  
           ‘Zayd (has) just stood up.’

In (23b), the closest English equivalent to the verbal form [*qad* + perfective verb] is the gloss where the English adverb ‘just’ or ‘just ...now’ is assumed to play the same role as *qad* in the SA sentence.

As for Er-Rayyan (1986: 149; quoted in Bahloul 2008: 74-75), he mentions that modal *qad* “denotes the factual completion of a situation”, and justifies the role of *qad* as a temporal indicator of the verbal event in the sentence structure of SA by reference to such sentences as in (24) below, where (24a) has to be interpreted differently from sentence (24b):

- (24) a. kaan-a                      dhakar-a                      khaalid-un      maa Hadath-a      (SA)  
           PERF.be-3MS   mention.PERF-3MS   Khalid-NOM   what   PERF.happen-3MS  
           ‘Khalid (has) mentioned what happened’
- b. kaan-a                      qad   dhakar-a                      khaalid-un      maa Hadath-a  
           PERF.be-3MS   *qad*   PERF.mention-3MS   Khalid-NOM   what   PERF.happen -3MS  
           ‘Khalid had mentioned what happened’

In sentence (24b), Er-Rayyan’s (1986) proposal is that the combination of auxiliary *kaana* ‘was’, the particle *qad* and the perfective verb derives the equivalent of the English past perfect. On this account, the insertion of *qad* in the structure of a sentence referring to a past event has the effect of associating the verbal event with a specific time frame in which it is interpreted somewhat differently from a sentence where *qad* is absent.

According to this analysis, the **temporal** function of *qad* is not only linked to some **aspectual** interpretation of the verbal event being described, but also to the **modal (emphatic/assertive)** function that *qad* basically encodes. I discuss the basic modal function of *qad* under heading (iii) below.

(iii) *Qad as an emphatic/assertive element*

The use of modal *qad* for emphasis has been the main concern of Dahl & Talmoudhi (1979), Ryding (2005) and Bahloul (2008).

As Bahloul (2008: 93) notes, “[the] modal function, which is assertive in nature, seems to be central to the basic meaning of the verbal particle QAD”.<sup>21</sup> To this effect, Dahl & Talmoudhi (1979) and Ryding (2005) maintain that *qad/laqad* is used along with the perfective verb to express a degree of certainty, a function which is conveyed by emphatic DID in English as the examples in (25) suggest (adapted from Bahloul 2008: 76):

- (25) a. ibtasam-a                      zayd-un                                              (SA)  
           PERF.smile-3MS    Zayd-NOM  
           ‘Zayd smiled.’
- b. qad/laqad ibtasam-a                      zayd-un  
           *qad/laqad* PERF.smile-3MS    Zayd-NOM  
           ‘Zayd DID smile.’

In (25b), the insertion of *qad/laqad* before the perfective verb adds emphasis to the verbal event described by the sentence. As Ryding (2005: 450) points out: “The use of *qad* ... serves to confirm the meaning of the past tense by emphasizing that the action did indeed happen”.

However, as Bahloul (2008: 96) notes: “[T]he verbal particle QAD is only a part of a larger system which includes other particles such as *ʔinna* and LA-. However, unlike other particles, QAD seems to interact with a broad range of grammatical categories, such as Tense, Aspect and Modality.” On this account, whatever other interpretations the particle *qad* may express in the sentences where it occurs in conjunction with the perfective verb seem to be subsumed under one

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<sup>21</sup> Actually, this assumption about the modal function of *qad* in the sentence structure of SA confirms the analysis outlined above whereby *qad* is merged under a Mod head that projects as a functional node in its own right within the ‘Focus sublayer’ in the split-CP domain, as exemplified by (21b) above.

‘invariant function’ which is basically emphatic or ‘assertive’ in nature (Bahloul 2008: 93, 101).

This analysis of the role a modal element like *qad* plays in SA, not just as an element that has some temporal and/or aspectual properties, but also as an element that is used for emphasis, seems to have some counterpart validity in other languages. Thus, according to Bahloul (2008: 75), similar to the situation in SA where “the aspectual function of *QAD* does not appear to be central in several other analyses” (but it is nevertheless important in conjunction with *qad*’s modal function), in English the use of the so-called ‘Experiential Perfect’ in such sentences as (26) (Hassan 1990: 127-9, quoted in Bahloul 2008: 74-75) is important for adding emphasis to the occurrence of an event:

(26) I’ve seen it as well.

In (26), the use of the ‘Experiential Perfect’ is intended by the interlocutor to confirm his/her having seen a flash of lightning.

According to this analysis, whether *qad* plays a role similar to the one played by an aspectual marker for very recent events or incidents or is used in relation to some temporal interpretation of the event, it still holds that the basic function of modal *qad* is the one that confirms the truthfulness of the verbal event expressed by the sentence. As suggested at the end of section 4.1.2.2 above, this basically ‘emphatic’ function that modal *qad* expresses seems to follow from the presence of a certain ‘focus’ feature that is an inherent property of the head nodes that project in the ‘Focus sublayer’ in the lower part of the split-CP domain above Fin in relation to the [*i*T] feature(s) of Fin and T.<sup>22</sup>

In his frequency study of *qad*, Bahloul (2008) examines the functions of *qad* in relation to its invariant contextual meaning within the broader semantico-pragmatic context of ‘TMA categories’ (i.e., categories of Tense Mood/modality and Aspect as in Dahl 1985). According to Bahloul (2008: 101): “Although it has temporal, aspectual, and modal variants, we would like to suggest that the use of *QAD* invariantly asserts the occurrence of the verbal process, and as such, it is inherently

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<sup>22</sup> A similar reference to the importance of the ‘Focus sublayer’ in the determination of the interpretation of verbal events and the subject-verb agreement configurations thereby expressed cross-linguistically is the theory developed by Haegeman & Koppen (2012), whereby the distribution of subject properties in External Possessor Agreement constructions in West Flemish is related to some head-head agreement relation at the higher level of the split-CP domain in relation to temporal adverbials such as *toen just* ‘just then’ merged under the Focus projection (see section 4.3.2.3).

assertorial”. Bahloul (2008: 96-97) examines the occurrence of modal *qad* in samples of newspaper and magazine articles, as exemplified by such passages as in (27a,b) from an article in *Al-Quds Al-ʿarabi* ‘The Arabic Quds’ dated 02/20/92 (adapted from Bahloul 2008: 96):

- (27) a. wa **qad** qaal-a raadiyu ʔisraaʔiil (...) ʔinna ʔadad-an (SA)  
 and *qad* PERF.say-3MS radio Israel (..) that number-ACC  
 kabiir-an mina s-sukkan-i fii shammal-i ʔisraaʔiil  
 big-ACC from the-residents-GEN in north-GEN Isreal  
 ʔamD-aw al-layl-a fii l-malaajiʔ-i  
 PERF.spend-3MP the-night-ACC in the-shelters-GEN  
 ‘Radio Israel did announce that a large number of residents in North  
 Israel spent the night in shelters.’
- b. wa Ø qaal-a maSdar-un siyaasiyy-un muwaal-in  
 and PERF.say-3MS source-NOM political-NOM associated-GEN  
 li-ʔiiraan li-ruytir ʔinna r-radd-a ya-jib-u ʔan  
 with-Iran to-Reuters that the-reply-ACC 3-(is).necessary-MS that  
 ya-kuun-a hujuum-an fii mustawaa ʔightiyaal-i  
 3-IMPERF.be-SUBJ attack-ACC in level assassination  
 sh-shaykh-i l-musawii  
 the-Sheikh-GEN Al-Musawii  
 ‘Some political source linked to Iran said to Reuters that the retaliation  
 should be an attack as serious as the assassination of Sheikh Al-  
 Musawii.’

As can be seen in (27a,b), the speaker/writer (journalist Ali Thamer) switches from the use of the verbal complex [*qad* + perfective verb] to the use of a simpler form [Ø perfective verb]. As Bahloul’s (2008) study on the use of *qad* in everyday life situations in the contemporary Arab world shows, the trigger for the use of *qad* is not to be found in the syntactic context *per se*. Rather, the use of *qad* along with the verb *qaala* ‘said’ reporting the major event in the embedded clause introduced by complementizer *ʔinna* ‘that’, in (27a), *ʔinna ʔadadan kabiiran* ... ‘that a large number ...’ seems to be conditioned by the constraints of the discourse/textual context where the utterance takes place. Thus, in (27a), by choosing to include *qad* along with the reporting verb, the writer/speaker seems to confirm the already established fact, reported by Radio Israel, that the ongoing conflict between Israel and the fighters in South Lebanon has, indeed, destabilized the day-to-day mode of life of people in North Israel. In doing so, the writer/speaker directs our attention to the fact that one

major aspect of this destabilization, in the present situation at the time of the utterance, is the confinement of people to living in shelters.

As for the absence of the use of *qad* along with the reporting verb *qaala* in (27b), the writer/speaker may be less willing (than he is in the context of uttering (27a)) to accord too much importance to the possible event reported by Reuters and described in the embedded clause. As in (27a), the embedded clause is introduced by complementizer *ʔinna* ‘that’ *ʔinna ar-radd-a ya-jib-u ʔan ya-kuun-a ...* ‘that the retaliation should be ...’ describing the event reported to us. Nevertheless, in (27b), although the writer/speaker informs us of the fact, reported by Reuters, that there will most probably be some form of retaliation on the opponent, he chooses to use a simpler form of the perfective verb to report the event in the embedded clause. i.e., the verb *qaala* ‘said’ not preceded by modal *qad*. This choice may be an indication of the writer/speaker’s mere informative attempt at conveying to us the news surrounding ‘the retaliation’ being reported without committing himself to practically ‘asserting’ that the retaliation and/or attack will actually take place.

The difference between either using modal *qad* along with the verb, as in (27a), or leaving *qad* out, as in (27b), might also be linked to the evidentiality of the verbal event. Whereas in (27a) the speaker/writer refers to a definite entity as the source of the reported event (i.e., *raadiyu ʔisraaʔiil* ‘radio Israel’), in (27b) the referent used as a source for the reported event is an indefinite DP *maSdar-un siyaasiyy-un muwaal-in li-ʔiiraan* ‘some political source linked to Iran’. Thus, unlike in (27a), the speaker/writer is less willing to assert the truthfulness of the event being reported in (27b), and he translates his mere ‘informative’ attempt at reporting the facts by opting not to use modal *qad* along with the reporting verb in such an instance.

Coming back to the basic assertive function of *qad* in the syntactic structure of SA, the framework of assumptions we have been concerned with in section 4.1.1 and at the beginning of section 4.1.2 links the syntactic role played by *qad* to some dedicated node, which, not only relates to [*i*T]-features on T and Fin, but also to some ‘focal’ property that *qad* expresses by virtue of being merged in the ‘focus sublayer’ of the split-CP domain. For Bahloul (2008: 163-165), the node that *qad* occupies in sentence structure is a functional head projection, which he labels as Assertion (=Asrt°) maximally projecting as AsrtP above TP, as represented in (28):

(28)

Bahloul (2008: 87-88) also proposes that, since *?inna* and *qad* both contribute to the assertive interpretation of the proposition expressed by the sentence where they occur (see also Ouhalla 1993: 280), *?inna* occupies the same structural position as *qad*, – namely,  $\text{Asrt}^\circ$ , as represented in (29) below (where XP may range over TP, PP and AP):<sup>23</sup>

(29)

However, as Bahloul (2008: 88) acknowledges, *?inna* and *qad* can co-occur in the same sentence as in (21a) above, repeated as (30):

- (30) *?inna-hu qad jaa?-a ?al-?awlaad-u* (SA)  
 that-it MOD PERF.come-3MS the-boys-NOM  
 ‘Indeed, the boys came.’

In (30), *?inna* clearly occupies a node that is higher than the head node occupied by the modal particle *qad*. As discussed at the beginning of section 4.1.2.2 in light of the revised split-CP system I have been considering in section 4.1.2.1, although both

<sup>23</sup> Bahloul (2008: 164-165) also proposes that the Neg head *maa* is likewise inserted under  $\text{Asrt}^\circ$  in SA. I return to Bahloul’s (2008) proposal in section 4.1.2.4 below and to a discussion of negation in SA in section 4.1.2.5.



*ʔinna* and *qad* seem to contribute to the assertive interpretation of the proposition, the complementizer *ʔinna*, as a clause type marker, would primarily serve the function of signalling the type of clause being derived. Then, *ʔinna* would interact, together with modal *qad* and other CP preverbal particles, with the tense/modality properties of the sentence in which these particles are derived by virtue of the C-T dependency. The purpose of the following section is to properly characterize such an interaction within the feature structure of VSO configurations.

#### 4.1.2.4. The feature structure of the split-CP in SA VSO configurations

I have assumed in section 4.1.2.2 that, in the derivation of an SA sentence like (19a) (as structurally represented in (19b) repeated below as (31b)), the Force head projects but can remain empty:

- (31) a. *jaaʔ-a*                      *ʔal-ʔawlaad-u*                      (SA)  
          PERF.come-3MS the-boys-NOM  
          ‘The boys came.’

b.

In (31b), the Force head projects in addition to Fin, but remains empty in the absence of a phonetically realized lexical complementizer. This assumption can be maintained

by reference to the derivation of a matrix interrogative sentence in SA as in (32a), structurally represented as in (32b) below:

- (32) a. *ʔa jaaʔ-a ʔal-ʔawlaad-u?* (SA)  
 Q PERF.come-3MS the-boys-NOM  
 ‘Did the boys come?’

b.

Thus, the derivation of the interrogative sentence (32a) requires the phonetic realization of the complementizer head left empty in structure (31b). The derivation of (32a) involves the use of the interrogative particle *ʔa*, which is merged under Force as the highest structural head projection.<sup>24</sup> In this case, the realization of the Force head in (32b) as *ʔa* signals that the sentence is interpreted as interrogative at the interface.

In such structural configurations as in (32b), the C-T dependency is established at the interface between the interrogative particle *ʔa* realizing the Force head and the verbal inflectional complex V-v-T raised to Fin. This dependency relation between the higher and the lower C projections at the two opposite sides of the split-CP system ensures that all elements involved in the representation of the sentence at the interface are properly identified. According to such assumptions, feature identification does not exclusively apply to interrogative particles like *ʔa* in

<sup>24</sup> Alternatively, the question marker *ʔa* is raised from a lower position in the split-CP domain. I discuss this alternative analysis in relation to sentences (35a,b) below.

SA in relation to the inflectional properties of the Fin head. Rather, this feature identification process generalizes to any element moved to or directly ‘merged’ in some position in the split-CP domain (cf. Ouhalla 1993, 1994, R&R and Vangsnes 2002). Thus, feature identification applies not only to focused/assertive and interrogative elements but also to negation elements either directly merged in or moved to the position where they are spelled out at PF (see section 4.1.2.5). Although Ouhalla (1993, 1994), Vangsnes (2002) and R&R differ in their formulation of the identification requirement on features such as [wh]/[focus] in the case of question formation or focalization processes or (for R&R) the [+Fin] feature involved in V2 contexts in German, this requirement seems to be, first and foremost, a licensing process akin to the cartographic notion of criterial satisfaction applying to the head nodes projected within the split-CP domain, and not a ‘feature-checking’ requirement.<sup>25</sup>

In this connection, Aoun *et al.* (2010: 209-210) refer to Ouhalla’s (1994) “morphological identification” requirement pointing out that a parallel can be drawn between Focus fronting and question formation in SA. Aoun *et al.* (2010: 209-210) suggest that the parallel between Focus and interrogative structures does not uniquely concern the projection of a designated functional projection in the CP domain, but also designated particles that can be merged in their respective positions to morphologically identify the sentence as a sentence with some ‘focus’ property or an interrogative sentence in terms of “an abstract head F, bearing the [+F] feature, which on a par with the [+Q(uestion)] feature on C, needs to be identified”.<sup>26</sup>

In the system of assumptions adopted here, in an interrogative sentence as (32a) above, the feature identification process applies in terms of [*i*T] features (= the

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<sup>25</sup> However, as I will discuss in section 4.2.2, in relation to the derivation of wh-dependencies in SA involving an XP<sub>Foc</sub> and Foc, the identification process involved in the derivation of wh-dependencies seems to involve the ‘checking’ or valuation of an uninterpretable [WH]-feature on Foc both in relation to the interpretable wh-feature of the raised wh-element (which values it), and in relation to the finiteness/tense features of the Fin head projecting in the lower part of the split-CP domain (cf. R&R p. 141).

<sup>26</sup> Under a different conception of the licensing of focus features in the syntax, Horvath (1995) adopts a ‘feature-checking’ analysis of focus structures in Hungarian à la Chomsky (1995b). Horvath (1995) assumes that the derivation of focus structures in Hungarian involves some focus feature (originating on V) ‘checked’ in a Spec-head agreement relation between V, raised to T, and an XP in [Spec, T], quite similar to the checking of Case on DPs via the same structural configuration. On similar grounds, Benmamoun (2000b) assumes that the feature involved in the formal licensing of NEG elements in Arabic is a [+D] feature, which he assumes is subject to a ‘feature-checking’ requirement quite similar to the checking of [+D] on T for EPP satisfaction in the framework of Chomsky (1995b).

[+Fin] feature of R&R) on the Fin head in the lower part of the split-CP domain. As the structure builds up, the feature identification process carries on to the other node(s) introduced into the derived structure. Thus, in the derivation of (32a), the identification of [*i*T] features interacts with the identification of clause-type features for singling out the sentence as interrogative, as opposed to negative in negation contexts or, simply, declarative in [+declarative] contexts.

As my discussion in relation to the insertion of modal/assertive markers and NEG elements shows, derivations involving the ‘Focus sublayer’ of Poletto (2000b) and Benincà & Poletto (2004) seem to involve an additional ‘focus’ feature (= the [+F] feature of Ouhalla 1993 and Aoun *et al.* 2010) that interacts with both clause type at the higher part of the split-CP domain (i.e., clause type features on Force) and with the features encoded on Fin at the lower part of the split-CP domain (i.e., [*i*T] features or the [+Fin] feature of R&R: 140 on Fin). Thus, the system of assumptions adopted here, in which the identification procedure is more than a question of morphological identification at Spell Out, views identification in terms of the structural relations determining the realization of the C-(Agr<sub>S</sub>)-T dependency at the interface.

Thus, taking ‘identification’ to be an interface licensing condition on the representation of elements merged into the structure of such SA VSO sentences as (19a), (21a), and (32a) above, the T-to-Fin raising process establishes head-head agreement relations that relate to the C-T dependency. Within the T-dependency established in both the IP and CP domains, V-*v* to T and V-*v*-T to Fin apply for tense interpretation at LF.<sup>27</sup> Thus, depending on whether verb movement applies in the syntax or not, the verbal inflectional complex V-*v* is either directly or indirectly linked to T and Fin. The trigger for these raising processes is probably an unvalued [T]-feature on V. On the assumption discussed earlier (see section 3.3.2.3) that, in case T has V-features (lexical verbs vs. auxiliary verbs), these features on T are valued as a result of the dependency relation that exists between T and V in sentence

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<sup>27</sup> English-type languages lack the V-to-T raising process in the syntax. Recall from section 3.2.1.1, that Roberts (2010a) links V-to-T movement to rich T-features enabling T to attract V to raise to it. Presumably, in English-type languages where no overt verb-movement applies, it may be the case that the licensing conditions under which the dependency relation between V and T is established at LF involve some form of covert verb movement. Alternatively, Bobaljik (1994) assumes that, in English, the only condition that applies in relation to the dependency between T and the verb is that, at the interface, T must be adjacent to the VP it selects as complement in the syntax. Adverbs will not intervene in this dependency relation since they are not relevant to syntactic adjacency.

structure. In SA, and similar V-raising languages, after V-*v* raises to attach to T, the whole V-*v*-T complex is attracted to Fin. Thus, the dependency relation that relates V-*v* to T and V-*v*-T to Fin is established in terms of interpretable tense features (i.e. an [*i*T] on T and on Fin) matching and Agreeing with [*u*T] on V/*v*.<sup>28</sup>

As for the contexts where the ‘Focus sublayer’ is involved, it seems that some ‘focus’ feature identification is an additional prerequisite licensing condition for the well-formedness of the C-T dependency at the interface. This may be understood in terms of Criterial satisfaction (as conceptualized in R&R). In contrast to Topic elements merged in the split-CP domain, focused elements have to satisfy a Criterion. One relevant example of this difference is R&R’s (pp. 138–141) argument that XP fronting, in German V2 structures involving topicalization of some XP in the left periphery of IP, is derived by neither a feature-checking process nor a criterion satisfaction requirement. R&R (p. 138) state that:

[T]he Topic Criterion seems problematic to us. The various criteria that have been proposed in the literature (*wh*-, Focus, Negative Criterion) are basically formulated to account for the movement of phrases with quantificational properties, that is, XPs that need to satisfy scope requirements and receive a special interpretation. Topics, however, do not seem to function like quantifiers/operators (see the papers in E. Kiss 1995 and more recently Rizzi 1997 for detailed argumentation to this effect). If this is correct, then the idea that they are subject to a Topic Criterion, which has the same properties as the other criteria, turns out to be dubious.

On R&R’s assumptions, the ‘topic interpretation’ of XP fronting in V2 declarative contexts is provided by both “C and SpecCP ... as together specifying contextually given information” (p. 140). R&R (pp. 140-141) add: “Note that our analysis goes through even if we assume that the XP moves into a separate Topic projection along

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<sup>28</sup> Chomsky (2008: 144) suggests that the Tense features of T, in addition to T’s  $\phi$ -features, are derivative from C (i.e., the node that selects T as its complement in sentence structure – Fin if the C-system is split as in Rizzi 1997). Extending on claims made in Haegeman & Koppen (2012), I reinterpret Chomsky’s (2008) feature-inheritance mechanism between C (= Fin) and T as a ‘feature-sharing’ relationship between the two functional nodes whereby the C-T dependency is first and foremost conceived of in terms of head-head agreement configurations on the basis of discrete sets of features (T-features and  $\phi$ -features) shared by the respective nodes (i.e., Fin and T; see section 4.3).

the lines proposed by Müller & Sternefeld (1993). Our alternative requires a topic feature, but no checking of that feature, and so no Topic Criterion”.<sup>29</sup>

However building on Rizzi and Shlonsky’s (2007) revision of the mechanisms involved in Criterial satisfaction, as not only involving Spec-head agreement relations, but also head-head agreement relations, it may be the case that whenever an additional ‘focus’ feature is involved in the derivation of the split-CP domain, the mode of licensing such a feature would vary according to the properties of the functional projection being involved in such licensing, in the spirit of the parameterized probe-goal-Agree system adopted here. In this conception, both a Focus head and a Topic head would be involved in some kind of Criterial satisfaction. The only difference between the two would be in the mode of licensing of these two Criterial head projections. Whereas Focus could be licensed via a Spec-head agreement relation involving an XP<sub>Foc</sub> and the Focus head or via a strict head-head agreement relation between Focus and Finiteness or Focus and Tense, Topic could only be licensed via a strict head-head agreement relation. This head-head agreement relation would depend on the connection that exists between the the [*i*D] feature on the Topic head and the V-*v*-T-Agr<sub>S</sub> complex in IP where the valuation of [*u*D] on Agr<sub>S</sub> via *pro*-insertion satisfies the C- Agr<sub>S</sub>-T dependency at Spell Out. As already discussed in section 3.2 (see, in particular section 3.2.1.2), D-features play an essential role in the licensing of null subjects and the satisfaction of the EPP at the level of IP (= Agr<sub>S</sub>P, in the present analysis). Thus, it is in terms of the valuation and/or identification of D-features that both Top and the T-Agr<sub>S</sub> inflectional complex configurationally connect a DP to syntactic predication.

This difference in the additional ‘focus’ property and how it is satisfied in sentence structure may account for the absence of scope whenever a Topic element is involved in the derivation of sentence structure, as R&R (p. 138) direct our attention to.

In my discussion of sentence (32a), I have assumed that interrogative *?a* is merged under ForceP to signal the introduction of a yes/no interrogative sentence. In SA, yes/no interrogative sentences are also formed by the use of the question marker

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<sup>29</sup> R&R do not make a difference between the insertion of an expletive, the preposing of a subject DP, or the preposing of any other XP constituent under the assumption that all these constituents could satisfy the EPP (cf. Holmberg 2000). In the probe-goal-Agree system adopted here, the derivation of V2 configurations involving subject DPs (including EXPL *es*) is proposed to be fundamentally different from the process of deriving a ‘topicalized’ XP in such V2 configurations, as will be discussed in section 4.3.

*hal*. However, according to Mohammad (1989: 57), *hal* differs from *ʔa* in that *hal* seems to require the verb to follow it, while *ʔa* can be followed by either the subject or the verb. The sample examples in (33) and (34), illustrating this difference, are adapted from Mohammad (1989: 58-60) (EV= Epenthetic Vowel):

- (33) a. ?a ?aliyy-un Darab-a                      khaliil-an?                      (SA)  
Q Ali-NOM PERF.hit-3MS Khalil-ACC  
'Was it Ali that hit Khalil?'
- b. ?a Darab-a                      ?aliyy-un khaliil-an?  
Q PERF.hit-3MS Ali-NOM Khalil-ACC  
'Was it Ali that hit Khalil?'
- (34) a. \*? hal-i l-walad-u                      ?akal-a                      ?at-tuffaHat-a?                      (SA)  
Q-EV the-boy-NOM PERF.eat-3MS the-apple-ACC  
'Did the boy eat the apple?'
- b. hal ?akal-a                      l-walad-u                      ?at-tuffaHat-a?  
Q PERF.eat-3MS the-boy-NOM the-apple-ACC  
'Did the boy eat the apple?'

Mohammad (1989) does not discuss examples where the complementizer *ʔinna* is used in such interrogatives. Sentences (35a,b) and (36a,b), where *ʔinna* is merged in Force, are parallel sentences to (35a,b) and (36a,b),

- (35) a. ?a-?inna ?aliyy-an Darab-a                      khaliil-an?                      (SA)  
Q-that    Ali-ACC PERF.hit-3MS khalil-ACC  
‘Was it Ali that hit Khalil?’
- b. ?a-?inna-hu Darab-a                      ?aliyy-un khaliil-an?  
Q-that-it    PERF.hit-3MS Ali-NOM khalil-ACC  
‘Was it Ali that hit Khalil?’
- (36) a. \*? hal ?inna l-walad-a                      ?akal-a                      ?at-tuffaHat-a?                      (SA)  
Q    that    the-boy-ACC    PERF.eat-3MS    the-apple-ACC  
‘Did the boy eat the apple?’
- b. hal ?inna-hu ?akal-a                      l-walad-u                      ?at-tuffaHat-a?  
Q    that-it    PERF.eat-3MS    the-boy-NOM    the-apple-ACC  
‘Did the boy eat the apple?’

In (35b) and (36b), having complementizer *ʔinna* follow the interrogative elements *ʔa* and *hal* seems to be as acceptable as having the verb follow them as in (33b) and

(34b). On this account, the grammaticality of the sentences in (35) and (36b) shows that the verb does not have to immediately follow the interrogative elements *ʔa* and *hal* since *ʔinna* can be merged in Force. Thus, in both (35b) and (36b), it is *ʔinna* that precedes the verb and not *hal*. Merging interrogative elements under ForceP in sentences (32)-(36) can account for the process whereby *ʔa* is phonetically realized together with *ʔinna* in Force in (35a,b).<sup>30</sup>

On the assumption that the yes/no question marker *hal* is a Wh-phrase base-generated in [Spec, CP] much like the Wh-phrase *limaadha* ‘why’ in SA (Bahloul 2008: 181-182, following Rizzi 1990: 46-47 for the wh-phrases *why* in English and *pourquoi* in French), *hal* merged in [Spec, CP] (possibly corresponding to [Spec, ForceP] in the present analysis) would be considered as a Focused element and not just as a Q-marker. By that token, the order of constituents in (34a) and (36a) would configure a Focused element or wh-word preceding a Topic DP, which, as noted earlier (see footnote 4) leads to an ungrammatical output at the interface in SA. This is not the case for the yes/no question marker *ʔa*, which would be considered as a pure Q-head marker merged in Force and not in the specifier position of ForceP. I further discuss the question of word order possibilities in wh-dependencies in section 4.3.1.1.

On the assumption that the yes/no interrogative marker *ʔa* is merged along with *ʔinna* in Force, a yes/no interrogative sentence like (37a) would have the structural representation in (37b):

- (37) a. *ʔa-ʔinna-ka la-ʔanta yusuf?* (SA)  
           Q-that-you FOC-you Joseph  
           ‘Are you really Joseph?’

<sup>30</sup> Nothing hinges on the assumption that the interrogative particle *ʔa* is merged in Force or in some other position in the higher field of the split-CP domain above FocP. Thus, *ʔa* could, alternatively, be assumed to be merged in some Interrogative head position  $\alpha$  higher or lower than ForceP. On the assumption that  $\alpha$  is merged lower than ForceP, the raising process of the interrogative particle *ʔa* to Force, in which position the interrogative particle adjoins to *ʔinna*, might be for the sake of providing the [+interrogative] interpretation to the Force head, and by that token, replacing the default [+declarative] interpretation of the clause.



b.

In (37), the interrogative interpretation is brought about by the use of the interrogative particle *?a* in connection with two other particles (namely, the complementizer *?inna* and the affirmative particle *la*), both of which are assertive in nature. As discussed in section 4.1.2.2, the assertive element *?inna* is merged under C in matrix or embedded contexts. When used by itself, *?inna* serves to signal declarative force as a default clause type (Rizzi 1997, R&R). However, in (37), *?inna* is used in conjunction with the yes/no interrogative marker *?a*. By that token, it is the interrogative clause type that prevails, and the structure is interpreted as [-declarative] at the interface.

As for the assertive element *la* in (37), my assumption is that it is inserted under the Foc head projection above FinP. The optional presence of the particle *la* adds a contrastive focus interpretation of the event or situation described by the sentence. By that token, the sentence in (37) is actually the affirmative counterpart sentence to a negative sentence where the contrastively focused NEG element *maa* is

used (see example (38) below).<sup>31</sup> A similar assumption carries over to the modal element *laqad*. As discussed in relation to footnote 21 above, the assertive element *la* can co-occur with the modal (emphatic) element *qad* as a phonetically realized single element *laqad*. Citing Moutaouakil (1989), Ouhalla (1994: 75) points out that sentences involving the modal element *laqad* “convey information which contradicts the information possessed by the addressee, and, therefore, are instances of contrastive focus”. Thus, on a similar basis as the particle *la*, *laqad* would be merged under Focus.

Since (37a) is a verbless sentence where no lexical verb is merged in the V position, the raising of V-*v* to T does not apply. Under the assumptions of the derivation of (null) copular sentences discussed in section 3.3.2.3, a head-head Agree relation links [*u*T] on *v* to the [*i*T] feature on T (which, in turn, links to the [*i*T] feature on Fin) for ‘identification’ at the interface. The subject of the sentence is the pronominal *ʔanta* ‘you’, internally merged in [Spec, TP] after raising out of the small clause, which is sister to the light verb *v*. The function of *ʔanta* in (37a) is to co-refer with, or resume, the Topic pronominal clitic *-ka* ‘you’.

In the negative counterpart of (37a), as in (38a) below, the negative marker *maa* is merged under the Foc node as represented in (38b):

- (38) a. ʔinna-ka maa ʔanta yusuf (SA)  
           that-you NEG you Joseph  
           ‘You are NOT Joseph.’

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<sup>31</sup> Sibawayhi (796: Vol. I: 460) points out that, in Classical Arabic, affirmative sentences with a verb by itself or with the verbal complex [*qad* + Perfect] have, as a negative counterpart, sentences with *lam* or *lamma*, respectively. As for affirmative sentences with the verbal complex [*laqad* + Perfect], they have sentences with *maa* as a negative counterpart.

b.

As was the case in (37), the pronominal *?anta* ‘you’ is internally merged in [Spec, TP] as the subject of the sentence in (38a). The negative interpretation of the sentence is brought about by inserting the negative particle *maa* into the structure of the sentence.

I follow Bahloul (2008: 164-165) in the assumption that *maa* does not head a NegP projection in SA. As the structural representation (38b) shows, I assume that *maa* is merged in Foc above Fin. In this respect, *maa* patterns like the assertive emphatic element *la* in (37b). As already discussed in section 4.1.2.1, the idea that negation and emphatic affirmation should be accommodated in the same structural position was first suggested by Laka (1990: 100) who locates both negative and affirmative elements in a head node she calls  $\Sigma$ .

At the interface, the negative interpretation of the sentence arises out of the identification of [iF] features on *maa* and Foc in conjunction with [iT] features of Fin in the lower part of the split-CP domain and in relation to the [iT] feature of T in the IP domain (see section 4.1.2.5). In this respect, the ‘identification’ of NEG elements

operates by combining [*i*F] features and [*i*T] features irrespective of whether [*i*F] is a contrastive focus feature, as in the case of *maa* in (38) and *laysa* (see (39) below) or not, as in the case of the ‘temporal’ NEG elements *laa/lam/lan*.<sup>32</sup> As for the function of the matrix complementizer *ʔinna* under Force in (38b), it is purely assertive. It denotes negative assertiveness as Force links to Fin and Foc via the C-T dependency.

An alternative to (38a) is (39a) below where the subject-inflected NEG element *lasta* ‘you (are) not’ is used instead of *maa*, as represented in (39b):<sup>33</sup>

- (39) a. ʔinna-ka las-ta      (ʔanta) yusuf      (SA)  
           that-you NEG-you (you) Joseph  
           ‘You are NOT Joseph.’

<sup>32</sup> Ouhalla (1993: 277) and Benmamoun (2000b: 109) assume that, unlike *laa/lam/lan*, *maa* is a contrastively focused negative element in contrast to *laa/lam/lan*. (see section 4.1.2.5).

<sup>33</sup> The ‘verbal’ behaviour of *laysa* as a negative auxiliary has already been discussed in section 4.1.2.1 above with reference to Aoun *et al.* (2010) and in section 3.3.2.3 with reference to Benmamoun (2008: 113-114).). *Laysa* inflects for  $\phi$ -features in relation to initial subjects in negative sentences. In this case, *laysa* inflects for subject person, number and gender agreement features of the imperfective/past tense paradigm (i.e., (*anna*) *las-tu* ‘I am not’, (*anta*) *las-ta* ‘you.MS are not’, (*anti*) *las-ti* ‘you.FS are not’ (*huwa*) *laysa* ‘he is not’, (*hiya*) *laysa-t* ‘she is not’, (*naHnu*) *las-naa* ‘we are not’, (*antum*) *las-tum* ‘you.MP are not’, (*antunna*) *las-tunna* ‘you.FP are not’ (*hum*) *lays-uu* ‘they.M are not’ (*hunna*) *las-na* ‘they.F are not’). In this respect, *laysa* is different from *maa*, which does not inflect for either subject-verb agreement nor for tense (which is a property of NEG elements *lam/lan*). I return to an analysis of negative elements in SA in section 4.1.2.5.2 below.

b.

The sentence in (39a) projects as an AgrsP at the IP level, as structurally represented in (39b). As Benmamoun (2000b: 103) proposes, the SA NEG element *laysa* projects as a Neg node heading NegP in the IP domain. In structure (39b), the projection of Agrs above TP follows from the verb-like behaviour of *laysa* in relation to its subject agreement properties in that this SA negation marker behaves just like a verb in showing the agreement asymmetry in the derivation of VSO sentences as opposed to the derivation of SVO sentences in SA discussed at length in Chapter Two. The NEG elements *maa*, *lam* and *lan* do not show such a characteristic.

The raising of Neg-T-Agrs to Fin, as shown in (39b), is a necessary step for identification of the sentence as [+declarative], [+negative] at the level where Fin and Force are introduced into sentence structure. As in (38b), the function of the matrix complementizer *?inna* under Force, in (39b), is to link the assertive interpretation of the proposition expressed by the sentence to negation (i.e., via the head-head dependency relation linking Force to Fin, to which Neg-T-Agrs is attached at the

interface). Apart from the initial Merge location of the NEG elements *maa* and *laysa*, the only other difference between the two negative structures is that the derivation of (39a) requires the projection of a subject-agreement node (i.e., Agr<sub>S</sub>) accounting for the agreement in person/number/gender features on the negative element *laysa* (spelled out as *lasta* ‘you (are) not’ in (39a)). Since a Topic pronominal clitic is merged in [Spec, TopP] in structure (39b), the phonetically realized pronominal *?anta* ‘you’ can alternatively remain silent. In this case, a referential *pro* would occupy [Spec, Agr<sub>S</sub>P] yielding the sentence *?inna-ka las-ta yusuf* ‘You are NOT Joseph’.

In sum, the insertion of complementizer *?inna* in the matrix sentences I have discussed in this section is not exclusively driven by the necessity of signalling clause-type, but it also contributes to the assertive interpretation these sentences get at the interface. In this respect, in the sample sentence given in (23a), both complementizer *?inna* and modal *qad* share the property of asserting the truthfulness of the proposition expressed by the sentence.

Apart from the insertion of complementizer *?inna*, in the derivation of the SA VSO sentences (19a), (20a), (21a) and (32a), and, by extension, the verbless sentences (37a) and (38a) where no verb movement applies and the T-to-Fin raising process is not operative, the proposal I have maintained is that the Agr<sub>S</sub> node does not project in these constructions. In the verbless negative sentence (38a), the negation marker *maa* is merged in Foc, in which respect it patterns like the affirmative emphatic element *la* in (37a). In contrast to *maa*, the verb-like NEG element *laysa* in sentence (39a) is merged in the IP domain where the Agr<sub>S</sub> node projects accounting for overt subject-verb agreement between *laysa* and the subject pronominal in [Spec, Agr<sub>S</sub>P].

As the tree representations of (19a), (20a), (21a) and (32a) have shown, the IP domain takes the form of a TP selected as complement by the Fin head in the split-CP domain. As discussed in Chapter Three, subject-verb agreement in terms of  $\phi$ -feature valuation and EPP satisfaction, in such VSO configurations in SA, applies at the level where TP is introduced, with the subject raised to [Spec, TP]. Since the inflectional complex is further raised to the split-CP domain, Spell Out, at the strong Phase, only obtains when all the head-head merging or raising processes, in the derivation of the relevant sentences, have applied for feature identification at the interface.

As far as the verbless negative sentence in (38a) (with the negation marker *maa*) and the negative sentence in (39a) (with the negation marker *laysa*) are concerned, the sentences differ minimally in that *maa* is a negation marker that does

not inflect for either tense or subject agreement. This fact not only makes it different from the negation marker *laysa* in relation to subject agreement but also from *lam* and *lan*, which inflect for tense. Thus, the logical expectation that follows from the verb-like behaviour of *laysa* in relation to its subject agreement properties is that this negation marker would behave just like a verb, in SA, in showing the agreement asymmetry between VSO and SVO structural configurations, as in VSO (40a) vs. SVO (40b) below (EV = Epenthetic Vowel):

- (40) a. *laysa-t-i*      *l-banaat-u*      *fii l-bayt-i*      (SA)  
          NEG-3FS-EV   the-girls-NOM in the-house-GEN  
          ‘The girls are not in the house.’
- b. *l-banaat-u*      *las-na*      *fii l-bayt-i*  
          the-girls-NOM NEG-3FP in the-house-GEN  
          ‘The girls are not in the house.’

I come back to some sample examples of negation sentences in SA (including sentences with *laysa*) in section 4.1.2.5.

#### *4.1.2.5. A higher and a lower NegP projection in SA*

##### *4.1.2.5.1. Introduction*

As shown in Table 4.1 below, two Neg head nodes are assumed to project in the sentence structure of SA: the first Neg head selects FinP within the split-CP domain. The second Neg head position projects within IP:

Table 4.1. The distribution of NEG elements in SA sentence structure

| NEG elements                                                                                                                                                                | IP/TP level | Split-CP level |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------|
| 1. ‘temporal’ <i>laa/lam/lan</i><br><br>(as in (41b) and (43) below)                                                                                                        | -           |                |
| 2. <i>maa</i><br><br>(as in (38b) above)                                                                                                                                    | -           |                |
| 3. Subject-agreement inflected <i>laysa</i> :<br><br>a. (in VSO structural configurations as in (52a) below)<br><br>b. (in SVO structural configurations as in (39b) above) | <br>        | <br>           |



Table 4.1 summarizes the distribution of NEG elements in the sentence structure of SA on the basis of their location and their feature properties. In section 4.1.2.1, I followed Jouitteau (2005) in the assumption that, in the split-CP analysis of languages with ‘basic’ VSO word ordering, there is a Neg head projection (maximally projecting as NegP) projecting higher than the head Fin node that Rizzi (1997) posits to be the head that selects the inflectional projection of sentences (i.e., TP/IP). As shown in (1) in Table 4.1, this higher Neg node is the Merge site for the ‘temporal’ negation elements *lam* and *lan* (as ‘temporal’ variants of the NEG element *laa*, Ouhalla 1993: 276).

The second Neg(P) projects in between TP and  $\nu$ P/VP.<sup>34</sup> This lower Neg head is the Merge site for the NEG subject-agreement inflected negation marker *laysa* (as shown in (3) in Table 4.1). The NEG element *laysa* can either be phonetically realized in IP or higher in the sentence depending on whether it is used in a sentence where the ‘subject’ DP is a Topic or in a sentence where some element is under negative contrastive focus.

As for the NEG element *maa*, I have already discussed the assumption that it does not project as a Neg node, but has the same distribution as the affirmative emphatic element *la* in verbless sentences.

According to the assumptions adopted in sections 4.1.2 and 4.1.2.1, the Merge of NEG elements either within the split-CP domain or the IP domain depends on the inflectional features they morphologically encode – namely, either ‘tense’, as in the case of the ‘tensed’ negation markers *lam* and *lan*, or subject agreement as in the case of the NEG element *laysa*. As for *maa*, it does not morphologically inflect for either tense or subject agreement, but it behaves rather like the subject-inflected agreement NEG element *laysa* in sentence structure in relation to negative contrastive focus.

On this account, both Neg head positions interact with the tense/modal properties of sentences, and their projection in the respective domains where they are first merged (i.e., the split-CP domain and the IP domain) is essential for the proper

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<sup>34</sup> Ouhalla (1991, 1993) and Bemamoun (2000b) assume that, in SA, Neg is projected lower than TP. As for Fassi Fehri (1993), he assumes that NegP is higher than TP/Agr<sub>S</sub>P in sentence structure. The account provided here differs from these previous analyses of negation in that I assume that there are two Neg(P) projections in the sentence structure of SA. As already noted, Bahloul (2008), also allows two structural positions for the Merge of NEG elements (i.e., the Merge of *maa* in Asert° in CP and the Merge of *laa/lam/lan* in a Neg position within IP). Bahloul (2008) does not provide a particular analysis for the subject-agreement inflected NEG element *laysa*.

representation of the C-(Agr<sub>S</sub>)-T dependency at the interface. Thus, the different structural positions NEG elements occupy in the sentence structure of SA may not entirely depend on the Merge point where these elements are first merged (via external Merge) – namely within the IP domain or within the CP domain. Rather, SA NEG element *laysa* may end up being spelled out in the split-CP domain according to the structure being derived whereby one or more head-raising processes would be needed for the satisfaction of the C-(Agr<sub>S</sub>)-T dependency at the interface.

In section 4.1.2.5.2 below, I first deal with the derivation of the NEG elements *laa/lam/lan* in SA (taking the NEG marker of past tense *lam*, as a representative example). In section 4.1.2.5.3, I deal with the derivation of the NEG elements *maa* and *laysa*.

#### 4.1.2.5.2. The derivation of the NEG elements *laa/lam/lan* in SA

As Ouhalla (1993: 277, 280) notes, ‘assertive’ elements (both affirmative like SA modal *qad* or negative like SA NEG elements *lam* and *lan*) interact with Focus as a consequence of the essential relation they have with the temporal/modal properties of the sentence where they are used. In this respect, negation patterns much the same as modality in the split-CP domain as both are represented above the position of the partially inflected verb raised to Fin in SA VSO configurations. Thus, in (41) below, the NEG element *lam* is merged in the NEG head node maximally projecting as NEGP just above the FinP projection, the head of which harbours the verb *yaʔti* ‘come’:

- (41) a. ʔinna-hu lam            ya-ʔt-i                            ʔal-ʔawlaad-u    (SA)  
           that-it    NEG.past 3-IMPERF.come-MS.JUSS    the-boys-NOM  
           ‘Indeed, the boys did not come.’

b.

As the VSO structure in (41b) shows, the higher NEG projection selects FinP as its complement in sentence structure. It may be the case that the temporal properties of such SA NEG elements as *lam*, in (41a) (where the verb *ya?ti* ‘come’ is in the jussive), and *lan* (merged in a clause where the verb is in the subjunctive) is a consequence of the close relationship that such elements have with Finiteness as a head projecting in its own right in the split-CP domain of SA. Whether *lam* and *lan* in SA are generated with T-features (i.e. [*i*T]) on Neg) of their own remains questionable.<sup>35</sup> The tense properties of such elements may simply be the outcome of their interaction with the Fin projection, which is itself generated with such features in addition to  $\phi$ -features, and shared between Fin and T. Ultimately, a NEG element like SA *lam* in structure (41b) has to satisfy the C-T dependency at the interface.

<sup>35</sup> This is also the case for the modal element *qad*. Thus, whatever temporal properties *qad* has (cf. Bahloul 2008; see section 4.1.2.3), they may simply be the outcome of the interaction of such a modal element with the temporal properties encoded on Fin and the head Fin selects as complement in sentence structure i.e., T.

In a system abiding by different assumptions from the analysis adopted here about the projection of sentence structure in SA, Shlonsky (1997: 97-98, following Benmamoun 1992b), argues that Neg, in SA, projects lower than TP but higher than Agr<sub>S</sub>P in the IP domain. Under such an analysis, Neg moves to T independently of the verb (both perfective and imperfective). As Shlonsky (1997) argues, movement of NEG *laa* and its ‘temporal’ variants *lam* and *lan* to T independently of the imperfective verb raised to the Agr<sub>S</sub> node accounts for why *lam* and *lan* carry ‘tense’. This raising process prevents the verb from further moving to the T node.

However, if the NEG elements *lam* and *lan* are actually merged higher up in the structure of SA negative sentences outside the IP domain as discussed above in relation to structure (41b), the raised verb will still be in a lower position than the Neg head position in which *lam/lan* are merged. As the VSO structure (41b) shows, the landing site of the raised verb in such negative sentences is the Fin node. In the SVO structure in (43) for sentence (42a) below, the verb is raised to T, which is itself raised to the Agr<sub>S</sub> node on the assumptions adopted in this thesis as to the derivation of SVO sentences in SA.

As Ouhalla (1993) points out, what is important in the derivation of such negative sentences is the system of structural dependency relations that NEG elements establish with the elements they are associated with (namely, verbs, focus elements and/or modal elements) in terms of the system of identification of features discussed above. Ouhalla (1993: 297) proposes an analysis of the different movement and dependency relations involved in derivations that has much in common with the analysis developed here:

...*laa* and its temporal variants head a NegP which interacts with other functional categories in terms of head-movement processes. The system of identification ... on the basis of the distribution of *maa* and focus elements in general also seems to account for the distribution and properties of *laa* and the way it interacts with V-movement. The underlying idea is that the Identification Requirement motivates movement of the verb complex in much the same way ... [it] motivate[s] movement of *f-/wh*-phrases to Spec-FP.

As sentences (42a) (with the structural representation in (43)) and (42b) below show, Topic DPs have to precede ‘tensed’ NEG elements such as *lam*:

(42) a. ?al-?awlaad-u lam ya-?t-uu (SA)  
 the-boys-NOM NEG.Past 3-IMPERF.come-3MP.IND  
 ‘The boys did not come.’

b. ?al-?awlaad-u ?inna-hum lam ya-?t-uu  
 the-boys-NOM that-they NEG.Past 3-IMPERF.come-3MP.IND  
 Lit.: ‘As for the boys, they indeed did not come.’

(43)

As the structure in (43) proposes, the verb stops under the Agr<sub>S</sub> projection in the IP domain where full subject-verb agreement obtains. As before, where a Topic DP is base-generated in the split-CP domain in SA, the D-feature of the referential *pro* raised to [Spec, Agr<sub>S</sub>P] is essential in establishing the relation between D on Agr<sub>S</sub> to  $\phi$ -feature specification of the V-v-T-Agr<sub>S</sub> complex thus determining full subject-verb agreement on the verb *ya?t-uu*.

#### 4.1.2.5.3. The derivation of the NEG elements *maa* and *laysa* in SA

The NEG element *laysa* patterns rather like the NEG element *maa* in its interaction with focus in the ‘focus’ field within the CP domain in the derivation of VSO

sentences (see, for example structure (52a) for sentence (51a) below in comparison to structure (52b) for sentence (51b) with the same meaning).

I have discussed the derivation of negative sentences where *maa* is used in a context where no lexical verb is generated (see section 4.1.2.4). In the presence of a verb in a negative sentence with *maa*, different assumptions have been developed by linguists in the Arabic linguistics tradition for accounting for the merger of the raised verb with the NEG element *maa* (and with the enclitic *-sh* in such modern spoken dialects as MA and TA). For example, both Benmamoun (2000b) and Halila (1992) assume that *maa* projects as a Neg node in between TP and vP/VP in MA and TA, respectively. Thus, when the verb moves to T it has to go through Neg first and merge with *maa*. According to Benmamoun (2000b) and Halila (1992), this is the only available option to derive negative sentences in such modern spoken dialects as MA and TA, which make use of the discontinuous Neg element *maa ... sh*.

However, Benmamoun's (2000b: 72) analysis of the discontinuous Neg element *maa ... sh* differs from Halila's (1992: 35) analysis as to how the morphemes *maa* and *-sh* end up merged with the verb. Thus, Halila (1992: 35) assumes that negative sentences in TA are derived as represented in (44b) for sentence (44a) (adapted from Halila 1992: 35):

- (44) a. *nawaal ma-jaa-t-sh* (TA)  
 Nawal NEG PERF.come-3MS-NEG  
 'Nawal did not come.'

b.

In (44a), for verb movement to be cyclic, the verb *jaa-t* raises to Neg, where it merges with *maa*, and then the complex [*maa + jaa-t*] moves up to T where a process of encliticization of *-sh* in [Spec, NegP] to [*maa + jaa-t*] applies “... in PF by simple merger between the verbal complex in tense and the Spec of NegP that follows it” (Benmamoun 2000b: 73).

Benmamoun (2000b: 76-78), while assuming that this “simple merger” is theoretically possible for the derivation of negative sentences in a spoken Arabic dialect like MA, contends that the so-called discontinuous Neg element *maa ... sh* is actually not discontinuous. Rather, he assumes that *maa* and *sh* are parts of a complex head of NegP *maa–sh*, an assumption which, according to Benmamoun (2000b) “adequately deals with the interaction between negation and head movement” (p. 76).

In SA, however, Benmamoun (2000b: 108) assumes that *maa* is in [Spec, NegP]. Since Benmamoun (2000b) assumes that the feature involved in the formal licensing of NEG elements is a [+D] feature (see section 4.1.2.4, in relation to footnote 26), he assumes that *maa* is subject to a ‘feature-checking’ requirement quite similar to the checking of [+D] on T for EPP satisfaction in the framework of Chomsky (1995b). On such an account, the verb moves to Neg to check the [+D] feature of that node, and in the process of doing so merges with *maa* in [Spec, NegP]. With past tense verbs, Benmamoun assumes that the verb moves further up to T to check the V-feature of [+Past] T (see section 3.3.2.3).

Bahloul (2008) provides a different analysis from that of Benmamoun (2000b) for the derivation of negative sentences with *maa* in SA. As briefly discussed in section 4.1.2.1, Bahloul (2008: 164-165) assumes that among the elements that are merged in some Asrt<sup>o</sup> head position that selects TP is the NEG element *maa*. According to Bahloul (2008), the same Asrt<sup>o</sup> head is also the Merge position for such elements as the modal element *qad* and the complementizer element *ʔinna*. As for the ‘temporal’ NEG elements *laa/lam/lan*, Bahloul (2008: 155) assumes that such elements are base-generated in some Neg head position below T and are then raised to T.

It seems that Bahloul’s (2008) assumption in relation to the licensing conditions applying to a functional element like *maa* adequately accounts for the fact that this negation element patterns like the assertive emphatic element *la*, both of which would be merged in a head node Asrt<sup>o</sup> above IP (Bahloul 2008: 164-165). In the framework of assumptions about the split-CP in SA adopted here, *la* and *maa*

would be merged in the Foc head projection at the highest level of the ‘focus field’ in Poletto’s (2000b) and Benincà & Poletto’s (2004) terms (see section 4.1.2.1). In such a position, the [*i*F] feature of *maa* or the [*i*F] feature of an assertive element like *la* would be structurally identified in relation to the [*i*T] feature of Fin in the lower part of the split-CP domain, and in relation to the [*i*T] feature of T in the IP domain.

For example, the representation in (45b) below shows how verb movement in the VSO word ordering in SA interacts with *maa* in the derivation of sentence (45a):

- (45) a. ?inna-hu maa jaaʔ-a yusuf (SA)  
 that-it NEG PERF.come-3MS Joseph  
 ‘Joseph did NOT come.’

b.

The VSO structure (45b) shows that the complex V-*v* raises to T in its way to Fin. The NEG element *maa* is merged in Foc where the identification of its [*i*F] feature operates in relation to the inflectional verbal complex V-*v*-T under the Fin node specified for interpretable [*i*T] features. Thus, it is possible that the Agree relation between *maa* under Foc and T raised to Fin along with V-*v* is actually not a relation of feature valuation à la Chomsky (2001, 2004). Rather, this Agree relation could be



understood in terms of Criterial satisfaction à la Rizzi (1996, 1997, 2006), whereby the features that enter into the ‘matching’ relation are the [*i*F] feature of Neg *maa* and the [*i*T] feature of T. These features have to be ‘identified’ for the satisfaction of the C-T dependency at the interface.

As far as is the [*i*F] feature of *maa* is concerned, the probe-goal-Agree system adopted here is more in line with Ouhalla’s (1993), R&R’s, Vangsnes (2002) and Aoun *et al.*’s (2010) views on feature licensing in that *maa* in SA has to satisfy some feature identification requirement in terms of some ‘focus’ feature which is a characteristic of quantifier elements (cf. R&R). In section 4.1.2.4 above, I assumed that this feature on the functional nodes that project in the ‘focus’ field of split-CP domain is an interpretable [*i*F] feature that does not need checking/valuation (*contra* Benmamoun 2000b).

As for the subject-agreement inflected NEG element *laysa* in comparison to the NEG element *maa* in SA, *laysa* can interchangeably be used instead of *maa* in sentences implying a contrastively focused reading, as in (47b) for sentence (46b):<sup>36</sup>

(46) a. *maa*   ʔallafa-t               zaynab-u               riwaayat-an                               (SA)  
           NEG PERF.write.3FS Zaynab-NOM novel-ACC  
           ‘Zaynab did NOT write a novel.’

      b. *maa*   riwaayat-an ʔallafa-t               zaynab-u  
           NEG novel-ACC PERF.write.3FS Zaynab-NOM  
           ‘It is NOT a novel that Zaynab wrote.’

(47) a. \**laysa*-t   ʔallafa-t               zaynab-u               riwaayat-an  
           NEG.3FS PERF.write.3FS Zaynab-NOM novel-ACC  
           ‘Zaynab did NOT write a novel.’

      b. *laysa*-t   riwaayat-an ʔallafa-t               zayanb-u  
           NEG.3FS novel-ACC PERF.write.3FS Zaynab-NOM  
           ‘It is NOT a novel that Zaynab wrote.’

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<sup>36</sup> Sentences (46a,b) are adapted from Ouhalla (1993: 287). The NEG marker *laysa*-t (47b) can be used instead of *maa* in (46b). In contrast, in (47a), *laysa*-t cannot replace *maa* in (46a). This is accounted for on the assumption that *laysa* is incompatible with verbs used in the past tense because *laysa* and its subject-agreement inflected variants (as listed in footnote 33 above) already carry a ‘past-tense’ morpheme which would encode a pure agreement relation. Thus, in (47a), *laysa* cannot negate the verbal event ʔallafa-t zaynab-u riwaayat-an ‘Zaynab wrote a novel’. In terms of syntactic structure, the co-occurrence of a ‘past-tense’ inflected verb and *laysa* would be ruled out on the basis that both elements would occupy the T node (or would be merged with it as a result of raising *laysa*, merged in Neg, to T).

In (46a,b), the scope of *maa* in sentence structure varies depending on what element *maa* contrastively focuses. Thus, according to Ouhalla (1993: 287), the NEG marker *maa* in (46a) has scope on the whole sentence *ʔallafa-t zaynab-u riwaayat-an* denying that ‘Zaynab wrote a novel’. The implication is that Zaynab did something else other than write a novel. As for (46b), the NEG marker *maa* has scope only on the preposed object DP *riwaayat-an* ‘novel’. The implication is that Zaynab could have written something, but certainly not a novel. The same applies to *laysa*, save for the ungrammaticality of using *laysa* when it is the verbal event that is contrastively focused (see footnote 36).

As Benmamoun (2000b: 105) points out, *laysa* is not compatible with future tense, as in (48a). This is also true of *maa* as exemplified in sentence (48b) (example (48a) is adapted from Benmamoun 2000b: 109):

As sentences (48a,b) exemplify, *laysa* and *maa* cannot co-occur with the modal marker *sa-* which is used for the expression of future tense.

be used in conjunction with *qad*, which when co-occurring with an imperfective verb expresses the future tense, as in (49a,b):<sup>37</sup>

- (49) a. \**qad laysa yu-saafir-u zayd-un* (SA)  
 MOD NEG.3MS 3-IMPERF.travel-MS.IND Zayd-NOM  
 ‘Zayd will probably not travel.’
- b. \**qad maa yu-saafir-u zayd-un*  
 MOD NEG 3-IMPERF.travel-MS.IND Zayd-NOM  
 ‘Zayd will probably not travel.’

In (49a,b), the NEG elements *laysa* and *maa* are not compatible with the modal element *qad* for the expression of the non-occurrence of a future event. The only grammatical output is to use modal *qad* with the NEG element *laa* as in (50a), to express the probable non-completion of a future event, or the use of the morphologically future tense inflected NEG element *lan*, for the expression of the impossibility of the occurrence of a future event (see section 4.1.2.5.2), as in (50b):

- (50) a. *qad laa yu-saafir-u zayd-un* (SA)  
 MOD NEG.Fut 3-IMPERF.travel-MS.IND Zayd-NOM  
 ‘Zayd will probably not travel.’
- b. *lan yu-saafir-a zayd-un*  
 NEG.Fut 3-IMPERF.travel-MS.SUBJ Zayd-NOM  
 ‘Zayd will not travel.’

I will attempt in what follows to give an account for the difference between the behaviour of the NEG elements *maa* and *laysa* as against the behaviour of the NEG element *laa* and its ‘temporal’ variants. As Bahloul (2008: 137-139) observes, unlike the ‘temporal’ negators *laa*, *lam*, and *lan*, the NEG element *maa* “does not control the temporal interpretation” of the sentences where it occurs. Thus, unlike *laa/lam/lan*, the NEG element *maa* can be used in sentences where the verb is perfective or imperfective.

My assumption has been that, in contrast to *maa* and *laysa*, the ‘temporal’ negators *laa*, *lam*, and *lan* project as Neg(P) above FinP and encode some tense properties (only morphologically realized on *lam*, and *lan*, but not on *laa*) by virtue of selecting FinP, the head node of which is the repository of ‘tense’ and agreement  $\phi$ -

<sup>37</sup> As discussed in section 4.1.2, the combination of modal *qad* with the imperfective verb expresses a future tense, although this property is not morphologically encoded on *qad* itself.

features (according to Chomsky 2008) shared by Fin and T in sentence structure (as discussed, for example, in relation to (41) above). By that token, *laa*, *lam*, and *lan* do control the temporal interpretation of the sentences where they are used. As for the negation markers *maa* and *laysa*, although the assumption has been that they are not linked to any tense property of the sentence where they are merged, they ultimately have to meet Ouhalla's (1993) Identification Requirement by virtue of being linked to the [*i*T] features of Fin and T.

Coming back to the Merge (and raising) processes involved in the derivation of negative sentences with *laysa* and *maa*, (52a) and (52b) are the tree representations for the first conjunct of sentences (51a) and (51b), respectively (EV = Epenthetic Vowel):<sup>38</sup>

- (51) a. ?inna-hu laysa-t-i      l-?umahaat-u      (?allaatii) ya-Drib-na      (SA)  
           that-it    NEG-3FS-EV the-mothers-NOM    that.3FP 3-IMPERF.hit-FP  
           ?awlaad-a-hunna bal-i      l-?abaa?-u  
           boys-ACC-their but-EV the-fathers-NOM  
           Lit.: 'The fact is that it is NOT mothers that hit their sons/children but  
           it is fathers that do'
- b. ?inna-hu maa l-?umahaat-u      (?allaatii) ya-Drib-na  
           that-it    NEG the-mothers-NOM    that.3FP 3-IMPERF.hit-FP  
           ?awlaad-a-hunna bal-i      l-?abaa?-u  
           boys-ACC-their but-EV the-fathers-NOM  
           Lit.: 'The fact is that it is NOT mothers that hit their sons/children but  
           it is fathers that do'

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<sup>38</sup> Assuming that *laysa* is a 'negative auxiliary' (Ouhalla 1993: 277-278) similar to auxiliary *kaana* in SA (see the VSO structure (66b) below; cf. Akkal & Gonegai 2000: 13-14), an argument for a bi-clausal structure of (51a) can be maintained. For a different view maintaining a mono-clausal structure to such examples in SA, see Aoun *et al.* (2010: 61). I come back to Akkal & Gonegai's (2000) argument below in relation to the bi-clausal VSO structure (66b) and the bi-clausal SVO structures (67b) and (68b).

(52). a

b.

The structures in (52a) and (52b) are bi-clausal with two separate IP domains. These bi-clausal structures involve a lower IP domain, which projects as AgrsP (with a left-periphery involving the projection of FinP and ForceP), and a higher IP domain, which projects as TP. Since no lexical verb is generated in the higher clause, the V head of the VP projection is not lexicalized and is left empty as a null V. V raises to *v* for the dependency relations between T and V-*v* to apply in terms of the head-head agreement configurations linking [*u*T] on *v* to [*i*T] on T. As discussed in section

3.3.2.3, the relation between *v* and T, in terms of the identification of T-features, remains essential within IP for the satisfaction of the C-T dependency at the interface.

In (52a), the higher IP domain involves the raising of NEG to T and the NEG-T complex to the left periphery where the Top-Foc system is displayed. The NEG-T complex moves to Fin, just like ‘partially’ inflected verbs do in SA VSO sentences (see section 4.1.2.1). In (52b), *maa* is merged under the Foc head. In both structures, interpretability of the [*i*F] focus feature of *laysa* and *maa* operates with the interpretable [*i*T] features on Fin and T.

As for the DP *ʔal-ʔumahaat-u* ‘the mothers’ in (52a) and (52b), it has the status of a focused DP merged in [Spec, ForceP] where it is base-generated (see section 4.2 below on wh-dependencies in SA). Base-generating the DP *ʔal-ʔumahaat-u* in the Spec of Force in these structures is supported by the optionality of having the relative complementizer *ʔallaatii* merged in Force and agreeing in gender and number with the DP in [Spec, ForceP]. Thus, being base-generated to the left of IP (i.e., the lower clause represented as Agr<sub>S</sub>P in (52a) and (52b)), the DP *ʔal-ʔumahaat-u* is co-referential with a resumptive *pro* in the lower clause. In the lower clause, subject-verb agreement is established at the level of Agr<sub>S</sub>P (i.e., the strong Phase, at the level where T-to-Agr<sub>S</sub> applies in the lower clause) accounting for the fully realized agreement inflection *-na* on the verb *yaDrib-na* ‘they hit’.

Given the anaphoric relation between T in the lower clause and T in the higher clause, (Akkal & Gonegai 2000; see right below), the subject-agreement inflected NEG element *laysa-t* ‘partially’ agrees in 3<sup>rd</sup> person and feminine gender features with the feminine plural noun *ʔal-ʔumahaat-u* to its right in [Spec, ForceP] in the higher part of the split-CP of the lower clause. As discussed above, the DP *ʔal-ʔumahaat-u* is itself resumed in the lower clause by the resumptive *pro* in the Spec position of the inflectional complex V-*v*-T-Agr<sub>S</sub>.

This ‘partial’ agreement configuration between a ‘verbal’ element (i.e., the subject-agreement inflected NEG element *laysa-t* in (51a)) and a DP to its right is reminiscent of the agreement configuration that obtains between the verb raised to Fin and a subject DP in [Spec, TP] in SA VSO sentences, as in (53) below:

- (53) ʔinna-hu jaaʔa-t                      ʔal-bannat-u                      (SA)  
       that-it    PERF.come-3FS the-girls-NOM  
       ‘The girls came.’

In (53), the verb *jaaʔa-t* ‘came’ raised to Fin ‘partially’ agrees with the feminine plural noun *ʔal-bannat-u* ‘the girls’ in [Spec, TP], in the VSO sentence

Thus, in (51a) and (53), both the ‘partially’ subject-agreement inflected NEG particle *laysat* and the subject-agreement inflected verb *jaaʔat* ‘came’ agree with their respective DP elements to their right (i.e. *ʔal-ʔumahaat-u* in the higher part of the split-CP domain of the lower clause in (51a) and the ‘post-verbal’ subject DP *ʔal-bannat-u* ‘the girls’ in (53)).

The bi-clausal structure of such sentences, as in (1) below, where the auxiliary *kaana* is used in combination with a thematic verb to form complex tenses is also defended in Demirdache (1989/2013: 294-307):<sup>39</sup>

(54) *kaana*                      *y-aktub-u*  
 PERF.be-3MS 3-IMPERF.write-MS.IND  
 ‘He was writing.’

Like Akkal & Gonegai (2000), Demirdache (2013: 294-295) underlines the fact that what is important in such bi-clausal constructions are the tense properties of the auxiliary verb *kaana* used in the higher clause of (54). In Demirdache’s (2013: 294) own terms: “... the copula verb *kaana* is merely a tense carrier”. Quite similar to Akkal & Gonegai’s (2000) assumptions, Demirdache (2013: 297-298) points to the fact that the auxiliary verb *kaana* in the higher clause has the mere function of referring to a certain point in time, whereas the thematic verb in the lower clause has the function of encoding the degree of realization of an event.

However, the main difference between Akkal & Gonegai’s (2000) and Demirdache’s (2013) accounts of the derivation of subject-verb agreement configurations within these constructions is that Akkal & Gonegai (2000) reject the hypothesis of the existence of null *pro* elements in the syntax of SA. As reviewed in Chapter Two, Akkal and Gonegai (2000) argue for a movement analysis of the derivation of Topic DPs. According to Akkal & Gonegai’s (2000) analysis, there is no referential *pro* (nor, for that matter, an EXPL *pro*) in the structure of the sentences in question.

In the analysis of these bi-clausal sentences in this chapter, I partially agree with both the analysis of Akkal & Gonegai (2000) and Demirdache (2013) in that,

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<sup>39</sup> For convenience, I will henceforth be referring to Demirdache (2013).



like Akkal & Gonegai (2000), I assume that EXPL *pro* is not merged in the IP domain in the higher clause of such constructions, but, like Demirdache (2013), I assume that there is necessarily a referential *pro* in the Spec position of the Agr<sub>S</sub> node in the lower clause and that Topic DPs are base-generated in position (*contra* Akkal & Gonegai 2000).

Demirdache's (2013: 296-297) set of assumptions can be summarized as follows. First, both the auxiliary *kaana* and a thematic verb, like *yaktubu* 'he writes' in (54) above, are morphologically 'main' verbs since they are fully inflected for tense. Demirdache (2013) assumes that both the auxiliary (merged in an AUX node and raising to an AGR node selecting it) and the thematic verb (merged in a V node and likewise raising to an AGR node selecting it) must both be dominated by a T-node (which selects both AGR nodes). Next, Demirdache (2013: 298) assumes that the Spec position of the AGR node in the higher clause is occupied by an EXPL *pro* element raised out of [Spec, AUXP] whenever cases of subject-verb agreement mismatches between the thematic verb in the lower clause and the auxiliary verb *kaana* in the higher clause occur. I come back to examples of such cases below. Thus, in such a system, to derive the VSO word order in the higher clause in such SA bi-clausal constructions where 'weak' subject-verb agreement arises, auxiliary *kaana* first moves to AGR (for Case-licensing) and then to T leaving EXPL *pro* behind in [Spec, AGRP].

Adopting such an architecture for the clause structure of sentences with complex tenses, Demirdache (2013: 299) is able to account for subject-verb agreement between a nominative topic in [Spec, TP] and the auxiliary verb *kaana* in AGR in the higher clause, as for example in (55b) and (55c), which differ from (55a) in the distribution (and status) of the 'subject' DP *hindun* 'Hind' (i.e., being either a 'real' subject as in (55a), or a Topic DP as in (55b-c)):

- (55) a. *kaan-at t-aktub-u hind-un li-xaalid-in* (SA)  
 PERF.be-3FS 3-IMPERF.write-FS.IND Hind-NOM to-Khalid-GEN  
 'Hind was writing to Khalid.'
- b. *kaan-at hind-un t-aktub-u li-xaalid-in*
- c. *hind-un kaan-at t-aktub-u li-xaalid-in*

Returning, later on, to a structural representation of sentence (55c) (for which Demirdache 2013 does not provide a structure), the representations of (55a) and (55b) are, respectively, as in (56a) and (56b) below (Demirdache 2013: 300):

(56) a.

b.

Apart from the difference in the status of the DP *hindun* in (56a) and (56b) – i.e., as a ‘subject’ DP in (56a) and as a Topic DP in (56b) –, the representation in (56a) is similar to the representation in (56b) in the Merge process of an EXPL *pro* in [Spec, AuxP] in the higher clause, and the subsequent movement of this EXPL to [Spec, AGRP2] for Case-licensing.

According to my understanding of Demirdache's (2013) system of assumptions, the structural representation of (55c) would be as in (57):

(57)

Adopting a non-movement analysis of Topic DPs in the sentence structure of SA (as in Demirdache's 2013 system of assumptions), the DP *hindun* in (57) is presumably base-generated in the higher clause in [Spec, TP1]. As can be seen in the representation provided in (57), my guess is that both [Spec, TP2] and [Spec, AUXP] remain empty (and are presumably not projected since they are not landing sites for the movement of DPs). The reason for such a derivation is that the DP *hindun* in (57),

being a Topic DP, is base-generated in the position where it is spelled out at PF. Thus, in (56c), the relation of *hindun* in [Spec, TP1] to the auxiliary verb *kaanat* in T1 is similar to the relation of *hindun* in [Spec, TP2] to the thematic verb *taktubu* ‘she writes’ in T2. Necessarily, [Spec, AUXP] remains empty (or unprojected, as I have assumed here) since the auxiliary verb *kaana* does not assign an external theta role (cf. Demirdache 2013: 300). If the representation in (57) is correct, then both the *pro* in [Spec, AGRP1] and the *pro* in [Spec, AGRP2] are referential, but differ with respect to the raising process undergone by *pro* in the lower clause from [Spec, VP] to [Spec, AGRP2], and the absence of such a raising process for *pro* in the higher clause, which would be base-generated in [Spec, AGRP1] due to the non-projection of [Spec, AUXP] in such a structure.

The subject-verb agreement configurations in the lower clause and the higher clause of a structure like (57) in terms of two referential *pro* elements, as analyzed above, can also involve a ‘rich’ morphological realization of number (appearing as a plural agreement morpheme on the verb agreeing with a plural noun) in addition to person and gender (i.e., the phonetically realized morphology on verbs agreeing with a singular noun) in such configurations. Since the framework of assumptions about functional projections within the structure of sentences in SA developed in this thesis also adopts an incorporation analysis of agreement in subject-verb agreement configurations in SA similar, in some respects, to that adopted in Demirdache (2013), I will be providing a structural representation for the sentence, in (58a) below, in terms of the split-CP domain where the Force node selects the FinP projection, which, in turn, selects the IP domain in the form of an Agr<sub>S</sub>P projection (for ease of exposition, I omit the representation of the Force(P) above the Topic DP in the higher clause. I also omit the representation of the feature structure – T-features in combination with D-features – of the functional head projections and functional elements involved in the derivation of such a sentence):

- (58) a. ?al-muʕallimuuna kaan-uu yu-darris-uuna n-naHw-a (SA)  
the-teachers-NOM PERF.be-3MP 3-IMPERF.teach-MP the-syntax-ACC  
‘The teachers were teaching syntax.’

b.

The representation in (58b) shows that the two hypothesized thematic *pro* elements (i.e., *pro* and *pro<sub>k</sub>*) occupy the Spec position of the two AgrsP projections in the two respective domains of subject-verb agreement within this bi-clausal structure. Thus,

subject-verb agreement occurs between *pro* and the auxiliary verb *kaanuu* in the higher clause, and between *pro<sub>k</sub>* and the thematic verb *yudarrisuuna* ‘they teach’ in the lower clause. The two subject-verb agreement relations are structurally related in that they are both anaphorically relating a referential *pro* element, within their respective IP/Agr<sub>S</sub>P domains, to the Topic DP *ʔalmuʕallimuuna* ‘the teachers’ in the split-CP domain of the higher clause.

Within the framework of assumptions adopted in this thesis, as well as the framework of assumptions Demirdache (2013) adopts, this anaphoric relation is the direct consequence of the tense properties involved in the subject-verb agreement configurations established within this bi-clausal structure. Ultimately, the analysis presented here supports the basic thesis I have been developing in this and the previous chapters – namely, that it is by virtue of the T-dependency and the feature structure of functional elements that the derivation and representation of sentences is achieved.

Now, there is a special subject-verb agreement configuration where Demirdache’s (2013: 301) EXPL-*pro* replacement at LF (which she assumes is the counterpart of *there*-insertion constructions in English) and the accompanying assumption about the presence of an AGR node the Spec position of which is occupied by the EXPL *pro* seems to be problematic. The bi-clausal sentence in (59a) below, represented as in (59b), cannot be dealt with in a framework of assumptions where EXPL-*pro* replacement is assumed to be operative:

- (59) a. *kaana hunaaka muʕallimuuna yudarrisuuna* (SA)  
 PERF.be-3MS there teacher.INDEF-NOM 3-IMPERF.teach-MP  
*n-naHwa*  
 the-syntax-ACC  
 ‘There were (some) teachers teaching syntax.’

b.

Before accounting for why the bi-clausal structural representation in (59b) is problematic for an EXPL-replacement account in SA, let us come back to structure (7) in section 4.1.2.1 (repeated below, with some omissions, as (60b)), which was provided as an alternative representation to Aoun *et al.*'s (2010: 71) structure for a sentence like (60a) below:



- (60) a. *kaan-a hunnaka Taalib-un fii l-Hadiiqat-i* (SA)  
 PERF.be-3MS there student.INDEF-NOM in the-garden-GEN  
 ‘There was a student in the garden’.

b.

According to structure (60b) for sentence (60a), the locative pro-form *hunnaka* ‘there’ is merged in [Spec, TP] to satisfy the EPP while the thematic subject (i.e., the DP *Taalibun* ‘a student’) remains lower in the Spec position of the PP small clause selected by V.

Granting that the representation in (60b) is correct, if EXPL *pro* can be merged as the subject with which auxiliary *kaan-a* is ‘partially’ agreeing in 3<sup>rd</sup> person masculine agreement features, the Spec position EXPL *pro* would occupy would be [Spec, FinP], the head position of which the auxiliary verb adjoins to (since, as (60b) shows, the Spec of the highest functional projection within the IP domain – i.e., [Spec, TP] – is already occupied). However, contrary to assumptions developed in section 4.1.2.1 (see also section 4.3), this configuration would give rise to a case of a V2 configuration as in the case of German matrix V2 constructions with lexical or

EXPL subjects phonetically realizing the Spec position of FinP. Since the VSO phenomenology of a V-raising language like SA only exemplifies a weak version of the V2 configuration (cf. Carnie *et al.* 1994; see section 4.1.2.1 above), [Spec, FinP] need not – hence, must not – be occupied. In addition, the assumption of filling up [Spec, FinP] of a structure like (60b), as the highest specifier position in the structure of a matrix VSO sentence in SA under this alternative analysis, would go against the premise adopted in this thesis that the EPP, in SA, can only be satisfied within the IP domain – i.e., by the raising of a lexical subject to [Spec, TP], or the Merge of EXPL *hunaaka* ‘there’ in such a VSO configuration, and in [Spec, Agr<sub>S</sub>P] in SVO configurations by the raising of a referential *pro* out of [Spec, vP/VP] to that position.

Given that the structure provided in (59b) above is bi-clausal, the lower clause projects as ForceP, where Force selects FinP and the Fin head selects IP (realized as Agr<sub>S</sub>P). Assuming, for the sake of argumentation, that the bi-clausal sentence in (59a) can be derived within a structure like (56b) above (i.e., according to Demirdache’s 2013 conception of the derivation of such bi-clausal constructions with EXPL *pro* sitting in [Spec, AGRP1]), then we could allow for *hunaaka* to be base-generated in [Spec, TP2]. In such a structural representation for sentence (59a), the verb *yudarrisuuna* ‘they teach’ will raise up to AGR2 and stop in that position. In such a case, the verb would get its tense features – located in T2 – by some head-head agreement relationship, which would operate whenever V-to-T does not operate, as is common in languages with strict SVO word order (like English). This derivational scenario is necessarily correct since the DP *muʃallimuuna* ‘teachers’, being INDEF cannot be a Topic. Thus, the DP *muʃallimuuna* in (59a) is raised out of [Spec, VP] (or [Spec, vP] in the corresponding structural position in the tree structure I have provided in (59b)) to [Spec, AGRP2] (corresponding to [Spec, Agr<sub>S</sub>P] in (59b)) as the structural subject position in the lower clause, which V in the higher clause of the bi-clausal construction (59a), selects.

If this reasoning about the derivation of a sentence like (59a) within the framework of assumptions adopted by Demirdache (2013) is correct, then we would have to account for the problematic nature of EXPL-*pro* replacement within the structure of such a sentence. In that framework, the ‘closest’ Spec position to the DP *muʃallimuuna* ‘teachers’ in [Spec, AGRP2] is the next higher Spec position above

[Spec, AGRP2], i.e. (according to the system of the formation of A-dependencies in the grammar of languages and the strict local character of DP-movement), [Spec, TP2]. Thus, in the derivation of such subject-verb agreement configurations – within Demirdache’s 2013 framework of assumptions – what seems to be ‘replaced’ is the locative pro-form *hunaaka* ‘there’ in [Spec, TP2] and not the hypothesized EXPL *pro* sitting in [Spec, AGRP1] in a structure like (56b) above (and in the corresponding representation of the bi-clausal sentence (59a) in Demirdache’s 2013 system of assumptions for the derivation of such a sentence, which would allow for the Merge of EXPL *pro*).

The analysis I have provided for sentence (59a), as represented in (59b), as an alternative account of the derivation of subject-verb agreement configurations in the structure of bi-clausal sentences in SA (where the DP *muṣallimuuna* ‘teachers’, being INDEF cannot be a Topic, but only a ‘subject’) is also interesting in another respect in that it seems to confirm Fassi Fehri’s (1993: 16, 18) intuition about SVO structural configurations in which there are instances where an initial, subject-related DP can be hypothesized to have been moved to [Spec, IP] (or [Spec, Agr<sub>S</sub>P]) instead of being considered as a Topic DP within a clitic left-dislocated structure (see footnote 18 in Chapter Two).

However, the cases of subject-verb agreement discussed in Demirdache (2013: 299-304) seem to be evidence of some kind for EXPL-*pro* replacement in the cases where a DP other than the subject-related DP, base-generated in the Topic position [Spec, TP2] (in Demirdache’s 2013 system of assumptions), intervenes between auxiliary *kaana* and the subject-related DP, as in (61a-b) (from Demirdache 2013: 301-304):

- (61) a. *kaana/\*kaan-at*                      *xaalid-un<sub>i</sub>*    *t-aktub-u*                      (SA)  
           PERF.be-3MS/PERF.be-3FS Khalid-NOM 3-IMPERF.write-FS.IND  
           *la-hu<sub>i</sub>* (*hind-un*)  
           to-him (Hind-NOM)  
           ‘Khalid, she (Hind) was writing to him.’
- b. *kaan-at/\*kaana*                      *hind-un<sub>i</sub>*    *y-aktub-u*  
           PERF.be-3FS/PERF.be-3MS Hind-NOM 3-IMPERF.write-MS.IND  
           to-her (Khalid-NOM)  
           *la-haa<sub>i</sub>* (*xaalid-un*)  
           ‘Hind, he (Khalid) was writing to her.’

According to Demirdache (2013: 301-303), the mismatch in the agreement morphology, in (61a), on the thematic verb *taktubu* ‘she writes’ in the lower clause and on the auxiliary verb *kaana* ‘he was’ in the higher clause, and, similarly, in (61b), on the thematic verb *yaktubu* ‘he writes’ in the lower clause and on the auxiliary verb *kaanat* ‘she was’ in the higher clause is evidence that there is an EXPL *pro* with which the object Topic DP agrees given that, at LF, it is this Topic DP that replaces EXPL *pro*.

However, these cases of ‘weak’ subject-verb agreement only arise whenever a DP element, which is not the subject or a subject-related element, intervenes in the anaphoric relation that binds the thematic verb, in the lower clause, to the auxiliary verb, in the higher clause, in such bi-clausal constructions. Given the locality of agreement relations in both A- and A’-dependency relations, it makes sense that the verb picks up the ‘closest’ DP element in the clause, with which it ultimately agrees in person and gender at the interface. In this case, the subject DP that the auxiliary verb (i.e., *kaana* in (61a) and *kaanat* in (61b)) agrees with is the ‘intervening’ object DP *xaalidun* in (61a) and *hindun* in (61b). According to the system of assumptions for the derivation of VSO sentences adopted in this thesis, this ‘intervening’ DP would be merged in [Spec, TP] in the higher clause of a structure like (59b) above to satisfy the EPP in that position.

Whenever no problem of intervention in agreement relations arises in VSO structural configurations in SA, the subject-verb agreement configuration, in which the partially agreeing verb is involved, will show no restrictions on either encoding third person masculine singular agreement features or third person feminine singular agreement features. This account can be upheld by reference to evidence provided in Fassi Fehri (1993: 38-39), (see examples (55a-b) in section 3.3.4):

- (62) a. ?inna-hu            zaara-nii            thalath-u            shaaʕiraat-in            (SA)  
           that-EXPL.3MS   visited.3MS-me   three.M-NOM   poets.F-GEN  
           Literally: ‘It visited me three poets’
- b. ?inna-ha            zaarat-nii            thalath-u            shaaʕiraat-in  
           that-EXPL.3FS   visited.3FS-me   three.M-NOM   poets.F-GEN  
           Literally: ‘It visited me three poets’

In these sentences, the verb can either agree in third person **masculine** singular (i.e. *zaara* ‘they(M) visited’) or third person **feminine** singular (i.e. *zaarat* ‘they(F) visited’). The same is true of the EXPL pronominal clitic *-hu/-ha* attached to the

complementizer *ʔinna* ‘that’. Other cases of such ‘freedom’ of subject-verb agreement in SA VSO word order have been provided in section 3.3.4.

In Chapter Two and Chapter Three, I have developed an analysis whereby EXPL *pro*, as an empty category, is assumed to be absent in the syntax of VSO sentences in SA (vs. its presence in the syntax of VSO sentences in TA or MA, as developed in this thesis). This analysis has been based on the corollary that the micro-parametric difference between TA, or MA, and SA in the derivation of subject-verb agreement configurations in VSO sentences is linked to the non-projection of the Agr<sub>S</sub>(P) projection in SA as opposed to the necessity of the projection of Agr<sub>S</sub>(P) in TA and MA.

In Chapter Two and Chapter Three, I also followed Chomsky (1995b, 2001, 2004) and Roberts (2010a,b) in the assumption that *pro* elements (referential or expletive) are D categories (see also Demirdache 2013: 287-289 for a similar assumption within the framework of her incorporation analysis of subject agreement in SA). In my analysis of subject-verb agreement configurations, these elements can only be syntactically represented at PF in the Spec position of an Agr<sub>S</sub> node (either by first Merge as in the case of EXPL *pro*, or by second Merge as in the case of referential *pro*). Nevertheless, although both referential *pro* and EXPL *pro* are D heads merged in a Spec position, referential *pro* differs from EXPL *pro* in that referential *pro* only has agreement features of its own, much the same as lexical DPs. As for EXPL *pro*, it is devoid of  $\phi$ -/Agree-features, but has a D-feature (which is also its categorial label) – a property that makes it similar to EXPL *there* (Chomsky 1995a,c; Roberts 2010b) save for the difference in the phonetic realization of the two items – i.e., phonetically not realized in the case of EXPL *pro* in a null subject language (e.g. TA or MA in the analysis adopted in this thesis), but the mandatory phonetic realization of EXPL *there* in the subject position of the clause of English, as a non-null subject language.

Combining the assumption, adopted here, that EXPL *pro* is not represented in the IP domain in the sentence structure of VSO constructions in SA and Demirdache’s (2013) assumptions as to the incorporation of agreement morphemes onto the head that precedes them, EXPL *pro*, as a D element, would still have some kind of *raison d’être* in the sentence structure of VSO constructions in SA since it can be realized as a 3<sup>rd</sup> clitic pronoun in such instances where it can ‘incorporate’ on some lexical

element (such as complementizer *ʔinna* ‘that’ in (63a-b) below) phonetically realizing a higher functional head projection potentially merged within the structure of matrix sentences in SA above IP (see section 3.3.4):

- (63) a. *ʔinna-hu kaan-a hunaaka Taalib-un* (SA)  
 that-EXPL PERF.be-3MS there student.INDEF-NOM  
*fii l-Hadiiqat-i*  
 in the-garden-GEN  
 ‘It is indeed the case that there was a student in the garden.’
- b. *ʔinna-hu kaan-a hunaaka muʕallimuuna*  
 that-EXPL PERF.be-3MS there teachers.INDEF-NOM  
*yudrarrisuuna n-naHwa*  
 3-IMPERF.teach-MP the-syntax-ACC  
 ‘It is indeed the case that there were (some) teachers teaching syntax.’

In (63a,b) and, likewise, in (59a) and (60a) above, the assumption I have adopted in this thesis is that EXPL *pro* is not merged at the highest level of the IP domain since the higher clause exemplifies the VSO word order, in which, as I have assumed, the Agr<sub>S</sub> node and its maximal projection are not derived. As the structures given in (59b) and (60b) show, the verb is higher than the IP domain, which projects as a simple TP structure where [Spec, TP] is occupied by the locative pro-form *hunaaka* ‘there’. As discussed in relation to structure (59b) and (60b) above, in (59b), the DP *muʕallimuuna* ‘teachers’ is in [Spec, Agr<sub>S</sub>P] as the structural subject position in the lower clause, which V, in the higher clause of the bi-clausal construction (59a), selects. As for the DP *Taalibun* ‘a student’ in (60b), it is in the Spec position of the PP small clause selected by V.

On the new proviso (defended in this thesis especially in light of such evidence as provided in (59) and (60) above) that the (auxiliary) verb, in the structure of VSO sentences, is higher than the highest functional projection within the IP domain, I have entertained the idea that the EXPL element *-hu*, which cliticizes onto a matrix complementizer like *ʔinna*, as shown in sentences (62a-b) and (63a-b), would be some form of phonetic realization of the otherwise non-merged EXPL *pro* within the structure of these sentences.

The assumption that the D-feature of some functional head element (like EXPL *pro* in the present analysis) can get some form of phonetic realization (i.e., third person masculine/feminine morphology in the case at hand) is not new. Citing

Borg & Azzopardi-Alexander (1997), Benmamoun (2000b: 79) accounts for the phonetic realization of negative *ma(a)* as *mhux* in the Maltese Arabic negative sentence in (64) below, as follows:

- (64) Hutek mhux sejr in ghalissa (Maltese Arabic)  
Siblings.2S NEG.3MS going for-now  
'Your brothers and sisters are not leaving.'

“*mhux* is composed of the discontinuous *ma-x* and the pronominal *-hu*, which carries the third masculine singular features. The latter features are exactly the features that realize expletive pronouns in Arabic and are plausibly a realization of the [+D] feature of negation.”

Such a process of the phonetic realization of some D-feature as 3<sup>rd</sup> person singular features in Benmamoun's (2000b) account of the feature structure of functional elements in Arabic is also exemplified by evidence coming from Arabic dialects in the Gulf region where the NEG element *ma(a)* can vary according to gender: *mu/mi* (Benmamoun 2000b: 79-80, citing Holes 1990: 73):

- (65) haadhi mi                      zoojt-i                      (Gulf Arabic)  
       this    NEG.3FS wife-my  
       ‘This is not my wife.’

Benmamoun (2000b: 80) comments on such a sample example as follows:

Holes (1990) ... states that the negative *mu* is made up of *ma* and the third masculine singular pronoun *hu* and *mi* is made up of *ma* and the third feminine singular pronoun *hi*. Within the present analysis, the difference between dialects where negation varies according to gender has to do with the feature structure of negation. In the former dialects negation is not specified for gender while in the latter it is specified to gender. This is exactly what we expect if negation carries categorial nominal features.

According to the feature-based analysis adopted in this thesis, the variation in question is not to be understood merely in terms of Benmamoun's (2000b) [+D] feature. This variation seems to be of a more general character within the sentence structure of Arabic taking the form of a more general [*i*F]-feature not exclusively linked to 'focus' (i.e., the [*i*F] feature, which I have assumed is a property of

functional head elements in the so-called ‘focus’ field of the split-CP domain (Poletto 2000b and Benincà & Poletto 2004) in particular) and to the (negative) assertiveness force, which has the property of linking [*iF*] to clause type and ultimately to the [*iT*] feature of *Fin* at the lower end of the split-CP domain (cf. R&R’s account of the [+*Fin*] feature of *Fin*). The [*iF*] feature would also have a bearing on ‘topicalization’ processes as in the case of the EXPL clitic head *-hu* in [Spec, TopP], but in such ‘topicalization’ cases, it would take the more specific form of an [*iD*] feature at the highest level of the structure of VSO sentences with a matrix complementizer like in SA (according to the present analysis). As noted in Chapter Three (see section 3.3.4), it could be the case that some dialects of Arabic have retained some of the properties that are somewhat special to the standard variety, such as, in particular, the subject-verb agreement asymmetry in VSO vs. SVO sentences, but still showing evidence of the agreement patterns that are common in the dialects, as against the standard variety.

However, the common characteristic of such processes is that they basically involve head-head Agree relations in terms of interpretable features that need only be ‘identified’ within the structure where they are being merged. In the system of assumptions developed in this thesis about the identification of features on the functional heads, neither the varying [*iF*] feature I have assumed is involved in the ‘identification’ of features in the ‘focus’ field of the split-CP domain, nor the [*iD*] feature of the Top head and the associated [*iD*] feature of the EXPL clitic element *-hu* is related to any Case-requirement or to the satisfaction of the EPP.

In the Agree feature-based account of the data presented above, the *raison d’être* of the element endowed with such an [*iF*] feature is to phonetically realize some X head within the split-CP domain of the relevant varieties of Arabic for the expression of some information-related property of the element, such as ‘focus’ or (negative) assertiveness. As far as the EXPL clitic element *-hu* is concerned, the process by which EXPL *pro* can be phonetically realized in the split-CP domain, to which the verb in VSO subject-verb configurations has raised, would be a special case of a more general process of the phonetic realization of such functional elements within this domain of sentence structure. On this account, the variation in question would concern some additional functional feature of a more general character, either linked to ‘focus’ or to the proposition being asserted, as in the case of the [*iF*] feature



of negation, or linked to some [*i*D] feature, as in the case of the EXPL clitic head *-hu* in [Spec, TopP], under the assumptions of the present analysis.

Ultimately, whether the licensing of the relevant features on functional elements (with the varying interpretability values of these features, as for example [*i*D] on Top vs. [*u*D] on Agr<sub>S</sub> as developed in this thesis) involves identification or valuation within the relevant domains where they are being merged, this licensing process is conducive to the general purpose of the derivation of sentences in the grammar of a particular language, i.e., the generation of agreement configurations in the broad sense of the term (subject-verb agreement being the prototype).

Returning to the claim of a bi-clausal structure for the sentences in (51a) and (51b) – as represented in (52a) and (52b), respectively – , Akkal & Gonegai (2000: 13-14) maintain that, in constructions containing both a main verb, in a lower clause, and an auxiliary verb *kaana* (which they refer to as a ‘temporaliser verb’ inserted under T), in a higher clause, the tense of the auxiliary is ‘referential’, while the tense of the main verb is ‘anaphoric’: “Hence, the anaphoric tense on the main verb draws its temporal content from the referential tense of the temporaliser” (Akkal & Gonegai 2000: 14). The argument that applies to auxiliary *kaana* should logically also apply to the ‘negative auxiliary’ *laysa* (and by extension to the NEG element *maa*, save for the Merge of *maa* in Foc). As the structures in (52a) above, and (66b) below show, the same head-raising processes apply in the derivation of both kinds of VSO sentences involving *laysa* raised to Fin in (52a) and *kaana* raised to that same node in the split-CP domain in (66b):

- (66) a. *ʔinna-hu kaana-t ʔal-ʔumahaat-u ya-Drib-na* (SA)  
           that-it PERF.be-3FS the-mothers-NOM 3-IMPERF.hit-FP  
           *ʔawlaad-a-hunna*  
           boys-ACC-their  
           ‘The fact is that mothers used to hit their children.’

b.

In (66a), the auxiliary used is *kaana* merged in V in the higher clause. It raises to attach to *v*, and the complex [V-*v*] raises to T. As discussed in section 3.3.2.3, auxiliary *kaana* has a certain [+F] feature that is involved in the dependency relations and in predication as auxiliaries link to T for interpretation at the interface. Roberts (2010a: 162) characterizes such a [+F] feature as an [iT] feature. According to Roberts (2010a: 162), auxiliaries lack V-features but bear interpretable T features, which trigger them to raise to T. In the probe-goal-Agree system proposed here, the auxiliary *kaana* first attaches to *v* and subsequently raises further up to T. Then, the

inflectional complex [V-*v*-T] ends up attached to Fin, partially inflected for third person feminine agreement at Spell Out (see the discussion of (51a) and (53) above).

As was the case in (51a), The DP *ʔal-ʔumahaat-u*, in (66a), has the status of Topic in [Spec, TopP] and is co-referential with *pro* base-generated in [Spec, AgrsP]. Given the Merge of the DP *ʔal-ʔumahaat-u* as a Topic in the specifier of TopP, the complementizer *ʔallaatii* cannot be merged in a sentence like (66a) with auxiliary *kaana* without giving rise to an ungrammatical result (\**ʔinna-hu kaana-t ʔal-ʔumahaat-u ʔallaatii yaDrib-na ʔawlaad-a-hunna*). On this account, the minimal contrast between structure (66b) with auxiliary *kaana* and structure (52a) with the NEG auxiliary element *laysa*, in relation to the possibility of merging complementizer *ʔallaatii*, may boil down to a difference in the feature structure of *laysa* as against the feature structure of *kaana*. That is, whereas *laysa* in (52a) (and likewise for *maa* in (52b)) is generated with a focus feature denoting ‘contrastive focus’ (Ouhalla 1993: 296-297; Benmamoun 2000b: 109 in relation to *maa*), as the translation of sentence (66a) shows, auxiliary *kaana* does not have such a feature.

A similar analysis as has been argued for sentences (51a) and (66a) applies to the corresponding sentences (67a) and (68a) below, respectively, where the DP *ʔal-ʔumahaat-u* is merged as a Topic DP in [Spec, TopP] in the higher clause ((67b) and (68b) are the structural representations for (67a) and (68a), respectively):

- (67) a. *ʔinna ʔal-ʔumahaat-a las-na ya-Drib-na* (SA)  
           that-it the-mothers-ACC NEG-3FP 3-IMPERF.hit-FP  
           *ʔawlaad-a-hunna*  
           boys-ACC-their  
           ‘The fact is that mothers do not hit their children.’

b.

Sentence (67a) is similar to sentence (51a). However, the main difference between the two sentences is that, in sentence (67a), the contrastive focus interpretation for sentence (51a) (with the NEG element *laysa-t* raised to Fin) disappears. The difference in interpretation between (51a) and (67a) makes sense if what is primarily relevant in the derivation of sentence (67a) is the topicalization process of the DP *?al-?umahaat-a* in the Spec position of a TopP projection in the higher clause at Spell Out as represented in (67b). In this case, the auxiliary verb *laysa* is fully inflected for subject-verb agreement (i.e., *lasna*) and it does not leave the IP domain of the higher

clause (projected as AgrsP). Sentence (67a) above would thus be the present tense ‘neutral’ negative counterpart of sentence (68a) with auxiliary *kaana*:<sup>40</sup>

- (68) a. ?inna ?al-?umahaat-a kun-na ya-Drib-na (SA)  
 that the-mothers-ACC PERF.be-3FP 3-IMPERF.hit-FP  
 ?awlaad-a-hunna  
 boys-ACC-their  
 ‘The fact is that mothers used to hit their children.’

b.

In (68a), the auxiliary used is *kaana* merged in V in the higher clause. It raises to attach to *v*, and the complex [V-*v*] raises to T. The inflectional complex [V-*v*-T] ends

<sup>40</sup> The word ‘neutral’ here is meant to express the idea that no contrastive focus is implied in (67a) or (68a).

up attached to Agr<sub>S</sub> where the auxiliary *kaana* is realized as *kunna* at Spell Out since it is fully inflected for subject-verb agreement.

The negative counterpart of (68a) (kept in the past tense) could either yield a sentence like (69a) or like (69b):

- (69) a. ?inna ?al-?umahaat-a maa kun-na ya-Drib-na (SA)  
           that-it the-mothers-ACC NEG PERF.be-3FP 3-IMPERF.hit-FP  
           ?awlaad-a-hunna  
           boys-ACC-their  
           ‘The fact is that mothers did not used to hit their children’
- b. ?inna ?al-?umahaat-a lam ya-kun-na  
           that-it the-mothers-ACC NEG.Past 3-IMPERF.be-FP  
           ya-Drib-na ?awlaad-a-hunna  
           3-IMPERF.hit-3FP boys-ACC-their  
           ‘The fact is that mothers did not used to hit their children’

Whereas sentence (69a), with *maa* as the element used to negate sentence (68a), can have the ‘negative contrastive focus’ interpretation, sentence (69b), with *lam* as the NEG element, cannot have that interpretation (cf. Benmamoun 2000b: 109). Thus, according to the analysis provided in sections 4.1.2.5.2 and 4.1.2.5.3, the ‘focus’ [*i*F] feature that I have assumed to be a characteristic of all NEG elements in SA is, nevertheless, a feature that can be associated with a contrastive interpretation of the verbal event or situation it is associated with.

In section 4.1.2.6 below, I continue with the discussion of the interaction of tense and modality in SA matrix sentences in such instances where the first element in the sentence is a subject-related Topic DP directly merged in [Spec, TopP].

#### 4.1.2.6. The interaction of tense and modality in the derivation of SA SVO sentences

Putting aside the discussion of negation in SA sentences (irrespective of VSO or SVO word ordering), contrary to the derivation of VSO sentences in SA, as discussed in section 4.1.2.2, in a SVO structure as represented in (70b) below, the fully-inflected verb does not raise further than the Agr<sub>S</sub> node, the specifier position of which is occupied by a referential *pro*:

#### (70) SA SVO

- a. ?al-?awlaad-u qad jaa?-uu  
    the-boys-NOM MOD PERF.come-3MP  
    Lit.: ‘As for the boys, they indeed came.’

b.

Recall from Chapter Two (sections 2.1.2.3.2 and 2.1.2.3.3) that I am adopting an analysis of SVO sentences in SA whereby the initial DP *?al-?awlaad-u* ‘the boys’ in such sentences is a Topic DP base-generated in [Spec, TopP] in the split-CP domain, as represented in (70b). The Top head projection in the split-CP domain is endowed with an [*iD*] feature that allows the Top node to function as the repository of a ‘higher predication’ relation in connection with subject-verb agreement and the EPP in the IP domain (cf. Rizzi 1997: 287).

In addition to the essential link between the Topic DP *?al-?awlaad-u* and the subject inflection *-uu* on the verb *jaa?-uu* ‘they came’, which resumes the Topic DP, in (70b), it is by virtue of its intrinsic [*iD*] feature that the ‘resumptive’ *pro* in [Spec, AgrsP] functions as an agreement link, within the IP domain proper, between [*uD*] on Agrs and  $\phi$ -feature valuation/EPP satisfaction within the V-*v*-T-Agrs verbal inflectional complex.

#### 4.1.3. Summary

In this section, I have dealt with the derivation of VSO and SVO structural configurations in SA whereby Focus and Topic elements interact with tense/modality properties of sentences for the satisfaction of the C-(Agr<sub>S</sub>)-T dependency and the identification of the relevant features. In the derivation of the sentences in question, the morphological manifestation of Tense and subject-verb agreement in SA is thus determined via the head-head and/or Spec-head agreement relations involved in the Merge and raising processes linking the IP domain to the split-CP domain.

In this respect, I have assumed that the derivation of VSO sentences, in SA, involves the raising of the verb to the Fin node projecting at the lower part of the split-CP domain. In SA VSO word order, Fin selects a TP that does not further project to Agr<sub>S</sub>P. In the absence of the functional Agr<sub>S</sub> node in SA VSO word order, the verb, raised to T and partially agreeing with the subject DP raised out of [Spec, vP/VP] to [Spec, TP], further raises to Fin. I have assumed, following R&R, that this raising process is in response to the identification of some [+Fin] feature (which I reinterpreted in terms of an [*i*T] feature on Fin) similar to the interpretable T-feature of T in the IP domain. The head-head agreement configuration, which arises as the outcome of the selectional relation that links T to Fin, satisfies the C-T dependency in such VSO instances. The possibility of merging tense/modal particles such as the modal *qad* (as discussed in section 4.1.2.3) or the NEG elements *lam* and *lan* (as discussed in section 4.1.2.5. above) under the relevant functional nodes that project above FinP in these configurations is further evidence that the verb does not raise further than the Fin head projection in the structure of the split-CP domain (*contra* Aoun *et al.* 1994, 2010).

As for the derivation of SVO structural configurations in SA, I have assumed that it involves the base-generation of ‘subject’ DPs as Topics in the left-periphery. In this case, full subject-verb agreement and the satisfaction of the EPP in the IP domain follow from the presence of a referential *pro* with an intrinsic [*i*D] feature in [Spec, Agr<sub>S</sub>P], which not only links the uninterpretable D-feature on Agr<sub>S</sub> (i.e., [*u*D] on Agr<sub>S</sub>) to  $\phi$ -feature valuation and the satisfaction of the EPP at the IP domain, but also satisfies the C- Agr<sub>S</sub>-T dependency at Spell Out by linking [*i*D] on the Top node projected in the split-CP domain to the V-v-T-Agr<sub>S</sub> complex in IP.



The projection of Force and Fin, at opposite sides of each other in the split-CP domain in matrix sentences in SA, is a necessary condition for the derivation of such sentences. It accounts for the default [+declarative] interpretation these sentences get at the interface irrespective of whether the matrix complementizer *ʔinna* is inserted under Force or not. In the presence of an interrogative yes/no marker (i.e., SA *ʔa* or *hal*), Force – signalling the [+interrogative] clause type – links to the T-features in Fin for the well-formedness the C-T dependency.

A similar account has been shown to hold of sentences where a NEG element is merged in the split-CP domain whereby the Merge process of the marker of negation not only accounts for clause type (i.e., interpreting the sentence as [+negative]), but also for negative assertiveness as the sentence is interpreted at the interface. An additional contrastive focus interpretation is brought about in sentence structure by the NEG element *maa*, merged in Foc, and the NEG element *laysa* – in the cases where the latter is raised to the CP domain.

In section 4.2 below, I discuss the derivation of wh-dependencies in the split-CP domain of SA involving Topics and Focused elements and the differences between SA and TA in the derivation of such dependencies.

## **4.2. The derivation of wh-dependencies in Arabic: SA vs. TA**

### *4.2.1. Introduction*

The evidence discussed in this section suggests that the derivation of wh-dependencies in SA exploits the different specifier and head positions provided by the splitting of the CP domain (Rizzi 1997). In contrast, TA does not resort to specific specifier or head C-positions. Rather, TA makes use of adjunction of A'-moved elements to the left of IP/AgrsP.

As far as the derivation of wh-dependencies in Arabic is concerned, I reinterpret Ouhalla's (1993) 'morphological' identification of the features involved in such wh-dependencies capitalizing on the assumption that only one feature needs to be structurally licensed on Foc – namely the [WH]-feature (represented as an interpretable [*i*WH] feature on the moved wh-word, but as an [*u*F] uninterpretable feature on Foc). This [*u*F] feature corresponds to Chomsky's (2008) 'edge' feature on C, which Chomsky (2008: 148) characterizes as different from the Agree-feature (or  $\phi$ -features) that originates on C and is passed down to T in relation to the satisfaction

of the EPP at the IP level in English. Nevertheless, this Spec-head agreement mode of licensing, in which the [ $\mu$ F] feature on Foc gets valued, represents one of two modes of licensing co-existing in the derivation of wh-dependencies. The second mode of licensing applies between Foc and the Fin head in terms of a head-head agreement mode of licensing, which generalizes to any node that projects within the ‘focus sublayer’ of the SA split-CP domain relating Fin to the nodes that project above it for the well-formedness of the C-T dependency. In section 4.2.2, I deal with wh-dependencies in SA where Topic DPs have to be higher than focused/wh-elements. In 4.2.3, I have a look at the absence of the strict ordering between a left-dislocated element and a wh-element in TA.

#### 4.2.2. *Wh-dependencies in SA and the strict Topic DP, wh-element word order*

In this section, I deal with the derivation of wh-dependencies in SA. The evidence discussed here suggests that wh-elements are internally merged in [Spec, FocP] (in the cases where wh-movement occurs) or base-generated in [Spec, ForceP] (in some cases of wh-question formation and in relativization where a complementizer element has to morphologically realize the Force head). The derivation of such wh-dependencies shows that a wh-word has to follow a Topic DP in SA.

Thus, in the SA wh-questions in (71) below, only (71a) (structurally represented as in (72)) is grammatical:<sup>41</sup>

- (71) a.  $\text{ʔal-ʔabaaʔ-u}$        $\text{man}$   $\text{ya-Drib-uuna?}$       (SA)  
          the-parents-NOM   who   3-IMPERF.hit-MP.IND  
          ‘Parents, who do they hit?’
- b. \* $\text{man}$   $\text{ʔal-ʔabaaʔ-u}$        $\text{ya-Drib-uuna?}$   
          who the-parents-NOM   3-IMPERF.hit-MP.IND  
          Lit.: ‘Who, parents, do they hit?’

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<sup>41</sup> I come back to a discussion of (71b) repeated as (73b) below.

(72)

In structure (72), the initial DP *?al-?abaa?-u* ‘parents’ is base-generated in [Spec, TopP] in the split-CP domain, resumed in the IP domain by the subject inflection on the verb *yaDrib-uuna* ‘they hit’. The Topic DP is co-referential with a ‘resumptive’ *pro* raised out of the subject position in [Spec, vP] for EPP satisfaction at the IP/AgrsP

level. The structure also shows the wh-movement of an object DP.<sup>42</sup> According to Rizzi (1997: 298), wh-elements (question operators, but not relative operators) occupy the Spec of FocP in between Rizzi's (1997) two TopP projections.<sup>43</sup>

As far as a representation like (72) is concerned, I follow Ouhalla (1993) in the assumption that feature identification applies in terms of a certain set of features on a head F, maximally projecting to FP (= FinP in R&R's account and FocP in Aoun *et al.*'s 2010 analysis), that interact for an adequate construal, at the interface, of the particular structure (i.e., clause type: wh-question, yes/no question, negative sentence, declarative sentence, and so on) being derived. In Ouhalla's (1993: 282–283) own terms, the head F is “specified for both the feature [+wh] which characterizes wh-phrases (and wh-questions), and the feature [+F] which characterizes f-phrases (and sentences with focus)”.<sup>44</sup> In this sense, the licensing conditions that Ouhalla (1993: 297) assumes to be operable in the derivation of sentences in SA in terms of the Identification Requirement are generalizable to all structural configurations involving the interaction of some element merged into the structure with the modal/tense properties of the sentences in question. This is true of particles inserted into the structure of the sentence to signal some focus property of the sentence, as in negation, or of a wh-word moved to some peripheral position to satisfy what Rizzi (1996, 2006) calls Criteria.

However, Ouhalla's (1993) [+F] feature would be an intrinsic property of a functional head different from the head Fin (not represented in (72) for ease of exposition, see footnote 42). As discussed in section 4.1.2.4, in relation to the feature structure of functional projections within the split-CP domain, the label [+F] could be characterized as some additional property of the nodes that project in the ‘Focus sublayer’ of the split-CP domain of SA which relates to the ‘inflectional’ feature(s) on Fin, as the structure is being derived, for the well-formedness of the C-T dependency

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<sup>42</sup> For ease of exposition, I do not represent the FinP and ForceP projections in (72) in the split-CP domain of the structure (the same applies to (77) below). As discussed in section 4.1.2.4, Ouhalla's (1993) [+F] feature is structurally related to Fin, which, in the present analysis, is the repository of the [iT] features or R&R's [+Fin] feature.

<sup>43</sup> As Rizzi (1997: 298) points out, relative operators in English/Italian occupy [Spec, ForceP]. I discuss relativization in SA in this section below

<sup>44</sup> Ouhalla's (1993) assumption of the interaction of two types of features in the derivation of wh-dependencies or focus structures is inherent to Chomsky's (1995b: 289–290) account of wh-movement whereby wh-moved elements are assumed to have intrinsic wh-features that are comparable to the intrinsic  $\phi$ -features of DPs. At the same time, wh-elements are assumed to have an interpretable Q-feature (comparable to the D-feature of DPs) that matches an uninterpretable Q-feature on C.

at the interface. When Focus projects maximally as FocusP with a Spec position in the derivation of wh-dependencies, as discussed here, it seems that Ouhalla's [+F] and [+WH] features on the head F (for the Merge of focused and wh-elements in his analysis) are actually one and the same 'focus' feature on the Foc head (*contra* Ouhalla 1993: 282–283).

This 'focus' [+F] feature is uninterpretable on Foc (i.e., [ $\mu$ F]) in wh-dependencies between interrogative wh-words and the Foc head. However, as discussed in section 4.1.2.5, this 'focus' feature is interpretable on Neg (i.e., [ $i$ F]) (see also footnote 47 below). On this account, the [ $\mu$ F] feature on the Foc head, seems to be involved in two separate but, nonetheless, interrelated licensing processes: a Spec-head agreement process for the 'checking' or valuation of the uninterpretable [ $\mu$ F] feature on Foc in relation to the interpretable wh-feature of the raised wh-element (which values it), and a head-head agreement process for the identification of the C-T dependency linking Foc to the finiteness/tense features of the Fin head (i.e., [ $i$ T]) on T and Fin), projecting in the lower part of the split-CP domain (cf. R&R: 141).

The licensing conditions on these nodes are, first and foremost, conceived of in terms of head-head agreement configurations on the basis of the feature structure of these nodes. Nevertheless, these licensing conditions apply somewhat differently in the representation of wh-dependencies at the interface in that an additional Spec-head agreement process has to apply for the valuation of a certain uninterpretable feature on the Focus head that is characteristically involved in the representation of such dependencies.<sup>45</sup>

On the basis of such assumptions, the identification process for the licensing of wh-features, in terms of a [ $\mu$ F] feature on Foc, cannot simply be conceived of in terms of Rizzi's (1996, 2006) notion of 'Criterial satisfaction' as a form of feature identification at the interface. According to Rizzi (1996, 1997, 2006), wh-dependencies are subject to an interface licensing requirement or a process of Criterial satisfaction. Criterial satisfaction establishes a Spec-head relation between the wh-word moved to [Spec, CP] ([Spec, FocP] in Rizzi 1997) and the C head (the Foc head node in Rizzi 1997). Rizzi (1996, 1997, 2006) has it that the relationship between the two elements is actually not conceived of in terms of the morpho-syntactic

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<sup>45</sup> Similar assumptions apply to the subject-verb agreement configurations common in declarative V2 sentences in a V2 language like German (see section 4.3).

‘checking’/valuation of features, but in terms of identification of those features for interpretability at the interface.

Rather, as my discussion of Ouhalla’s (1993) feature-based analysis of wh-dependencies above points out, the derivation of such dependencies in the grammar of languages involves both the identification of features on the respective head projections via head-head agreement relations (i.e., in the present analysis, the interpretable [*i*T]-feature on Fin/T and the uninterpretable [*u*F]-feature on Foc, which gets valued by the matching [*i*WH]-feature on the wh-element) and the licensing of wh-features via the Spec-head agreement mechanism of feature-valuation (i.e., the [*u*F]-feature on Focus in relation to [*i*WH] on the wh-element), as conceived of in Chomsky’s (1995b) traditional feature-checking analysis of wh-dependencies and subject-verb agreement configurations.

As far as wh-dependencies are concerned, the [*u*F] feature on Foc in (72) is structurally licensed (in the sense of ‘checked’/‘valued’) via a basic Spec-head agreement relation, in which the interpretable feature [*i*WH] in (72) on the wh-moved element *man* ‘who’ in [Spec, FocP] is responsible for eliminating [*u*F] on Foc. This feature licensing process is similar to the process whereby the [*u*D] feature of Agr<sub>S</sub> in the IP domain is valued.<sup>46</sup> Thus, in the case of wh-dependencies, licensing involves an additional feature (namely, the [*u*F] feature on Foc) which would have to be checked/valued at Spell Out. In addition to this feature-valuation process, the licensing mechanism involved in wh-dependencies would also require the identification of the relevant ‘focus’ feature (in such wh-dependencies) in relation to the [*i*T] features on the Fin head. As discussed earlier, this process exclusively relies on a strict head-head agreement dependency relation that does not rely on any morphological feature-checking.<sup>47</sup> On such an account, Criterial satisfaction at the

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<sup>46</sup> In section 4.3, I discuss the cases where the valuation of the [*u*D] feature (in combination with the EPP) is subject to parameterization with reference to two language types – namely, VSO as in SA and V2 as in German.

<sup>47</sup> This formulation of the licensing conditions operable in the derivation of wh-dependencies is reminiscent of Rizzi’s (1990) Relativized Minimality account of dependency relations in A, A’, and X° chain formation whereby two modes of licensing seem to be operable. First, some functional heads (namely, T and Agr in English-type languages) act as ‘head-governors’ in relation to lexical heads (mainly V, but also A, N, and P). Second, dependency relations also rely on some notion of ‘antecedent government’ where coindexation between links, which result from chain formation in A-movement and A’-movement, is essential for licensing the coindexed elements in Spec positions. Since Spec-head agreement applies, the dependency relations are extended to involve head positions (i.e., establishing generalized Spec-head/head-head agreement relations as in the *Barriers* framework (Chomsky 1986a)). As far as A’-dependencies are concerned, Rizzi’s (1990) attempt to unify both modes of dependency

interface would be the result of the interaction of both modes of licensing conditions (cf. Rizzi & Shlonsky 2007). The system of head-head and Spec-head agreement relationships established in sentence structure for the licensing of the relevant features in subject-verb agreement configurations and wh-dependencies would be an essential ingredient in the establishment of the structural dependency relations that link the CP domain to the IP domain.

This account of the wh-movement process of *man* ‘who’ to [Spec, FocP] in (72) strengthens the structural similarity between the T-head in the split-IP domain and the Foc-head in the Split-CP domain, save for the difference between the two agreement relationships that arise in each case in terms of interpretability and identification and/or valuation of features. Raised DPs in the IP/Agr<sub>S</sub>P domain check/value an uninterpretable counterpart of their  $\phi$ -features on the T-node that probes for them. Similarly, the Spec-head agreement relation between the Foc head and the wh-word *man* in [Spec, FocP] in (72) is established in terms of some counterpart of the interpretable [*i*WH]-features on the wh-word *man* (in this case, the [*u*F]-feature on Foc), which satisfies Rizzi’s (1996, 2006) Wh-Criterion (reinterpreted in terms of the Phase-theoretic process of valuation, as discussed in the two previous paragraphs) or Ouhalla’s (1994) and Aoun *et al.*’s (2010) ‘morphological identification’ analysis of dependency formation (see section 4.1.2.4). In addition to this essential valuation process in the derivation of wh-dependencies in SA, the identification requirement of features in terms of which the C-T dependency is established at the interface involves the [*i*T] feature on Fin in relation to both the T node and the Foc node.<sup>48</sup>

However, the main difference between subject-verb agreement configurations and the agreement relations involved in wh-dependencies (involving the projection of FocP in the split-CP domain) is the type of ‘edge’ feature involved in each

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licensing seems to point to the legitimacy, in the current terms of probe-goal-Agree relations, of a morphological Spec-head agreement licensing mechanism, for the valuation of uninterpretable features on the functional head by the matching of interpretable features of wh-elements, co-existing with a head-head agreement licensing mechanism that operates strictly in terms of ‘identification’ of some [+F] ‘focus’ feature on functional heads within the C-T dependency (either [*u*F], as in wh-dependencies, or [*i*F] in strictly head-head agreement relationships as those that link Neg or Mod to Fin and T in the C-T dependency at the interface).

<sup>48</sup> In wh-dependencies involving relativization where a Topic DP is involved, the Foc node does not project (Rizzi 1997: 297-298; see section 4.3.1 below). In this case, identification of the C-T dependency proceeds with the Force head signalling [+declarative] force as the default clause type.

dependency relation. In subject-verb agreement configurations, the relevant ‘edge’ feature is the uninterpretable [ $\mu$ D] feature on Agr<sub>S</sub>, which combines with the EPP feature of T.<sup>49</sup> In wh-dependencies, the relevant ‘edge’ feature is the uninterpretable [ $\mu$ F] feature that moved wh-elements in [Spec, FocP] value on Foc.

As already discussed above, the Top head that projects in the split-CP domain of SA is endowed with a D-feature conceived to be an interpretable feature on Top (i.e., [ $i$ D] on Top) essentially dissociated from the subject-verb agreement that arises in the IP domain under the T-Agr<sub>S</sub> complex node (but still related to it in terms of syntactic predication, which does not rely on  $\phi$ -agreement relations). Thus, the Topic-comment configuration, as represented in a structure like (72) above, has to satisfy the kind of ‘higher predication’ that Rizzi (1997: 287) links to Agr<sub>S</sub> in the IP domain. In these terms, both Top and Agr<sub>S</sub> (in fact, the T-Agr<sub>S</sub> inflectional complex) configurationally connect a DP to sentential predication much like V- $v$  does within  $v$ P/VP (Rothstein 1983, 1995). According to such assumptions, the D-feature of Top, in the structures where the Top node projects, does not need to be valued, but it still needs to satisfy identification within the C-Agr<sub>S</sub>-T dependency for tense interpretation at the interface (cf. R&R: 137-141).

Irrespective of the A/A’ dichotomy that differentiates between a ‘topic DP’ (in an A’-specifier) and a ‘subject DP’ (in an A-specifier), the two DPs *ʔal-ʔabaaʔ-u* ‘parents’ and *pro*, in (72), are connected by the Spec-head/head-head configurational agreement relations that link the two Spec positions they occupy – i.e., [Spec, TopP] and [Spec, Agr<sub>S</sub>P] – and the head nodes they are agreeing with – the two functional heads Top and Agr<sub>S</sub>. As discussed above, both Top and Agr<sub>S</sub> are assumed to be endowed with a D-feature (interpretable on Top, but uninterpretable on Agr<sub>S</sub>). Thus, in (74), the D-feature of Agr<sub>S</sub> – having already been satisfied via the licensing of *pro* in [Spec, Agr<sub>S</sub>P] – is the necessary link in the head-head dependency relation between Agr<sub>S</sub> and Top.

Under such assumptions, the presence of *pro* (with its interpretable inherent D-feature) in [Spec, Agr<sub>S</sub>P], in an SA SVO structure like (72), determines subject-verb agreement at the ‘strong Phase’ in the sense of Chomsky (2001, 2004). Merging

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<sup>49</sup> The valuation of [ $\mu$ D] features in subject-verb agreement configurations is subject to parameterization according to the structure being derived in a particular language. As will be dealt with in section 4.3, in the parametric account of the derivation of sentence structure in such structural configurations as SA VSO vs. SVO word ordering possibilities and German V2 phenomenology, subject-verb agreement and the satisfaction of the EPP operate in terms of the availability or unavailability of uninterpretable [ $\mu$ D] features.



*pro* in [Spec, Agr<sub>S</sub>P] is a necessary derivational step in such structural configurations not only to link D on Agr<sub>S</sub> to  $\phi$ -feature specification (for the licensing of agreement on the inflected verb, under T-Agr<sub>S</sub>, and the satisfaction of the EPP; cf. Biberauer 2010), but also to link the interpretable D-feature on Top to the V-v-T-Agr<sub>S</sub> complex in relation to subject-verb agreement. By that token, the processes involved in the derivation of SA SVO sentences satisfy identification of the C-Agr<sub>S</sub>-T dependency at Spell Out at the point in the derivation where *pro* is merged in [Spec, Agr<sub>S</sub>P]. In these terms, the assumption that the DP is base-generated in [Spec, TopP] at the highest part of the split-CP domain and not moved to that position may be justification for the claim, made above, that no checking/valuation is needed at the level of TopP.

As already pointed out with reference to sentences (71a-b) (repeated below as (73a-b)), reversing the order of the Topic DP *ʔal-ʔabaaʔ-u* and the wh-moved word *man* leads to ungrammaticality:

- (73) a. *ʔal-ʔabaaʔ-u*      *man* *ya-Drib-uunaʔ*      (SA)  
          the-parents-NOM   who 3-IMPERF.hit-MP.IND  
          ‘Parents, who do they hit?’
- b. \**man ʔal-ʔabaaʔ-u*      *ya-Drib-uunaʔ*  
          who the-parents-NOM 3-IMPERF.hit-MP.IND  
          Lit.: ‘Who, parents, do they hit?’

The ungrammaticality of Focus > Topic DP constituent ordering in SA also obtains with such wh-words as *ʔayna* ‘where’ and the wh-word Q marker *hal* (see the discussion in relation to example (34a) above), as in (74a-d) below, (adapted from Shlonsky 2000: 330-331):

- (74) a. *zayd-un*      *ʔayna* *qaabal-tu-huʔ*      (SA)  
          Zayd-NOM   where PERF.meet-1S-him  
          ‘Zayd, where did I meet him?’
- b. *zayd-un*      *hal* *qaabal-tu-huʔ*  
          Zayd-NOM Q   PERF.meet-1S-him  
          ‘Zayd, did I meet him?’
- c. \**ʔayna zayd-un*      *qaabal-tu-huʔ*  
          where Zayd-NOM PERF.meet-1S-him  
          ‘Zayd, where did I meet him?’
- d. \**hal zayd-un*      *qaabal-tu-huʔ*  
          Q   Zayd-NOM PERF.meet-1S-him  
          ‘Zayd, did I meet him?’

Other cases of the same constituent ordering restriction involve Focalized DPs preceding Topic DPs, as in the ungrammatical sentence (75b). The converse constituent ordering is well formed, as in (75a) (examples adapted from Bakir 1980, quoted in Shlonsky 2000: 330):

- (75) a. faatimat-u      wardat-an              ʔaʕTaa-haa              saalim-un (SA)  
 Fatima-NOM flower.INDEF-ACC PERF.give.3MS-it(F) Salim-NOM  
 ‘It is a flower that to Fatima, Salim gave.’
- b. \*wardat-an              faatimat-u      ʔaʕTaa-haa              saalim-un  
 flower.INDEF-ACC Fatima-NOM PERF.give.3MS-it(F) Salim-NOM  
 ‘It is a flower that to Fatima, Salim gave.’

Wh-extraction from an embedded clause does not pose a problem for the relative order of a focused element and Topic DP. Sentence (76) below, for example, is a case of successive-cyclic wh-movement of a wh-word out of the embedded AgrSP to the [Spec, FocP] position in the matrix clause (as partially represented in the bracketed structure (77)):

- (76) man qult-a              ʔinna ʔal-ʔabaaʔ-a              ya-Drib-uuna?              (SA)  
 whoPERF.say-2MS that the-parents-ACC 3-IMPERF.hit-MP.IND  
 ‘Who did you say that parents hit?’

- (77) [<sub>ForceP</sub> [<sub>FocP</sub> man<sub>wh</sub> qult-a [<sub>ForceP</sub> t<sub>wh</sub> [<sub>ForceP</sub> ʔinna [<sub>TopP</sub> ʔal-ʔabaaʔ-a ... [<sub>AgrSP</sub> ya-Drib-uuna ... [<sub>vP</sub> t<sub>wh</sub>]]]]]]]]?]

In (77), the wh-word *man* ‘who’ in [Spec, FocP] and the Topic DP *ʔal-ʔabaaʔ-a* in [Spec, TopP] occur in two different split-CP domains, in which case the restriction on Foci preceding Topics does not apply.

However, there are cases of wh-dependencies within a matrix clause in SA where the order of constituents [wh-word] ... [Topic DP], which is shown to be ungrammatical in (73b) and (74c-d) is allowed. These cases involve a phonetically realized Force head, as in (78a) below. In (78b), I provide the VSO counterpart of (78a).

- (78) a. man \*(ʔalladhii) ʔal-ʔabaaʔ-u              yaDrib-uuna(-hu)?              (SA)  
 who (that.MS) the-parents-NOM 3-PERF.hit-MP.IND(-him)  
 Lit.: ‘Who is it that parents are hitting (him)?’
- b. man (ʔalladhii) ya-Drib-u(-hu)              ʔal-ʔabaaʔ-u?  
 who (that.MS) 3-IMPERF.hit-3MS.IND(-him) the-fathers-NOM  
 ‘Who is it that the fathers hit him?’

The obligatory presence of the complementizer *ʔalladhii* in (78a) suggests that the structure of the sentence is different from that of the ungrammatical wh-question in (71b)/(73b). In (78b), the DP *ʔal-ʔabaaʔ-u* is postverbal and does not occur in TopP (see section 4.1.2.1 for the derivation of VSO sentences in SA).

In the VSO sentence (79) below, the verb *ya-Drib-u* cannot co-occur with a Topic DP in initial position:

- (79) \*ʔal-ʔabaaʔ-u      man (ʔalladhii) ya-Drib-u(-hu)?  
       the-fathers-NOM who (that.MS) 3-IMPERF.hit-3MS.IND(-him)  
       ‘Who is it that the fathers hit him?’

The ungrammaticality of (79) is predicted on the assumption that a Topic DP like *ʔal-ʔabaaʔ-u* in (79) will have to be resumed by a referential *pro* element in the IP domain that will determine full subject-verb agreement with the verbal inflectional complex. This is, however, not the case in (79) where the verb is only ‘partially’ inflected for 3<sup>rd</sup> person singular agreement as a characteristic of the VSO construction type.

Before analysing the structure of (78a) and (78b) and the difference in the obligatoriness or optionality of the complementizer *ʔalladhii* (see the discussion of (83b) and (84b) below), I will focus on the structure of the relative clauses in (80), which is comparable to that of the wh-question in (78a):

- (80) a. ʔal-walad-u    \*(ʔalladhii) ʔal-ʔabaaʔ-u      ya-Drib-uuna(-hu) ...      (SA)  
       the-boy-NOM    (that.MS) the-parents-NOM 3-IMPERF.hit-MP.IND(-him)  
       ‘The boy that parents are hitting him ...’  
       b. ʔal-bint-u      \*(ʔallatii) ʔal-ʔabaaʔ-u      ya-Drib-uuna(-haa) ...  
       the-girl-NOM    (that.FS) the-parents-NOM 3-IMPERF.hit-MP.IND(-her)  
       ‘The girl that parents are hitting her ...’  
       c. ʔal-ʔawlaad-u    \*(ʔalladhiina) ʔal-ʔabaaʔ-u  
       the-boys-NOM    (that.MP)      the-parents-NOM  
       ya-Drib-uuna(-hum) ...  
       3-IMPERF.hit-MP.IND(-them.M)  
       ‘The boys that parents are hitting them ...’  
       d. ʔal-banaat-u    \*(ʔallaatii) ʔal-ʔabaaʔ-u      ya-Drib-uuna(-hunna) ...  
       the-girls-NOM    (that.FP)      the-parents-NOM 3-IMPERF.hit-MP.IND(-them.F)  
       ‘The girl that parents are hitting her ...’

As the relative clauses in (80a-d) show, agreement between the relative complementizer, under Force, and the NP, in [Spec, ForceP], is in number and gender. The fact that the complementizer in Force agrees in number/gender via Spec-head agreement with the element in the specifier position of the node they are inserted into suggests that the NPs *walad-u*, *bint-u*, *ʔawlaad-u*, *banaat-u* in (80a-d) are in [Spec, ForceP]. As Rizzi (1997: 297-298) observes, relative operators precede Topic DPs and, thus, “occupy the specifier of Force”. Rizzi (1997: 298) contrasts (81a) with (81b) from Italian:

- (81) a. Un uomo a cui, il premio Nobel, lo daranno senz’altro ... (Italian)  
           ‘A man to whom, the Nobel Prize, they will give it undoubtedly ...’  
       b. \*Un uomo, il premio Nobel, a cui lo daranno senz’altro ...  
           ‘A man, the Nobel Prize, to whom they will give it undoubtedly ...’

In (81a), the relative operator ‘a cui’ occupies [Spec, ForceP] and precedes the topicalized DP ‘il premio Nobel’ in [Spec, TopP]. Reversing the order of these constituents gives rise to an ungrammatical output, as shown in (81b).

Rizzi’s account as to the order of relatives and Topics gives the right configuration for the representation of the DPs in (80a-d) to the left of the Topic DP *ʔal-ʔabaaʔ-u*, as structurally represented in (82) below for sentence (80a):<sup>50</sup>

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<sup>50</sup> For ease of exposition, I do not represent the FinP projection in (82) and (83b).

(82)

In structure (82), Force is realized as a relative complementizer *?alladhii* ‘who’, but no actual wh-movement takes place. Instead, a resumptive *pro* is inserted in object position to account for the optionality of the object clitic *-hu* in ‘outer’ [Spec, vP] from where the clitic attaches to the raised verb under the inflectional complex V-v-T-

Agr<sub>S</sub>. The relative complementizer *?alladhii* in (82) signals a [-wh] clause type,<sup>51</sup> and the function of the D element selecting ForceP ensures that this is the interpretation the structure gets at the interface.

Coming back to the derivation of (78a) and (78b), the structure of (78a) (repeated below as (83a)) is as in (83b), where the structure of Agr<sub>S</sub>P is the same as the structure of Agr<sub>S</sub>P in (82):

- (83) a. *man* \*(*?alladhii*) *?al-?abaa?-u* *yaDrib-uuna(-hu)?* (SA)  
 who (that.MS) the-parents-NOM 3-PERF.hit-MP.IND(-him)  
 ‘Who is it that parents are hitting (him)?’

b.

As far as representation (83b) is concerned, the wh-word *man* ‘who’ is assumed to be base-generated in [Spec, ForceP], similarly to the base-generation of the relative NP *walad-u* in the structural representation (82). Structures (82) and (83b) show the same characteristics in terms of the merge of the wh-word *man* ‘who’, in (83b), and of the head of the relative clause i.e., the relativized NP *walad-u* ‘boy’ in (82). Both elements are assumed to be base-generated in [Spec, ForceP], suggesting that no wh-movement is involved in structure (83b). Thus, the wh-dependency is formed on the basis of a resumptive link between the relativized NP *walad-u* in (82) and the object resumptive pronominal *pro* complement to V (which is also resumed by the optional

<sup>51</sup> As I will be discussing in relation to Table 4.2 below, the Force node in (82) would also be marked as [+predicative] feature, as against structures (83b) and (84b), which would be marked as [-predicative].

pronominal clitic *-hu* in ‘outer’ [Spec, *v*P] in (82)). The same is true of the *wh*-dependency in (83b) involving the *wh*-word *man*, the object resumptive pronominal *pro* and the optional pronominal clitic *-hu*. My assumption is that there is no [*u*F] feature on the Force head that would trigger *wh*-movement in the first place in such structures.

As for the structure of (78b) (repeated below as (84a)), it is represented as in (84b):

- (84) a. *man* (ʔalladhii) *ya-Drib-u(-hu)* ʔal-ʔabaaʔ-u? (SA)  
 who (that.MS) 3-IMPERF.hit-3MS.IND(-him) the-fathers-NOM  
 ‘Who is it that the fathers hit him?’

b.

The optionality of the complementizer *ʔalladhii* realizing the head Force in structure (84b) is concomitant with the fact that no Topic DP is generated in such a sentence on the assumption adopted in this thesis maintaining that, whenever the raising process of the inflectional verbal complex V-v-T to Fin applies in VSO structural configurations in SA, the ‘subject’ DP cannot be a Topic, but is a subject DP in [Spec, TP] in the IP domain. On such assumptions, no topic DP is merged in the split-CP domain of a wh-construction like (84a) in contrast to the ungrammatical wh-construction in (73b) above where *ʔal-ʔabaaʔ-u* functions as a Topic DP following the wh-word *man* in [Spec, ForceP].

The grammar of SA provides two other alternatives for (78a)/(83a). One alternative is to have the type of wh-constructions shown in (85a-d) below:

- (85) a. *man huwa (ʔal-walad-u) ʔalladhii ʔal-ʔabaaʔ-u* (SA)  
           who he (the-boy-NOM) that.MS the-parents-NOM  
           *ya-Drib-uuna(-hu)?*  
           3-IMPERF.hit-MP.IND(-him)  
           Lit: ‘Who is he (the boy) that parents are hitting (him)?’
- b. *man hum (ʔal-ʔawlaad-u) ʔalladhiina ʔal-ʔabaaʔ-u*  
           who they(M) (the-boys-NOM) that.MP the-parents-NOM  
           *ya-Drib-uuna(-hum)?*  
           3-IMPERF.hit-MP.IND(-them)  
           Lit: ‘Who are they (the boys) that parents are hitting (them)?’
- c. *man hiya (ʔal-bint-u) ʔallatii ʔal-ʔabaaʔ-u*  
           who she (the-girl-NOM) that.FS the-parents-NOM  
           *ya-Drib-uuna(-haa)?*  
           3-IMPERF.hit-MP.IND(-her)  
           Lit: ‘Who is she (the girl) that parents are hitting (her)?’
- d. *man hunna (ʔal-banaat-u) ʔallaatii ʔal-ʔabaaʔ-u*  
           who they(F) (the-girls-NOM) that.FP the-parents-NOM  
           *ya-Drib-uuna(-hunna)?*  
           3-IMPERF.hit-MP.IND(-them.F)  
           Lit: ‘Who are they (the girls) that parents are hitting (them)?’

The wh-constructions (85a-d) show the sequence of a wh-word, a pronoun and a relative clause, in which the DP *ʔal-walad-u* ..., coming before the complementizer *ʔalladhii* or one of its variants is optional. These constructions are reminiscent of what Ouhalla (1999: 336, 341) designates as the counterpart of English clefts in SA. Thus,



for example, substituting the wh-word *man* in (85c) with a proper noun like *Zaynab* yields a sentence like (86) below (adapted from Ouhalla 1999: 341):

- (86) Zaynab-u        hiya (ʔal-bint-u)        ʔallatii ʔal-ʔabaaʔ-u        (SA)  
 Zaynab-NOM she (the-girl-NOM) that.FS the-parents-NOM  
 ya-Drib-uuna-haa.  
 3-IMPERF.hit-3MP.IND-her  
 Lit: ‘Zaynab is she (the girl) that parents are hitting.’  
 ‘It is Zayab who parents are hitting (her).’

According to Ouhalla (1999: 341), the structure of such sentences as (86) in SA is [F(ocus)-DP PRON RC], which “involves a structure close, but not identical, to the structure of clefts in English”.

Exploiting Rizzi’s (1990) [ $\pm$ wh]; [ $\pm$ predicative] feature system, as given in Table 4.2 below, clause type in the wh-structures (83b) and (84b) above can be distinguished from clause type in a relative clause like (82) on the basis of the [ $\pm$ predicative] feature:

Table 4.2. The feature structure of complementizer elements (adapted from Rizzi 1990: 67–68)<sup>52</sup>

| Complementizer types in English | Feature structure     | Example                   |
|---------------------------------|-----------------------|---------------------------|
| Declarative C                   | [-wh]; [-predicative] | ‘I know that you saw it’  |
| Interrogative C                 | [+wh]; [-predicative] | ‘I wonder what you saw’   |
| Relative C 1                    | [+wh]; [+predicative] | ‘The thing which you saw’ |
| Relative C 2                    | [-wh]; [+predicative] | ‘The thing that you saw’  |

Thus, on the basis of the feature structure of complementizer types in Table 4.2, what seems to be important in the derivation of (83a) and (84a) is not only the value given to clause type in terms of the feature system [ $\pm$ wh] *per se*, but also its

<sup>52</sup> The difference between Relative C1 and Relative C2 in English is that only Relative C2 is phonetically realized as *that*. As for the Spec position of these two kinds of relatives in English, both are assumed to be filled up by some operator element. While the Spec of Relative C1 is occupied by an overt operator, i.e., a wh element like *which* in the sample example given above, the Spec of Relative C2 is occupied by a covert operator *Op*. Thus, a partial structure for these relatives would be as in (ia) and ib):

- (i) a. The thing [<sub>CP</sub> which [<sub>C</sub>  $\emptyset$  [<sub>IP</sub> you saw]]]  
 b. The thing [<sub>CP</sub> Op [<sub>C</sub> that [<sub>IP</sub> you saw]]]

characterization in terms of the [ $\pm$ predicative] feature system. According to Rizzi (1990), the [ $+$ predicative] feature specification is a distinctive property of relatives (in conjunction with the [ $\pm$ wh] feature specification) as against both declarative clauses, which are [ $-$ predicative] (and [ $-$ wh]), and interrogatives, which are [ $-$ predicative] (and [ $+$ wh]). Thus, if Rizzi's characterization of the feature structure of relatives cross-linguistically is correct, whereas the complementizer *ʔalladhii* in the interrogative sentence (83a) (as represented in (83b)) and in sentence (84a) (as represented in (84b)) is [ $+$ wh] and, essentially, [ $-$ predicative] – namely, a wh-question, the complementizer *ʔalladhii* in the relative construction (80a) (as represented in (82) above) is [ $-$ wh] and [ $+$ predicative] – namely a relative clause.<sup>53</sup>

Another alternative to the wh-question in (78a)/(83a) is to use a wh-phrase as in English *which boy*, *which girl* and so on. In the structural representation in (88) for the wh-question in (87a), I represent the wh-phrase as a QP, the head position of which realizes the Q-head element *ʔayyu/ʔayyatu*.<sup>54</sup>

- (87) a. ʔayyu walad-in (\*ʔ ʔalladhii) ʔal-ʔabaaʔ-u (SA)  
 which(M) boy-GEN that.MS the-parents-NOM  
 yaDrib-uuna(-hu)?  
 3-IMPERF.hit-MP.IND(-him)  
 'Which boy do parents hit?'  
 b. ʔayyatu bint-in (\*ʔ ʔallatii) ʔal-ʔabaaʔ-u  
 which(F) girl-GEN that.FS the-parents-NOM  
 yaDrib-uuna(-ha)?  
 3- IMPERF-hit-MP.IND(-her)  
 'Which girl do parents hit?'

<sup>53</sup> In his analysis of constituent questions in Palestinian Arabic, Shlonsky (2002: 143) also refers to Rizzi's (1990: 67-68) typology of complementizer types to pin down the characteristics of the C head *illi* (which is the counterpart of SA *ʔalladhii*) in interrogatives and relatives, but he considers the Palestinian Arabic complementizer *illi* to be [ $+$ predicational] in both interrogative and restrictive relative clauses. However, as shown in Table 4.2, the [ $+$ predicative] feature is a characteristic feature of relatives, but not of interrogatives. This characterization should apply both to *ʔalladhii* and to its counterpart *illi* in Palestinian Arabic.

<sup>54</sup> I had qualms about the sentences in (87a-d) with *ʔalladhii* in Force. I thank Dr. Hassan Makhad for confirming my grammaticality judgement. According to Dr. Makhad, some Moroccan professional teachers of Arabic, who were specifically asked about the grammaticality of such sentences, do not consider them ungrammatical. According to them, the best guess is that something seems to be wrong with the presence of the lexicalized complementizer in (87a-d).

- c. *ʔayyu ʔawlaad-in (\*ʔ ʔalladhiina) ʔal-ʔabaaʔ-u*  
 which(M) boys-GEN that.MP the-parents-NOM  
*ya-Drib-uuna(-hum)?*  
 3-IMPERF.hit-MP.IND(-them.M)  
 ‘Which boys do parents hit?’
- d. *ʔayyatu banaat-in (\*ʔ ʔallaatii) ʔal-ʔabaaʔ-u*  
 which(F) girls-GEN that.FP the-parents-NOM  
*ya-Drib-uuna(-hunna)?*  
 3-IMPERF.hit-MP.IND(-them.F)  
 ‘Which girls do parents hit?’

(88)

As (88) shows, in this second alternative construction to (78a)/(83a), *ʔalladhii* cannot be merged in Force. Thus, the structure of the wh-constructions in (87a-d) is more like the structure of the ungrammatical wh-construction (73b) above than like the structure of (78a), where the topicalized DP *ʔal-ʔabaaʔ-u* ‘parents’ cannot follow the wh-word *man* without having the complementizer *ʔalladhii* follow the wh-element. Nevertheless, the wh-constructions in (87a-d) are ‘grammatical’ with no need of merging the complementizer *ʔalladhii* (or one of its variants) in Force.

The non-realization of the complementizer *ʔalladhii* in a structure like (88) can be accounted for by assuming that some kind of agreement (morphologically encoded on the head *ʔayyu/ayyatu* in (87a-d)) has already been established within the QP *ʔayyu walad-in* in [Spec, ForceP]. The head status of the element *ʔayyu/ʔayyatu* is suggested by the morphological composition of this element – namely, an initial

syllable *ʔa* that is synonymous with the Q-head marker *ʔa* (inserted under Force in a structure like (32b) above) and some gender morpheme *-yu/-yatu*.<sup>55</sup> Thus, in (89), the Q-head marker *ʔayyu* agrees in either masculine or feminine gender with its sister NP. The agreement relation established within the QP [Q NP] in [Spec, ForceP] in (89) is akin to the relation of a head D and its complement NP [D NP]. The only difference between the Q-NP head-complement relation in (88) and the relation of D to its NP complement is that, whereas the Q-head *ʔayyu/ʔayyatu* in (88) ‘assigns’ Case – namely, GEN(itive) Case – to its complement, no such Case-marking relation exists between D and its complement NP. Thus, it might be the case that this morphologically marked head-complement agreement relationship (marked for gender agreement on the Q-head and for GEN Case on the complement NP) between the head *ʔayyu/ʔayyatu* and its complement NP *waladin* in (88) is a sufficient licensing condition for the wh-phrase *ʔayyu waladin* with no need of lexically realizing Force as *ʔalladhii* in such a case.<sup>56</sup>

In (87a), the reverse ordering of the Topic DP *ʔal-ʔabaaʔ-u* ‘parents’ and the QP *ʔayyu walad-in* is also allowed yielding a sentence similar in structure to (71a)(73a) above (compare structure (89b) below to structure (60) above). Thus, sentence (89a) would have a structure like (89b):

- (89) a. *ʔal-ʔabaaʔ-u*      *ʔayyu walad-in*      (\*? *ʔalladhii*)      (SA)  
          the-parents-NOM    which(M) boy-GEN      that.MS  
          *yaDrib-uuna(-hu)?*  
          3-IMPERF.hit-MP.IND(-him)  
          ‘Which boy do parents hit?’

<sup>55</sup> The characteristic of a head taking a gender morpheme is reminiscent of ‘partially’ inflected verbs in SA VSO word order as discussed in section 3.3.4. This is also the characteristic of the verb-like element *laysa* discussed in section 4.1.2.5 above. Both the NEG element *laysa* and the Q-element *ʔayyu* inflect for gender in agreement with the DP to their right in sentence structure.

<sup>56</sup> There are also such SA interrogative sentences as in (i) below where the *ayyu* element is morpho-phonologically spelled out as one constituent substitutable by the wh-word *man*, as the sentences in (i) below show. Not surprisingly, in this case the insertion of the complementizer *ʔalladhi* under the Force head position becomes optional:

- (i) a. *ayyu-kum*      (*ʔalladhii*) *faʕal-a*      *haadhāʔ*      (SA)  
          who-you.ACC    that      PERF.do-3MS    this  
          ‘Who among you did this?’  
       b. *man* (*ʔalladhii*) *faʕal-a*      *haadhāʔ*  
          who    that      PERF.do-3MS    this  
          ‘Who did this?’

In (89b), the Topic DP *ʔal-ʔabaaʔ-u* base-generated in [Spec, TopP], and resumed by a resumptive *pro* in [Spec, AgrsP], precedes the QP *ʔayyu walad-in* wh-moved to [Spec, FocP]. As in (76), Force remains empty in (89b).

This section has shown that a Focused element, which can either be a wh-word or a focused DP, can only be preceded by a Topic and cannot be followed by it. As far as wh-interrogatives are concerned, the derivation of such dependencies in SA is not necessarily a process of wh-extraction. In the cases where wh-extraction takes place, the trigger of wh-movement is assumed to be a [ $\mu$ F] feature of the Foc head, valued by the moved wh-element in [Spec, FocP]. In the cases where a resumptive strategy

replaces wh-extraction, the wh-element is spelled out in [Spec, ForceP], with the complementizer *ʔalladhii* merged in Force (i.e., the head that determines clause type). Only in the cases where a Topic DP is not involved in such wh-dependencies is the Merge of *ʔalladhii* optional. In the cases where *ʔalladhii* is obligatory, what differentiates a relative complementizer type from an interrogative complementizer type is the [ $\pm$ predicative] feature in conjunction with the [ $\pm$ wh] feature. My assumption has been that, irrespective of whether the Force head is realized or left empty in such instances of interrogative sentences, no [*uF*] feature needs to be valued. In the next section I deal with wh-dependencies in TA.

#### 4.2.3. *The absence of word ordering restrictions on ‘topicalized’ DPs and wh-elements in wh-dependencies in TA*

In this section, I first show that, unlike the derivation of wh-dependencies in SA which allows the base generation of wh-elements when a Topic DP is also derived in the structure, wh-dependencies in TA are formed via movement of the wh-word and allow different orderings of a wh-word and a ‘topicalized’ DP. Then, on the basis of sample wh-constructions in TA, I propose that TA does not resort to the expansion of CP in the form of a ForceP-FinP split system. Rather, judging from the absence of the strict word ordering of a Topic DP and a wh-element in TA, the language makes use of adjunction of A’-moved elements to the left of IP/Agr<sub>S</sub>P.

The TA example in (90a) is the corresponding wh-question to the SA wh-construction (78a)/(83a) repeated below as (90b):

- (90) a. shkuun (illi) buu-k u um-ək y-Drb-uu(\*-h)? (TA)  
           who (that) father-your and mother-your 3-IMPERF.hit-MP(\*-him)  
           ‘Who are your parents hitting?’
- b. man \*(ʔalladhii) ʔal-ʔabaaʔ-u yaDrib-uuna(-hu)? (SA)  
           who (that.MS) the-parents-NOM 3-PERF.hit-MP.IND(-him)  
           Lit.: ‘Who is it that parents are hitting (him)?’

In contrast to SA (90b), the TA wh-construction in (90a) allows a wh-word to precede a DP element whether the complementizer *illi* (which is the equivalent of SA *ʔalladhii*) is present or not. I propose that the structure of (90a) is as in (91) below:

(91)

Structure (91) shows that, unlike the ungrammaticality of the word ordering of a wh-word and a Topic DP in SA wh-dependencies without there being a phonologically realized complementizer element (*?alladhii* in (90b) above), TA wh-dependencies do not exemplify the sequence of a wh-word and a Topic DP but the sequence of a wh-word in [Spec, CP] and a subject DP in [Spec, IP/AgrsP].

However, as the relative clauses (92a) and (92b) show, both TA and SA require the presence of a relative complementizer:

- (92) a. l-ulid    \*(illi) buu-k u um-ək                      y-Drb-uu(-h) ...                      (TA)  
          the-boy    (that) father-your and mother-your 3-IMPERF.hit-MP(-him)  
          ‘The boy who your parents are hitting him ...’
- b. ?al-walad-u    \*(?alladhii) ?al-?abaa?-u                      ya-Drib-uuna(-hu) ...                      (SA)  
          the-boy-NOM    (that.MS) the-parents-NOM 3-IMPERF.hit-MP.IND(-him)  
          ‘The boy that parents are hitting him ...’

Apart from the word ordering difference that differentiates TA wh-questions from SA wh-questions and the presence or absence of a phonetically realized complementizer as discussed above, the spelling out of resumptive pronoun *-h* (the TA equivalent of SA *-hu*) yields an ungrammatical result in (90a) – in contrast with (90b) –, irrespective of the presence or absence of the complementizer *illi*. This

account suggests that wh-movement has actually occurred in the TA example leaving a wh-trace in the vacated object position, as represented in (91). These structural differences in the derivation of the wh-questions (90a) and (90b) in TA and SA, respectively, may be an indication that TA, unlike SA, does not resort to the projection of CP as ForceP-FinP à la Rizzi (1997) with a TopP projection following the Force head. Rather, TA makes use of adjunction structures to derive these A'-dependencies.

Thus, this difference in the formation of wh-questions between TA and SA accounts for why, in the case where a Topic DP is merged in [Spec, TopP] as in SA (90b) above, the preceding wh-element in [Spec, ForceP] has to co-occur with the complementizer *ʔalladhii* merged in Force allowing the base-generation of the wh-element in [Spec, ForceP] instead of having it moved from within vP/VP. On such an account, since, in SA, initial 'subject' DPs are Topics base-generated in [Spec, TopP], wh-elements would have to be moved to [Spec, FocP] below the Topic DP (see structure (72) above) or, alternatively, be generated in [Spec, ForceP] with the complementizer *ʔalladhii* realizing the Force head, as shown in (90b).

Along with structure (91), structure (93b), for the wh-question in (93a) below, is also grammatical in TA:

- (93) a. buu-k u um-ək                                      shkuun (illi) y-Drb-uu(\*-h)?                                      (TA)  
          father-your and mother-your who                      (that) 3-IMPERF.hit-MP(\*-him)  
          'Who is it that your father and mother are hitting?'



b.

Unlike the subject DP *buu-k u um-ək* internally merged in [Spec, AgrsP] in (91), the left-dislocated DP *buu-k u um-ək* to the left of the wh-word *shkuun* ‘who’ in (93b) is Left-adjoined to CP. As in (93b), the wh-word *shkuun*, is raised from within *vP*/VP and internally merged in [Spec, CP]. As for the [Spec, IP/AgrsP] position in (93b), it is occupied by a resumptive *pro* element raised out of [Spec, *vP*], which resumes the left-dislocated DP *buu-k u um-ək*.

If the proposed analysis for the derivation of wh-dependencies in TA vs. SA in terms of a difference in how the CP domain projects is reasonable enough, this analysis would account for the fact that wh-movement in the instance of topicalization in TA does not obey any ordering constraint between the left-dislocated element and the wh-moved element, as shown in the TA examples in (94), which are the counterpart of Bakir’s (2011: 193) original examples from Iraqi Arabic as shown in (95 a,b):

- (94) a. l-kursi ween khalleet-u (TA)  
the-chair where put.2MS-it  
‘Where did you put the chair?’

- b. ween l-kursi khalleet-u  
 where the-chair put.2MS-it  
 ‘Where did you put the chair?’

- (95) a. l-qanafa ween khalleet-ha (Iraqi Arabic)  
 the-chair where put.2MS-it  
 ‘Where did you put the chair?’

- b. ween l-qanafa khalleet-ha  
 where the-chair put.2MS-it  
 ‘Where did you put the chair?’

As Bakir (2011) notes, the strict order of Topic DPs and focused elements is not observed in Iraqi Arabic. Thus, in these instances of wh-dependency formation by movement, Bakir (2011: 200) opts for “adjunction of left-dislocated elements in the CP domain” and assumes that the left-dislocated object DP *l-qanafa* ‘the chair’ in (95a) and (95b) is an adjoined position to the left of IP/CP. Bakir (2011: 200) adds that: “... if recursion in the CP structure is allowed, it will create the necessary loci for the moved/base-generated elements without any need to specify the individual C-positions with unique functions”.

Thus, the proposed analysis of the derivation of wh-dependencies in SA vs. TA in this section, along with Bakir’s (2011) claims about A’-dependencies in Iraqi Arabic may suggest that, whereas SA resorts to the expansion of the CP domain as a ForceP-FinP split system for the topicalization and focalization of constituents, modern spoken dialects like TA and Iraqi Arabic make use of adjunction structures for the derivation of such dependencies.

The differences in the constituent ordering possibilities of a wh-word and a DP element in SA vs. TA do not extend to the cases where both the focused element and the ‘topicalized’ element are DPs. As already discussed in relation to the SA examples (75a,b) (repeated below as (96a,b), adapted from Bakir 1980), whether the focused element is a wh-element or a DP, its ordering in relation to the ‘topicalized’ element is strictly Topic > Focus:

- (96) a. faatimat-u wardat-an ?afTaa-haa saalim-un (SA)  
 Fatima-NOM flower.INDEF-ACC PERF.give.3MS-it(F) Salim-NOM  
 ‘It is a flower that to Fatima, Salim gave.’
- b. \*wardat-an faatimat-u ?afTaa-haa saalim-un  
 flower.INDEF-ACC Fatima-NOM PERF.give.3MS-it(F) Salim-NOM  
 ‘It is a flower that to Fatima, Salim gave.’

As (97) below shows, the equivalent TA examples to the SA sentences in (97) are both ungrammatical:

- (97) a. \*faatima warda           ʔaʕTaa-haa           saalim           (TA)  
           Fatima flower.INDF PERF.give.3MS-it(F) Salim  
           ‘It is a flower that to Fatima, Salim gave.’
- b. \*warda           faatima ʔaʕTaa-haa           saalim  
           flower.INDEF Fatima PERF.give.3MS-it(F) Salim  
           ‘It is a flower that to Fatima, Salim gave.’

The ungrammaticality of both (97a) and (97b) is accounted for on the assumption that TA does not allow the preposing of a DP element for the sake of (contrastively) focusing it. Thus, the TA sentence in (98b) below is ungrammatical if the focused DP is not kept *in situ* as in (98a) (which is the equivalent of Ouhalla’s (1999: 338) original MA sentence (99) below):

- (98) a. nadia shr-at           KTAB           (ma-hu-sh majalla)           (TA)  
           Nadia PERF.buy-3FS book.INDEF (NEG-it-NEG magazine)  
           ‘Nadia bought a BOOK (not a magazine).’
- b. \*ʔ KTAB           nadia shr-at           (ma-hu-sh majalla)           (TA)  
           book.INDEF Nadia PERF.buy-3FS (NEG-it-NEG magazine)  
           ‘Nadia bought a BOOK (not a magazine).’
- (99) nadia shr-at           KTAB           (mashi majalla)           (MA)  
           Nadia PERF.buy-3FS book.INDEF (NEG magazine)  
           ‘Nadia bought a book (not a magazine).’

As shown in (100), the equivalent of (98b) in SA is grammatical (Ouhalla 1999: 338):

- (100) KITAAB-AN           ishtar-at           nadia (laa majallat-an)           (SA)  
           Book.INDEF-ACC PERF.buy-3FS Nadia (NEG magazine)  
           ‘It was a BOOK that Nadia bought (not a magazine).’

The grammaticality contrast that obtains in Focus structures with a DP as a focused element in MA vs. SA is accounted for in Ouhalla (1999: 338) by opposing SA as a “focus-movement language” to the modern spoken dialect MA as a “focus in-situ language”. TA and MA are similar in this respect. According to Ouhalla (1999: 338), the equivalent of (100) in MA/TA “ha[s] a marginal status at best. The more natural strategy is for the f-phrase to be left in-situ and designated with a pitch accent”.

To sum up, this section has shown that the derivation of wh-dependencies in TA is exclusively a process of wh-extraction, via which wh-elements in interrogatives are wh-moved (vs. SA where wh-elements are sometimes base-generated, as discussed in relation to example (83a) above). As for focused DPs, the sample examples discussed in this section have shown that they are kept *in situ*. Wh-dependencies in TA are formed via movement of the wh-word and allow different orderings of a wh-word and a ‘topicalized’ DP. Such characteristics have been claimed to follow from the assumption that the language makes use of adjunction of A’-moved elements to the left of IP/Agr<sub>S</sub>P.

In the next section, I have a closer look at the V2 phenomenology and how this phenomenology compares to the ‘basic’ VSO word ordering of a VSO language like SA. As discussed in Chapter Three, the valuation of D-features at the level where T-features are represented is essential for the derivation of rather ‘rich’ subject-verb agreement configurations as well as the Merge of expletive elements.

### **4.3. Subject-verb agreement configurations in ‘basic’ VSO and V2 languages**

In this section, I deal with the derivation of the V2 phenomenology and how this phenomenology compares to the derivation of the ‘basic’ VSO word order of a VSO language like SA. This analysis proposes that it is the availability or non-availability of D-features in conjunction with the T-features of T and Fin at the highest level of functional syntactic structure that determines the derivation of subject-verb agreement configurations in sentences exhibiting the basic VSO phenomenology and the V2 phenomenology. Under such a premise, at the ‘edge’ of constructions in the functional field linking the IP domain to the CP domain in languages with ‘basic’ VSO word ordering (e.g., SA) and languages exhibiting the declarative matrix V2 phenomenon (e.g., German), T-features and D-features on functional head projections interact in the derivation of subject-verb agreement configurations.

In section 4.3.1, I develop a feature-based analysis of the V2/‘weak’ V2 phenomenology. In section 4.3.2, I attempt to show how the assumption of the interdependency of T-features and D-features provides an alternative account for some peculiar subject-verb agreement configurations in the variety of English studied by Kimball & Aissen (1971) and by Kayne (1989b, 2000) (briefly referred to in section 3.1.1.1), and for cases of complementizer agreement in west Flemish, as studied by Haegeman & Koppen (2012). Section 4.3.3 is a conclusion.

#### 4.3.1. A feature-based analysis of the V2/‘weak’ V2 phenomenology

The feature structure of the higher functional field, in languages with ‘basic’ VSO word ordering (e.g., SA) and languages exhibiting the declarative matrix V2 phenomenon (e.g., German), configures a parametrically available uninterpretable [ $\mu$ D] feature that interacts with the [ $i$ T] features of T and Fin. In such a feature-based parameterized system of subject-verb agreement configurations, three language types and/or construction types are actually posited to occur cross-linguistically:

(i) Language/construction type A: This type concerns declarative matrix V2 sentences in Germanic configuring a lexical or EXPL subject (e.g., *es* in German) in initial position. The sentences in (101a) and (101b) are adapted from Schwartz & Vikner (1996: 20), structurally represented as in (102a) and (102b), respectively:

(101) a. Ein Junge ist gekommen (German)  
A boy is come

b. Es ist ein Junge gekommen  
There is a boy come

(102) a.

b.

As represented in (102b) for sentence (101b), the subject DP is assumed not to leave the  $\nu$ P/VP domain (this is also true of structure (105b) for German construction type B below). In both (102a) and (102b), T raises to Fin and a  $[uD]$ -feature is generated on Fin where the valuation of  $[uD]$  coincides with the valuation of the EPP via a Spec-head agreement relation with the subject DP (*ein Junge* ‘a boy’ in (102a) and *es* ‘there’ in (102b)) in [Spec, FinP].

The assumption that the subject remains *in situ* in  $\nu$ P/VP is based on Haider’s (2010: 156) argument that the subject in OV structures is licensed within the VP, just like other arguments. According to Haider’s (2010) analysis, one example that shows that the subject remains lower than a shifted object (in ‘outer’ [Spec,  $\nu$ P]) is a structure where only part of the shifted object is scrambled to initial position within a V2 configuration, as represented in (103) (clause bracketing *mine*):

(103) [<sub>CP</sub> [Von Mozart]<sub>i</sub> hat ja [ <sub>$\nu$ \*P</sub> [die ersten Symphonien  $t_i$ ]<sub>j</sub> [ <sub>$\nu$ \*P</sub> kaum einer [<sub>VP</sub>  $t_j$   
of Mozart has Part the first symphonies hardly anyone

[<sub>V'</sub> auf CD [<sub>V</sub> aufgenommen]]]]]]] (German)  
on CD recorded

‘Hardly anyone has recorded the first symphonies of Mozart on CD.’

A similar suggestion is provided by Rouveret (2010: 235) on the basis of such examples as in (104) below:

(104) a. Es kam gestern ein Junge (German)  
There came yesterday a boy

- b. Gestern kam (\*es) ein Junge  
Yesterday came there a boy

In (104), the subject DP *ein Junge* remains lower than the temporal adverb *gestern*. On the assumption that the verb is in C (= Fin) and the subject kept *in situ* in [Spec, vP] in such V2 contexts, Rouveret (2010: 235) maintains that: “... there is no evidence that the SpecTP position is projected/filled”.

(ii) Language/construction type B: In the derivation of Germanic V2 declarative sentences with ‘topicalized’ XPs, the [*u*D]-feature is generated on an Agr<sub>S</sub> node in the IP domain to which T raises. Thus, this construction type is different from both construction type A in (i) and construction type C in (iii) below.<sup>57</sup> Sentence (105a) (adapted from Schwartz & Vikner 1996: 20) is an instance of the topicalization of an adverbial, structurally represented as in (105b):<sup>58</sup>

- (105) a. Gestern *pro* ist ein Junge gekommen (German)  
Yesterday is a boy come

<sup>57</sup> This difference between V2 structural configurations that involves a ‘topicalized XP’ and V2 sentences that involve a subject DP (lexical or expletive) is reminiscent of Travis’s (1991) asymmetrical account of V2 sentences, where the asymmetry is between subject elements that are merged in [Spec, IP] and non-subject elements that are merged in [Spec, CP]. In my account, the asymmetry is between subject DPs or an EXPL element like *es* merged in [Spec, FinP], and non-subject elements including adverbials and object DPs merged in [Spec, TopP]. In construction type B, I take ‘topicalization’ of a temporal adverbial as a representative example of this second type of V2 configurations.

<sup>58</sup> Construction type B is the only matrix V2 declarative construction that projects an Agr<sub>S</sub>(P) in the Spec position of which EXPL *pro* is merged. In contrast to the analysis adopted here, the V2-outside-IP analysis of Schwartz & Vikner (1996: 20) configures an EXPL *pro* in some position in IP (presumably, in [Spec, IP/TP] according to Schwartz & Vikner’s 1996 analysis):

- (i) Gestern ist *pro* ein Junge gekommen (German)  
Yesterday is a boy come

b.

In (105b), Agr<sub>S</sub>(P) projects and EXPL *pro* is merged in [Spec, Agr<sub>S</sub>P]. The ‘topicalized’ temporal adverb *gestern* ‘yesterday’ is raised from some adjoined position to T and merged in the specifier position of a TopP projection above FinP. In these XP topicalization cases in V2 declaratives in German, *pro* at the highest level in the IP domain (i.e., in [Spec, Agr<sub>S</sub>P]) deletes after  $\phi$ -agreement has applied (see section 3.1.2.2 in relation to footnote 7, and section 3.2.1.2 for a discussion of Roberts’ 2010a,b copy deletion theory).

According to Roberts (2010b: 84), feature(s) of *pro* (consisting of a D-feature only for expletive *pro*, and D- and Agree features for argumental *pro*), are marked for deletion at PF on the assumption that they are ‘defective’ elements with only a subset of the features of the probe T (or, under the present analysis, the inflectional complex T-Agr<sub>S</sub> after the raising of T to attach to Agr<sub>S</sub>). Thus, in XP topicalization cases in matrix V2, the feature(s) of *pro* are ‘copied’ onto T(-Agr<sub>S</sub>) and *pro* deletes at PF.

The combination of the valuation of [*uD*] on Agr<sub>S</sub> and the satisfaction of the EPP requirement in [Spec, Agr<sub>S</sub>P] is also a characteristic of SVO sentences in SA where the initial DP element in sentence structure is a Topic DP (see (109) below).

The complementary distribution of EXPL-insertion in German, either in [Spec, FinP], as in (102b), or [Spec, Agr<sub>S</sub>P], as in (105b) is accounted for in light of



grammaticality contrasts as in (106a-b) and (107a-b) (Schwartz & Vikner 1996: 20; similar contrasts obtain in Yiddish and Icelandic):<sup>59</sup>

- (106) a. Gestern *pro* ist ein Junge gekommen (German)  
 Yesterday EXPL is a boy come  
 b. \**pro* ist ein Junge gekommen  
 EXPL is a boy come
- (107) a. \*Gestern ist es ein Junge gekommen  
 Yesterday is there a boy come  
 b. Es ist ein Junge gekommen  
 There is a boy come

In (106a), the V2 effect obtains at Spell Out as the EPP is satisfied in [Spec, Agr<sub>S</sub>P], after T raises to Agr<sub>S</sub>, in conjunction with the valuation of [*uD*] on Agr<sub>S</sub>. By contrast, the V2 effect does not obtain in (106b), as no lexicalized element occupies the first position of the clause at PF. Thus, (106b) is essentially not a V2 configuration. In this case, the only grammatical output is to merge the lexicalized subject counterpart of EXPL *pro* – i.e., EXPL *es* – as in (107b).

In (107a), the Merge of EXPL *es* in [Spec, TP] satisfies the EPP. However, as T raises to Fin, the EPP should have obtained in the Spec position of the superordinate head node to which T is attached (i.e., Fin). In (107a), the adverbial *gestern* cannot satisfy the EPP as it is in [Spec, TopP], which is not an EPP position, nor, for that matter, a position associated with a [*uD*] feature. By contrast, in (107b), the EXPL *es* is merged in [Spec, FinP] where the EPP is satisfied and the additional ‘edge’ feature [*uD*] valued (see the discussion of structure (102b) above).

As noted above (see footnote 57), the present analysis is in parallel with Travis’s (1991) asymmetrical account of V2 sentences, where the asymmetry is between subject elements that are merged in [Spec, IP] and non-subject elements that are merged in [Spec, CP]. In the present analysis of matrix declarative V2 sentences, the asymmetry is between XP-topicalization cases involving EXPL *pro*-insertion for EPP satisfaction in the IP domain and the Merge of subject elements (EXPL *es* or lexical subjects) for EPP satisfaction in [Spec, FinP].

<sup>59</sup> See footnote 58 above in relation to my adaptation of sentence (105a).

(iii) Language/construction type C: This type concerns VSO structural configurations in languages with ‘basic’ VSO phenomenology. As discussed in section 4.1.2.1 above, Carnie *et al.* (1994: 87) and Carnie *et al.* (2000: 41) refer to the phenomenon exhibited by this type of construction as the ‘weak V2 phenomenon’ or the ‘weak V2 effect’ (in Carnie *et al.* 2000) according to which the verbal complex V-*v*-T is in Fin at Spell Out. In the probe-goal-Agree system assumed here, Agr<sub>S</sub> fails to project in the derivation of ‘basic’ VSO sentences. I exemplify such a language/construction type with the SA VSO sentence in (108a), structurally represented as in (108b):

(108) a. ?inna-hu      jaaʔ-a                      ʔal-ʔawlaad-u                      (SA)  
           that-EXPL PERF.come-3MS      the-boys-NOM

b.

In structure (108b), the verb *jaaʔa* ‘came’ raises to Fin past the subject DP *ʔal-ʔawlaadu* ‘the boys’, raised to [Spec, TP]. In the absence of an Agr<sub>S</sub>(P) projection in the ‘basic’ VSO phenomenology, the [*u*D] feature is not generated. Thus, the

As discussed in the previous chapters, SA allows the alternative ‘basic’ SVO word ordering (in conformity with Greenberg’s 1963 Universal 6). In the derivation of SVO sentences in SA, an Agr<sub>S</sub> node projects to allow a referential *pro* to be merged in [Spec, Agr<sub>S</sub>P] as a resumptive strategy for the identification of the Topic DP in [Spec, TopP]. On this account, the SVO sentence in (109a) below has the representation in (109b):

- b.

In (109b), the T-to-Agr<sub>S</sub> raising process is triggered by a [*u*D]-feature on Agr<sub>S</sub>. As T raises to Agr<sub>S</sub>, the [*u*D]-feature on Agr<sub>S</sub> gets valued in the process of valuing the EPP and  $\phi$ -features of T in relation to the resumptive *pro* raised out of vP/VP to [Spec, Agr<sub>S</sub>P].

On the basis of the three language/construction types described in relation to structures (102a,b), (105b) and (108b) above three main claims can be made:

(110) The parametric availability of [*u*D] as an ‘edge’ feature

- A. What would account for the V2 phenomenon is an uninterpretable ‘edge’ feature [*u*D] on Agr<sub>S</sub> or Fin in the relevant subject-verb agreement V2 configurations? In contrast to these V2 configurations, in subject-verb agreement configurations in the ‘weak’ V2 case in ‘basic’ SA VSO word ordering, [*u*D] on Agr<sub>S</sub> or Fin is not generated. Language type C is the only instance where the valuation of [*u*D] does not coincide with the identification of [*i*T] features at the interface, hence my reinterpretation of Carnie *et al.*’s (1994) claim about the ‘weak’ V2 phenomenon in ‘basic’ VSO word ordering. In such a context, no [*u*D]-feature is generated.
- B. [*i*T]-features (cf. R&R’s [+Fin] feature), which are generated on Fin and passed down to T, play an important role in the ‘identification’ of the C-(Agr<sub>S</sub>)-T dependency along with the valuation of the EPP. The ‘identification’ of [*i*T]-features is largely a question of head-head agreement relations, which may coincide with the valuation of [*u*D] and EPP features.
- C. In structural contexts where a Top node projects above FinP, the identification process involves an [*i*D]-feature on Top. The identification of such a feature on Top does not involve EPP-feature valuation. Similar considerations arise in the context of relative clause formation.

As the tree representations in (102a,b), (105b) and (108b) show, an important property of the parameterized feature-based system I am adopting in terms of a language-specific/construction-specific [*u*D]-feature is that when the [*u*D]-feature is generated on Agr<sub>S</sub> or Fin, it coincides with the valuation of the EPP-feature. This is the case of the language/construction type A (i.e., structures (102a) and (102b)) and type B (i.e., structure (105b)). It is in the context of such a combination of features on functional nodes that V2 configurations arise. When [*u*D] is not generated, as in

language type C (structure (108b)), the EPP feature does not coincide with the process of T-to-Fin (nor with the process of T-to-Agr<sub>S</sub>, for the absence of Agr<sub>S</sub>) giving rise to a ‘weak’ V2 configuration.

Within the feature-based system introduced above, the projection of Agr<sub>S</sub> regulates the subject-verb agreement configurations that arise as the inflectional field is merged in clause structure. The projection of Agr<sub>S</sub> in the higher functional field in the IP domain makes the status of the Agr<sub>S</sub> node look similar to the functional nodes that project within the left periphery of clause structure. The only difference is that the Agr<sub>S</sub> node is intrinsically linked to  $\phi$ -feature specification and EPP valuation in the languages/structures where ‘richer’ instances of subject-verb agreement arise at the level of Spell Out. The same is true of Fin in V2 matrix declarative structures in Germanic where a lexical subject or an overt EXPL has to be merged in [Spec, FinP] in satisfaction of the EPP at Spell-Out.

#### 4.3.2. *Feature inheritance (Chomsky 2008) as $\phi$ -feature sharing*

##### 4.3.2.1. *Introduction*

In this section, I extend on claims of the presence of an ‘edge’ feature (EF) in C that interacts with the  $\phi$ -features (Agree features) that C passes down to T (Chomsky 2008: 149-150).<sup>60</sup> Thus, in sections 4.3.2.2 and 4.3.2.3, I attempt to show how the assumption of the interdependency of [*i*T]-features and [*u*D]-features provides an alternative account for the derivation of some peculiar subject-verb agreement configurations in the variety of English studied by Kimball & Aissen (1971) and by Kayne (1989b, 2000) and in West Flemish (Haegeman & Koppen 2012).

In this context, I propose the working hypothesis that languages parametrically allow a particular feature (in the case at hand, the [*u*D]-feature) to be generated in relation to particular structural configurations arising out of feature dependency relations between C and T conceived of as feature sharing.

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<sup>60</sup> In Chomsky (2001, 2004), the ‘edge’ feature was conceived of as an EPP feature that the Phase heads C and  $v^*$  could acquire in languages that allow scrambling such as German and Dutch.

#### 4.3.2.2. *Kayne's (1989b, 2000) AGR-raising analysis revisited: A feature sharing alternative*

In section 3.1.1.1, I relied on the account provided by Kayne (1989b, 2000) for the subject-verb agreement configurations in a variety of English (previously studied by Kimball & Aissen 1971) to support my claim of the legitimacy of linking cases of parametric variation in the derivation of subject-verb agreement configurations cross-linguistically to the availability or non-availability of some Agr(s) node in sentence structure. The relevant English sentences are repeated in (111a,b) below:

- (111) a. Which girls do the boy think should be invited? (Kayne's 2000 (18): 193)
- b. \*Which girl does the boys think should be invited? (Kayne's 2000 (19): 193)

According to Kayne's (1989b, 2000) analysis, there is an agreement element in C raised from within the IP domain in (111a), but not in (111b). On the basis of this assumption about the availability of an agreement element in C, Kayne (1989b, 2000) was able to account for the kind of subject-verb agreement observed in CP between the *wh*-phrase *Which girls* and the auxiliary *do* in (112a) where whatever features are present on C allow this kind of subject-verb agreement.

However, the contrast between (111a) and (111b) may be reformulated in terms of the availability of a  $[uD]$  feature in sentence structure relying on a  $\phi$ -feature sharing conception of Chomsky's (2008) feature-inheritance mechanism. Let us provide a feature structure to the sentences in (111a,b), as in (112a,b) below:

- (112) a. [<sub>CP</sub> Which girls [<sub>C</sub> do [<sub>TP</sub> the boy [<sub>T</sub> [<sub>v</sub> think should be invited]]]]]?  
          [*uD*]  
              [*iT*]                      [*iT*]
- b. \* [<sub>CP</sub> Which girl [<sub>C</sub> does [<sub>TP</sub> the boys [<sub>T</sub> [<sub>v</sub> think should be invited]]]]]?  
          [*uD*]  
              [*iT*]                      [*iT*]

In (112a,b), I suggest a (partial) feature structure in terms of the core assumption I am proposing in relation to the parametric availability of a [*uD*] feature on some functional head as an ‘edge’ feature. The generation of the [*uD*] feature on the relevant functional node (C in (112a,b)) in conjunction with [*iT*] gives rise to  $\phi$ -agreement at Spell-Out. Nevertheless, satisfaction of the EPP only applies at the IP level within the C-T dependency in English. The identification of the C-T dependency

is also established in terms of tense interpretation at the interface (i.e., [*I*T] has to be ‘identified’ on both T and C as the structure is transferred to PF and LF for interpretation).

According to a  $\phi$ -feature sharing conception of Chomsky's (2008) feature-inheritance mechanism, the complex of  $\phi$ -feature(s) (namely, number in English) that is generated in C has to be shared with T in the process of the identification of the C-T dependency at Spell Out after the 'edge' feature [ $uD$ ] and the tense feature [ $iT$ ] combine and establish a  $\phi$ -agreement relation between *which girl* in [Spec, CP] and *does* in C. In (112a,b), the  $\phi$ -agreement relation at the level of CP in terms of [ $uD$ ] and [ $iT$ ] is established between the wh-phrase in [Spec, CP] and the auxiliary in C. This  $\phi$ -feature sharing mechanism yields the feature structure in (113a,b) below:

- (113) a. [<sub>CP</sub> Which girls [<sub>C</sub> do [<sub>TP</sub> the boy [<sub>T</sub> [<sub>v</sub> think should be invited]]]]]?  
           [*uD*]  
           [*iT*]                      [*iT*] (EPP)  
           [+P] ↔ [+P] = [+P]
- b. \*[[<sub>CP</sub> Which girl [<sub>C</sub> does [<sub>TP</sub> the boys [<sub>T</sub> [<sub>v</sub> think should be invited]]]]]?  
           [*uD*]  
           [*iT*]                      [*iT*] (EPP)  
           [-P] ↔ [-P] ≠ [+P]

In (113a), the  $\phi$ -feature (i.e., [+P] for the number feature [+Plural]) that is shared between C and T establishes a Spec-head agreement relationship that is realized as ‘Plural’ at the ‘edge’ level within CP. Since T has to ‘Agree’ in  $\phi$ -features with the head C that selects it in sentence structure, the Spec-head-/head-head feature-sharing mechanism applies and C ‘passes down’ agreement in number (i.e., [+P]) to T in the IP domain.  $[iT]$  features also match.

In contrast, in (113b), a mismatch in  $\phi$ -agreement arises within the IP domain as the structure is handed over to the interface for interpretation. The  $\phi$ -feature ([P] for the number feature [-Plural]) that is shared between C and T establishes a Spec-head agreement relationship, at Spell Out, that is realized as [-P] at the ‘edge’ level within CP. Given the C-T dependency, T ‘shares’ the same  $\phi$ -features with C (i.e., [-P]) as they are ‘passed down’ from the ‘edge’ head C to T. Similarly, both instances of [*i*T] features (i.e., [*i*T] in C and [*i*T] in T) have to match as they combine with  $\phi$ -agreement in their respective domains. However, as the EPP is ultimately satisfied

after subject-verb agreement is established within the IP domain, a  $\phi$ -agreement realization on the verbal inflectional complex different from the  $\phi$ -agreement realization established in CP arises. As can be seen in the feature structure provided in (113b),  $\phi$ -agreement within IP is realized as [+P] (irrespective of the (3<sup>rd</sup> person) plural DP *boys*); hence, the mismatch in  $\phi$ -agreement between T and C at Spell Out.<sup>61</sup>

What the analysis in terms of an additional ‘edge’ [*u*D] feature suggests is that the association of [*u*D] and [*i*T] in the CP domain, in such sentences as in (112a,b)/113a,b) in the relevant English dialect, gives rise to a  $\phi$ -agreement configuration established in terms of the Spec-head/head-head agreement relation. However, this agreement configuration between [*u*D] and [*i*T] in CP happens to be dissociated from the domain of EPP feature valuation, which, in English, has to be satisfied within IP as the effect of subject-verb agreement. The result is a mismatch in the realization of  $\phi$ -agreement within the two domains CP and IP in this English dialect in (112b)/113b) vs. (112a)/113a).

The idea of a basic dissociation between the Spec-head agreement relation established in CP in terms of an additional [*u*D] feature in C and the domain of EPP satisfaction within the IP in such a variety of English in the examples in (112)/(113) can be better understood in light of relative clause constructions where the same agreement configuration witnessed in (112)/(113) also obtains. Nevertheless, in the relative clause construction, as Kimball & Aissen (1971: 244) note “agreement may occur between the main verb of the clause and the head of the relative clause as well as between the verb and the subject of the clause”. The optionality of agreement in such a case is exemplified in (114) below (from Kimball & Aissen 1971: 241-242):

(114) a. Mark knows the people who Clark thinks are in the garden

b. Mark knows the people who Clark think are in the garden

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<sup>61</sup> I represent ‘*do/does*’, in (112a,b) and (113a,b), as being merged in C and not in some lower position below C (as Kayne 1989b/2000 assumes) in such a residual V2 configuration in this variety of English. Judging from the fact that in the grammatical (112a)/(113a) both the verb and the auxiliary are ‘plural’ (irrespective of the singular DP *boy*), it might be the case that it is by virtue of each instance of intrinsic [*i*T] features, i.e., [*i*T] on the auxiliary, as a functional element associated with ‘tense’, and [*i*T] on the C-node, that  $\phi$ -agreement in CP in this variety of English is determined as [+P] in (112a)/(113a), and as [-P] in (112b)/(113b). Both instances of [*i*T] combine with [*u*D] on C as an ‘edge’ feature and they conjointly determine  $\phi$ -agreement at Spell Out. However, only in the derivation of (112b)/113b) does  $\phi$ -agreement lead to a mismatch, as discussed above. In this case, whether the subject DP in [Spec, TP] is singular or plural would thus not count in the computation of the C-T  $\phi$ -agreement dependency at Spell Out. Ultimately, at Spell Out, the satisfaction of the EPP would follow from  $\phi$ -agreement determined by the C-T dependency in the derivation of sentence structure.



The question that poses itself in relation to (114) is the following: Where does the optionality of agreement in the derivation of the relative clause in (114) come from?<sup>62</sup> My assumption is that the optionality of agreement in such a configuration arises out of the establishment of two domains of ‘predication’ within the structure of relative clauses. The first is the domain of ‘syntactic predication’ within the IP. The other is the domain of ‘higher predication’ that obtains between the relative clause and the D(P) element it is predicated of. No such ‘higher predication’ exists in the derivation of interrogative and declarative clauses, as already discussed in relation to Table 4.2 in section 4.2.2 above.

The same reasoning applies to the Topic-comment structures in (115) below (Kimball & Aissen 1971: 244):

- (115) a. These houses my uncle buys and sells  
       b. These houses my uncle buy and sell

In (115), the DP of which the tensed IP is predicated sets its own structural conditions for the licensing of subject-verb agreement within IP irrespective of the topicalized object DP *these houses*.

However, to account for why there is optional subject-verb agreement in the derivation of the sentences in (114) and (115) as either linking the main verb and the DP/NP in the left periphery of the clause or linking the main verb and the ‘subject of predication’ within IP, it might be the case that since two domains of syntactic predication seem to interact within the derivation of these structural configurations, the verb is ‘free’ to pick either one.<sup>63</sup>

<sup>62</sup> The same is true of Topic-comment structures, as will be dealt with below.

<sup>63</sup> The possibility of the agreement relationship between the DP (*the people* (*who*)) and the main verb in (114), and between the DP *the houses* and the main verb in (115) might be a consequence of the clausal scope relationship that links between the external D-head *the*, which selects the CP wh-relative clause, and the locus of agreement within IP (i.e. the T-node) in (114), and between the Top head of the Topic-comment structure and the T-node in (115). In (114), it is by virtue of [*i*D] on D (and presumably, as well, by virtue of an [*i*T] feature allowing the D-head to select the CP) that the scope relationship is established at LF. In (115), the scope relation is established in terms of the intrinsic interpretable D-feature of the Top head (i.e., [*i*D] on Top) in addition to an [*i*T] feature that links the Top head to both Fin and T. In contrast to the scope relationship that links [*i*D] and [*i*T] at the higher part of the split CP domain in (114) and (115) to T and the verb, no clausal scope relationship links between the subject of predication in [Spec, IP/TP] and the verb. In this case, the relationship between the subject DP and the verb is strictly predication, but this relationship ultimately also follows from the EPP requirement as a requirement that is tightly linked to the valuation of uninterpretable  $\phi$ -features via the specific agreement pattern of a head (i.e., the head of IP) and its Spec. As already discussed in the previous chapters, no EPP requirement ever arises in the derivation of Topic-comment structures at the level

In light of this account, it might be possible now to give a more plausible account of the grammaticality contrast between (112b)/(113b) and (112a)/(113a) above. As discussed above, the possibility of generating an additional [*u*D] feature on C in such wh-constructions in the relevant variety of English, as a parametric option, follows from the assumption that there are  $\phi$ -/Agree features that are universally generated on C to start with (as proposed by Chomsky 2001, 2004, 2008). Within the present framework of assumptions that parameterizes the probe-goal Agree system in terms of the possibility of generating an additional [*u*D] feature on Phase heads at the ‘edge’, the ‘edge’ [*u*D] feature is responsible for establishing a special Spec-head/head-head agreement configuration at the level of CP or Agr<sub>S</sub>P, according to the language or the particular structure being derived within the language in question.<sup>64</sup>

Thus, under the Phase-theoretic assumption that Agree-features (i.e., number features in the present context), within the  $\phi$ -set of functional nodes, start out in C and are ‘passed down’ to T, the existence of a parametrically available [*u*D] feature in C determines an agreement configuration in terms of which the C-(Agr<sub>S</sub>)-T dependency is established at Spell Out. It follows that, at the level where  $\phi$ -agreement is realized and the EPP satisfied in clause structure within IP in English, whatever agreement specification has been established via the special Spec-head/head-head agreement configuration within CP, in the variety of English in question, will have to be preserved as the structure is handed over to the interface for interpretation. As discussed above in relation to the grammaticality contrast between (112a/113a) and (112b/113b), any mismatch in agreement features that arises at the level where the EPP is satisfied in English (i.e., within IP), inevitably leads to a deviant structure that does not converge at the interface.

In the following section, I discuss Haegeman & Koppen’s (2012) assumptions about  $\phi$ -agreement within the clause structure of Dutch/West Flemish in relation to the phenomenon of Complementizer Agreement (CA) in such a language variety.

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where the Topic DP is merged in the left periphery. In the derivation of these structures, no actual valuation of features is under way (cf. R&R).

<sup>64</sup> As discussed in section 3.2.1.2, Roberts (2010b) and Biberauer & Roberts (2010) account for parametric variation within closely-related Romance and/or null-subject systems in terms of an additional D-feature as an intrinsic property of the T-node. In Roberts’ (2010b) and Biberauer & Roberts’ (2010) account of the ‘richer’ cases of subject-verb agreement witnessed within some null-subject systems, it is the additional D-feature on T, as an uninterpretable feature, which establishes the special agreement environment at the level of IP. In the probe-goal-Agree system I am adopting, the parametrically available additional [*u*D] feature is a property of ‘Phase’ heads, i.e., Agr<sub>S</sub> (when it projects) or C.

#### 4.3.2.3. Complementizer Agreement in Dutch External Possessor Agreement configurations

In the following discussion, I suggest (*contra* Haegeman & Koppen 2012) that ‘feature inheritance’ as  $\phi$ -feature sharing is relevant to the derivation of non-V2 CA configurations in embedded clauses in Dutch /West Flemish. Thus, as proposed by Chomsky (2008),  $\phi$ -features start out in C, but they are passed down to T in the process of the derivation of the C-(Agr<sub>S</sub>)-T dependency in clause structure. As for the other features involved in the C-(Agr<sub>S</sub>)-T dependency – namely, the EPP feature along with the parametrically available [*u*D] feature, and [*i*T] features –, my proposal is that these features are not subject to ‘inheritance’. As discussed above, the EPP feature is an exclusive property of the T-node. The [*u*D] feature is a feature inherent to separate functional head different from T. [*i*T] features obtain on both Fin and T as these two nodes form the basis of the probe-goal-Agree dependency relationships linking the IP domain to the CP domain.

Haegeman & Koppen (2012: 448-451) discuss External Possessor Agreement (EPA) configurations as a special case of CA in West Flemish where a mismatch arises between the CA agreement configuration established in the CP domain and the subject-verb agreement configuration established in the IP domain. According to Haegeman & Koppen (2012: 448-451), EPA does not show the usual characteristics of CA in Dutch in that the  $\phi$ -agreement configuration that is established in CP is different from the  $\phi$ -agreement configuration that arises in IP in contravention of Chomsky’s feature- inheritance theory based on the premise of an essential C-T  $\phi$ -agreement dependency.

A representative example of EPA is the case where the subject possessor DP and the subject possessee DP are separated by a focused adjunct element (i.e., *toen juste* ‘just then’ shown in bold in (116a)) signalling the projection of a FocP in between the two subject DPs, as represented in (116b) for the EPA case in (104a).<sup>65</sup>

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<sup>65</sup> Haegeman & Koppen (2012: 450) do not represent the FinP projection, but I assume that FinP should be represented to account for, first, the essential link between IP and the CP (= FinP) in terms of finiteness in that it is by virtue of intrinsic [*i*T] features that the selectional relation between Fin and T can be represented in finite clauses. Second, the projection of FinP will also account for the two separate feature inheritance processes that such cases of EPA allow (Haegeman & Koppen 2012: 450; see the discussion of such EPA instances below). In the alternative analysis I am seeking in terms of [*u*D] features, [Spec, AlphaP] might be [Spec, TopP] – an A’-position. The valuation of the [*u*D] feature at the higher C position Force is conceived of as a Subject Criterion established on the basis of a head-head Agree relation between a head and another head (cf. Rizzi & Shlonsky 2007: 139). Thus,

- (116) a. ... omda-n/\*omdat André en Valère **toen juste** underen computer kapot was  
 because-P/because A. and V. then just their computer broken was  
 ‘...because André and Valère’s computer broke just then’

(West Flemish, adapted from Haegeman & Koppen 2012: 449-450)

As the tree representation (116b) shows, the  $\phi$ -agreement configuration that is established in the higher part of CP (i.e., Force and its maximal projection ForceP) is different from the  $\phi$ -agreement configuration that arises in the lower part of CP (i.e., Fin) in relation to IP since the domain of  $\phi$ -agreement at the level of ForceP between the features encoded on the complementizer *omdan* ‘because’ in Force and the plural possessor DP *André en Valère* is dissociated from the  $\phi$ -agreement relation that links the features encoded on Fin and the singular possessee DP *underen computer* ‘their computer’ in IP.

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Force and Top engage in an extra subject-related Agree relation over and above the subject-verb agreement relation in the IP domain for EPP satisfaction. The extra subject-related Agree relation between Force and Top is established in terms of an additional [*uD*] feature on Force, not related to the EPP (*contra* Haegeman & Koppen’s 2012: 450 claim of an additional EPP feature on Alpha valued by the subject element in [Spec, Alpha] – an A-position according to Haegeman & Koppen 2012: 450).

In the probe-goal-Agree system I am assuming here, making the assumption that an additional ‘edge’ [*u*D] feature is generated on Force in an EPA case like (104) accounts for the  $\phi$ -agreement relationship that is established between Force, Alpha and the possessor DP in [Spec, AlphaP] as being dissociated from the  $\phi$ -agreement relationship that is established between Fin, T and the singular possessee DP in [Spec, TP]. Thus, in (104), feature-sharing establishes a head-head agreement relationship in  $\phi$ -features (i.e., [*F*<sub>2</sub>] in (116)) applying between C (= Force) and Alpha whereby [*u*D] on Force is valued. This head-head agreement relationship, in turn, triggers Spec-head agreement between Alpha and [Spec, AlphaP]. The plural possessor DP *André en Valère* now shares the [*F*<sub>2</sub>]  $\phi$ -feature with Force and Alpha. This head-head/Spec-head agreement relation at the highest level of the split-CP domain sets this  $\phi$ -agreement configuration apart from the other  $\phi$ -agreement configuration established in the lower part of the split-CP domain between Fin and IP, as Fin agrees with I/T and with the specifier position of its complement IP. In this case, the head-head/Spec-head agreement relation between Fin, I/T and the singular possessee DP *underen computer* ‘their computer’ in [Spec, IP/TP] is established in terms of the feature-sharing of the [*F*<sub>1</sub>]  $\phi$ -feature. The possessee DP *underen computer* satisfies the EPP in [Spec, IP/TP], as well.

As Haegeman & Koppen (2012: 449) note, “a focused temporal adjunct ... is a crucial ingredient in licensing EPA: without it EPA is not possible”, as the ungrammatical EPA case in (117) shows:

- (117) ...omdat/\*omda-n   André en   Valère   underen computer kapot   was  
           because/because-PL André and Valère their        computer broken was  
           ‘...because André and Valère’s computer broke’

(West Flemish, Haegeman & Koppen 2012: 449)

(117) is ungrammatical if, in the absence of a focused temporal adjunct,  $\phi$ -agreement on C (= Fin) does not match  $\phi$ -agreement established in IP in conjunction with EPP satisfaction in [Spec, TP].

As Haegeman & Koppen (2012: 449) observe, only one subject position is available in a sentence like (117) – namely, [Spec, TP]. This suggestion conforms to the analysis I am adopting whereby the  $\phi$ -agreement relationship that is established at Spell Out, at the level where the C-T dependency is interpreted, is determined both within CP and IP/TP as feature inheritance/feature sharing applies. Thus, in (117), the

EPP is satisfied within [Spec, TP] where the subject *André en Valère underen computer* ‘André en Valère’s computer’ is finally merged. On this account, the  $\phi$ -agreement that is manifested on the lexical complementizer *omdat* has to be the same as the  $\phi$ -agreement that is manifested within IP between the subject of predication and the verb on the assumption that the subject-verb  $\phi$ -agreement configuration that shows up in IP is actually a reflection of the essential  $\phi$ -feature dependency that binds T to C (= Fin).

Under such an account of EPA, it might be the case that two sets of  $\phi$ -features are actually generated in CP in such constructions in West Flemish: one set of  $\phi$ -features is generated on the higher C-node (= Force in Rizzi’s 1997 split-CP system) and another set of  $\phi$ -features is generated on Fin in the lower part of the CP domain selecting TP as complement in sentence structure. In this case, the C-T  $\phi$ -feature dependency still holds between Fin and T (each of which is also generated, as an intrinsic property, with the essential [*i*T] feature for tense interpretation at Spell Out at the C-T Phase, and for EPP satisfaction within IP). This alternative account of the EPA configuration is in line with the assumption Haegeman & Koppen (2012: 451) entertain that an additional (Case) feature is introduced in the structure where EPA occurs, which determines the special  $\phi$ -agreement configuration. In the account I am proposing in terms of an additional ‘edge’ [*u*D] feature, it is this ‘edge’ feature that, presumably, triggers the special agreement in the higher part of the CP where the possessor DP is merged, and by that token determines EPA. Thus, EPA arises out of a ‘matching’ relationship, parametrically available in the Dutch dialect under consideration, between an ‘edge’ [*u*D] feature in the higher part of the split functional CP domain of the language and a lower [*i*D] feature base-generated on the Alpha head Haegeman & Koppen (2012: 449-450) are postulating.<sup>66</sup>

As Haegeman & Koppen (2012: 451, footnote 12) note, the EPA configuration is different from other cases of CA in Dutch where “both C<sup>0</sup> and T<sup>0</sup> have uninterpretable  $\phi$ -features and probe for the subject” in line with Chomsky’s feature-inheritance framework. In the alternative account I am proposing, what distinguishes EPA is the parametrically available [*u*D] feature, which, as an ‘edge’ feature, is generated higher in the derived structure. In such an agreement configuration, as

<sup>66</sup> Under such an alternative, the ‘extra’ EPP feature, which Haegeman & Koppen (2012: 450, see their tree structure in (16)) postulate on Alpha, would rather be the intrinsic interpretable [*i*D] feature that, in my account, is generated on Top (Top being essentially dissociated from the EPP, see also note 63 above).

suggested by Haegeman & Koppen (2012: 451, footnote 12), the mechanism of feature inheritance would operate according to a ‘multiple phase’ feature inheritance theory. In the alternative account I am proposing, two separate  $\phi$ -agreement domains are established: The first  $\phi$ -agreement domain is established between the higher C node (i.e., Force) and Haegeman & Koppen’s (2012) head node Alpha. The second  $\phi$ -agreement domain is established between a lower C node (i.e., Fin, in the split-CP system I am adopting) and the T-node. Each  $\phi$ -agreement domain would set its own licensing conditions as the structure is handed over to the interface for interpretability at Spell Out. This account fits well with the assumption that the derivation of such language-specific CA configurations actually goes through ‘multiple phases’ or two separate  $\phi$ -agreement domains, as discussed above.

This account confirms the assumption of the present analysis that there is a kind of feature-sharing mechanism that applies between C (i.e., Fin or both Force and Fin as in EPA in West Flemish,) and the head (and the specifier of that head) that C selects in clause structure. The feature-sharing relationship between the highest head in the CP domain in EPA configurations in West Flemish is established in terms of an additional [ $\mu$ D] feature on Force that sets the domain of  $\phi$ -agreement in CP apart from the domain of  $\phi$ -agreement in IP.

In sum, these CA cases seem to favour an account where the generation of an additional [ $\mu$ D] feature at the ‘edge’ systematically gives rise to cases of subject-verb agreement that are ‘richer’ than other cases according to the specific character of these agreement configurations in the language in question.

#### 4.4. Conclusion

In conclusion, the analysis of the different structural configurations in this chapter provides confirmation for the view that there are  $\phi$ -/Agree features that are universally generated on C (i.e., Force and/or Fin, in the present framework) to start with (as proposed by Chomsky 2001, 2004, 2008). The probe-goal-Agree system adopted here has centred on the assumption of an additional ‘edge’ [ $\mu$ D]-feature generated either on Agr<sub>S</sub> or on Fin, which is a parametric option available to typologically similar languages (or varieties of the same language).

In particular, in relation to V-initial sentences in VSO languages (e.g., SA), I have assumed that no [ $\mu$ D]-feature is generated on Fin or on Agr<sub>S</sub> for the absence of an Agr<sub>S</sub>(P) projection in the derivation of such sentences. Unlike in V2

configurations with a lexical subject DP or EXPL DP in initial position in Germanic, the EPP, in SA VSO sentences, exclusively applies in the IP domain in [Spec, TP], and the T-to-Fin raising process in such sentences is not EPP-related.

More generally, the analysis of the VSO/V2 phenomenology in section 4.3 has shown that ‘richer’ Spec-head/head-head agreement configurations are established at the level of CP (= FinP) or Agr<sub>S</sub>P, according to the language or the particular structure being derived.

In all such contexts, the derivation of ‘Subjects’ and ‘Topics’ follows from the distribution of D-features: [*u*D]-features (on Fin or Agr<sub>S</sub>) vs. [*i*D]-features on D of relatives or on Top.

Similarly, the language-specific  $\phi$ -agreement configurations within CP in the residual V2 case in a variety of English and in the EPA case in West Flemish have been accounted for in terms of an additional ‘edge’ [*u*D]-feature on the highest functional node in the CP domain (= Force in EPA cases). The feature-sharing interpretation of feature inheritance accounts for a possible mismatch between  $\phi$ -agreement within CP and  $\phi$ -agreement within IP in the process of feature inheritance between Force and/or Fin and the head (and the complement of that head) Force/Fin selects in sentence structure. In the variety of English, no feature mismatch arises in relatives or with Topic DPs where [*u*D] is absent. Likewise, [*u*D] is absent in West Flemish when the EPA pattern is not triggered, thus failing to establish a separate  $\phi$ -agreement configuration within CP.



## CHAPTER FIVE

### SUMMARY AND CONCLUSIONS

In this dissertation, we have been concerned, in particular, with the derivation of the subject-verb agreement configurations in Arabic (the standard variety and the dialects) and, more generally, with the representation of syntactic dependency relations cross-linguistically.

The proposed feature-based analysis of parametric and micro-parametric variation shows that variation between typologically similar and even typologically different languages is minimal. This variation is limited to the interaction of functional feature combinations (namely, D-features and T-features) in the derivation of sentences.

According to a Cartographic conception of dependency relations on the basis of which subject-verb agreement configurations are established, my proposal has been that the EPP feature (or the Extended Projection Principle, as it was called at first in the early 1980s) remains a universal property of sentence structure associated with T. In the Phase-theoretic framework (Chomsky 2001, 2004) adopted here, the EPP feature is an intrinsic property of the T node. However, the present analysis, although arguing for the position that the EPP feature and  $\phi$ -features (or, according to Chomsky 2008, Agree-features) are essentially tied together, they remain different in that the EPP feature is not passed down from C (= Fin) along with Agree-features (*pace* Chomsky's 2008: 157 suggestion that this could possibly be the case).

In this light, the derivation of VSO and SVO sentences in the standard variety of Arabic and the dialects has been proposed to vary in terms of the Merge processes (including movement) that the elements selected for the Numeration within the course of the derivation are subject to. The presence or absence of a single categorial functional feature (i.e., the parametrically available or non-available [ $\mu$ D]-feature of Agr<sub>S</sub>) has the effect of setting parametric differences in the probe-goal-Agree relations that drive the derivation of the sentences in question.

Thus, in relation to the VSO word ordering in Arabic (see, in particular, Chapter Two and Chapter Three for such varieties of Arabic as SA, TA and MA and

Chapter Four for SA, basically), the structure in (1) below would be the representation of SA VSO sentences at the interface:

(1) SA VSO word order

In (1), the V-v-T complex raises to Fin and the subject DP is raised to [Spec, TP] where it satisfies the EPP (mainly, extending Aoun *et al.*'s 2010 proposal; see section 4.1.2.1). In the analysis adopted in this thesis, the raising of the subject DP to [Spec, TP] is also correlated by the absence of Agr<sub>S</sub> and its Spec position (in contrast to the modern spoken dialects – for example, TA – where Agr<sub>S</sub> necessarily projects; see (3) below).

In between FinP and ForceP, the structure of SA allows for the projection of different functional projections, not limited to Focus elements, which are merged under a ForceP projection, or to Topic elements, which are merged under a TopP projection, but also to such categories that would allow for the Merge of such functional elements as the SA modal particle *qad* and the NEG elements *laa/lam/lan*. Thus, the ellipsis in the SA structure (1) can include a NegP projection and a ModP projection. As for the NEG element *maa* in SA, I have followed Bahloul (2008) in the assumption that it is base-generated in the Foc head in the split-CP domain. Structures (2a) and (2b) below show the distribution of NEG elements in the split-CP domain of sentences in SA:

(2) a.

b.

In contrast to SA, the verb, in the TA VSO word ordering, is raised to the inflectional domain (projecting as Agr<sub>S</sub>P) and stops in the Agr<sub>S</sub> node above the T-node of sentence structure. The subject DP remains *in situ* in [Spec, v\*P/VP] in a post-verbal position, and an EXPL *pro* occupies the [Spec, IP/Agr<sub>S</sub>P] position, as represented in (3) below:

(3) TA VSO word order

In relation to the TA VSO structure (3), my assumption has been that, whereas in SA VSO sentences expletive *pro* is not instantiated in the highest Spec position in the IP domain for EPP satisfaction (i.e., [Spec, TP] in (1) above), TA VSO sentences require the projection of Agr<sub>S</sub>P and its Spec position for expletive *pro* insertion and EPP satisfaction. As (2) shows, the verbal complex V-*v*-T is raised to the Agr<sub>S</sub> node and does not raise further up.

As for Negation in TA (where only the NEG element *maa* is instantiated in the language), I have assumed that it is projected within the IP domain below T(P) (cf. Benmamoun 2000b for SA and the modern spoken dialects and Halila 1992 for TA):

(4)

As discussed in Chapter Two, in particular, in the derivation of Arabic SVO word ordering, I have assumed the micro-variation that the standard variety and the dialects of Arabic are subject to whether the subject-related DP is a Topic DP base-generated in the left periphery of sentences, which is the case in SA SVO configurations, or is raised out of [Spec, *v*\*P/VP] to [Spec, Agr<sub>S</sub>P], which is the case for a spoken dialect like TA. This derivational difference gives rise to the two representations in (5) and (6) for SA and TA SVO word ordering, respectively:

(5) SA SVO word order

(6) TA SVO word order

As (5) proposes, SA SVO word ordering allows the CP domain to split up (as it does in SA VSO word ordering) to allow for the projection of a TopP projection, which is essential for the representation of the subject-properties of SVO sentences in SA. Again, the ellipsis in the SA SVO structure (5) signals the potential projection of functional nodes for the Merge of elements linked to ‘focus’ and/or to ‘modality’. In the TA SVO structure in (6), AgrsP projects as the highest maximal projection within

IP (as in SA SVO word ordering). However, unlike the derivation of SA SVO word ordering, Agr<sub>S</sub>P in TA is selected as complement to a C node, which maximally projects as a non-split CP.

The proposed analysis of subject-verb agreement in Arabic (with some cross-linguistic comparisons) is basically similar to R&R's (2002) T-dependency approach, which links the rather 'rich' subject-verb agreement configurations familiar in a V2 language like German to the raising of T to a superordinate node (Fin in German) for the satisfaction of the EPP. Thus, the probe-goal-Agree analysis argued for here takes it that the EPP is not a 'Topic' feature (*contra* Rouveret 2010). Unlike R&R, I assume that 'topicalized' XP elements are not EPP 'checkers', contrary to subject DPs, which are the only elements (EXPL or referential) that can satisfy the EPP (or the Subject Criterion, Rizzi 2006).

The proposed analysis also conforms to Chomsky's (2008) Phase-theoretic framework (vs. Chomsky 2001, 2004) in dissociating the EPP from the so-called 'edge' uninterpretable feature of C. Nevertheless, unlike Chomsky (2008), I assume that this 'edge' feature (i.e., [*u*D] in the present analysis) is a property of a number of superordinate nodes, which relates to  $\phi$ -agreement (and, ultimately, to the EPP as an exclusive property of the T-node). This is mainly the case with subject-verb agreement configurations in SVO sentences in Arabic at the IP level projecting as Agr<sub>S</sub>P (with T raising to Agr<sub>S</sub>, as shown in structure (5) above) and in V2 matrix declarative clauses in Germanic (e.g., German), which show an asymmetry between matrix V2 cases involving XP-topicalization (with T raising to Agr<sub>S</sub>) and matrix V2 cases involving subject DPs (with T raising to Fin).

The presence of a [*u*D] feature, as a property of superordinate nodes projecting in the higher functional field in the left periphery, has also been proposed to be a characteristic of the subject-verb agreement configurations involving the CP level in the variety of English studied by Kimball & Aissen (1971) and by Kayne (1989, 2000), and the special cases of complementizer agreement in West Flemish studied by Haegeman & Koppen 2012. In both cases, [*u*D] combines with  $\phi$ -agreement, to the exclusion of the EPP in the relevant constructions. In the case of the variety of English, the valuation of [*u*D] at the CP level in *wh*-constructions (vs. topic-comment constructions and relative clauses where [*u*D] is absent) triggers a special case of subject-verb agreement, which has to conform to the  $\phi$ -agreement established at the

IP level where the EPP applies. In the West Flemish case, two  $\phi$ -agreement relations are established: one  $\phi$ -agreement relation (dissociated from the EPP *contra* Haegeman & Koppen 2012) is established at the level of Force in relation to a Topic-like node (Haegeman & Koppen's 2012 Alpha node) and a second  $\phi$ -agreement relation is established at the level of IP in relation to the EPP. Thus, this special combination of [*u*D] and  $\phi$ -agreement (to the exclusion of the EPP) in the higher functional field in the cases at hand is responsible for the rather unique character of the agreement configurations witnessed in these constructions.

The parameterized probe-goal-Agree feature-based analysis of functional categories in sentence structure has also been of major significance in pinning down the two modes of dependency relation formation involving the interaction of T-features and D-features (uninterpretable or interpretable) or between T-features and a certain array of F-features (uninterpretable or interpretable). The first mode of licensing is the basic head-head agreement relation. This agreement relation is the basis for verb-movement to the functional field above *v*P/VP in V-raising languages in relation to the 'identification' of T-features on the functional heads T and Fin in VSO configurations in SA. This basic agreement relation also involves a certain array of F-features in relation to the tense, modal and/or focus properties of sentences, as in the case of the derivation of negative sentences in SA (cf. Ouhalla 1993, R&R 2002). The second mode of licensing is the Spec-head agreement relation. This agreement relation is brought about by the Merge (internal or external) of D(P) elements, as in subject-verb agreement configurations at the level of IP in SVO configurations in SA or at the level of CP in declarative matrix V2 configurations, and the Merge of *wh*-elements in interrogative constructions. This Spec-head agreement relation is the basis for the valuation of uninterpretable features in the relevant constructions: [*u*D] on Agr<sub>S</sub> in relation to the Merge of EXPL *pro* in [Spec Agr<sub>S</sub>P] in 'topicalization' cases in SA or German, and on Fin in relation to the Merge of subject elements in the relevant V2 matrix clauses.

Moreover, this conception of feature-based dependency formation reinforces a key assumption of this thesis – namely, the dissociation between Topics and subjects. In other terms, similar to the head-head dependency relations that are involved in the identification of features in the split-CP domain, the only condition that applies to Topics in [Spec, TopP] is the identification of an [*i*D] feature on the Top node in

relation to the [*i*T] features on Fin and T, and ultimately, in relation to  $\phi$ -agreement and the EPP at the IP level.



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