Probes and pronouns: Variation in agreement and clitic doubling in Arabic

By
Meera Sahawneh

A Thesis submitted to the Faculty of Graduate Studies of

The University of Manitoba

in partial fulfillment of the requirements of the degree of

Doctor of Philosophy

Department of Linguistics

University of Manitoba

Winnipeg

Abstract

This study develops a new approach to agreement variation in Standard Arabic (SA) and Rural Jordanian Arabic (RJA) based on the Probe-Goal framework of Chomsky (2000, 2001). The key patterns investigated are the variation in fullness of agreement in the SV and VS word orders, the relationship between agreement and clitic doubling, and the patterning of agreement with conjoined subjects. The thesis argues for a connection between agreement, clitic doubling, and word order. Full agreement on T (in person, number, and gender) causes the subject to move to [Spec, TP], deriving SV order. However, partial agreement on T (lacking person) creates only a partial copy of the subject in [Spec, TP]. This partial copy is realized as a pronominal clitic in some contexts (giving CL_sVS word order) and as null *pro* in other contexts (giving VS word order). This approach enables a unified account of various differences in the patterning of agreement in SA and RJA. Turning to the more complex case of agreement with conjoined subjects, both varieties exhibit full resolved agreement with preverbal conjoined subjects. With postverbal conjoined subjects, however, there is variation: SA allows only partial agreement with the first conjunct while RJA allows partial agreement either with the first conjunct or with the entire conjoined phrase, depending on the features and the order of the conjoined nominals. The Probe-Goal framework augmented with Multiple Agree and the Continuity condition (Nevins 2007, 2011) will be employed to account for the choice between these two options in RJA. The more general theoretical conclusion is that the variation in agreement patterns is constrained by the internal hierarchical structure of φ-features on the probe. I propose that the probe has the same hierarchical structure as a pronoun (i.e. a DP). This proposal makes predictions about the range of possible variation in the features that are active in agreement and connects to broader issues such as the Pronominal Argument Hypothesis (Jelinek 1984) and the diachronic relationship between pronouns and agreement markers.

Acknowledgements

It gives me much pleasure to express my deepest gratitude to my supervisor, Dr. Will Oxford for his unwavering support and constructive mentorship throughout this study. Dr. Oxford has always been a fountain of knowledge and encouragement. Without his guidance and insightful comments, this study would have never been in its current form. Will has generously given much of his time and resources as my work has developed, and has taught me so much with the patience of a saint. I owe him a lot and I thank him for his faith in me, kindness and friendship. Will is a great linguist and an incredible person. It was such a great pleasure to conduct this study under his supervision.

I would like to thank the members of my examining committee for their specialized and erudite input. Special thanks are due to Dr. Jila Ghomeshi for her meticulous and informative comments that inevitably helped me made this piece of work better. Since that fateful day in September 2010 when I knocked on her door asking for help to do detailed transcription, she has not only become a source of inspiration for me, but also a model for how a human being seeks to support the growth and development of another. I thank her for her willingness to advise me on academic and personal levels, and for being a remarkable professor and an amazing woman. Many thanks also go to Dr. James Chlup for agreeing to serve on my defense committee and for reading the thesis and making interesting useful comments. I am also grateful to Dr. Elizabeth Ritter for kindly accepting to be my external examiner. Her rigorous examination together with the valued comments and questions have greatly enriched my study and experience. It was a pleasure and honor to meet her.

I would like to express my thanks to all the professors in the Department of Linguistics at the University of Manitoba for enriching my view of linguistics. Many thanks also go to Dr. Terry Janzen, the Head of the Department, who supported me and supervised my first

Dedication

This thesis is dedicated to my amazing parents Nariman and Bisharah for all their love,

support and sacrifices. I would not have been able to get to this stage without them.

Table of contents

Notes on transcription

The following conventions are used in transcribing the Jordanian data. The alternative transcriptions given in parentheses appear in some examples cited from other sources.

Symbol	Phonetic description
ʔ	voiceless glottal stop
h	voiceless glottal fricative
θ	voiceless interdental fricative
ð	voiced interdental fricative
š (or ʃ)	voiceless alveo-palatal fricative
ǰ	voiced alveo-palatal affricate
T	voiceless dento-alveolar emphatic stop
D (or ḍ)	voiced dento-alveolar emphatic stop
Ď	voiced interdental emphatic fricative
Q (or q)	voiceless uvular stop
x	voiceless uvular fricative
H (or ħ, ħ)	voiceless pharyngeal fricative
ʕ	voiced pharyngeal fricative
ə	schwa

- All other symbols not mentioned in the above table are standard IPA symbols.
- CC: geminate consonant
- VV: long vowel

List of abbreviations

1, 2 and 3	1st, 2nd and 3rd person, respectively.
AN (or ANIM)	animate
ACC	accusative case
CL$_s$	clitic double of the subject
ConjP	Conjoined Phrase
CR	Coordination Reduction
D (or DU)	dual
DIR	direct
DP	Determiner Phrase
F (or FEM)	feminine
FCA	First Conjunct Agreement
Gen	gender feature
GEN	genitive case
IN	inanimate
IND	individual feature (e.g. [IND] = singular; [IND, IND] = dual in SA and plural in RJA)
Infl	Inflectional head
LF	Logical Form
LOC	locative
M	masculine
NOM	nominative case
NP	Noun Phrase
NSG	non-singular
Num	number feature
OBV	obviative
P (or pl)	plural
PAH	Pronominal Argument Hypothesis
PART	participant
PASS	passive
PF	Phonological Form
PP	Prepositional Phrase
pro	pronominal element
PST	past
RA	Resolved Agreement
REFL	reflexive
RJA	Rural Jordanian Arabic
S	singular
SA	Standard Arabic
SPKR	speaker
SUB	subjunctive
SUBJ	subject
TA	Transitive Animate verb
TI	Transitive Inanimate verb
TP	Tense Phrase
u	uninterpretable (e.g. [uPerson])
VP	Verb Phrase

List of tables

Chapter 1

Introduction

The phenomenon of subject-verb agreement in general and the agreement asymmetry in Standard Arabic (SA) in particular have been the central issue in a plethora of research (see e.g. Fassi-Fehri 1988, 1993; Abd El Moneim 1989; Mohammad 1990, 2000; Benmamoun 1992, 2000; Bahloul and Harbert 1992; Aoun et al. 1994; Aoun and Benmamoun 1999; Munn 1999; Harbert and Bahloul 2002; Soltan 2006, 2007a, b; Aoun et al. 2010; among others). The correlation between word order and different agreement patterns has been the major concern of most of these analyses. Interestingly, various spoken Arabic varieties, such as Rural Jordanian Arabic (RJA), diverge from the agreement patterns manifested in SA. In this study, I argue that none of the existing analyses can capture the variation between SA and RJA.

The analytical goal of this study is to capture this cross-dialectal variation in terms of the Probe-Goal framework of Chomsky (2000, 2001).[1] The theoretical goals of the study are related to the nature of the Agree operation. Specifically, the cross-dialectal variation under investigation is used to explore the Agree operation in terms of its relationship to clitic doubling, constraints on Multiple Agree (the Continuity condition and the condition of Matched Values), and the nature and internal structure of the probe. I show that such an analysis can systematically and straightforwardly capture the different agreement facts across different Arabic dialects and simultaneously avoids the drawbacks of the previous analyses. Under my analysis, the variation in agreement patterns and word orders is the result of different sets of features borne by the probe on the functional head T as well as the result of

---

[1] I will use the term "cross-dialectal" to refer to the variation manifested between SA and RJA.

full vs. partial copying of the valued goals. Partial copying, which I propose is the result of partial agreement, gives rise to what I will be referring to as clitic doubling.

The study will extend this framework to investigate another cross-dialectal agreement variation in a rather complex context, i.e. the so-called "first conjunct" context. The asymmetry between full and partial agreement is mirrored by a further asymmetry between agreeing with the first conjunct or with the entire conjoined phrase. With a postverbal conjoined subject, SA allows only agreement with the first conjunct, while RJA allows agreement either with the first conjunct or with the entire conjoined phrase (which I will refer to as resolved agreement). The choice between these two options, however, is subject to complex restrictions that do not follow from any previous analyses (e.g. Aoun et al. 1994; Soltan 2007a, b). I show how the Probe-Goal framework adopted in the context of simple subjects, alongside other well-established operations, can provide a systematic and unified analysis of the data. The operation Multiple Agree and the Continuity condition (Nevins 2007, 2011) will play a central role in my analysis of the agreement patterns exhibited with complex/conjoined subjects. Such an analysis, for example, straightforwardly allows us to account for cases where resolved agreement is blocked as a result of interruption effects that render further goals inaccessible for Agree.

My analysis of agreement sheds light on a more fundamental issue: the internal structure of the probe. I propose that φ-probes are all associated with the same functional head T, but they have the same hierarchical structure of φ-features as in the DP (in the sense of Abney 1987 for DP; Ritter 1995 for NumP; Adger 2003 for nP; see also Bahloul and Harbert 1992; Shlonsky 1997; Carstens 2008, 2011). As a result, there is still a hierarchical ordering in which these φ-features will probe. A major implication of my analysis is that probes are essentially uninterpretable pronouns: the structure of the probe is essentially pronominal, but unlike a true pronoun, its features are uninterpretable and must be valued by

agreement. The "defective DP" analysis to be advanced in this thesis captures the insight that agreement does indeed have certain pronominal properties on an abstract level. Therefore, my analysis maintains the key insight of the Pronominal Argument Hypothesis (Jelinek 1984) and the incorporation analysis (Fassi-Fehri 1993), in the sense that agreement is somehow pronominal, while at the same time being an uninterpretable agreement marker valued under the Probe-Goal model of agreement (Chomsky 2000, 2001).

This chapter, which lays the background for the above proposals, is organized as follows. Section 1.1 reviews the three major agreement approaches available in the literature within generative syntax: government, Spec-head configuration, and Agree. Section 1.2 provides a brief description of the two varieties to be investigated in this thesis: SA and RJA. In section 1.3, I highlight some grammatical properties of the two varieties under investigation. Such properties include word order and basic agreement facts with both simple and complex subjects. The central empirical problems with which the thesis is concerned are introduced in section 1.4,   and the proposed analyses are outlined in section 1.5. Section 1.6 presents an outline of the chapters of the thesis.

1.1 Theoretical overview: Approaches to agreement

A major concern within generative syntax is the study of formal features such as agreement features (i.e. φ-features: person, number, and gender) on verbs and case assignment on nominals. Different approaches have been pursued to study this syntactic issue. In this section, I highlight three major agreement mechanisms available in the literature: government, Spec-head configuration, and Agree.

In pre-minimalist accounts, such as the Government and Binding framework (Chomsky 1981), both the classical Spec-head configuration and the notion of government were employed to account for agreement and case assignment. This duality was important

due to the existence of different word orders cross-linguistically. More precisely, a Spec-head approach was assumed for subject-verb agreement in syntactic derivations in Subject-Verb-Object (SVO) languages like English, and a government mechanism for Verb-Subject-Object (VSO) languages like Welsh and Arabic.

The advent of the Minimalist Program (Chomsky 1993, 1995), however, eliminated this duality, removing the notion of government from the theory and adopting the Spec-head configuration to account for agreement and case assignment. Under this Spec-head approach, subject-verb agreement and nominative case assignment are taken to be a consequence of a relation between the functional head Infl and the DP in its specifier. Agreement in general is analyzed in terms of feature checking via a Spec-head (or head-head) structural relation. Lexical elements such as verbs and their arguments can be moved from their first merged positions in the derivation for feature checking considerations and to satisfy the principle of Full Interpretation (FI). The Move operation can occur overtly in syntax or covertly at LF.

Central to the Minimalist framework are the grammatical operations Select, Merge, and Move. The operation Select involves picking lexical items from the lexicon/numeration. Both Merge and Move are involved in the computational level. The operation Merge combines a pair of syntactic elements to form a new syntactic element whereby one of the merged syntactic elements in the pair projects into the new syntactic element. The operation Move is motivated by the need for checking certain features in the derivation. Features can be interpretable or uninterpretable: while interpretable features do not need to be deleted before the interface, uninterpretable features should be deleted before the interface.

A benefit of the Spec-head approach is that it makes available a uniform account for licensing both φ-features and case marking. However, the approach is challenged by the fact that the head surfaces before its specifier in certain cases, such as VSO structures (cf. Soltan 2006, 2007a, b; see also Radford 2009). Specifically, it is not clear how the Spec-head

configuration can explain the licensing of agreement between a verb and a postverbal subject in VSO languages such as Welsh and Arabic (Sproat 1985 for Welsh; Mohammad 1989, 1990, 2000 and Harbert and Bahloul 2002 for Arabic). (See Soltan 2006, 2007b for further theoretical, conceptual and empirical problems with the Spec-head approach.)

In subsequent development of the Minimalist Program (Chomsky 2000, 2001), agreement is treated as the result of a built-in grammatical operation called Agree rather than a reflex of a phrase structure/Spec-head relationship. Under this approach, it is assumed that the operation Agree holds between α and β, where α and β are two elements in the structure. The element α carries uninterpretable unvalued features and is known as the "Probe". The element β carries matching interpretable valued features and is known as the "Goal". The valuation of the uninterpretable features on the probe is achieved by the matching interpretable features on the goal. This operation is subject to certain locality conditions: the probe must c-command the goal and there must be no element closer to the probe than the goal with the relevant feature-values (Chomsky 2000). Moreover, the Agree operation is subject to an "activity" condition in that both probe and goal must be "active" (i.e. both must have an uninterpretable feature that has not yet been valued through Agree).

According to Chomsky (2000: 122), Matching identifies possible goals for Agree, based on c-command and whether the goals have the same type of features as the probe. As for Valuation, it is the transfer of values from the valued member of the probe-goal dependency to the unvalued one (cf. Walkow 2013). With regard to case, it is not considered a probing feature and thus is not valued under match with a given goal. Case is taken to be a by-product of φ-agreement in the sense that Agree with T results in nominative case assigned to the goal. More precisely, case assigners have unvalued φ-features ([uφ]) but valued case features. By contrast, arguments (such as subjects and objects) bear valued φ-features and unvalued case features ([uCase]). Match establishes a relation between the valued and

unvalued φ-features and case of the probe and the goal; Valuation then transfers the values. The result of this valuation is that probes and goals become inactive, hence the impossibility of participating in further Valuation operations for the same feature.

Under the Agree framework, movement of elements in the structure is triggered by the EPP feature, which requires a head to have a specifier (Chomsky 2000). The EPP feature is uninterpretable, similar to φ-features. However, it differs from φ-features in that it does not require valuation; the licensing of the EPP feature is achieved by merging an element in the specifier position of the head that bears the EPP feature.

The analysis proposed in this thesis assumes the version of the Minimalist Program laid out in Chomsky (2000, 2001). Throughout this thesis, I adopt a system of case and agreement building mainly on the Probe-Goal framework. I will show that the operation Agree, which is the only non-structure building operation assumed in this framework, can provide a uniform account for the different agreement patterns manifested in Arabic in different word orders.

1.2 The language under investigation

Arabic is a Semitic language similar to Aramaic, Ethiopian, South Arabian, Syriac, and Hebrew (Comrie 1987). Arabic is spoken in a wide geographical area ranging from Morocco in the west of North Africa to the Persian Gulf in West Asia. A distinctive feature of the Arabic-speaking world is its diglossic situation (Ferguson 1959; El-Hassan 1977; Mitchell 1978; among others) whereby regional/colloquial dialects are used side by side with the standard variety referred to as Standard Arabic (SA).

Although SA is not widely used at home or in everyday life, it holds a special status due to religious, national, and political considerations. It is the language of the Holy Quran, the prophet's traditions, and poetry. The standard variety is normally taught at school and is

the medium of instruction. It is a symbol of Arab nationalism and the unity of the Arab world (Suleiman 2003). It is the official language of the countries of the Arab League and one of the official languages of the United Nations. SA is the only written and codified variety that is used in journalism, education, literature, publications, media, formal speeches, etc.

Despite the fact that SA is a second language that is learnt through formal instruction (but not acquired at home as first language), Arabs have native intuitions about its use. They read and write it fluently, listen to it with ease, and use it, though occasionally, in speaking (Parkinson 1996). Colloquial Arabic, on the other hand, is a first language learnt spontaneously through exposure in the home and outside the home. Colloquial varieties differ within countries and across countries. Nonetheless, they share large number of cognates with SA. These dialects differ from one country to another to the extent that mutual intelligibility does not exist in certain cases. Besides the phonetic/phonological differences between various Arabic dialects, lexical and syntactic differences occur as well.

Jordan, like all other Arab countries, manifests this diglossic situation. In addition to SA, different colloquial varieties are used. Such varieties form what is known as Jordanian Arabic, which is spoken by almost six million people (Al-Momani 2010). Three major colloquial varieties of Jordanian Arabic, depending on geographical distribution, can be identified: urban, Bedouin/nomadic, and rural. The urban variety is spoken in the major three cities of Jordan: the capital city of Amman, Zarqa, and Irbid. The Bedouin/nomadic variety is spoken by the dwellers of the desert in the eastern and southern parts of Jordan. Rural Jordanian Arabic (RJA) is spoken in the villages surrounding Irbid city in the north. The focus of this thesis is particularly on RJA as well as on SA.

1.3 Some grammatical aspects of SA and RJA

In this section, I introduce some properties of the two varieties under investigation. Subsection 1.3.1 introduces SV and VS word orders in SA and RJA, which are the two most common/predominant orders in these varieties, with special focus on their derivation.[2] Subsection 1.3.2 presents the agreement patterns attested with simple subjects in these word orders in the two varieties, and subsection 1.3.3 highlights the agreement patterns with complex/conjoined subjects.

1.3.1 Word orders in SA and RJA

Perhaps the most well-known fact about various Arabic dialects is that they make use of two basic word orders: SV and VS (Mohammad 1989; Fassi-Fehri 1993; Ouhalla 1994). The two word orders are not only fully acceptable, but also mutually interchangeable. The following is an illustrative example.

(1)
a. VSO word order in SA

| kataba | Zaydun | d-darsa |
| wrote.3SM | Zayd.3SM.NOM | the-lesson.ACC |

'Zayd wrote the lesson.'

b. SVO word order in SA

| Zaydun | kataba | d-darsa |
| Zayd.3SM.NOM | wrote.3SM | the-lesson.ACC |

'Zayd wrote the lesson.'

The above examples show that the subject in SA can occur between the verb and the object inducing the VSO word order (a), or before the verb and the object giving rise to the SVO word order (b).

---

[2] Throughout the thesis, I will use the abbreviations SV for constructions with a preverbal subject and VS for constructions with a postverbal subject.

The same word orders are also found in RJA similar to various spoken dialects of Arabic, such as Moroccan, Palestinian, and Lebanese. Consider the following examples.

(2) VSO word order

a. kla   ʕomar   t-təffaħa   (Moroccan Arabic)
   ate.3SM   Omar   the-apple
   'Omar ate the apple.'

b. gaabal   ʔeħmad   Mona   (Palestinian Arabic)
   met.3SM   Ahmed   Mona
   'Ahmed met Mona.'

c. beesit   Maya   xalil   (Lebanese Arabic)
   kissed.3SF   Maya   Khalil
   'Maya kissed Khalil.'   (Aoun et al. 2010: 46)

d. katab   Saʕeed   d-dars   (RJA)
   wrote.3SM   Saʕeed   the-lesson
   'Saʕeed wrote the lesson.'

(3) SVO word order

a. ʕomar   kla   t-təffaħa   (Moroccan Arabic)
   Omar   ate.3SM   the-apple
   'Omar ate the apple.'

b. ʔeħmad   gaabal   Mona   (Palestinian Arabic)
   Ahmed   met.3SM   Mona
   'Ahmed met Mona.'

c. Maya   beesit   Mona   (Lebanese Arabic)
   Maya   kissed.3SF   Mona
   'Maya kissed Mona.'   (Aoun et al. 2010: 46)

d. Saʕeed   katab   d-dars   (RJA)
   Saʕeed   wrote.3SM   the-lesson
   'Saʕeed wrote the lesson.'

To derive the VSO order, I will follow the steps of most Arab linguists (e.g. Fassi-Fehri 1993; Aoun et al. 1994; Benmamoun 2000; Aoun et al. 2010; among others) and assume that the verb raises from V to T leaving the subject in situ ([Spec, VP]) (Koopman and Sportiche 1991; Aoun et al. 1994; Aoun and Benmamoun 1999; Benmamoun 2000; Soltan 2006, 2007a, b; Aoun et al. 2010). The derivation of SVO order, on the other hand,

results from raising the subject from [Spec, VP] to [Spec, TP] to satisfy the EPP feature on T. This means that the verb moves to T in both VSO and SVO word orders. The derivation of SVO and VSO word orders is represented below.

(4) Derivation of SVO word order
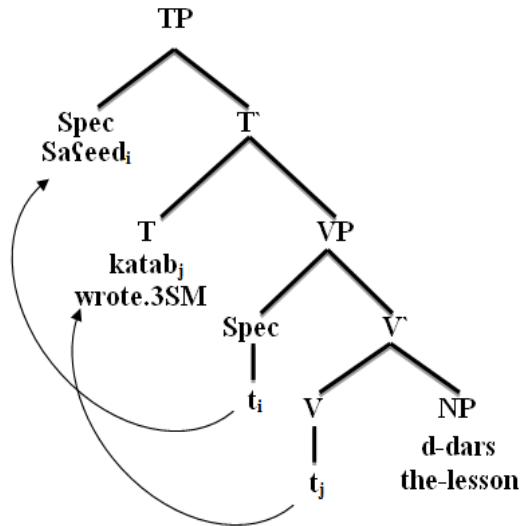
(5) Derivation of VSO word order
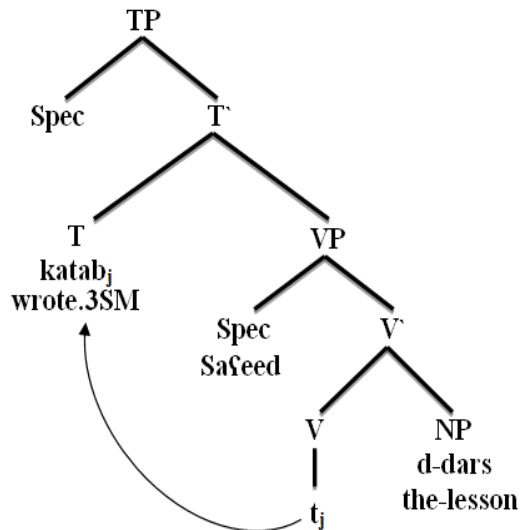
The same facts obtain in the derivation of SV and VS sentences in RJA as well. However, word order is influential when it comes to the agreement morphology attested on the verb in SA and RJA. The connection between word order and agreement morphology is discussed next. The presence or absence of the object is not directly relevant to the central

phenomenon under investigation in this thesis. Therefore, the examples to be discussed hereafter employ only intransitive verbs; no objects appear.

1.3.2 Basic agreement facts in SV and VS orders in Arabic with simple subjects

A distinctive feature of SA is its subject-verb agreement asymmetry relative to word order (Mohammad 1990, 2000; Fassi-Fehri 1993; Aoun et al. 1994; Ouhalla 1994; Aoun and Benmamoun 1999; Benmamoun 2000; Harbert and Bahloul 2002; Soltan 2006, 2007a, b; Al-Horais 2009; Aoun et al. 2010; among others). Specifically, the verb "fully" agrees with the subject (i.e. in both number and gender) when the latter occurs preverbally, while it "partially" agrees with the subject (i.e. only in gender) when the latter follows the verb. The following examples illustrate these two agreement patterns in SA.

(6) VS sentences in SA: partial agreement only in gender with masculine subjects

a. ǰaaʔa   l-ʔawlaadu   (singular agreement for plural subject)
   came.**3SM**   the-boy.**3PM**.NOM
   'The boys came.'

b. *ǰaaʔuu   l-ʔawlaadu   (plural agreement not possible)
    came.**3PM**   the-boy.**3PM**.NOM
    'The boys came.'

(7) VS sentences in SA: partial agreement only in gender with feminine subjects

a. ǰaaʔat   l-banaatu   (singular agreement for plural subject)
   came.**3SF**   the-girl.**3PF**.NOM
   'The girls came.'

b. *ǰiʔna   l-banaatu   (plural agreement not possible)
    came.**3PF**   the-girl.**3PF**.NOM
    'The girls came.'

(8) SV sentences in SA: full agreement in both number and gender with masculine plural subjects

a. ʔal-ʔawlaadu   ǰaaʔuu   (plural agreement for plural subject)
   the-boy.**3PM**.NOM   came.**3PM**
   'The boys came.'

b. *ʔal-ʔawlaadu   ǰaaʕa   (singular/plural mismatch not possible)
   the-boy.**3PM**.NOM   came.**3SM**
   'The boys came.'

(9) SV sentences in SA: full agreement in both number and gender with feminine plural subjects

a. ʔal-banaatu   ǰiʕna   (plural agreement for plural subject)
   the-girl.**3PF**.NOM   came.**3PF**
   'The girls came.'

b. *ʔal-banaatu   ǰaaʕat   (singular/plural mismatch not possible)
   the-girl.**3PF**.NOM   came.**3SF**
   'The girls came.'

The above examples show that the verb agrees only in gender with the postverbal subject. Notice that the feminine gender is marked morphologically on the verb by the *-t* suffix (7a), whereas the masculine gender is morphologically null (6a). This partial agreement is the only possible pattern in VS sentences; full agreement makes the structure ungrammatical (6b; 7b). On the other hand, full agreement is the only agreement pattern possible in SV sentences (8a; 9a). Notice that in these examples the verb agrees with the preverbal subject in both number and gender; partial agreement renders the structure ungrammatical (8b; 9b).

The subject-verb agreement asymmetry found in SA relative to word order, however, is not the same in RJA. The number feature is obligatory in both word orders. Notice that the verb bears both the plural and masculine features whether the subject occurs postverbally (10a) or preverbally (12a). Similarly, the verb bears both the plural and feminine features when the subject occurs postverbally (11a) or preverbally (13a). The lack of the plural number feature on the verb renders the VS (10b; 11b) and SV sentences (12b; 13b) ungrammatical.

(10) VS sentences in RJA: full agreement in both number and gender with masculine plural subjects

a. ʔiǰuu   l-wlaad   (plural agreement for plural subject)
   came.**3PM**   the-boy.**3PM**
   'The boys came.'

b. *ʔiǰa   l-wlaad   (singular/plural mismatch not possible)
   came.**3SM**   the-boy.**3PM**
   'The boys came.'

(11) VS sentences in RJA: full agreement in both number and gender with feminine plural subjects

a. ʔiǰin   l-banaat   (plural agreement for plural subject)
   came.**3PF**   the-girl.**3PF**
   'The girls came.'

b. *ʔiǰat   l-banaat   (singular/plural mismatch not possible)
   came.**3SF**   the-girl.**3PF**
   'The girls came.'

(12) SV sentences in RJA: full agreement in both number and gender with masculine plural subjects

a. ʔil-wlaad   ʔiǰuu   (plural agreement for plural subject)
   the-boy.**3PM**   came.**3PM**
   'The boys came.'

b. *ʔil-wlaad   ʔiǰa   (singular/plural mismatch not possible)
   the-boy.**3PM**   came.**3SM**
   'The boys came.'

(13) SV sentences in RJA: full agreement in both number and gender with feminine plural subjects

a. ʔil-banaat   ʔiǰin   (plural agreement for plural subject)
   the-girl.**3PF**   came.**3PF**
   'The girls came.'

b. *ʔil-banaat   ʔiǰat   (singular/plural mismatch not possible)
   the-girl.**3PF**   came.**3SF**
   'The girls came.'

The agreement pattern found in RJA is also documented in other spoken dialects such as Moroccan and Lebanese Arabic (Aoun et al. 1994; Aoun and Benmamoun 1999; Benmamoun 2000; Aoun et al. 2010) and Palestinian Arabic (Mohammad 2000). For example, Lebanese and Moroccan Arabic, similar to RJA, exhibit full agreement with simple

subjects in both the SV and VS word orders.[3] The following examples are from Aoun and Benmamoun (1999: 3).

(14) Full agreement in both number and gender with masculine plural subjects in Lebanese Arabic in SV and VS sentences respectively.

a. 1-wled   neemo   b. neemo   l-wled
   the-children   slept.3P   slept.3P   the-children
   'The children slept.'   'The children slept.'

(15) Full agreement in both number and gender with masculine plural subjects in Moroccan Arabic in SV and VS sentences respectively.

a. lə-wlad   wəqfu   b. wəqfu   lə-wləd
   the-children   stood.3P   stood.3P   the-children
   'The children stood up.'   'The children stood up.'

This observation has given the impression that the full/partial agreement asymmetry in SV/VS orders respectively is restricted to SA, while no such agreement asymmetry is attested in the spoken varieties of Arabic (but see section 1.5 below).

1.3.3 Basic agreement facts in SV and VS orders in Arabic with complex subjects

The above-mentioned full/partial agreement asymmetry attested with simple subjects in SA is also manifested with complex/conjoined subjects. When the conjoined subject precedes the verb, the verb carries a complete set of agreement features matching those of the entire conjoined subject. However, when the conjoined subject follows the verb, the verb carries only the gender feature of the leftmost DP. This means that first conjunct agreement is restricted to VS order. Consider the following examples in which the conjoined subject occurs postverbally. (I use the abbreviation "FCA" to refer to first conjunct agreement and "RA" to refer to resolved agreement, i.e. agreement with the entire conjoined phrase.)

---

[3] The patterning of agreement with conjoined subjects is, however, more complicated in RJA than in Lebanese and Moroccan Arabic (see chapter 3 for details on Lebanese and Moroccan Arabic).

(16) Singular + singular = singular (FCA)

a. ǰaaʔa/*ǰaaʔaa   Qaisu   wa Zainabu
 came.**3SM/*3DM** Qais.3SM.NOM and Zainab.3SF.NOM
 'Qais and Zainab came.'   (FCA/*RA: 3SM + 3SF = 3SM/*3DM)

b. ǰaaʔat/*ǰaaʔaa   Mariamu wa Qaisu
 came.**3SF/*3DM** Mariam.3SF.NOM and Qais.3SM.NOM
 'Mariam and Qais came.'   (FCA/*RA: 3SF + 3SM = 3SF/*3DM)

(17) Plural + plural = singular (FCA)

a. ǰaaʔa/*ǰaaʔuu   l-ʔawlaadu wa l-banaatu
 came.**3SM/*3PM** the-boy.3PM.NOM and the-girl.3PF.NOM
 'The boys and girls came.'   (FCA/*RA: 3PM + 3PF = 3SM/*3PM)

b. ǰaaʔat/*ǰaaʔuu   l-banaatu wa l-ʔawlaadu
 came.**3SF/*3PM** the-girl.3PF.NOM and the-boy.3PM.NOM
 'The girls and boys came.'   (FCA/*RA: 3PF + 3PM = 3SF/*3PM)

The sentence given in (16a) shows that the verb has a singular masculine form matching the features of the first conjunct, and the sentence given in (16b), shows that the verb has a singular feminine form matching the features of the first conjunct. In (17a), there is a plural masculine first conjunct followed by a plural feminine second conjunct; the verb inflects for singular masculine features, which indicates that we have first conjunct agreement. Similarly, when there is a plural feminine first conjunct followed by a plural masculine second conjunct as in (17b), the verb inflects for singular feminine features. Notice that the number is always singular even though the first conjunct is plural which asserts that we still have partial agreement with the first conjunct (the same agreement pattern manifested in the context of simple subjects). Agreement with the whole conjoined subject is always ruled out. Specifically, the dual number on the verb in the case of having two singular DPs (16) and the plural number in the case of having two plural DPs (17) yield ungrammaticality.

In the context of preverbal conjoined subjects in the two varieties, the same agreement pattern found with simple subjects in SV sentences is attested. Specifically, there is full agreement between the verb and the preverbal conjoined subject in the sense that the verb

carries number and gender features matching those of the conjoined subject. Furthermore, this full agreement is also always resolved in terms of the combined features of the two conjuncts on the verb. Specifically, when there are two singular conjoined DPs, the dual number feature appears on the verb in SA (18a–c) and the plural number feature appears on the verb in RJA (20a–c). Further evidence for the existence of resolved agreement comes from cases where there are conjuncts of different genders. In these cases, the default masculine gender is used (the (a–b) examples in 18–21) which asserts that resolved agreement has taken place. The (c) sentences in (18–21) show that when the two conjuncts share the same gender feature, the resolved gender feature is trivially the same. Finally, agreement with only one conjunct is not possible in this word order in either of the two varieties.

(18) Singular + singular in SA= dual (RA)

a. Qaisu   wa   Zainabu   ǰaaʔaa   (RA: 3SM + 3SF = 3DM)
   Qais.3SM.NOM   and   Zainab.3SF.NOM   came.**3DM**
   'Qais and Zainab came.'

b. Mariamu   wa   Qaisu   ǰaaʔaa (RA: 3SF + 3SM = 3DM)
   Mariam.3SF.NOM   and   Qais.3SM.NOM   came.**3DM**
   'Mariam and Qais came.'

c. Mariamu   wa   Zainabu   ǰaaʔataa   (RA: 3SF + 3SF = 3DF)
   Mariam.3SF.NOM and   Zainab.3SF.NOM   came.**3DF**
   'Mariam and Zainab came.'

(19) Plural + plural in SA = plural (RA)

a. ʔal-ʔawlaadu   wa   l-banaatu   ǰaaʔuu (RA: 3PM + 3PF = 3PM)
   the-boy.3PM.NOM   and   the-girl.3PF.NOM   came.**3PM**
   'The boys and girls came.'

b. ʔal-banaatu   wa   l-ʔawlaadu   ǰaaʔuu (RA: 3PF + 3PM = 3PM)
   the-girl.3PF.NOM   and   the-boy.3PM.NOM   came.**3PM**
   'The girls and boys came.'

c. ʔan-nisaaʔu   wa   l-banaatu   ǰiʔna   (RA: 3PF + 3PF = 3PF)
   the-woman.3PF.NOM   and   the-girl.3PF.NOM   came.**3PF**
   'The women and girls came.'

(20) Singular + singular in RJA = plural (RA)

a. Qais   wo   Zainab   Ɂiǰuu   (RA: 3SM + 3SF = 3PM)
   Qais.3SM   and   Zainab.3SF   came.**3PM**
   'Qais and Zainab came.'

b. Mariam   wo   Qais   Ɂiǰuu   (RA: 3SF + 3SM = 3PM)
   Mariam.3SF   and   Qais.3SM   came.**3PM**
   'Mariam and Qais came.'

c. Mariam   wo   Zainab   Ɂiǰin   (RA: 3SF + 3SF = 3PF)
   Mariam.3SF   and   Zainab.3SF   came.**3PF**
   'Mariam and Zainab came.'

(21) Plural + plural in RJA = plural (RA)

a. Ɂil-Ɂawlaad   wo   l-banaat   Ɂiǰuu   (RA: 3PM + 3PF = 3PM)
   the-boy.3PM   and   the-girl.3PF   came.**3PM**
   'The boys and girls came.'

b. Ɂil-banaat   wo   l-Ɂawlaad   Ɂiǰuu   (RA: 3PF + 3PM = 3PM)
   the-girl.3PF   and   the-boy.3PM came.**3PM**
   'The girls and boys came.'

c. Ɂin-niswaan   wo   l-banaat   Ɂiǰin   (RA: 3PF + 3PF = 3PF)
   the-woman.3PF   and   the-girl.3PF   came.**3PF**
   'The women and girls came.'

Recall from the previous subsection that, in RJA, plural is the only possible number feature on the verb when there is a plural postverbal subject (10a; 11a). While this holds true in the context of simple postverbal subjects, postverbal conjoined subjects (which are notionally plural by virtue of consisting of two DPs) exhibit a different behaviour. Two possible agreement patterns are allowed in this context: (i) agreement with the first DP in both number and gender inducing first conjunct agreement, and (ii) agreement with both DPs as one plural unit, inducing plural features on the verb. Let us consider the following examples.

(22) Singular + singular = either singular (FCA) or plural (RA)

a. Ɂiǰa   Qais   wo   Zainab   (FCA: 3SM + 3SF = 3SM)
   came.**3SM**   Qais.3SM   and   Zainab.3SF
   'Qais and Zainab came.'

17

b. ʔiǰuu Qais wo Zainab (RA: 3SM + 3SF = 3PM)
   came.**3PM** Qais.3SM and Zainab.3SF
   'Qais and Zainab came.'

(23) Singular + singular = either singular (FCA) or plural (RA)

a. ʔiǰat Mariam wo Qais (FCA: 3SF + 3SM = 3SF)
   came.**3SF** Mariam.3SF and Qais.3SM
   'Mariam and Qais came.'

b. ʔiǰuu Mariam wo Qais (RA: 3SF + 3SM = 3PM)
   came.**3PM** Mariam.3SF and Qais.3SM
   'Mariam and Qais came.'

(24) Plural + plural = plural (consistent with either FCA or RA)

a. ʔiǰuu l-wlaad wo l-banaat (FCA: 3PM + 3PF = 3PM)
   came.**3PM** the-boy.3PM and the-girl.3PF
   'The boys and girls came.'

b. ʔiǰuu l-wlaad wo l-banaat (RA: 3PM + 3PF = 3PM)
   came.**3PM** the-boy.3PM and the-girl.3PF
   'The boys and girls came.'

(25) Plural + plural = plural (consistent with either FCA or RA)

a. ʔiǰin l-banaat wo l-wlaad (FCA: 3PF + 3PM = 3PF)
   came.**3PF** the-girl.3PF and the-boy.3PM
   'The girls and boys came.'

b. ʔiǰuu l-banaat wo l-wlaad (RA: 3PF + 3PM = 3PM)
   came.**3PM** the-girl.3PF and the-boy.3PM
   'The girls and boys came.'

The (a) examples in (22–25) show that the verb agrees with the leftmost member of the conjoined subject. When there is a singular followed by a singular as in (22a; 23a), the verb carries singular agreement. In these examples, the agreement in gender always matches that of the first member which asserts that the pattern attested is first conjunct agreement. For example, when the first conjunct is singular feminine and the second conjunct is singular masculine as in (23a), the verb has a singular feminine form. Further evidence for the existence of first conjunct agreement in RJA comes from the combination of two plural conjuncts. Examples (24a; 25a) show that the verb agrees with the first conjunct in number and gender. When there is a plural feminine first conjunct followed by a plural masculine

second conjunct as in (25a), for example, the verb inflects for plural feminine features matching those of the first conjunct. Notice that the agreement features borne by the verb in the context of first conjunct agreement are the same as those in the context of simple subjects in the sense that there must be number and gender features.

First conjunct agreement is not the only possible pattern in RJA in the context of postverbal conjoined subjects. As the (b) examples in (22–25) show, the verb bears plural features indicating that it agrees with the two members of the conjoined subject in number. Additional evidence for this resolved agreement comes from the fact that the agreement is masculine, which is the default value for gender in Arabic (Fassi-Fehri 1993; Harbert and Bahloul 2002; Soltan 2006, 2007b; Aoun et al. 2010), despite that the two conjuncts carry different gender features. The sentence given in (25b), for example, demonstrates that there is a plural feminine followed by a plural masculine with the verb manifesting plural masculine features.

The possibility of resolved agreement disappears, however, when the conjoined subject consists of a singular followed by a plural. In this combination, only first conjunct agreement is possible, as shown in (26a–b). The sentence in (26a), for example, shows that the conjoined subject is singular masculine plus plural feminine. Notice that the verb shows singular masculine features matching those of the first conjunct. This means that first conjunct agreement is the only possible pattern when the conjoined subject consists of a singular followed by a plural; resolved agreement is precluded.

(26) Singular + plural = singular (FCA)

a. ʔiǰa/*ʔiǰuu   Qais   wo   l-banaat
    came.**3SM/*3PM**   Qais.3SM   and   the-girl.3PF
    'Qais and the girls came.'   (FCA/*RA: 3SM + 3PF = 3SM/*3PM)

b. ʔiǰat/*ʔiǰuu   Mariam   wo   l-wlaad
    came.**3SF/*3PM**   Mariam.3SF   and   the-boy.3PM
    'Mariam and the boys came.'   (FCA/*RA: 3SF + 3PM = 3SF/*3PM)

In brief, the above discussion shows that RJA exhibits further variation in the agreement patterns depending on the DPs' number features together with their sequential order.

1.4 The problem

The data given in (6–13) point to a parametric difference between SA and RJA in terms of the realization of agreement morphology on the verb in the two word orders. While the verb carries both number and gender features in the SV word order in the two varieties, it exhibits a variation in the VS word order: it bears only the gender feature in SA, whereas it bears both number and gender features in RJA. This has led to the assumption that the full/partial agreement asymmetry in SV/VS word orders respectively is only found in SA, but not in other spoken varieties like RJA. Accordingly, this agreement asymmetry in SA has received great attention in the literature and has been approached under different analyses.

Aoun et al. (1994), for example, explain the partial agreement in VS sentences in SA appealing to a further movement of the verb past the subject causing the number feature to be lost. This analysis has been widely known as the "agreement loss" analysis. Though it successfully captures the agreement facts in SA, as it is only the gender feature that is manifested on the verb in this variety, it is not clear how it can explain the facts in RJA as both number and gender features appear on the verb in this order in this variety. In other words, under the analysis of Aoun et al. (1994), the fact that the number feature in RJA is not lost after the verb moves past the subject remains unexplained.

The partial agreement in the VS order in SA has also been addressed under an incorporation/merger analysis by Benmamoun (2000). According to this analysis, there is a post-syntactic merger (in PF) between the verb and the postverbal subject which contributes the subject's number features to the verb, making the spell-out of these features as an agreement affix redundant. By contrast, the lack of this merger explains the full agreement in

the SV order. This analysis provides a convincing explanation for the facts in SA. However, it is challenged when considering the obligatoriness of the number feature in the two orders in RJA. It is not clear how this post-syntactic merger can be extended to RJA, as well as to other spoken varieties which manifest the same agreement features.

Mohammad (1990) explains the observed agreement asymmetry in SA appealing to an expletive analysis in which the agreement morphology on the verb is dictated by a null expletive. However, theoretical and empirical evidence from SA as well as from RJA against this analysis will be discussed in Chapter 2 showing that it cannot be maintained. Similarly, the analyses of Aoun et al. (1994) and Benmamoun (2000) will be discussed in greater details and exemplification in Chapter 2. For the moment, it suffices to highlight the fact that the existing analyses, though partially successful in capturing the agreement facts manifested in SA, fall short in accommodating the facts in other spoken varieties such as RJA. In the next section, I present my analysis which, I argue, besides capturing the facts in SA, can explain the facts in RJA and provide a uniform analysis.

As for the agreement facts in the context of conjoined subjects (§1.3.3), Aoun et al. (1994) reject the existence of real first conjunct agreement in SA. They argue that first conjunct agreement is only apparent in the sense that it results from the application of Coordination Reduction (CR) to an underlying clausal coordination structure. Aoun et al. (1994) also account for the observation that spoken Arabic varieties, Lebanese and Moroccan Arabic in particular, can exhibit two possible agreement patterns in the context of postverbal conjoined subjects: either agreement with the first conjunct or agreement with the entire conjoined phrase. First conjunct agreement in these spoken dialects receives the same analysis as that of SA, i.e. clausal coordination. Agreement with the entire conjoined subject, on the other hand, is explained under a phrasal coordination analysis: the two conjuncts combine together forming a single plural constituent, hence the plural feature on the verb.

21

This analysis is based on different semantic tests of plurality. Though the plurality tests of Aoun et al. (1994) capture the data in Lebanese and Moroccan Arabic, I will show in Chapter 3 that they fail when it comes to the variation in the agreement patterns manifested in SA and RJA. The analysis of Aoun et al. (1994) is challenged by the following two observations: (i) the invariable obligatory first conjunct agreement in SA and in certain cases in RJA in the VS order, and (ii) the first conjunct vs. resolved agreement patterns manifested in RJA in the VS order. In order to account for these observations in a uniform manner, I will follow a rather different approach to which I turn next.

1.5 My proposal

To account for the different agreement patterns given in (6–13) above, I start with abandoning the long-held view that the full/partial agreement asymmetry is restricted to SA. I instead propose that a parallel full/partial agreement asymmetry exists in RJA as well. However, there is a difference between the two varieties in terms of the richness of the agreement features in the two word orders. While both SA and RJA display a full agreement (i.e. person, number, and gender) between the subject and the verb in the SV order, the two varieties exhibit varying partial agreement between the subject and the verb in the VS order. The verb carries only the gender feature in the VS order in SA, while it carries both the number and gender features (but not person) in RJA, hence partial agreement as well. In order to accommodate this cross-dialectal variation, I adopt a clitic doubling approach together with Chomsky's Probe-Goal theory of agreement (2000, 2001). Specifically, I attribute the variation in subject-verb agreement to the featural specification of the probe on T. While T probes for a full set of φ-features in the SV order in the two varieties, it probes only for the gender feature in the VS order in SA and for number and gender features in RJA.

As for agreement with complex/conjoined subjects in SA, I propose that full agreement with the preverbal conjoined subject (i.e. resolved agreement) and partial agreement with the first postverbal conjunct both stem from the featural specification of the probe in these two word orders. In other words, the agreement patterns in the two word orders with both simple and conjoined subjects in SA receive a uniform analysis/explanation. Similarly, resolved agreement with the preverbal conjoined subject in RJA is accounted for in light of the full set of φ-features borne by the probe in this word order. However, as for the divergent patterning of subject-verb agreement with postverbal conjoined subjects in RJA (i.e. first conjunct agreement and resolved agreement), further mechanisms are advocated. Inspired by the insight embodied in the Multiple Agree approach of Nevins (2007, 2011), I propose that the two possible agreement patterns available in RJA are the result of two possible probing manners. I argue that both the presence and absence of resolved agreement is derived within the same mechanism of Multiple Agree, but relying on a Continuity condition in which the sequential order of the two conjuncts in terms of the composition of their singular vs. plural number features is a crucial factor.

1.6 Outline of thesis

The thesis consists of 5 chapters. Following this introductory chapter, Chapter 2 gives an analysis of agreement with simple subjects in SA and RJA in the SV and VS word orders in terms of Chomsky's Probe-Goal theory of agreement (2000, 2001). I show that there is always full agreement in SV sentences in the two varieties because the functional head T in each variety probes for a complete set of φ-features: person, number, and gender. On the other hand, VS sentences in both SA and RJA involve partial agreement, but this partial agreement is not identical: T in SA probes only for the gender feature, while it probes for both number and gender features in RJA. In addition, I propose that this partial agreement

triggers partial rather than full copying of the goal to [Spec, TP], which gives the appearance of clitic doubling rather than movement of the subject.

Chapter 3 puts forward an analysis of agreement with complex/conjoined subjects in SV and VS sentences in the two varieties under investigation. I show that the same Probe-Goal analysis adopted for simple subjects in Chapter 2 can capture first conjunct agreement patterns in SA and RJA in the VS order. As for resolved agreement in RJA in the VS order, I adopt Multiple Agree and the Continuity condition (Nevins 2007, 2011), showing that these mechanisms correctly account for the cross-dialectal variation in the context of postverbal complex subjects and the role played by the sequential order of the DPs' number features.

Chapter 4 connects the different agreement patterns attested in the two varieties under investigation in the different word orders, be it with simple or complex subjects, with the internal structure of the probe in Arabic. The analysis advanced in this chapter draws on the common idea that agreement features can have internal hierarchical organization (see, e.g. Noyer 1992 for the Universal Feature Hierarchy; Harley and Ritter 2002 for the morphological feature geometry; Harbour 2008 for the syntactic structure of φ-features; Campbell 2012 for the single complex bundle of φ-features). I take this idea a step further, proposing that the internal structure of the probe in Arabic is best analyzed as parallel to that of a DP. More particularly, the φ-features of the probe are ordered according to the DP-internal hierarchy: Person-Number-Gender. I will also show that the structure of probes is similar to the structure of pronouns. The recognition of a fully articulated DP structure for the probe, with its different potential manifestations, provides a straightforward account for the range of possible variation in the features of the probe, and at the same time maintains the traditional insight that agreement morphology is indeed "pronominal" on some abstract level as it assumes that probes are essentially uninterpretable pronouns.

24

In addition, this chapter considers the established grammaticalization cline from subject pronoun to subject agreement marker in light of the cross-dialectal variation in agreement patterns in Arabic. The varying degrees of richness of the agreement features in SA and RJA are argued to be consistent with this cline, involving the progressive loss of agreement features over time.

Finally, Chapter 5 summarizes the whole study and discusses the major conclusions and theoretical implications.

Chapter 2

Agreement with simple subjects in SA and RJA

This chapter provides a description and unified analysis of the cross-dialectal variation in agreement with simple subjects in SA and RJA. The analysis builds upon a survey of the existing theoretical work, which has taken a variety of different approaches to analyzing the agreement asymmetry in SA. The analysis is expressed using a minimalist approach to syntactic derivations that relies on the Probe-Goal framework of Chomsky (2000, 2001).

After an overview of the proposed analysis in section 2.1, the patterning of agreement in SA and RJA is described in detail in section 2.2. Section 2.3 reviews a series of well-known analyses in the relevant literature that will not be followed in this thesis: the agreement loss analysis (§2.3.1), the incorporation analysis (§2.3.2), the merger analysis (§2.3.3), the topic analysis (§2.3.4), and the expletive analysis (§2.3.5). Although I will not adopt any of these analyses, my analysis will build on the expletive analysis of Mohammad (1990), but will treat his expletive pronoun not as an expletive, but instead as an instance of subject clitic doubling. Section 2.4 puts forward the details of my analysis, which will provide the foundation for the remainder of the thesis. Section 2.5 provides a sketch on the interaction between pronominals and agreement in SA and RJA in the two word orders.

2.1 Overview of the proposed analysis

The analysis proposed in this chapter is intended to account for the cross-dialectal variation in agreement with simple subjects manifested between SA and RJA. I argue that although the existing analyses are at least partially successful in capturing the full/partial agreement asymmetry in SA, none of them can capture the agreement facts in RJA. However, I give a special focus to the existing expletive analysis (Mohammad 1990), because a revised version

of the insight embodied in this analysis provides the key to an account of the cross-dialectal variation in VS sentences. Building on Mohammad's insight, I propose a new version in which the expletive pronoun is not analyzed as an expletive, but instead as an instance of subject clitic doubling. In other words, the order of VS sentences is really CL_sVS rather than VS, where the preverbal pronominal clitic can be either null or overt depending on the syntactic context.

I provide an analysis that can systematically explain the patterning of agreement in both SA and RJA. I argue that the "full" agreement pattern in both SA and RJA in SV sentences involves three features: person, number, and gender. Simultaneously, I argue that both varieties exhibit "partial" agreement in VS sentences; the two varieties differ only in terms of the richness of this partial agreement. Though the verb in RJA agrees in both number and gender with the postverbal simple subject, this agreement is still partial due to the absence of the person feature. The analysis I am proposing shows that this cross-dialectal agreement asymmetry in sentences with VS word order in SA and RJA can be straightforwardly accounted for if we analyze it as a clitic doubling phenomenon.

As indicated earlier, my analysis is couched in terms of Chomsky's Probe-Goal theory of agreement (2000, 2001). The scenario that emerges is that there is always full agreement (i.e. in person, number, and gender) between the verb and the subject in SV sentences in the two varieties. This full agreement occurs because the functional head T in each variety probes for a complete set of φ-features: person, number, and gender. On the other hand, the two varieties exhibit partial agreement between the verb and the subject in VS sentences. This partial agreement occurs because VS sentences involve a different version of T that does not probe for acomplete set of φ-features. However, there is variation in which features are probed for. The pattern in SA is the result of having a probe on T that targets only one φ-feature (i.e. gender), whereas the pattern in RJA is the result of having a probe on T that

targets two φ-features: number and gender. In both SA and RJA, however, the probe on T has in common the lack of a person feature, hence making the agreement in a VS sentence partial rather than full. Under this analysis, the difference between SA and RJA lies in the number agreement feature, which is active in VS sentences in RJA but not in SA.

In both varieties, a VS sentence always contains a preverbal pronominal clitic in [Spec, TP] bearing a subset of the features of the postverbal simple subject. This clitic is the result of the partial agreement between the verb and the postverbal simple subject, which I propose creates a partial copy of the subject in [Spec, TP] rather than completely moving the subject to this position as in SV sentences. While the clitic in [Spec, TP] is a null pronominal with only the [Gender] feature in SA, it carries the [Number] and [Gender] features of the lexical subject DP in RJA. This null preverbal subject clitic (but not expletive) in root contexts becomes overt in embedded contexts under the complementizer *ʔanna*/*ʔinn* 'that'.

This analysis provides a systematic and unified explanation for three different issues: the difference in word order (SV/VS), the difference in agreement (full or partial), and the difference in the features of the expletive in the sense of Mohammad (1990). The subject clitic analysis that I am proposing attributes all three properties to one underlying factor: the featural specification of the probe on T.

2.2 The cross-dialectal variation in agreement in SA and RJA

All Arabic dialects make use of two basic word orders: SV and VS. The two word orders are not only fully acceptable, but also mutually interchangeable. However, SA distinguishes itself in this respect in that it exhibits an asymmetry in terms of the realization of the agreement morphology in these two word orders. Specifically, in the SV order, the verb "fully" agrees with the preverbal simple subject (i.e. in both number and gender), while in the VS order, it "partially" agrees with the postverbal simple subject (i.e. only in gender) (Mohammad 1990,

2000; Fassi-Fehri 1993; Aoun et al. 1994; Ouhalla 1994; Aoun and Benmamoun 1999; Benmamoun 2000; Harbert and Bahloul 2002; Soltan 2006, 2007a, b; Al-Horais 2009; Aoun et al. 2010; among others). The following examples illustrate these observations. According to all the previous analyses, the sets of examples given in (1–2) represent partial agreement patterns in the VS order, while those given in (3–4) are cases of full agreement in the SV order.

(1) VS sentences in SA: partial agreement only in gender with masculine subjects

a. ǰaaʔa   l-waladu   (singular agreement for singular subject)
    came.**3SM**   the-boy**.3SM**.NOM
    'The boy came.'

b. ǰaaʔa   l-ʔawlaadu   (singular agreement for plural subject)
    came.**3SM**   the-boy.**3PM**.NOM
    'The boys came.'

c. *ǰaaʔuu   l-ʔawlaadu   (plural agreement not possible)
    came.**3PM**   the-boy.**3PM**.NOM
    'The boys came.'

(2) VS sentences in SA: partial agreement only in gender with feminine subjects

a. ǰaaʔat   l-bintu   (singular agreement for singular subject)
    came.**3SF**   the-girl.**3SF**.NOM
    'The girl came.'

b. ǰaaʔat   l-banaatu   (singular agreement for plural subject)
    came.**3SF**   the-girl.**3PF**.NOM
    'The girls came.'

c. *ǰiʔna   l-banaatu   (plural agreement not possible)
    came.**3PF**   the-girl.**3PF**.NOM
    'The girls came.'

(3) SV sentences in SA: full agreement in both number and gender with masculine singular and plural subjects

a. ʔal-waladu   ǰaaʔa   (singular agreement for singular subject)
    the-boy.**3SM**.NOM   came.**3SM**
    'The boy came.'

b. ʔal-ʔawlaadu   ǰaaʔuu   (plural agreement for plural subject)
    the-boy.**3PM**.NOM   came.**3PM**
    'The boys came.'

c. *ʔal-ʔawlaadu   ǰaaʕa   (singular/plural mismatch not possible)
   the-boy.**3PM**.NOM   came.**3SM**
   'The boys came.'

(4) SV sentences in SA: full agreement in both number and gender with feminine singular and plural subjects

a. ʔal-bintu   ǰaʕat   (singular agreement for singular subject)
   the-girl.**3SF**.NOM   came.**3SF**
   'The girl came.'

b. ʔal-banaatu   ǰiʔna   (plural agreement for plural subject)
   the-girl.**3PF**.NOM   came.**3PF**
   'The girls came.'

c. *ʔal-banaatu   ǰaaʕat   (singular/plural mismatch not possible)
   the-girl.**3PF**.NOM   came.**3SF**
   'The girls came.'

The examples in (1–2) show that the agreement on the verb is impoverished when the subject is postverbal. The form of the verb in this word order is singular, regardless of the number of the postverbal subject. For example, while the postverbal subject is third person plural masculine in (1b), the verb has a third person singular masculine form. The ungrammaticality of the (c) examples in both (1–2) above is due to the full agreement between the verb and the subject. This indicates that partial agreement is the only pattern permissible in VS order in SA. The invariable appearance of the verb in the singular form is indeed the reason why this agreement pattern is characterized as partial agreement in the literature.

In SV word order, on the other hand, the verb agrees fully with the preverbal subject. The examples (3–4) show that the number and gender features on the verb must match those on the subject; otherwise, ungrammaticality ensues, as demonstrated in (3c) and (4c). Specifically, the ungrammaticality of these sentences results from the lack of number features on the verb matching those on the preverbal subject.

Interestingly, the aforementioned agreement asymmetry in the two word orders in SA does not exist in other spoken Arabic varieties such as RJA (as well as Lebanese Arabic (Aoun et al. 2010), Moroccan Arabic (Benmamoun 2000; Aoun at al. 2010), and Palestinian

Arabic (Mohammad 2000)). The verb in RJA agrees fully (i.e. in both number and gender) with the simple subject irrespective of the position of the former relative to the latter. In other words, the dichotomous agreement patterns reported in (1–4) above do not obtain in RJA. The following examples illustrate this observation.

(5) VS sentences in RJA: full agreement in both number and gender with masculine singular and plural subjects

a. ʔiǰa   l-walad   (singular agreement for singular subject)
   came.**3SM**   the-boy.**3SM**
   'The boy came.'

b. ʔiǰuu   l-wlaad   (plural agreement for plural subject)
   came.**3PM**   the-boy.**3PM**
   'The boys came.'

c. *ʔiǰa   l-wlaad   (singular/plural mismatch not possible)
   came.**3SM**   the-boy.**3PM**
   'The boys came.'

(6) VS sentences in RJA: full agreement in both number and gender with feminine singular and plural subjects

a. ʔiǰat   l-binit   (singular agreement for singular subject)
   came.**3SF**   the-girl.**3SF**
   'The girl came.'

b. ʔiǰin   l-banaat   (plural agreement for plural subject)
   came.**3PF**   the-girl.**3PF**
   'The girls came.'

c. *ʔiǰat   l-banaat   (singular/plural mismatch not possible)
   came.**3SF**   the-girl.**3PF**
   'The girls came.'

(7) SV sentences in RJA: full agreement in both number and gender with masculine singular and plural subjects

a. ʔil-walad   ʔiǰa   (singular agreement for singular subject)
   the-boy.**3SM**   came.**3SM**
   'The boy came.'

b. ʔil-wlaad   ʔiǰuu   (plural agreement for plural subject)
   the-boy.**3PM**   came.**3PM**
   'The boys came.'

c. *ʔil-wlaad   ʔiǰa   (singular/plural mismatch not possible)
   the-boy.**3PM**   came.**3SM**
   'The boys came.'

(8) SV sentences in RJA: full agreement in both number and gender with feminine singular and plural subjects

a. ʔil-binit   ʔiǰat   (singular agreement for singular subject)
   the-girl.**3SF**   came.**3SF**
   'The girl came.'

b. ʔil-banaat   ʔiǰin   (plural agreement for plural subject)
   the-girl.**3PF**   came.**3PF**
   'The girls came.'

c. *ʔil-banaat   ʔiǰat   (singular/plural mismatch not possible)
   the-girl.**3PF**   came.**3SF**
   'The girls came.'

The examples in (5–6) above show that the verb must exhibit full agreement in both number and gender with the postverbal subject. Partial agreement (5c; 6c) renders the structure ill-formed. Similarly, the verb shows full agreement with the preverbal plural subject in the SV word order (7b; 8b). The lack of this full agreement, as in the impoverishment of number agreement (7c; 8c), yields ungrammaticality.

2.3 Existing theoretical analyses of the agreement asymmetry in SA

In this section, I present five major analyses that have been advanced to account for the agreement asymmetry manifested in SV vs. VS word orders in SA, namely, the agreement loss analysis (§2.3.1), the incorporation analysis (§2.3.2), the merger analysis (§2.3.3), the topic analysis (§2.3.4), and the expletive analysis (§2.3.5). Although each of these accounts succeeds in capturing the basic agreement asymmetry manifested in SA, they fall short of accommodating the cross-dialectal variation in agreement features in various Arabic varieties such as RJA. None of these analyses can provide a convincing account of the major concern of this chapter, i.e. the different partial agreement facts manifested in SA and RJA in VS sentences.

2.3.1 The agreement loss analysis

Advanced by Aoun et al. (1994), this analysis of the agreement asymmetry in SA holds that SV and VS sentences in SA exhibit different agreement patterns because the VS order involves movement of the verb to a position higher than IP resulting in a loss of some agreement features.

Aoun et al. (1994) assume (following Zagona 1982; Kitagawa 1986; Speas 1986; Kuroda 1988; Koopman and Sportiche 1991) that the subject is generated as a specifier within the lexical projection of VP. The verb raises to I (equivalent to T in later work) and the subject moves to the Spec of IP. This obligatory overt movement of the subject to the Spec of IP is triggered by the Extended Projection Principle (EPP), which requires the movement of an NP to the Spec of IP. Aoun et al. (1994) state that if this requirement is a general property of I, it follows that in the VS order, the verb must be in a projection higher than IP; they designate this projection as FP (ibid: 199). As a result, the VS order is generated by moving the verb to the functional head position F leaving the subject in the Spec of IP.

Under this analysis, agreement obtains only under a Spec-head configuration. It is further assumed that licensing of features can be achieved by Spec-head agreement relations at intermediate points in the syntactic derivation. The gender agreement found in (1b) and (2b) above, for example, is licensed because the subject and the verb were in a Spec-head relation in the lower projection IP, prior to the movement of the verb to the head position F above the subject. Accordingly, in both the SV and VS word orders, agreement obtains under a Spec-head relation: I agrees with the subject in [Spec, IP]. However, in the VS word order, the verb subsequently raises to the head F, and Aoun et al. (1994) propose that this movement results in the loss of number agreement on the verb. Aoun et al. represent the derivation of VS sentences in SA as follows.

(9) Derivation of a VS sentence in SA (Aoun et al. 1994: 186)

```
                    FP
                   /  \
                Spec   F'
                      /  \
                    F     IP
                   /\    /  \
                  /  \ Spec  I'
                I+V   /\    /  \
                     /  \  I    VP
                  subject |   /  \
                          t  NP   V'
                          |  |    |
                             t    V
                                  |
                                  t
```
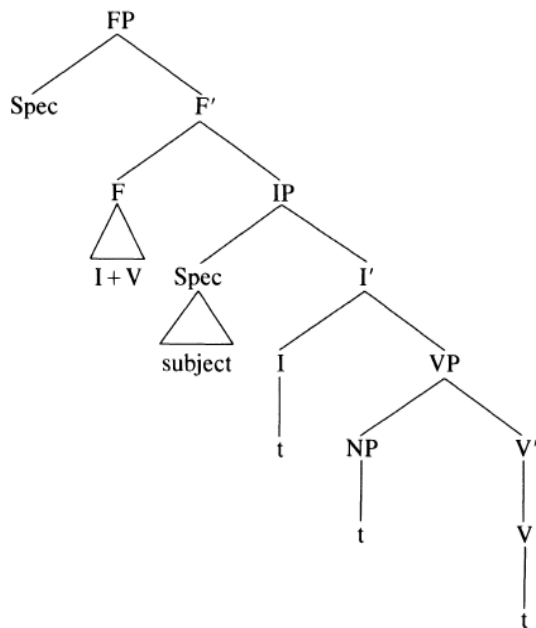
According to this line of argumentation, the partial agreement on the verb 'came' in the examples given in (1b) and (2b) above is accounted for as follows. The subject originally fully agrees with the verb (i.e. number and gender) because they are in a Spec-head relation in IP. However, this full agreement gets impoverished after the verb undergoes movement to the functional head position F above IP in order to derive the VS order. It is at this point, according to Aoun et al. (1994), that the number agreement vanishes. The explanation offered for this agreement loss is that agreement information is lost on heads when they undergo further movement; this movement expels these heads (i.e. the verb) from the Spec-head relationship where that agreement is licensed.

Though this analysis is successful in capturing the agreement asymmetry exhibited by SA in the two possible word orders, it relies, from a minimalist perspective, on the existence of a stipulated projection and operation that are not independently motivated. More precisely, it involves a stipulation of both the presence of a functional projection above IP (i.e. FP) and "an operation of agreement loss due to mere verb raising" (Soltan 2007b: 43). In addition, it

34

raises certain questions, of which I highlight two. First, since the movement of the verb to a higher functional projection causes agreement loss, why is it only the number feature that gets impoverished while the gender feature remains intact? Second, why does this agreement loss not apply when raising the verb in other spoken dialects such as RJA? The movement of the verb to F in SA causes the number information gathered by that verb to be lost. The result of this mechanism is the default singular number agreement, with the gender agreement features being retained. However, in the parallel sentences in RJA (5b; 6b) there is not a similar outcome: both number and gender features are still manifested in VS sentences.

The agreement loss analysis does not provide convincing explanations of the above observations and questions. It is not easy to generalize that the number feature impoverishment in VS order is a parametric property of grammar as a whole. This is because the number feature remains intact in different Arabic varieties such as Morroccan, Palestininan, Lebanese (Aoun et al. 1994; Aoun and Benmamoun 1999; Benmamoun 2000; Mohammad 2000; Aoun et al. 2010) and RJA. The conceptual, technical, and empirical problems with this analysis make it ill-equipped to accommodate the cross-dialectal variation in VS sentences.

2.3.2 The incorporation analysis

The incorporation analysis has been proposed by Fassi-Fehri (1993), who argues that the full agreement in SV order and partial agreement in VS order are the result of two different processes. The full agreement in SV order is an instance of an incorporated nominal argument. More specifically, Fassi-Fehri regards full agreement in SV sentences as pronoun incorporation, as evident in the occurrence of full agreement with null pronominals in (10), from Fassi-Fehri 1993: 111 (the glosses for this example are modified for consistency). In

other words, the pronouns in these sentences are null because they have been incorporated into the verb.

(10)
a. jaaʔ**uu**
  came.**3PM**
  'They (M) came.'

b. jiʔ**na**
  came.**3PF**
  'They (F) came.'

The absence of full agreement in VS order, on the other hand, is accounted for in light of the assumption that full agreement is an incorporated pronominal subject and thus cannot co-occur with an overt lexical postverbal subject. In other words, full agreement and overt subjects are in complementary distribution.

    I have two major concerns with this analysis, one involving the full agreement with overt lexical subjects in both varieties and the other involving incorporating the pronominal twice in a single sentence. The central theoretical proposal of Fassi-Fehri's (1993) incorporation analysis of full agreement is that this full agreement on the verb in SV order is the result of a pronominal subject incorporating into the verb (leaving the syntactic subject position null). If this is the case, then how does full agreement arise in SV sentences with an overt lexical NP subject whether in SA (3–4) or RJA (7–8), which is clearly not a null element? Full agreement with overt lexical subjects is problematic for an account that uses full agreement to indicate the presence of null pronouns as arguments of the verb, since such an account implies the presence of two subjects in the sentence, the lexical subject and the pronominal, which is problematic for the Theta Criterion: there is only one thematic role, yet there are now two argument nominals (Aoun et al. 2010). (A possible solution to this problem is the traditional proposal that the overt lexical NP in the SV word order is a topic not a subject. See section 2.3.4 below for a discussion of the topic analysis.)

36

My second concern comes from Benmamoun's (2000) observation that both an auxiliary and a lexical verb can co-occur in a single sentence, each showing full agreement with a pronominal subject. If full agreement is the result of incorporating a pronoun into the verb, it should not be possible for this pronoun to incorporate twice in the same clause. The following example, from Benmamoun 2000: 126 (the glosses for this example are modified for consistency), illustrates this point.

(11)
a. kun**na**   ya?kul**na**
   be.PST**.3PF**   3.eat**.PF**
   'They were eating.'

b. *kaan**at**   ya?kul**na**
   be.PST**.3SF**   3.eat**.PF**

As illustrated in example (11), full agreement on both the auxiliary and the main verb (11a) renders the structure grammatical, whereas partial agreement on the auxiliary (11b) yields ungrammaticality. This indicates that the pronoun *hunna* 'they.F' must be incorporated twice in the same clause, a case not possible according to the incorporation analysis. These two concerns with the incorporation account lead me to conclude that it does not form a promising candidate for accounting for the cross-dialectal variation highlighted so far.

2.3.3 The merger analysis

The incorporation analysis advanced by Fassi-Fehri (1993) for the full agreement in SV order was adopted by Benmamoun (2000) to instead account for the partial agreement in VS order. Benmamoun argues that it is the partial agreement in VS order which involves incorporation, not the full agreement in the SV order. This incorporation analysis differs dramatically from that of Fassi-Fehri in that it abandons the idea of pronoun incorporation and instead builds on the incorporation of postverbal lexical subjects. In particular, Benmamoun argues that the full agreement in SV order is the spell-out of the subject's agreement features. This spell-out takes

the form of inflectional affixes on the verb. By contrast, the partial agreement in the VS order is due to a merger between the verb and the postverbal subject postsyntactically at PF. The merger of the subject with the verb contributes the subject's number features to the verb, making it unnecessary for these features to be spelled-out as an agreement affix (as is the case in the SVorder): the merged subject spells-out the number feature on the verb, thus making the number suffix redundant. On the other hand, the full agreement in SV is the result of the absence of this merger. The preverbal subject in SV cannot be merged into the verb as in VS sentences, hence the obligatoriness of a number affix on the verb in SV order.

This analysis faces certain challenges. On technical grounds, for example, Soltan (2007b) criticizes this analysis for requiring adjacency between the verb and the postverbal subject for merger to occur, which does not seem to be a condition on surface structure. More specifically, Soltan (2007b) argues that partial agreement still occurs between the verb and the subject in the VS order even when there is an intervener such as adverbial PPs and shifted objects. The following example, from Soltan 2007b: 48 (the glosses for this example are modified for consistency), illustrates this point.

(12)
a. ħaDara   bi-l-ʔams   **Zaydun**
  came.**3SM**   yesterday   **Zayd.NOM**
 'Zayd came yesterday.'

b. Qaraʔa   ʔal-kitaaba   **Zaydun**
  read.**3SM**   the-book.ACC   **Zayd.NOM**
 'Zayd read the book.'

The condition of adjacency is not met in the above example since the adverbial PP *bi-l-ʔams* 'yesterday' in (12a) as well as the shifted object *ʔal-kitaaba* 'the book' in (12b) intervene between the verb and the postverbal subject. However, partial agreement is still manifested indicating that the merger operation took place. Consequently, Soltan (2007b) suggests the need for a loose definition of adjacency to remedy Benmamoun's (2000) analysis.

Furthermore, empirically, in spite of the fact that Benmamoun's (2000) merger analysis can successfully capture the set of facts reported for SA in (1–4) above, it is not clear how this analysis can capture the facts from RJA (the examples 5–8 above). In particular, since the merger between the postverbal subject and the verb in the VS order is what obviates the need to spell out the number agreement feature on the verb (giving rise to singular agreement as in SA), then why is this not also the case in RJA? This merger operation does not have the same outcome in RJA: there is still a spell-out of the number feature on the verb by an affix in VS order in RJA. The aforementioned drawbacks lead me to abandon the merger account as well.

2.3.4 The topic analysis

Soltan (2006, 2007a, b) discusses the full vs. partial agreement asymmetry in SV vs. VS respectively in SA not from a Spec-head approach to agreement as has been previously proposed (Mohammad 1990, 2000; Aoun et al. 1994), but rather from a minimalist approach to agreement in which the operation Agree is central (Chomsky 2000, 2001). Specifically, he provides an analysis of subject-verb agreement asymmetry in light of the assumption that full agreement is connected to the presence of a *pro* in the structure: full agreement is actually agreement with a phonetically null *pro* subject base-generated in [Spec, VP]. Accordingly, he argues that the preverbal DP in the SV word order in SA is a topic base-generated in its surface position in [Spec, TP], which is taken as an A'-position by Soltan (see below for further discussion). This means that the preverbal DP is considered a left dislocated element in an A'-position and co-referential with the *pro* subject in [Spec, VP]. By contrast, the postverbal DP in the VS word order is a canonical subject base-generated in [Spec, VP]. In other words, the SV and VS word order alternation is a consequence of two different syntactic representations; it is not the result of A-movement from within the thematic domain.

Under Soltan's analysis, the structural representation of the SV and VS word orders accounts for the derivation of these word orders as well as the agreement patterns associated with each of them. Let us consider the following examples followed by their representations (Soltan 2006: 256).

(13)
a. ʔal-banaatu   Qaraʔna   l-kitaaba
   the-girl.**3PF**.NOM   read.**3PF**   the-book.ACC
   'The girls read the book.'

b. SV: [$_{CP}$ C [$_{TP}$ DP$_{Topic}$ T $_{EPP/ϕ/CLASS}$ [$_{v*P}$ *pro* $_{v*}$ [$_{VP}$ read the book]]]]
                              |___ Agree ↑___

(14)
a. Qaraʔat   l-banaatu   l-kitaaba
   read.**3SF**   the-girl.**3PF**.NOM   the-book.ACC
   'The girls read the book.'

b. VS: [$_{CP}$ C [$_{TP}$ T $_{DEFAULT/CLASS}$ [$_{v*P}$ DP $_{v*}$ [$_{VP}$ read the book]]]]
                         |___ Agree ↑___

In the structural representation (13), the target SV structure is 'The girls read the book', with full agreement on the verb. According to Soltan (2006, 2007a, b), T in (13) has the following uninterpretable features: ϕ-features (person and number), separate CLASS feature (which appears as gender in many languages), and an [EPP] feature. The SV word order is derived by the presence of a VP-internal *pro* subject. Agreement between T and this *pro* subject values T's ϕ- and CLASS features and derives full agreement as a result. The [EPP] feature of T is satisfied by having the preverbal DP base-generated in [Spec, TP]. This preverbal DP ends up with default case (which happens to be nominative in SA).

By contrast, the target VS structure in (14) is 'Read the girls the book', with partial agreement in gender appearing on the verb. According to Soltan, the VS word order is derived by the absence of the *pro* subject. The VP-internal position is occupied by the postverbal lexical subject DP. T has no ϕ-features and no [EPP] feature; however, it has

CLASS as an obligatory feature. Consequently, T has default agreement for φ-feature valuation and gender agreement; partial agreement manifests as a result. The postverbal subject remains in situ as a result of having no [EPP] feature on T and gets nominative case assignment by virtue of agreeing with T.

It should be noted that Soltan's analysis is a revival of the traditional view of Basran grammarians (Sibawayh 1977, for example) of preverbal subjects in SA as Topics (see also Fassi-Fehri 1993: 91). However, Soltan's analysis is different in that he argues that the subject in the SV word order is a phonetically null *pro* base-generated in the specifier position of the thematic domain VP rather than the agreement morphology on the verb (which is an incorporated pronominal cliticized onto the verb) as in the traditional view (see also Fassi-Fehri 1993; Al-Balushi 2011; Alotaibi 2013). In addition, Soltan's analysis shares the underlying idea that the preverbal DP is base-generated in its surface position of the previous analyses of word order in Arabic proposed by Demirdache (1992) as well as Fassi-Fehri (1993).

However, this analysis faces certain challenges. Theoretically, both T and the nominal goal have to be "active" (Chomsky 2000, 2001): valuing the uninterpretable case feature on the goal results from T agreement. If this is the case, then how could the postverbal lexical subject DP in the VS word order gets its case feature licensed in the absence of φ-agreement between T and the nominal goal (see also Radford 2009). In addition, agreement between T and the postverbal nominal in the VS word order is only CLASS agreement, not φ-agreement. However, gender is normally considered to be a φ-feature (Chomsky 1995; Adger 2003; Carnie 2011; den Dikken 2011). Treating gender as not being a φ-feature seems like a mere stipulation and thus problematic.

Moreover, the preverbal DP, under Soltan's analysis, is base-generated in its surface position to satisfy the EPP feature on T. This raises the following question: Why is the EPP

feature satisfied by merging a new DP rather than moving the DP with which T agreed? From a minimalist perspective, there is a connection between the EPP feature and the operation Agree. Specifically, it is possible to have one without the other, but if T does have both EPP and agreement features, it follows that the EPP feature is satisfied by whatever T agrees with.

Soltan's analysis also entails a disjunctive view of nominative case on subjects: it can either be a default case (on a preverbal subject) or assigned from T (on a postverbal subject). However, whether on a preverbal or a postverbal subject, it is the same case morphology (i.e. nominative case). Accordingly, all other things being equal, it would be preferable to have an analysis in which the case morphology has the same source in both the SV and VS word orders, rather than being two different cases (default and T-assigned) that just coincidentally happen to have the same form.

Another challenge involves the assumption that [Spec, TP] is an A'-position. This assumption contradicts the standard view that [Spec, TP] is an A-position where canonical subjects appear, but not topics. Soltan supports his assumption by the fact that extraction across a postverbal DP is non-problematic, whereas it is not acceptable across preverbal DPs (cf. Fassi-Fehri 1993). The following example from Soltan's study (2006: 249; the glosses are modified for consistency and translation has been added) illustrates this point.

(15)
a. man   Daraba   Zaydun
   who   hit.3SM   Zayd.NOM
   'Who did Zayd hit?'

b. *man   Zaydun   Daraba
   who   Zayd.NOM   hit.3SM

The example given in (15a) represents a wh-extraction across a postverbal subject, hence its grammaticality. Soltan considers the grammaticality of the above example as evidence that the postverbal subject does not raise to [Spec, TP], which is an A'-position under his analysis, thus wh-movement is not blocked. By contrast, the ungrammaticality of example (15b),

which underlyingly represents an SVO sentence, is taken as evidence that the preverbal subject in [Spec, TP] blocks wh-movement due to minimality considerations. Accordingly, Soltan concludes that the preverbal DP is in an A'-position. However, this fact from SA, which Soltan employs to support his analysis, can be looked at from a different angle. Specifically, the ungrammaticality of such wh-questions is not necessarily the result of the impossibility of extraction across an A'-element (i.e. the preverbal subject in this case) as Soltan claims. The ungrammaticality of such questions, for example, can be attributed to the lack of subject-verb inversion in such SA questions to meet an adjacency requirement between the wh-phrase and the verb (Ouhalla 1997; Shlonsky 2000; Aoun et al. 2010). In other words, the lack of this adjacency requirement that applies in SA only is what yields ungrammaticality, not the extraction across an A'-position as Soltan claims (see also Al-Daher 2016).

Furthermore, Al-Daher (2016) rejects the assumption that [Spec, TP] is an A'-position upon consideration of the facts from spoken Arabic varieties. Wh-movement across a subject to [Spec, CP] is licit in most languages. If this position is an A'-position, this wh-movement would be illicit. Accordingly, Al-Daher (2016) illustrates that for any Arabic dialect allowing extraction of wh-expressions across subjects in SV structures such as JA (example 16 below), this characterization does not receive any empirical support.

(16) miin   z-zalameh   šaaf   ʔimbariH
     who   the-man   saw.3SM   yesterday
     'Who did the man see yesterday?

The grammaticality of the above example, according to Al-Daher (2016), provides evidence that [Spec, TP] is not an A'-position in JA, as well as in other spoken Arabic varieties. Otherwise, ungrammaticality should arise due to minimality considerations, a prediction which is not borne out. In addition, both (15b) and (16) underlyingly represent the same structure. However, Al-Daher (2016) points out that the adjacency requirement does not hold

in JA, hence the grammaticality of (16) (see also Aoun et al. 2010 for a similar observation in Lebanese Arabic).

In light of these drawbacks, I will not adopt this approach. I maintain that preverbal DPs are subjects just as proposed by many generative syntacticians (see e.g. Mohammad 1989, 1990; Benmamoun 1992, 2000; Aoun et al. 1994; Ouhalla 1994; Aoun and Benmamoun 1999; Harbert and Bahloul 2002; Aoun et al. 2010; among others).

2.3.5 The expletive analysis

Mohammad (1990) argues that the agreement patterns attested on the verb in VS sentences are not the result of agreement between the verb and the postverbal subject. Rather, this agreement is dictated by an expletive pronominal with third person masculine singular features. The major assumption in Mohammad's (1990) proposal is that VS sentences in SA contain two subjects: the real subject and an expletive subject. The real subject does not dictate the agreement features borne by the verb; it is the expletive subject that takes care of this. In other words, agreement on the verb is the result of a Spec-head relation between T and a null expletive in [Spec, TP] as shown in (17).

(17) Mohammad 1990: T agrees with the expletive subject, not with the lexical subject
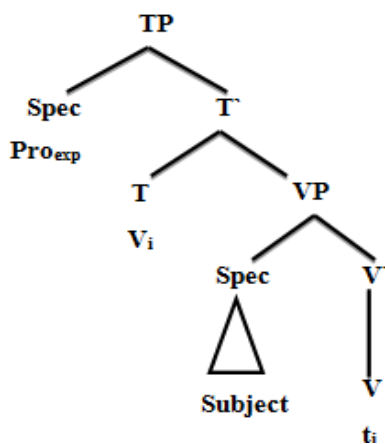
As for the third person masculine singular features that the expletive bears, Mohammad (1990) argues that these features are evident from the realization of the overt version of this expletive pronominal, which always appears when a VS clause is embedded under the complementizer *ʔanna* 'that'. Mohammad (1990) attributes the overt realization of this expletive pronominal after the complementizer *ʔanna* 'that' to a constraint barring empty pronominals from occurring in non-nominative positions (such as the complement of the complementizer *ʔanna* 'that', which assigns accusative case to a following pronominal).

Mohammad (1990) supports the existence of this expletive masculine singular pronominal using agreement data from different constructions in SA such as constructions with modal verbs, constructions with adjectivals, and subjectless passives. He takes these constructions to provide major grounds for establishing the existence of this expletive and determining its properties (i.e. third person masculine singular features).

However, I contend that the agreement patterns attested in these constructions cannot be taken as robust evidence for the third person masculine singular properties of the expletive pronoun. In addition, I show that what has been deemed an expletive pronoun does not in fact behave like a true expletive. To this end, I revisit some of the constructions presented by Mohammad (1990) and show that the agreement features in such constructions point toward a clitic doubling structure rather than an expletive pronoun. This discussion is of significance to the analysis of VS structures in SA and RJA that I develop in section 4. Even though I will argue that Mohammad's (1990) analysis is not actually the most appropriate analysis from a theoretical perspective, I will maintain the terminology of the original source and refer to the pronoun in question as the "expletive" for descriptive convenience.

Mohammad (1990) makes use of the modal verb *yajibu* 'must' to establish the presence and features of the third person singular masculine empty expletive. More specifically, he assumes that the verb *yajibu* 'must' can only inflect for third person singular

masculine features as a result of having a null expletive subject pronoun with the same features. He gives the following example (1990; his example 20).[4]

(18)
a. yajibu   Ɂan   yadrusa   al-Ɂawlaadu
   must.3SM   that   study.3SM.SUB   the-boy.3PM.NOM
   'The boys must study.'
   Lit. '*pro* must that the boys study.'

b. al-Ɂawlaadu   yajibu   Ɂan   yadrusuu
   the-boy.3PM.NOM   must.3SM   that   study.3PM.SUB
   'The boys must study.'
   Lit. 'The boys *pro* must that the boys study.'

c. *al-Ɂawlaadu   yajibuuna   Ɂan   yadrusuu
   the-boy.3PM.NOM   must.3PM   that   study.3PM.SUB
   'The boys must study.'

However, it should be made clear here that modal verbs like *yajibu* 'must' in Arabic do not inflect for agreement features at all. The modal verb *yajibu* 'must', similar to other modals such as *sawfa* 'will' for example, has an invariant fossilized form that appears with all subject NPs regardless of their number or gender, and regardless of the word order. The initial syllable of the verb *yajibu* 'must' (i.e. *ya-*) is not a third person masculine agreement marker on the verb; it is part of the root morpheme. The form *yajibu* is simply the unmarked form of this modal verb and is not the result of any agreement relation between any two elemnets. Consider the following paradigm that illustrates the use of the modal verbs *yajibu* 'must' and *sawfa* 'will' in both SV and VS orders.

(19) SV: *yajibu* 'must' (similar to *sawfa* 'will') is a fossilized modal used with any subject

a. Ɂal-waladu   yajibu Ɂan/sawfa   yadrusa
   the-boy.3SM.NOM   must that/will   study.3SM.SUB
   'The boy must/will study.'

b. Ɂal-bintu   yajibu Ɂan/sawfa   tadrusa
   the-girl.3SF.NOM   must that/will   study.3SF.SUB
   'The girl must/will study.'

---

[4] Glosses for the examples taken from Mohammad's (1990) study are modified for consistency.

c. ʔal-waladani   yajibu ʔan/sawfa   yadrusaa
   the-boys.D.NOM   must that/will   study.3DM.SUB
   'The boys must/will study.'

d. ʔal-bintaani   yajibu ʔan/sawfa   tadrusaa
   the-girls.D.NOM   must that/will   study.3DF.SUB
   'The girls must/will study.'

e. ʔal-ʔawlaadu   yajibu ʔan/sawfa   yadrusuu
   the-boy.3PM.NOM   must that/will   study.3PM.SUB
   'The boys must/will study.'

f. ʔal-banaatu   yajibu ʔan/sawfa   yadrusna
   the-girl.3PF.NOM   must that/will   study.3PF.SUB
   'The girls must/will study.'

(20) VS: *yajibu* 'must' (similar to *sawfa* 'will') is a fossilized modal used with any subject

a. yajibu ʔan/sawfa   yadrusa   l-waladu
   must that/will   study.3SM.SUB   the-boy.3SM.NOM
   'The boy must/will study.'

b. yajibu ʔan/sawfa   tadrusa   l-bintu
   must that/will   study.3SF.SUB   the-girl.3SF.NOM
   'The girl must/will study.'

c. yajibu ʔan/sawfa   yadrusa   l-waladani
   must that/will   study.3SM.SUB   the-boys.D.NOM
   'The boys must/will study.'

d. yajibu ʔan/sawfa   tadrusa   l-bintaani
   must that/will   study.3SF.SUB   the-girls.D.NOM
   'The girls must/will study.'

e. yajibu ʔan/sawfa   yadrusa   l-ʔawlaadu
   must that/will   study.3SM.SUB   the-boy.3PM.NOM
   'The boys must/will study.'

f. yajibu ʔan/sawfa   tadrusa   l-banaatu
   must that/will   study.3SF.SUB   the-girl.3PF.NOM
   'The girls must/will study.'

According to Fassi-Fehri (1993: 83), modals are usually "non-bound morphemes, and they precede (and govern) verbs"; they have to "precede the prefix tense marker on the verb." This means that they precede the inflectional morphology on the following verb, but they do not themselves inflect for tense. Due to this property of modal verbs in Arabic, Mohammad's

assumption that the modal verb *yajibu* 'must' carries third person singular masculine agreement features in the first place, and that these features are the result of agreeing with an empty expletive carrying the same features, is not tenable. The form of the modal verb *yajibu* 'must' does not support the existence of an expletive nor does it support its third person masculine singular properties. This is because the form of the verb is the default form (similar to other modal verbs such as *sawfa* 'will') and has nothing to do with the features of any NP in the structure. In this light, the ungrammaticality of (18c) above does not come as a surprise, since all modals have fossilized forms in Arabic and do not manifest any agreement features.

A more serious problem in Mohammad's (1990) analysis is his use of VS clauses embedded under the complementizer *ʔanna* 'that', in which the expletive appears overtly as a pronoun immediately following the complementizer and is said to always take the third person masculine singular form. Mohammad (1990) takes such embedded contexts to provide evidence for the presence as well as the features of this expletive element. The following example illustrates Mohammad's point (1990; his example 22).

(21)
a. iddaʕaa   ar-rajulu   ʔanna-**hu**   yajibu   ʔan
   claimed.3SM   the-man.NOM   that-**he**   must.3SM   that
   yadrusa   al-ʔawlaadu
   study.3SM.SUB   the-boys.NOM
   'The man claimed that the boys must study.'
   Lit. 'The man claimed that it the boys must study.'

b. *iddaʕaa   ar-rajulu   ʔanna-Ø   yajibu   ʔan
   claimed.3SM   the-man.NOM   that-pro   must.3SM   that
   yadrusa   al-ʔawlaadu
   study.3SM.SUB   the-boys.NOM
   Lit. 'The man claimed that *pro* the boys must study.'

Mohammad (1990) generalizes that the overtly realized version of the expletive pronoun must appear in embedded contexts with third person masculine singular features, and that this is evidence for the existence of a null counterpart to this pronoun (i.e. an expletive *pro*) with the same features. However, a closer examination of embedded VS

clauses provides counterevidence to Mohammad's proposal regarding both the features and the nature of the pronominal expletive. Let us first consider the realization of the expletive in the following sentences: in (22) the embedded subject is masculine plural while in (23) the embedded subject is feminine plural.

(22) Qaalat   l-moʕalimaatu   ʔanna-**hu**   yajibu   ʔan
    said.3SF   the-teacher.3PF.NOM   that-**he**   must.3SM   that
    yanjaHa   l-ʔawlaadu
    succeed.3SM.SUB   the-boy.3PM.NOM
    'The teachers said that the boys must succeed.'

(23) Qaalat   l-moʕalimaatu   ʔanna-**ha**   yajibu   ʔan
    said.3SF   the-teacher.3PF.NOM   that-**she**   must.3SM   that
    tanjaHa   l-banaatu
    succeed.3SF.SUB   the-girl.3PF.NOM
    'The teachers said that the girls must succeed.'

The example in (23) clearly shows that this expletive pronoun can inflect for third person feminine singular features in addition to third person masculine singular features. In other words, Mohammad's assumption that the expletive pronoun is invariantly third person masculine singular is not tenable. (It is also worth noting that in the above examples, even when the expletive is overtly realized with masculine or feminine features, the verb *yajibu* 'must' always retains the same invariant form. The fact that this modal has a fixed form regardless of the gender feature of the expletive pronoun further supports my argument that the verb *yajibu* 'must' is a default form that is unmarked for agreement.)

The above data also jeopardize Mohammad's characterization of the nature of the so-called expletive element. A true expletive should not inflect to agree with the features of some other item. The contrast between the expletive pronouns *-hu* and *-ha* in embedded contexts (22–23) shows that the expletive is coindexed with the subject. This casts doubt on the characterization of this pronoun as an expletive. A true expletive is a meaningless pronoun inserted for formal reasons and thus need not be coindexed with anything (cf. Borsley 1999: 86; Benmamoun 2000: 41; Aoun et al. 2010: 43). In other words, it is not clear

49

in Mohammad's proposal what prompts the generation of this expletive and what causes it to be coindexed with the subject.

Moreover, the expletive analysis breaks down when we consider data from RJA, in which the expletive indexes not only the gender but also the number of the subject, thus casting further doubt on the expletive analysis. The following sentences illustrate this observation: in (24) the embedded subject is masculine plural while in (25) the embedded subject is feminine plural.

(24) gultuu   ʔinn-**hom**   ʕan-jad   ʔiǰuu   l-wlaad
     said.2PM   that-**they.M** on-reality   came.3PM   the-boy.3PM
     'You said that the boys did come.'

(25) gultuu   ʔinn-**hin**   ʕan-jad   ʔiǰin   l-banaat
     said.2PM   that-**they.F** on-reality   came.3PF   the-girl.3PF
     'You said that the girls did come.'

The example in (24) clearly shows that this expletive pronoun can inflect for third person masculine plural features, and the example in (25) shows that it can inflect for third person feminine plural features. In other words, the expletive in RJA indexes not only the gender, but also the number of the embedded subject.

In addition, both subjectless passives and constructions with the adjectival *sahl* 'easy' cannot be taken as evidence for the third person masculine singular features of the expletive. Mohammad (1990) claims that both the passive verb and the adjective *sahl* 'easy' can only appear in the third person masculine singular form. He attributes this agreement form to the presence of an expletive pronominal with the same features, as evident by the overt realization of this expletive following the complementizer *ʔanna* 'that' in embedded contexts. However, this characterization is not fully acceptable as it does not represent all the possible agreement patterns found in such structures in SA. The following examples show that both the expletive pronoun and the passive verb (26b) as well as the adjectival (27b) can also

manifest feminine gender feature, besides the putatively invariant masculine feature (26a; 27a).

(26)
a. Qaalat   l-Talibatu   Ɂanna-**hu**   yuxšaa
    said.3SF   the-student.3SF.NOM   that-**he**   feared.3SM.PASS
    r-rosoobu
    the-failure.NOM
    'The student said that the failure is feared.'

b. Qaalat   l-Talibatu   Ɂanna-**ha**   tuxšaa
    said.3SF   the-student.3SF.NOM   that-**she**   feared.3SF.PASS
    l-imtiHanaatu
    the-exam.3P.NOM
    'The student said that the exams are feared.'

(27)
a. Qaalat   l-Talibatu   Ɂanna-**hu**   sahlun
    said.3SF   the-student.3SF.NOM   that-**he**   easy.SM.NOM
    kaana   l-darsu
    was.3SM   the-lesson.NOM
    'The student said that the lesson was easy.'

b. Qaalat   l-Talibatu   Ɂanna-**ha**   sahlatun
    said.3SF   the-student.3SF.NOM   that-**she**   easy.SF.NOM
    kaanat   l-mosabaQatu
    was.3SF   the-contest.NOM
    'The student said that the contest was easy.'

To sum up so far, I have reviewed in this section Mohammad's assumption that the third person masculine singular features on the verb in the aforementioned constructions are the only possible agreement features, and that they are the result of agreeing with a null expletive pronoun which bears the same features. However, I have shown that this characterization is problematic on empirical grounds as the assumed expletive can manifest other agreement features. Specifically, the third person masculine singular lexical version of the expletive pronoun, which is overtly realized in embedded contexts under the complementizer *Ɂanna* 'that', is not the only variant of this expletive pronoun in SA. A third person feminine singular version is available as well, depending on the gender of the subject. It was also shown that this expletive in RJA inflects not only for gender but also for number.

Moreover, the form of the verb *yajibu* 'must' was shown to be insufficient evidence for the expletive characterization of Mohammad (1990), since this verb has a fossilized form that is not the result of agreeing with anything.

The fact that Mohammad's expletive can agree with the subject for gender in SA and for both gender and number in RJA calls the expletive nature of this pronominal into question. Nevertheless, the insight embodied in Mohammad's proposal is still successful in accounting for the invariable singular number feature on verbs in all VS sentences in SA. This singular number feature can be straightforwardly accounted for by the expletive subject, which is always marked for singular number; it is with this expletive subject that the verb actually agrees. The gender features attested on this expletive in SA as well as the gender and number features in RJA, however, form a serious challenge for Mohammad's proposal. Specifically, this expletive has a form that clearly varies depending on the subject's gender in SA and on the subject's gender and number in RJA. This dependency suggests that the pronominal may be an instance of clitic doubling rather than an expletive.

This is the major insight that forms the basis of my analysis of VS sentences in both SA and RJA. I propose that the most straightforward way of accounting for the cross-dialectal variation in VS structures and the so-called expletive pronoun facts is by analyzing the expletive as an instance of subject clitic doubling. Supporting evidence for this analysis is presented in the next section, showing how it can capture all the variation in agreement mentioned to this point.

2.4 Clitic doubling and agreement

In this section, I put forward an analysis that can account for feature licensing and word order in different Arabic varieties. This analysis is based upon Chomsky's Probe-Goal theory of

agreement (2000, 2001). I argue that this new analysis can systematically capture all the facts under investigation and avoid the drawbacks of the previous analyses.

This section is organized as follows. Subsection 2.4.1 discusses the derivation of SV sentences in both SA and RJA. The major point in this subsection is that the two varieties exhibit full agreement between the verb and the preverbal subject due to the presence of a functional head T bearing a complete set of uninterpretable unvalued φ-features: person, number, and gender. Subsection 2.4.2 examines the derivation of VS sentences in the two varieties. The major point in this subsection is that the partial agreement between the verb and the postverbal subject is the result of the fact that the functional head T does not bear a complete set of uninterpretable unvalued φ-features. However, this partial agreement is not identical in the two varieties. While the verb agrees with the subject for gender only in SA, it agrees with the subject for both number and gender in RJA. This asymmetry regarding partial agreement is explained in light of the fact that each variety has a T with a different probe.

2.4.1 SV sentences in SA and RJA

In this subsection, I discuss the agreement and case assignment facts in SA and RJA adopting the Probe-Goal theory of agreement (Chomsky 2000, 2001). It is worth indicating here that the Arabic facts in SV sentences are fully consistent with standard assumptions about agreement and case; no special proposals are provided for the analysis of such sentences. This constitutes the background that is needed for the analysis of VS sentences, where a new proposal is put forward to account for the differences between the two word orders.

The verb in the SV word order in both SA and RJA agrees with the preverbal subject in all φ-features: person, number, and gender. The sets of examples given in (28–29) represent full agreement patterns in SA, and those given in (30–31) are cases of full agreement in RJA.

(28) SV sentences in SA: full agreement with masculine singular and plural subjects

a. ʔal-waladu   ǰaaʔa
   the-boy.**3SM**.NOM   came.**3SM**
   'The boy came.'

b. ʔal-ʔawlaadu   ǰaaʔuu
   the-boy.**3PM**.NOM   came.**3PM**
   'The boys came.'

c. *ʔal-ʔawlaadu   ǰaaʔa
   the-boy.**3PM**.NOM   came.**3SM**
   'The boys came.'

(29) SV sentences in SA: full agreement with feminine singular and plural subjects

a. ʔal-bintu   ǰaʔat
   the-girl.**3SF**.NOM   came.**3SF**
   'The girl came.'

b. ʔal-banaatu   ǰiʔna
   the-girl.**3PF**.NOM   came.**3PF**
   'The girls came.'

c. *ʔal-banaatu   ǰaaʔat
   the-girl.**3PF**.NOM   came.**3SF**
   'The girls came.'

(30) SV sentences in RJA: full agreement with masculine singular and plural subjects

a. ʔil-walad   ʔiǰa
   the-boy.**3SM**   came.**3SM**
   'The boy came.'

b. ʔil-wlaad   ʔiǰuu
   the-boy.**3PM**   came.**3PM**
   'The boys came.'

c. *ʔil-wlaad   ʔiǰa
   the-boy.**3PM**   came.**3SM**
   'The boys came.'

(31) SV sentences in RJA: full agreement with feminine singular and plural subjects

a. ʔil-binit   ʔiǰat
   the-girl.**3SF**   came.**3SF**
   'The girl came.'

b. ʔil-banaat   ʔiǰin
   the-girl.**3PF**   came.**3PF**
   'The girls came.'

54

c. *ʔil-banaat   ʔiǰat
  the-girl.**3PF**   came.**3SF**
  'The girls came.'

The examples (28–29) show that the person, number, and gender features on the verb in SA must fully match those on the preverbal subject; otherwise, ungrammaticality ensues as demonstrated in (28c) and (29c). Specifically, the ungrammaticality of these sentences is traced to the absence of number agreement on the verb. Similarly, in RJA, the verb shows full agreement with the preverbal subject (30a–b; 31a–b). The lack of full agreement through the impoverishment of number agreement in (30c) and (31c) yields ungrammaticality.

According to Chomsky (2000, 2001), agreement results from the operation Agree, which establishes a relationship between two syntactic elements in the structure: element α (the "Probe") and element β (the "Goal"). Probes carrying uninterpretable unvalued formal features [uF] search down in their c-command domain for a matching goal with interpretable valued formal features [F]. In other words, the probe's uninterpretable features are valued by the matching interpretable features on the goal. Both probe and goal must be "active" in the sense that each of them must have an uninterpretable feature that has not yet been valued through Agree.

The φ-features on T and the case features on nominals are among the uninterpretable formal features. The EPP features are also uninterpretable and require licensing by merging rather than valuation. If the probe has an [EPP] feature then it not only agrees with its goal, but attracts its goal to its specifier position. Chomsky (2000: 102) states, "[e]ach CFC [core functional category] also allows an extra Spec beyond its s-selection: for C, a raised wh-phrase; for T, the surface subject; for *v*, the phrase raised by object shift". In other words, under the Probe-Goal model, NP-movement to [Spec, TP] is a direct result of T-agreement.

SV sentences in both SA and RJA are derived as follows. The subject is generated within the lexical projection as a specifier of VP. The verb undergoes V-to-T head-movement

55

(Koopman and Sportiche 1991; Aoun et al. 1994; Aoun and Benmamoun 1999; Benmamoun 2000; Soltan 2006, 2007a, b; Aoun et al. 2010). According to the Probe-Goal theory of agreement, the functional head T bears uninterpretable unvalued φ-features and therefore probes for a goal with matching valued φ-features. The subject in [Spec, VP] is an eligible goal since it has the required interpretable valued φ-features, and therefore values T's [uφ] probe by having it own values copied by T. T in turn values the subject's unvalued case feature and assigns it [NOM] case. Once the copying and valuation of features are successfully established, the [EPP] feature of the probe on T is satisfied by copying the goal itself to T's specifier position. That is, the subject DP is copied from its base position (i.e. its thematic-role position) [Spec, VP] to [Spec, TP]. The lower copy is not spelled out as it is fully duplicated by the higher copy in [Spec, TP]. Granting the Probe-Goal framework, the licensing of agreement features and case assignment as well as word order in both SA and RJA can be straightforwardly accounted for. The derivation of SV structures such as (28b) can be represented as in (32). (Throughout this thesis, I will represent syntactic movement by connecting the original and derived positions of the moved item with an arrow; the moved item itself will be enclosed between angle brackets < >. To indicate agreement relations, I will use a dotted, round-headed arrow from the probe to the goal.)

(32) Derivation of an SV sentence in SA/RJA

TP

Spec   T`

DP
ʔal-ʔawlaadu T   VP

    V T   Spec V`

    ǰaaʔuu

      [u~~φ~~: 3PM, ~~NOM~~,   V
      ~~EPP~~]   DP <ǰaaʔuu>
            <ʔal-ʔawlaadu [φ:
           ● 3PM, ~~uCase~~:
            NOM]>
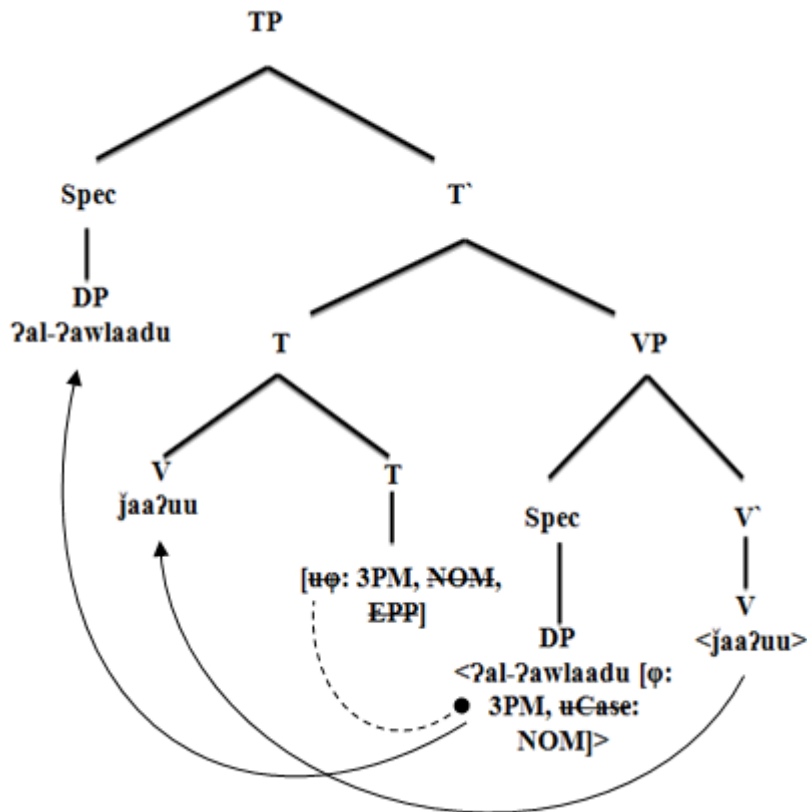
2.4.2 VS sentences in SA and RJA

It was shown in subsection 2.3.5 that Mohammad's (1990) expletive analysis partially succeeds at capturing the impoverished agreement inflections in VS sentences in SA: just as the agreement in a VS sentence is always singular, so too is the expletive. An initial problem for this analysis in SA is the fact that the expletive appears to track the gender of the postverbal subject. The expletive analysis breaks down further when we consider data from RJA, in which the expletive indexes not only the gender but also the number of the subject, thus casting doubt on the expletive analysis.

Using data from both SA and RJA, I show that Mohammad's proposal is on the right track, as it recognizes the systematic correlations between the features encoded by agreement and the features encoded by a null preverbal expletive, i.e. the singular feature in SA. However, it fails to account for the matching of gender features in SA and the matching of

both gender and number features in RJA. Therefore, I propose to build on Mohammad's idea in which the expletive pronoun is not analyzed as an expletive, but instead as an instance of subject clitic doubling. A major consequence of my analysis is that the underlying structure of any VS sentence in Arabic is really CL$_s$VS rather than VS, where the first S is a subject clitic and the second S is a lexical subject. The first S (i.e. the subject clitic) is always a null pronoun in root contexts; however, it appears overtly in embedded contexts following the complementizer *ʔanna* 'that'.

My analysis of VS sentences (or subject clitic doubling structures) in Arabic is expressed in the terms of Chomsky's Probe-Goal theory of agreement (2000, 2001). My major proposal is that the asymmetrical realizations of agreement morphology in VS sentences in both SA and RJA are the result of having two different probes on T in the two varieties. More specifically, the functional head T in SA probes only for the gender feature, while it probes for both number and gender features in RJA. However, in both SA and RJA the probe on T has in common the lack of a person feature, hence making the agreement partial rather than full. I propose that the partial agreement in both varieties triggers partial copying of the goal, which gives the appearance of clitic doubling rather than movement. This analysis provides a systematic and unified explanation for three different issues: the difference in word order (SV/VS), the difference in agreement (full or partial), and the difference in the features of the expletive. The subject clitic analysis that I am proposing attributes all three properties to one underlying factor: the featural specification of the probe on T.

The analysis will be presented as follows. Section 2.4.2.1 introduces the phenomenon of clitic doubling in Arabic due to its relevance to the whole discussion. Section 2.4.2.2 provides an analysis of embedded VS clauses in SA building on the clitic doubling framework. Section 2.4.2.3 extends the analysis to root VS clauses in SA. Section 2.4.2.4

turns to RJA and analyzes both embedded and root VS clauses in a similar manner to those of SA.

2.4.2.1 The phenomenon of clitic doubling in Arabic

In this subsection, I briefly present the phenomenon of clitic doubling as it provides the necessary background for my analysis of the derivation of VS sentences in both SA and RJA. The syntactic phenomenon of clitic doubling in Arabic has not received much attention in the literature (but see Aoun 1999). This phenomenon clusters with a set of well-known phenomena in other languages, particularly Romance, which have been extensively discussed under the terms "clitic doubled constructions", "clitic doubling" or "argument doubling" (see Jaeggli 1982, 1986; Borer 1984, 1986; Everett 1986; Hurtado 1984; Suñer 1988, 1992; Dobrovie-Sorin 1990; Schneider-Zioga 1990, 1993; Franco 1991; Iatridou 1991; Sportiche 1992).

I draw on this syntactic phenomenon as I believe it can open a new window on the analysis of a long-running issue in the syntax of Arabic: the "partial" subject-verb agreement in VS word order in SA vs. what has been analyzed as "full" subject-verb agreement in other spoken Arabic varieties such as RJA. More particularly, extending this phenomenon to VS word order can allow us to understand how agreement patterns in VS word order are syntactically licensed. It also provides an approach that does away with problematic aspects of previous accounts.

A pronominal clitic in Arabic always attaches to the item to its left, as shown below for verbs, nouns, and prepositions. All the Lebanese examples below are from Aoun (1999). In (33), the direct object of the verb is a clitic, which attaches to the verb on its left. The underlying syntactic structure prior to cliticization is shown in (34).

(33) Verb + object clitic

a. Kariim   ʃeef-o   (Lebanese Arabic)
   Karim   saw-him
   'Karim saw him.'

b. Qais   šaaf-o   (RJA)
   Qais   saw.3SM-him
   'Qais saw him.'

c. Qaisun   raʔaa-hu   (SA)
   Qais.NOM   saw.3SM-him
   'Qais saw him.'

(34)
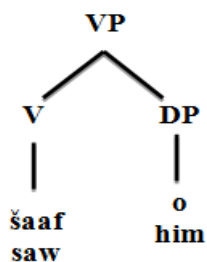
In (35), the noun's possessor is a clitic. Possessors in Arabic are postnominal (Al-Aboudi 1987; Mohammed 1988; Ritter 1988, 1991; Fassi-Fehri 1993; Borer 1996; Benmamoun 2000; Siloni 2002; Shlonsky 2004; Al khatib 2009; among others). The postnominal clitic attaches to the noun on its left. The structure is shown in (36) (Following the steps of Ritter (1988) and Al Khatib (2009), I assume that the head noun raises to the determiner head).

(35) Noun + possessor clitic

a. Kariim   ʃeef   kteeb-o   (Lebanese Arabic)
   Karim   saw   book-his
   'Karim saw his book.'

b. Qais   šaaf   ktaab-o   (RJA)
   Qais   saw.3SM   book-his
   'Qais saw his book.'

c. Qaisun   raʔaa   kitaaba-hu   (SA)
   Qais.NOM   saw.3SM   book-his
   'Qais saw his book.'

(36)

DP
├─ D — ktaab_j / book
└─ NP
   ├─ DP — o / his
   └─ N`
      └─ N — t_j
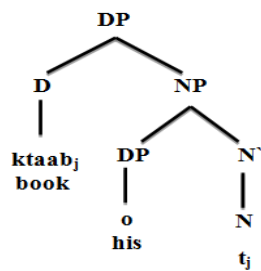
In (37), the complement of the preposition is a clitic; the structure is shown in (38).

(37) Preposition + clitic complement

a. Kariim   raaḥ   maʕ-o   (Lebanese Arabic)
   Karim   left   with-him
   'Karim left with him.'

b. Qais   raaH   maʕ-o   (RJA)
   Qais   left.3SM   with-him
   'Qais left with him.'

c. Qaisun   ðahaba   maʕa-hu   (SA)
   Qais.NOM   left.3SM   with-him
   'Qais left with him.'

(38)

PP
├─ P — maʕ / with
└─ DP — o / him
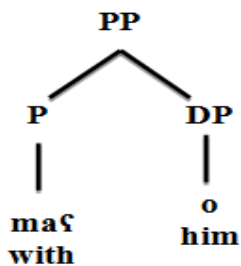
The above examples show that pronominal clitics attach to the head that immediately precedes them. Aoun (1999: 15) considers this a clear indication that cliticization in Arabic is a "local phenomenon" (see also Mohammad 1990). He also notes that the process of "clitic climbing" found in different Romance languages, in which a clitic in an embedded clause moves into the matrix clause (Kayne 1975, 1984; Rouveret and Vergnaud 1980), does not exist in Arabic.

It is worth indicating here that all the types of pronominal clitics in the above examples can be doubled by an overt argument giving rise to what is known as doubled argument constructions in Arabic. The following examples illustrate accusative clitic doubling (39), dative clitic doubling (40), and genitive clitic doubling with the clitics being attached to nouns (41) or prepositions (42). The Lebanese examples are from Aoun (1999). In all these examples, the doubled NP is preceded by the dative case marker *la* (Aoun 1999). (The doubled argument and the doubling clitic are in bold.)

(39) Accusative clitic doubling

a. Kariim ʃeef-**o** la-**Saami**   (Lebanese Arabic)
 Karim saw-him to-Sami
 'Karim saw Sami.'

b. Qais šaaf-**o**   la-**Saʕeed** (RJA)
 Qais saw.3SM-him to-Saʕeed
 'Qais saw Saʕeed.'

(40) Dative clitic doubling

a. Kariim ħakee-**lo** la-**Saami** ħkeeye (Lebanese Arabic)
 Karim told-him to-Sami   story
 'Karim told Sami a story.'

b. Qais gal-**lo**   la-**Saʕeed** gessa (RJA)
 Qais told.3SM-him to-Saʕeed story
 'Qais told Saʕeed a story.'

(41) Genitive clitic doubling (noun)

a. Kariim ʃeef kteeb-**o** la-**Saami**   (Lebanese Arabic)
 Karim saw book-his to-Sami
 'Karim saw Sami's book.'

b. Qais šaaf ktaab-**o** la-**Saʕeed** (RJA)
 Qais saw.3SM book-his to-Saʕeed
 'Qais saw Saʕeed's book.'

(42) Genitive clitic doubling (preposition)

a. Kariim   raaħ   maʕ-**o**   la-**Saami**   (Lebanese Arabic)
Karim   went   with-him   to-Sami
'Karim went with Sami.'

b. Qais   raaH   maʕ-**o**   la-**Saʕeed**   (RJA)
Qais   left.3SM   with-him   to-Saʕeed
'Qais left with Saʕeed.'

The above examples clearly demonstrate that in clitic doubling structures, a clitic always co-occurs with an overt argument. This observation can be represented as follows.

(43) .... head + clitic$_i$ .... overt argument$_i$

2.4.2.2 Embedded VS sentences in SA

In VS sentences in SA, the verb partially agrees with the postverbal subject. Specifically, there is no number agreement on the verb, but there is gender agreement. The following examples illustrate this observation.

(44) VS in SA: masculine singular agreement for masculine singular and plural subjects

a. ǰaaʔa   l-waladu
  came.**3SM**   the-boy.**3SM**.NOM
  'The boy came.'

b. ǰaaʔa   l-ʔawlaadu
  came.**3SM**   the-boy.**3PM**.NOM
  'The boys came.'

c. *ǰaaʔuu   l-ʔawlaadu
  came.**3PM**   the-boy.**3PM**.NOM
  'The boys came.'

(45) VS in SA: feminine singular agreement for feminine singular and plural subjects

a. ǰaaʔat   l-bintu
  came.**3SF**   the-girl.**3SF**.NOM
  'The girl came.'

b. ǰaaʔat   l-banaatu
  came.**3SF**   the-girl.**3PF**.NOM
  'The girls came.'

c. *ǰiʔna   l-banaatu
   came.**3PF**   the-girl.**3PF**.NOM
   'The girls came.'

The examples in (44–45) show that the agreement on the verb is impoverished in sentences with postverbal subjects. The verb always appears in the singular form, regardless of the number of the postverbal subject. For example, while the postverbal subject is third person plural masculine in (44b), the verb has a third person singular masculine form. The ungrammaticality of the (c) examples in both (44–45) above is due to the full agreement between the verb and the subject. This indicates that partial agreement is the only possible pattern permissible in VS order in SA. The invariable appearance of the verb in the singular form is indeed the reason for calling this agreement pattern "partial agreement" in the literature (see Mohammad 1990, 2000; Fassi-Fehri 1993, Aoun et al. 1994; Aoun and Benmamoun 1999; Benmamoun 2000; Harbert and Bahloul 2002; Soltan 2006, 2007a, b; Aoun et al. 2010). I propose that this agreement pattern occurs because the probe targets gender features only in such sentences. The third person and singular number features are not a reflection of syntactic agreement; rather they are spelled out by default.

The structural relations in VS sentences are clearest when they are embedded under the complementizer *ʔanna* 'that', which results in the following structure:

(46) complementizer *ʔanna* 'that' + overt clitic + VS

Embedded VS clauses display the same partial agreement pattern that occurs in root VS sentences: the verb agrees with the subject for gender only. Moreover, such embedded clauses also contain an overt pronominal clitic, which also indexes the subject for gender only. The clitic/agreement pattern in embedded VS clauses is illustrated in (47–48). The embedded clause is marked by square brackets and the clitic is shown in bold.

(47) Embedded VS in SA: masculine subject always indexed by singular masculine agreement/clitic

a. ʔiddaʕat   l-bintu   [ʔanna-**hu**   HaQan   ǰaaʔa
   claimed.3SF   the-girl.3SF.NOM   [that-**he**   really   came.3SM
   l-waladu]
   the-boy.3SM.NOM]
   'The girl claimed [that the boy did come].'

b. ʔiddaʕat   l-bintu   [ʔanna-**hu**   HaQan   ǰaaʔa
   claimed.3SF   the-girl.3SF.NOM   [that-**he**   really   came.3SM
   l-ʔawlaadu]
   the-boy.3PM.NOM]
   'The girl claimed [that the boys did come].'

c. *ʔiddaʕat   l-bintu   [ʔanna-**hum**   HaQan   ǰaaʔa
   claimed.3SF   the-girl.3SF.NOM   [that-**they.M**   really   came.3SM
   l-ʔawlaadu]
   the-boy.3PM.NOM]
   'The girl claimed [that the boys did come].'

(48) Embedded VS in SA: feminine subject always indexed by singular feminine agreement/clitic

a. ʔiddaʕa   r-raǰulu   [ʔanna-**ha**   HaQan
   claimed.3SM   the-man.3SM.NOM   [that-**she**   really
   ǰaaʔat   l-bintu]
   came.3SF   the-girl.3SF.NOM]
   'The man claimed [that the girl did come].'

b. ʔiddaʕa   r-raǰulu   [ʔanna-**ha**   HaQan
   claimed.3SM   the-man.3SM.NOM   [that-**she**   really
   ǰaaʔat   l-banaatu]
   came.3SF   the-girl.3PF.NOM]
   'The man claimed [that the girls did come].'

c. *ʔiddaʕa   r-raǰulu   [ʔanna-**hunna**   HaQan
   claimed.3SM   the-man.3SM.NOM   [that-**they.F**   really
   ǰaaʔat   l-banaatu]
   came.3SF   the-girl.3PF.NOM]
   'The man claimed [that the girls did come].'

The above examples show that the subject clitic in SA reflects the gender of the subject but is always singular, even when the postverbal subject is plural. The overt pronominal clitics in these examples appear attached to the complementizer *ʔanna* 'that'. It is worth indicating here that the overt realization of this subject clitic in embedded contexts is

obligatory. All the above embedded sentences would be ungrammatical if the pronominal

clitic did not overtly appear after the complementizer. Consider the following structures.

(49) Ungrammatical embedded VS in SA: masculine subject not indexed by a clitic

a. *ʔiddaʕat   l-bintu   [ʔanna-Ø   HaQan   ǰaaʔa
   claimed.3SF   the-girl.3SF.NOM   [that-Ø   really   came.3SM
   l-waladu]
   the-boy.3SM.NOM]
   'The girl claimed [that the boy did come].'

b. *ʔiddaʕat   l-bintu   [ʔanna-Ø   HaQan   ǰaaʔa
   claimed.3SF   the-girl.3SF.NOM   [that-Ø   really   came.3SM
   l-ʔawlaadu]
   the-boy.3PM.NOM]
   'The girl claimed [that the boys did come].'

(50) Ungrammatical embedded VS in SA: feminine subject not indexed by a clitic

a. *ʔiddaʕa   r-raǰulu   [ʔanna-Ø   HaQan
   claimed.3SM   the-man.3SM.NOM   [that-Ø   really
   ǰaaʔat   l-bintu]
   came.3SF   the-girl.3SF.NOM]
   'The man claimed [that the girl did come].'

b. *ʔiddaʕa   r-raǰulu   [ʔanna-Ø   HaQan
   claimed.3SM   the-man.3SM.NOM   [that-Ø   really
   ǰaaʔat   l-banaatu]
   came.3SF   the-girl.3PF.NOM]
   'The man claimed [that the girls did come].'

Such embedded contexts provide direct evidence for the existence of a pronominal

subject clitic. The overt realization of the pronominal subject clitic can be straightforwardly

explained in light of the properties of the complementizer *ʔanna* 'that'. This complementizer

assigns accusative case to the NP it governs (see Mohammad 1990; Aoun et al. 2010). Since

Arabic has a constraint against the occurrence of empty pronominals in non-nominative

contexts (Mohammad 1990: 102), it naturally follows that the case-assigning property of

ʔanna 'that' can be used to create such a non-nominative context: the complementizer assigns

accusative case to the clitic. As a result, empty pronominals are banned from this position and

an overt lexical pronominal is obligatory (see also Mohammad 1990).

To account for the agreement and case assignment in embedded VS sentences in SA, I put forward the following three proposals:

- *Proposal 1:* The only difference between the underlying structure of VS and SV sentences is that there is a different version of T in each structure. In SV sentences, the functional head T bears a complete set of uninterpretable unvalued φ-features: person, number, and gender. In embedded VS sentences, on the other hand, the functional head T bears only a single uninterpretable unvalued φ-feature: gender. The existence of a probe that targets only certain features on a goal is known as "relativized probing" (see Nevins 2007, 2011; Preminger 2011).

- *Proposal 2:* When T succeeds in finding a goal with the feature [Gender], the [EPP] feature of T triggers copying of the goal to [Spec, TP], as in an SV sentence. However, since agreement is partial, targeting only a single φ-feature rather than the full set of φ-features, I propose that copying is also partial: only the gender feature of the goal is copied to [Spec, TP] (cf. Oxford 2014 for Algonquian). Under this proposal, SV and VS sentences are alike in that the [EPP] feature on T requires the specifier of T to be filled; the only difference between SV and VS sentences is that in a VS sentence, the material in [Spec, TP] is a partial copy of the goal consisting of its gender feature only, which I propose is spelled out as the pronominal clitic, rather than a complete copy of the goal.

- *Proposal 3:* The complementizer *ʔanna* 'that' assigns [ACC] case to the clitic in [Spec, TP]. As a result, the clitic receives two case features in the course of the derivation: it receives [NOM] through the initial Agree operation on T and it subsequently receives [ACC] from C. The spell-out of the clitic in the accusative form follows from Béjar and Massam's (1999) observation that in such instances of

67

multiple case assignment, it is always the last case feature assigned that gets spelled out.

These proposals are sufficient to account for the derivation of embedded VS clauses. The agreement features and case licensing can be straightforwardly accounted for using the Probe-Goal theory of agreement (Chomsky 2000, 2001). As in an SV clause, the subject is generated in the lexical projection VP as its specifier and the verb undergoes V-to-T head-movement (see also section 2.4.1). Unlike in an SV clause, T probes only for [uGender]. The subject in [Spec, VP] has the required interpretable valued gender feature, and thus values the T's [uGender] probe. The unvalued case feature on the subject is in turn valued by the functional head T which assigns it [NOM] case just as happens in SV sentences. In brief, the functional head T still agrees with the subject in [Spec, VP], but only for a single feature, gender.

Under my Proposal 2, this partial agreement triggers the partial copying of the goal. In other words, the [Gender] feature of the goal is copied to [Spec, TP] and it is this feature that is spelled out as the pronominal clitic. The [EPP] feature that the probe on T carries is satisfied by a partial copy of the subject DP in [Spec, VP] rather than a complete copy as in SV sentences. It should be made clear here that in SV sentences, the complete copying results in having two identical copies, one in [Spec, TP] and another in [Spec, VP]. It is only the higher copy in [Spec, TP] that is pronounced, giving rise to what we think of as movement. To put it differently, having two identical copies results in the non-pronunciation of the lower copy. In VS, by contrast, there is only a partial copy in [Spec, TP]. This means that the copy in [Spec, TP] and that in [Spec, VP] are not identical, hence the obligatory pronunciation of the lower copy. In a nutshell, non-pronunciation is possible only when the two copies are identical (cf. the "Identity Condition" that governs the possibility of ellipsis, e.g. Merchant 2001). The spell-out of the subject in two positions due to partial copying gives the

appearance of clitic doubling (CL$_s$VS) where the overt pronominal subject clitic in [Spec, TP] has the gender feature of the lexical subject in [Spec, VP].

The complementizer *Ɂanna* 'that' assigns [ACC] case to the clitic copy in [Spec, TP]. This results in "case stacking", in which a single DP receives two cases over the course of the derivation (McCreight 1988; Nordlinger 1998; Béjar and Massam 1999; Merchant 2006; Pesetsky 2013; Richards 2013). The clitic is spelled out with only the last case that it received, i.e. [ACC] case (Béjar and Massam 1999). The tree in (51) illustrates the derivation of an embedded VS structure such as (47b).

(51) Derivation of an embedded VS clause in SA

69
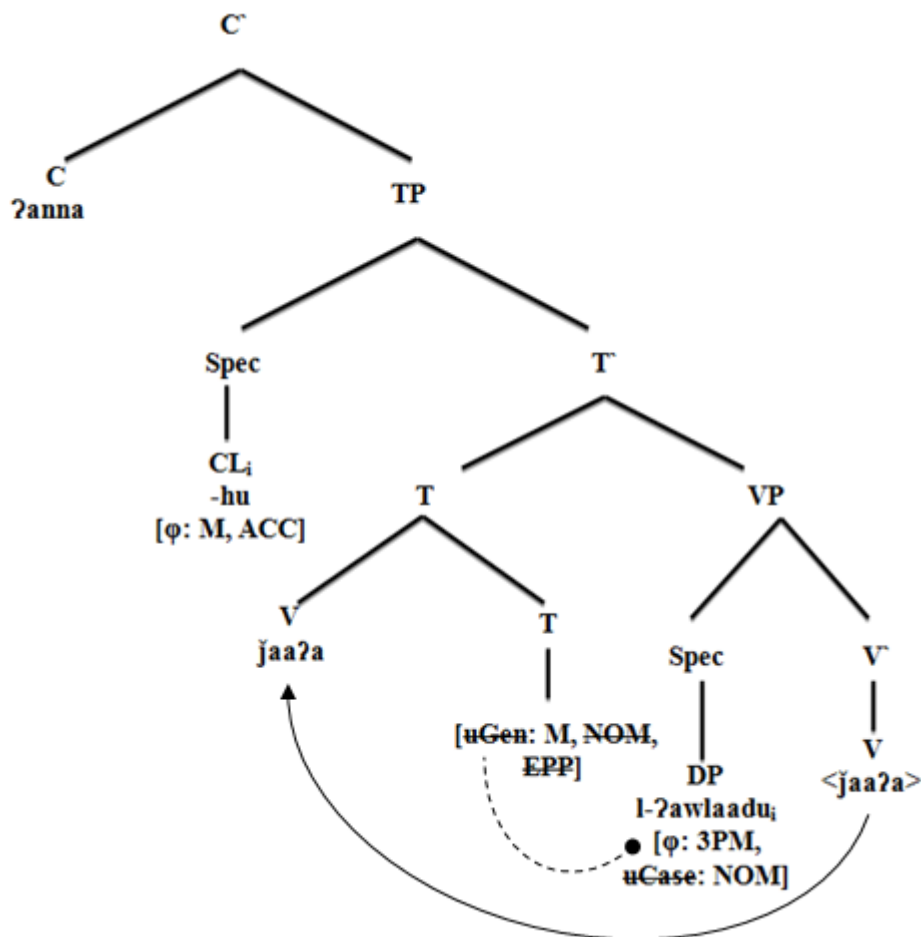
2.4.2.3 Root VS sentences in SA

In the previous subsection, I showed that embedded VS clauses in SA always contain an overt pronominal clitic in [Spec, TP] with the [Gender] feature of the lexical subject in [Spec, VP]. It was also shown that this pronominal clitic bears an [ACC] case assigned by the complementizer *ʔanna* 'that' in C. In this subsection, I will proceed using the same Probe-Goal framework (Chomsky 2000, 2001) to account for the derivation of root VS clauses in SA, which lack an overt pronominal clitic.

The difference between root and embedded VS clauses can be reduced to the absence of the complementizer *ʔanna* 'that' in root clauses. Accordingly, the [ACC] case assigned by *ʔanna* will also be absent from root clauses, thus leaving the pronominal subject clitic with its original [NOM] (from T) rather than [ACC] (from C). Since Arabic is a pro-drop language in which nominative pronouns are not spelled out, the nominative subject clitic in root VS clauses will be null. Under this analysis, VS clauses have the same underlying "CL$_s$VS" structure in both root and embedded contexts, but the initial clitic S is spelled out only in embedded contexts.

Aside from the absence of [ACC] case and the consequent null spell-out of the subject clitic, the derivation of root VS clauses proceeds in exactly the same fashion as shown for embedded ones in the previous section. The subject is generated in [Spec, VP] and the verb undergoes V-to-T head-movement. T probes only for [uGender] which is valued by the subject in [Spec, VP] since it has the required interpretable valued gender feature. The functional head T values the unvalued case feature on the subject and assigns it [NOM] case. The partial agreement on T triggers the partial copying of the goal: the [Gender] feature is copied to [Spec, TP], satisfying the [EPP] feature of the probe on T. The clitic copy receives [NOM] case through the Agree operation on T. Since it is a nominative pronoun, the clitic copy receives a null spell-out. In addition, since the copy in [Spec, TP] and that in [Spec, VP]

70

are not identical, the lower copy is obligatorily pronounced, giving rise to the surface VS word order.

To put all these ideas in concrete terms, the derivation of example (44b) above, which is reproduced here as (52), is shown in (53).

(52) VS in SA: masculine singular agreement for masculine plural subjects

ǰaaʔa   l-ʔawlaadu
came.**3SM**   the-boy.**3PM**.NOM
'The boys came.'

(53) Derivation of a root VS sentence in SA
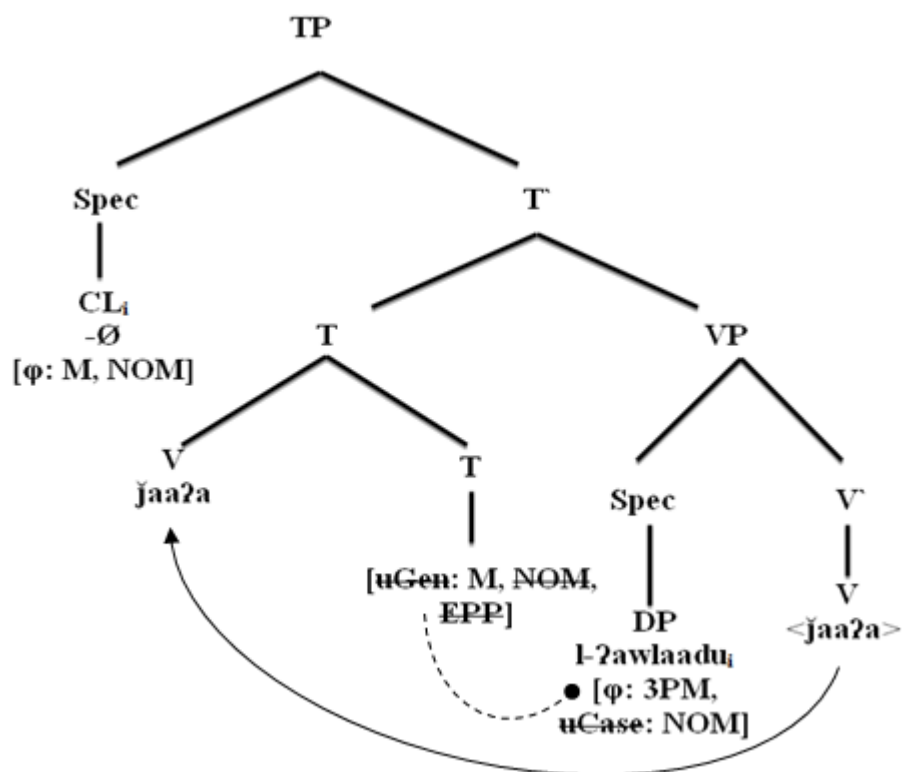
This representation shows that root VS clauses always contain a null pronominal clitic with [NOM] case. The covertness of this pronominal clitic is the only way in which root VS clauses differ from embedded VS clauses. As explained above, this difference follows from the absence of [ACC] case on the clitic in root clauses.

2.4.2.4 VS sentences in RJA

I now turn from SA to RJA. I propose that VS sentences in RJA are like those in SA in that the verb partially agrees with the postverbal subject. However, there is a difference when it comes to the features involved in this partial agreement. While the verb in SA agrees with the postverbal subject for gender only, it agrees for both number and gender in RJA. The person feature is still absent from both SA and RJA, hence the agreement is partial in both varieties. The following sets of examples illustrate this observation.

(54) VS in RJA: masculine singular and plural agreement for masculine singular and plural subjects respectively

a. ʔiǰa   l-walad
   came.**3SM**   the-boy.**3SM**
   'The boy came.'

b. ʔiǰuu   l-wlaad
   came.**3PM**   the-boy.**3PM**
   'The boys came.'

c. *ʔiǰa   l-wlaad
   came.**3SM**   the-boy.**3PM**
   'The boys came.'

(55) VS in RJA: feminine singular and plural agreement for feminine singular and plural subjects respectively

a. ʔiǰat   l-binit
   came.**3SF**   the-girl.**3SF**
   'The girl came.'

b. ʔiǰin   l-banaat
   came.**3PF**   the-girl.**3PF**
   'The girls came.'

c. *ʔiǰat   l-banaat
   came.**3SF**   the-girl.**3PF**
   'The girls came.'

The examples in (54–55) show that the verb must exhibit agreement in both number and gender with the postverbal subject. The lack of any of these two features, as in (54c) and (55c), renders the structure ill-formed.

72

Similar to SA, when VS sentences in RJA are embedded under the complementizer *ʔinn* 'that', an overt clitic appears, as shown in the following schema:

(56) complementizer *ʔinn* 'that' + overt clitic + VS

Embedded VS clauses in RJA display the same agreement pattern that occurs in root VS sentences (54–55). In both embedded and root clauses, the verb agrees with the subject for both number and gender. In addition, the pronominal clitic that occurs in such embedded clauses in RJA also indexes the subject for both number and gender. The clitic/agreement pattern in embedded VS clauses in RJA is illustrated in (57–58). The embedded clause is marked by square brackets and the clitic is shown in bold.

(57) Embedded VS in RJA: masculine singular and plural subjects always indexed by masculine singular and plural agreement/clitic respectively

a. gultuu   [ʔinn-**oh**   ʕan-jad   ʔiǰa   l-walad]
   said.2PM   [that-**he**   on-reality   came.3SM   the-boy.3SM]
   'You said [that the boy did come].'

b. gultuu   [ʔinn-**hom**   ʕan-jad   ʔiǰuu   l-wlaad]
   said.2PM   [that-**they.M**   on-reality   came.3PM   the-boy.3PM]
   'You said [that the boys did come].'

c. *gultuu   [ʔinn-**oh**   ʕan-jad   ʔiǰa   l-walaad]
   said.2PM   [that-**he**   on-reality   came.3SM   the-boy.3PM]
   'You said [that the boys did come].'

(58) Embedded VS in RJA: feminine singular and plural subjects always indexed by feminine singular and plural agreement/clitic respectively

a. gultuu   [ʔinn-**ha**   ʕan-jad   ʔiǰat   l-binit]
   said.2PM   [that-**she**   on-reality   came.3SF   the-girl.3SF]
   'You said [that the girl did come].'

b. gultuu   [ʔinn-**hin**   ʕan-jad   ʔiǰin   l-banaat]
   said.2PM   [that-**they.F**   on-reality   came.3PF   the-girl.3PF]
   'You said [that the girls did come].'

c. *gultuu   [ʔinn-**ha**   ʕan-jad   ʔiǰat   l-banaat]
   said.2PM   [that-**she**   on-reality   came.3SF   the-girl.3PF]
   'You said [that the girls did come].'

It is clear that the subject clitic in RJA reflects both the number and gender of the subject. The overtness of this subject clitic is obligatory. All the above embedded sentences would be ruled out if the pronominal clitic did not overtly appear after the complementizer, as shown in the following examples.

(59) Ungrammatical embedded VS in RJA: masculine subject not indexed by a clitic

a. *gultuu   [ʔinn-Ø   ʕan-jad   ʔiǰa   l-walad]
   said.2PM   [that-Ø   on-reality   came.3SM   the-boy.3SM]
   'You said [that the boy did come].'
b. *gultuu   [ʔinn-Ø   ʕan-jad   ʔiǰuu   l-wlaad]
   said.2PM   [that-Ø   on-reality   came.3PM   the-boy.3PM]
   'You said [that the boys did come].'

(60) Ungrammatical embedded VS in RJA: feminine subject not indexed by a clitic

a. *gultuu   [ʔinn-Ø   ʕan-jad   ʔiǰat   l-binit]
   said.2PM   [that-Ø   on-reality   came.3SF   the-girl.3SF]
   'You said [that the girl did come].'

b. *gultuu   [ʔinn-Ø   ʕan-jad   ʔiǰin   l-banaat]
   said.2PM   [that-Ø   on-reality   came.3PF   the-girl.3PF]
   'You said [that the girls did come].'

The derivation of embedded VS clauses in RJA proceeds in the same way as that of embedded clauses in SA. The subject is generated in the specifier position of VP and the verb undergoes V-to-T head-movement. Unlike in a VS clause in SA; however, T probes for two uninterpretable φ-features: number and gender. The subject in [Spec, VP] has the required interpretable valued number and gender features and thus values the T's [uNumber, uGender] probe. In addition, T assigns [NOM] case to the subject.

Although T in RJA probes for both [uNumber] and [uGender], I propose that the agreement pattern can still be regarded as partial for the purposes of the analysis, as there is no need to posit that T probes for person. The partial agreement on T triggers the partial copying of the goal to [Spec, TP]: the [Number] and [Gender] features are copied, but not the [Person] feature. It is these two features that are spelled out as the pronominal clitic in [Spec, TP], thus satisfying the [EPP] feature that the probe on T carries. Since the partial copy in

[Spec, TP] is not identical to the copy in [Spec, VP], the latter must be retained and pronounced. The spell-out of the subject in two positions due to partial copying gives the appearance of clitic doubling (CL$_s$VS) where the overt pronominal subject clitic in [Spec, TP] has the number and gender features, but not the person feature, of the lexical subject in [Spec, VP].

Similar to embedded clauses in SA, the complementizer *ʔinn* 'that' assigns [ACC] case to the clitic copy in [Spec, TP], and the clitic is spelled out with this [ACC] case (see section 2.4.2.2 and the discussion therein). The derivation of embedded VS structures in RJA such as (58b) can be represented as in (61).

(61) Derivation of an embedded VS clause in RJA
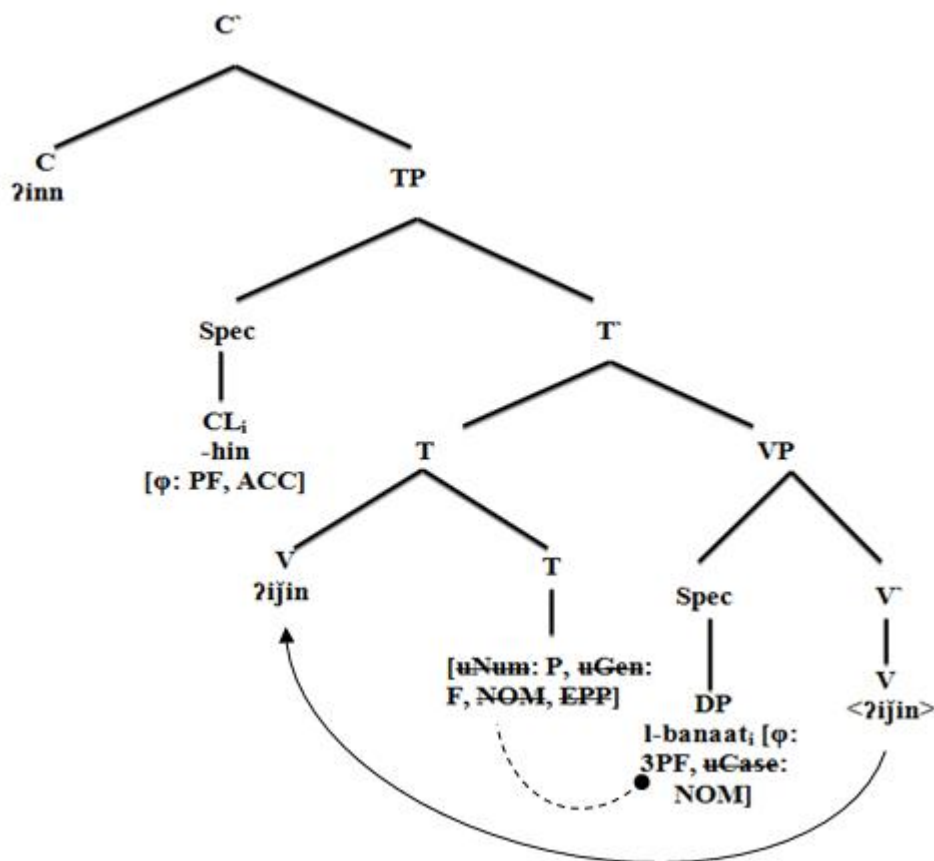
As for the derivation of root VS clauses in RJA, it proceeds in the same fashion as embedded ones with the only difference that there is no complementizer, which in turn results in the absence of [ACC] case on the subject clitic. This leaves the clitic with the [NOM] case

it received through the Agree operation on T; as a nominative pronoun, it receives a null spell-out. In addition, since the copy in [Spec, TP] and that in [Spec, VP] are not identical, the lower copy of the subject is obligatorily pronounced, giving rise to the surface VS word order. The following representation illustrates the derivation of a root VS clause in RJA.

(62)
a. ʔiǰin   l-banaat
   came.**3PF**   the-girl.**3PF**
   'The girls came.'

b. Derivation of a root VS sentence in RJA
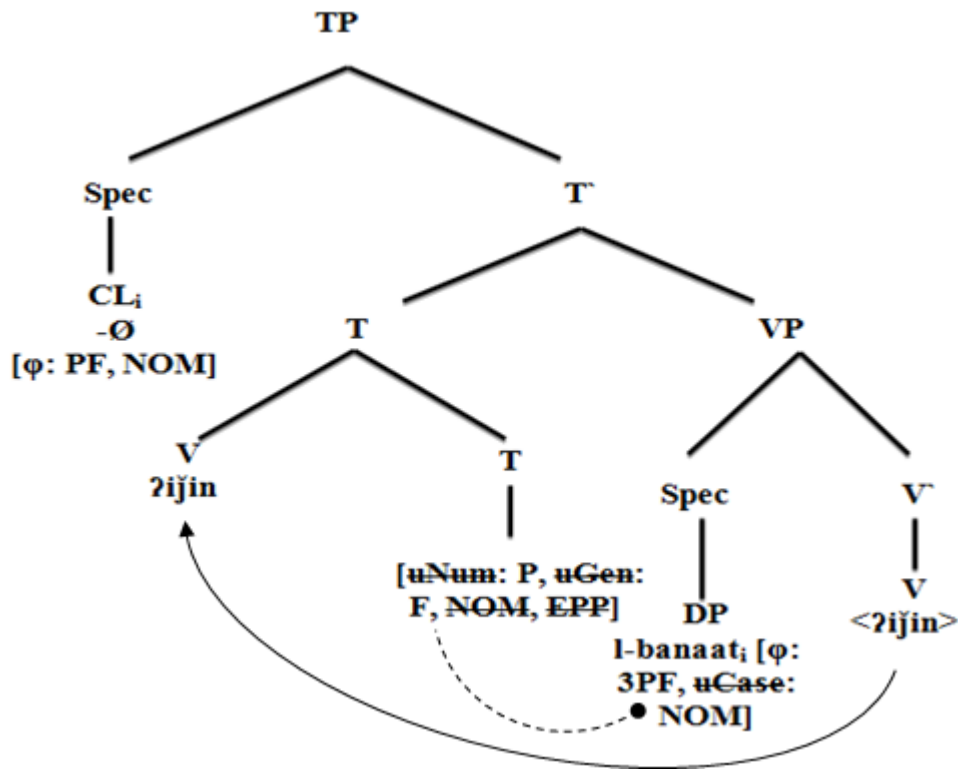
To recap so far, the syntactic structure of root VS clauses in both SA and RJA is the same. There is always partial agreement in the two varieties, resulting in clitic doubling of the subject rather than full movement of the subject. The partial agreement in RJA is the result of the absence of targeting the person feature; the probe on T targets two φ-features: number and gender. By contrast, the partial agreement in SA is the result of the absence of targeting two φ-features: person and number; the probe on T targets only the gender feature.

Under this analysis, the difference between SA and RJA lies in the number agreement feature, which is active in VS sentences in RJA but not in SA. The T that occurs in a VS sentence in RJA is thus featurally richer than that of SA: the probe is [uNumber, uGender] in RJA and just [uGender] in SA. From a diachronic perspective, RJA has undergone a change in which T in VS sentences has gained the feature [uNumber]. This change can be understood as serving to reduce the difference between the two versions of T. Recall from section 2.4.1 that the version of T that occurs in SV sentences is φ-complete in both dialects, probing for person, number, and gender. By adding [uNumber] to the version of T that occurs in VS sentences, RJA has made the two versions of T more similar. Given this apparent diachronic trajectory, one could imagine that some future dialect might take the next step and add [uPerson] as well, thus making the two versions of T identical and consequently losing the distinction between SV and VS clauses.

The fact that there are two different versions of T in Arabic is compatible with Chomsky's recent work (2004, 2008), which proposes that T does not bear φ-features inherently, but rather inherits φ-features from C. This means that, at a deeper lever, the presence of two versions of T in Arabic is the result of the presence of two versions of C: one for SV sentences and one for VS sentences. The different φ-features on T in the two word orders are "inherited"/passed down from the two different C's. What lends further plausibility to this analysis is that there are documented pragmatic differences between SV and VS sentences, e.g. topic-comment (Fassi-Fehri 1993; Soltan 2006, 2007a, b; Alotaibi 2013). This is exactly the kind of difference that we would expect from having two different kinds of C.

2.5 Agreement with pronominal subjects

The discussion so far in this chapter has been limited to lexical/non-pronominal subjects. In this section, I will highlight the agreement facts associated with pronominal subjects, a topic

that has received little investigation in the literature due to the lack of consensus on the status of postverbal pronominal subjects in Arabic. Let us first consider the paradigms in Table 1 (for SA) and Table 2 (for RJA) below. In these two paradigms, there is always full agreement (i.e. in person, number, and gender) with all possible pronouns in the two varieties: first, second, and third person pronouns. In all these cases, the agreement is full regardless of whether the pronominal is preverbal or postverbal.

Postverbal pronominals, however, differ from postverbal lexical DPs in that the agreement on the verb must be full; partial agreement renders the structure ungrammatical as shown below.

(63) Postverbal pronominals in SA

a. *ǰaaʕa   ʔanaa
   came.**3SM**   I

b. *ǰaaʕa   ʔanta
   came.**3SM**   you.SM

(64) Postverbal pronominals in RJA

a. *ʔiǰa   ʔanaa
   came.**3SM**   I

b. *ʔiǰa   ʔinta
   came.3SM   you.SM

Nevertheles, there is controversy in the literature regarding the status of postverbal pronominals. In what follows, I briefly review the existing analyses on this issue.

Fassi-Fehri (1993: 113), for example, indicates that the postverbal subject pronoun is not the real subject; the real subject is an incorporated pronoun. He considers this postverbal pronominal subject a "parenthetical" or "appositive" non-argument that is introduced to "double" the weak incorporated pronoun. Consider the example in (65) from Fassi-Fehri

Table 1: Pronominal subjects in SA: Full agreement in both word orders

Subject pronoun	SV	VS
1st singular	(ʔanaa) ǰiʔtu I came.**1S** 'I came.'	ǰiʔtu ʔanaa came.**1S** I 'I came.'
1st plural	(naHnu) ǰiʔna we came.**1P** 'We came.'	ǰiʔna naHnu came.**1P** we 'We came.'
2nd singular masculine	(ʔanta) ǰiʔta you.SM came.**2SM** 'You (SM) came.'	ǰiʔta ʔanta came.**2SM** you.SM 'You (SM) came.'
2nd singular feminine	(ʔanti) ǰiʔti you.SF came.**2SF** 'You (SF) came.'	ǰiʔti ʔanti came.**2SF** you.SF 'You (SF) came.'
2nd dual	(ʔantumaa) ǰiʔtumaa you.D came.**2D** 'You (D) came.'	ǰiʔtumaa ʔantumaa came.**2D** you.D 'You (D) came.'
2nd plural masculine	(ʔantum) ǰiʔtum you.PM came.**2PM** 'You (PM) came.'	ǰiʔtum ʔantum came.**2PM** you.PM 'You (PM) came.'
2nd plural feminine	(ʔantuna) ǰiʔtunna you.PF came.**2PF** 'You (PF) came.'	ǰiʔtunna ʔantuna came.**2PF** you.PF 'You (PF) came.'
3rd singular masculine	(huwa) ǰaaʔa he came.**3SM** 'He came.'	ǰaaʔa huwa came.**3SM** he 'He came.'
3rd singular feminine	(hiya) ǰaaʔat she came.**3SF** 'She came.'	ǰaaʔat hiya came.**3SM** she 'She came.'
3rd dual masculine	(humaa) ǰaaʔaa they.DM came.**3DM** 'They (DM) came.'	ǰaaʔaa humaa came.**3DM** they.DM 'They (DM) came.'
3rd dual feminine	(humaa) ǰaaʔataa they.DF came.**3DF** 'They (DF) came.'	ǰaaʔataa humaa came.**3DF** they.DF 'They (DF) came.'
3rd plural masculine	(hum) ǰaaʔuu they.M came.**3PM** 'They (M) came.'	ǰaaʔuu hum came.**3PM** they.M 'They (M) came.'
3rd plural feminine	(hunna) ǰiʔna they.F came.**3PF** 'They (F) came.'	ǰiʔna hunna came.**3PF** they.F 'They (F) came.'

Table 2: Pronominal subjects in RJA: Full agreement in both word orders

Subject pronoun	SV	VS
1st singular	(ʔanaa) ʔiǰeet I came.**1S** 'I came.'	ʔiǰeet ʔanaa came.**1S** I 'I came.'
1st plural	(ʔiHna) ʔiǰeena we came.**1P** 'We came.'	ʔiǰeena ʔiHna came.**1P** we 'We came.'
2nd singular masculine	(ʔinta) ʔiǰeet you.SM came.**2SM** 'You (SM) came.'	ʔiǰeet ʔinta came.**2SM** you.SM 'You (SM) came.'
2nd singular feminine	(ʔinti) ʔiǰeeti you.SF came.**2SF** 'You (SF) came.'	ʔiǰeeti ʔinti came.**2SF** you.SF 'You (SF) came.'
2nd plural masculine	(ʔintu) ʔiǰeetuu you.PM came.**2PM** 'You (PM) came.'	ʔiǰeetuu ʔintu came.**2PM** you.PM 'You (PM) came.'
2nd plural feminine	(ʔintin) ʔiǰeetin you.PF came.**2PF** 'You (PF) came.'	ʔiǰeetin ʔintin came.**2PF** you.PF 'You (PF) came.'
3rd singular masculine	(huwwa) ʔiǰa he came.**3SM** 'He came.'	ʔiǰa huwwa came.**3SM** he 'He came.'
3rd singular feminine	(hiye) ʔiǰat she came.**3SF** 'She came.'	ʔiǰat hiye came.**3SM** she 'She came.'
3rd plural masculine	(hummo) ʔiǰuu they.M came.**3PM** 'They (M) came.'	ʔiǰuu hummo came.**3PM** they.M 'They (M) came.'
3rd plural feminine	(hinne) ʔiǰin they.F came.**3PF** 'They (F) came.'	ʔiǰin hinne came.**3PF** they.F 'They (F) came.'

(1993: 113; glosses have been modified for consistency and the postverbal pronominal element is underlined).

(65) ǰaaʔuu   <u>HUM</u>   laa   xuddaamu-hum.
    came.3PM   <u>THEY.M.NOM</u>   not   servants.NOM-their
    'THEY came, not their servants.'

According to Fassi-Fehri (1993), the subject pronoun in the above example is used as an emphatic focalized element that doubles the agreement marker on the verb. Building on

the observation that such postverbal pronominals carry a focal/contrastive stress of some kind, Fassi-Fehri (1993) adopts the view of Arabic traditional grammarians (such as Sibawayh 1977) and treats such postverbal pronominals as non-arguments. He takes the fact that doubling affixes in this way is not restricted to subject agreement but is also found in non-subject-agreement contexts as evidence for his analysis. Specifically, he notices that a direct object affix (2), prepositional object affix (3) or possessor affix (4), can be doubled by a nominative pronominal for contrastive purposes. Consider the following examples from Fassi-Fehri (1993: 114; glosses have been modified for consistency and postverbal pronominal elements are underlined).

(66) ʔantaQidu-ka   <u>ʔANTA</u>
     1S.criticise.NOM-you.SM.ACC   <u>YOU.SM.NOM</u>
     'I criticize YOU.'

(67) marartu   bi-hi   <u>HUWA</u>   la   bi-ʔaxii-hi
     passed by.1S.NOM   with-him   <u>HE.NOM</u>   not   with-brother.GEN-his
     'I passed by HIM, not by his brother.'

(68) ʔasʔalu   ʕan   xabari-ka   <u>ʔANTA</u>
     1S.inquire.NOM   about news.GEN-your.SM.ACC <u>YOU.SM.NOM</u>
     laa   ʕan   xabari
     not   about news.1S.GEN
     'I am inquiring about YOUR news, not about mine.'

Benmamoun (2000) follows the steps of Fassi-Fehri (1988, 1993) and takes overt postverbal subject pronouns to be not real arguments; the real subject is a null pronominal which is focused by the overt pronominal. Mohammad (2000: 121) also points out that postverbal pronominal subjects can only appear if they are carrying a contrastive stress.

According to Soltan (2006, 2007a, b), in the context of pronominal subjects in the two word orders in SA, full agreement on the verb is obligatory. However, he indicates that the unmarked case is to have a null pronominal subject in both word orders, and that the overtness of the pronominal subject in the two word orders is marked. He attributes the markedness of sentences with overt pronominal subjects to the fact that SA is a null subject

language (see also Aoun et al. 2010: 59). Soltan also adds that the overtness of the pronominal subject is associated with emphasis/contrastive focus effects. He explains the obligatoriness of full agreement in the context of pronominal subjects in SA (unlike in the context of lexical subject DPs) in light of the "*pro* identification requirement" (cf. Rizzi 1982; McCloskey 1986), which is one of the standard assumptions of *pro* theory (that has been now reformulated as an interface condition at PF), as shown below (Soltan 2006: 252):

(69) A null element *pro* has to be identified at the interface, where identification is established by a complete φ-complex associated with *pro*.

The overtness of pronominal subjects is the result of "an interface operation of lexicalization of a null subject *pro* rather than early insertion of a pronominal with phonological content" (Soltan 2006: 252). More specifically, Soltan proposes that pronominal subjects in Arabic start the derivation as *pro*, which is then lexicalized at the interface. Since overt pronominal subjects are associated with emphatic interpretations, he assumes that *pro* carries the feature emphasis/focus, which cannot be represented on a null element at PF. As a result, a rule of late insertion applies with the result that the pronominal φ-complex is overtly spelled out. In brief, Soltan (2006, 2007a, b) treats the overtness of pronominal subjects as a result of a lexicalization requirement at the interface which bans focus/emphasis features from being associated with null elements.

I follow the steps of most researchers in the field and consider postverbal pronominals acceptable (see e.g. Fassi-Fehri 1993; Aoun et al. 1994; Benmamoun 2000; Mohammad 2000; Soltan 2006, 2007 a, b). However, I adopt Fassi-Fehri's (1993) and Benmamoun's (2000) analysis and consider postverbal pronouns as emphatic focalized elements not as real subjects. This analysis is consistent with the view of Arabic traditional grammarians who consider the overt pronominal subject in postverbal positions an emphatic marker rather than

a real subject. The real subject is a null element or an incorporated pronominal (cf. Fassi-Fehri 1993; Benmamoun 2000).

I will analyze the preverbal pronoun as a null *pro* subject that can either stay null if lacking a focus feature or get spelled out as an overt pronoun if carrying a focus feature. In other words, the pronoun can either have a focus feature or not. In the former case, it gets spelled out as an overt pronoun, while it gets spelled out as a null *pro* in the latter case. However, in both cases, this *pro* moves to [Spec, TP] because of the full agreement between it and the verb; thus it receives the same treatment as overt lexical preverbal DPs in the language.

Although I agree that all pronouns start as *pro* that gets overtly spelled out if there is a focus feature, I assume that postverbal pronouns do not originate in the subject position. They are instead adjoined to some peripheral position at the end of the clause, along the lines of Fassi-Fehri's (1993) analysis (see also Benmamoun 2000). The real subject is a null *pro* that moves to [Spec, TP] like all null *pro*'s. This amounts to saying that postverbal pronouns in Arabic are in some way "parenthetical", or "appositive". I abandon Soltan's (2006, 2007a, b) assumption that postverbal pronouns also start as a null *pro* in [Spec, VP] that undergoes overt "lexicalization" as a result of a focus feature. It is not clear under Soltan's analysis how the postverbal pronoun can remain after the verb while the agreement is full, as the evidence from overt DPs indicates that full agreement consistently correlates with preverbal position. Therefore, I propose that overt postverbal pronouns cannot simply be the "lexicalization" of the subject *pro* as Soltan assumes. This is because, in light of the full agreement attested in this context, the subject *pro* should be preverbal, not postverbal. Moreover, pronouncing or making a particular element overt is not enough to make it a focus. Rather, it should be in a focus position: the focus feature it carries is what forces it to be overt.

There are two independent pieces of evidence that an overt postverbal pronominal is not in [Spec, VP], but rather in some parenthetical position. The first evidence is the syntactic fact that overt postverbal pronominal can appear together with a preverbal lexical subject in highly emphatic/contrastive contexts, as in (70).

(70) ʔal-ʔawlaadu   ǰaaʔuu   HUM
    the-boys.NOM   came.3PM   THEY.M.NOM
    'The boys came, THEY.'

Here, the preverbal subject *ʔal-ʔawlaadu* 'the boys' originates in [Spec, VP] prior to being fully copied to [Spec, TP] as a result of full agreement. It is not clear how both the preverbal lexical subject and the postverbal pronominal can originate in the same position in the lexical domain (i.e. in [Spec, VP]). From a minimalist perspective, each lexical item can be first merged in a particular position in the lexical domain. The fact that the preverbal lexical subject is first merged in [Spec, VP] supports the analysis that the postverbal pronominal does not originate in this same position.

The second evidence is related to the observation that sentences involving postverbal pronominals are normally pronounced with a focal stress/rising intonation. This is consistent with most studies in the literature on Arabic syntax in which postverbal pronominals are taken to be associated with emphatic/contrastive readings (cf. fassi-Fehri 1993; Benmamoun 2000; Mohammad 2000). This is evident in examples (66–68) where the direct object affix, prepositional object affix and possessor affix, respectively, are doubled by the nominative pronominal non-argument for contrastive purposes.

Summarizing, this section addressed agreement patterns in the context of pronominals. The discussion revealed that subject-verb agreement in SV and VS word orders in the two varieties under investigation is always full. I propose that preverbal pronominal subjects start as a null *pro* in [Spec, VP] and they undergo movement to [Spec, TP] as a result of full agreement. This *pro* can be overtly lexicalized when it carries a focus feature. As for

postverbal pronominal elements, I adopt Fassi-Fehri's (1993) analysis that they are not the real subjects, but they are "parenthetical" elements associated with emphasis/contrastive focus. The real subject is a null *pro* that moves to [Spec, TP] as a result of full agreement.

2.6 Summary: Agreement with simple subjects in SA and RJA

This chapter has investigated the variation in agreement patterns in two Arabic varieties: SA and RJA. The two varieties exhibit full agreement between the verb and the subject in SV sentences. However, there is partial agreement between the verb and the subject in VS sentences, with a variation in terms of agreement features in the two varieties. Five prominent analyses of this syntactic phenomenon in SA were revisited: the agreement loss analysis (Aoun et al. 1994), the incorporation analysis (Fassi-Fehri 1993), the merger analysis (Benmamoun 2000), the topic analysis (Soltan 2006, 2007a, b), and the expletive analysis (Mohammad 1990). It was argued that although these analyses are at least partially successful in capturing the full/partial agreement asymmetry in SA, none of them can capture the agreement facts in RJA.

My analysis is based upon Chomsky's Probe-Goal theory of agreement (2000, 2001). It was argued that this new analysis can systematically capture all the facts under investigation and avoid the drawbacks of the previous analyses. There is always full agreement (i.e. in person, number, and gender) between the verb and the subject in SV sentences in the two varieties. This full agreement occurs because the functional head T in each variety probes for a complete set of φ-features: person, number, and gender. On the other hand, the two varieties exhibit partial agreement between the verb and the subject in VS sentences. This partial agreement occurs because VS sentences involve a different version of T that does not probe for acomplete set of φ-features. However, there is variation in which features are probed for. The pattern in SA is the result of having a probe on T that targets

only one feature (i.e. gender), whereas the pattern in RJA is the result of having a probe on T that targets two φ-features: number and gender.

A special focus was given to the expletive analysis, because a revised version of the insight embodied in this analysis provides the key to an account of the cross-dialectal variation in VS sentences in the two varieties. Building on this insight, I proposed a new analysis in which the expletive is actually an instance of subject clitic doubling. In other words, the order of VS sentences is really CL$_s$VS rather than VS, where the first S is a clitic double of the subject and can be either null or overt depending on the syntactic context. This clitic is the result of the partial agreement between the verb and the postverbal subject, which I proposed creates a partial copy of the subject in [Spec, TP] rather than completely moving the subject to this position. While the clitic in [Spec, TP] is a null pronominal with only the [Gender] feature in SA, it carries the [Number] and [Gender] features of the lexical subject DP in RJA. In other words, a VS sentence always contains a preverbal pronominal clitic in [Spec, TP] bearing a subset of the features of the postverbal subject. This preverbal subject clitic (but not expletive) is null in root contexts but becomes overt in embedded contexts under the complementizer *ʔanna/ʔinn* 'that'.

A major consequence of my analysis is that the full/partial agreement asymmetry is not a distinctive feature of only SA as has been widely perceived; rather, it is also found in other spoken varieties such as RJA, but must be diagnosed by considering the conditioning of clitic doubling and word order rather than directly examining the agreement inflection. The full/partial agreement asymmetry can thus be derived as a microparametric correlate of SV/VS word orders respectively in Arabic. In addition, adopting an analysis that can accommodate both versions of partial agreement in VS structures in both SA and RJA is potentially more revealing with respect to the overall implications for the theory of agreement in general. Besides capturing the cross-dialectal variation in respect to agreement features,

86

this analysis opens new windows on subject-verb agreement patterns in general, such as the possibility of a systematic correlation between subject agreement features and subject clitic features. Although clitics are usually treated independently from agreement, in my analysis they are generated as a side-effect of agreement, a connection of general theoretical interest that will be investigated further in Chapter 4.

Finally, the proposed analysis will play a central role in the analysis of subject-verb agreement in a rather more complex situation, namely, the so-called "first conjunct" contexts. I will show how the Probe-Goal framework adopted here, alongside other operations, can provide a straightforward analysis for a set of cross-dialectal observations that cannot be explained otherwise. This is the topic to be discussed in the next chapter.

Chapter 3

Agreement with complex subjects in SA and RJA

This chapter presents an analysis of another cross-dialectal agreement variation in SA and RJA in a rather complex context, i.e. the so-called "first conjunct" context. The asymmetry between full and partial agreement is mirrored by a further asymmetry between agreeing with the first conjunct or with the entire conjoined phrase. With a postverbal conjoined subject, SA allows only agreement with the first conjunct, while RJA allows agreement either with the first conjunct or with the entire conjoined phrase (which I will refer to as resolved agreement). The choice between these two options is subject to intricate restrictions involving both the features and the order of the two conjoined DPs. The analysis builds on the Probe-Goal framework adopted in Chapter 2 and appeals neither to clausal coordination (Aoun et al. 1994) nor to different underlying structures for SV and VS word orders (Soltan 2007a, b). I will show that the complex restrictions on resolved agreement in RJA follow naturally from certain simple assumptions about the nature of the Agree operation and the organization of φ-features.

The chapter begins with an outline of the proposed analysis to derive the complex agreement patterns in the context of coordination (§3.1). Section 3.2 examines the previous coordination analyses. These analyses have taken two different approaches to agreement: a Spec-head approach (Aoun et al. 1994; §3.2.1), and an Agree-based approach (Soltan 2007a, b; §3.2.2). Although I will ultimately adopt an Agree-based not a Spec-head approach, my analysis will differ from the existing one proposed by Soltan (2007a, b). Section 3.3 presents a brief outline of my analysis. In section 3.4, I analyze the first conjunct agreement pattern with postverbal conjoined subjects in RJA. After that, I present an analysis of another possible agreement pattern with postverbal conjoined subjects in RJA, namely, resolved

agreement, whereby the operation Multiple Agree and the Continuity condition (Nevins 2007, 2011) play a central role (§3.5). Section 3.6 discusses the only pattern permissible with postverbal conjoined subjects in SA: first conjunct agreement. The obligatory occurrence of resolved agreement in both SA and RJA in the SV order is discussed in section 3.7. Section 3.8 highlights the agreement patterns in SA and RJA in both SV and VS word orders when the conjoined subject involves a pronominal.

3.1 Outline of the proposed analysis

The analysis proposed in this chapter is designed to explain the cross-dialectal agreement variation manifested in SA and RJA in the so-called "first conjunct" context. The phenomenon of first conjunct agreement has been addressed in several ways. For example, Aoun et al. (1994) deny the existence of real first conjunct agreement in different Arabic varieties such as SA, Lebanese Arabic, and Moroccan Arabic. They argue that what appears to be first conjunct agreement is in fact reduction of a clausal coordination structure, while full agreement reflects phrasal coordination. Soltan (2007a, b), on the other hand, asserts the existence of real first conjunct agreement in SA. He argues that first conjunct agreement in the VS order has a different underlying structure than full agreement in the SV order, and results from postcyclic Merge interacting with the operation Agree in the course of derivation.

In this chapter, I argue that the argument of Aoun et al. (1994) cannot be correct: there is indeed first conjunct agreement in SA and RJA. Furthermore, in RJA, the agreement patterns exhibited with conjoined subjects are intricate and unexpected. I show that these patterns follow from the same framework I have adopted for agreement with simple subjects, namely, the Probe-Goal framework of Chomsky (2000, 2001). However, opposed to Soltan (2007a, b), I suggest that it is more restrictive, and thus preferable, to have an analysis in

which the SV and VS word orders have the same underlying structure rather than assuming a null *pro* in one order but not the other. In addition, it is preferable to have an analysis that does not make recourse to an additional non-standard mechanism such as late Merge (see also Crone 2014). This outcome contributes to our understanding of agreement with conjoined subjects in general, which I propose involves the operation Multiple Agree (Nevins 2007, 2011) rather than Simple Agree (Walkow 2013).

Recall from the previous chapter that there are two main agreement patterns in SA and RJA:

1. Full agreement (i.e. person, number, and gender) if the simple subject is in preverbal position.

2. Partial agreement (i.e. number and gender in RJA; only gender in SA) if the simple subject is in postverbal position.

In SA, complex/conjoined subjects exhibit this same asymmetry. However, the partial agreement in the VS order gives rise to first conjunct agreement, which is the only pattern available in SA in this word order; agreement with the full postverbal conjoined subject is not permissible. For example, when the postverbal conjoined subject is plural feminine plus singular masculine, only singular feminine agreement is possible. In the SV order, on the other hand, full agreement is always with the preverbal conjoined subject as a whole (i.e. resolved agreement); first conjunct agreement is not allowed in this word order. For example, when the conjoined subject is singular feminine plus singular masculine, the verb has a dual masculine form; singular feminine agreement is ungrammatical.

In RJA, the SV order matches SA in that there is always full agreement with the entire preverbal conjoined subject (i.e. resolved agreement). For example, when the conjoined subject is singular feminine plus singular masculine, the verb has a plural masculine form. In the VS order, by contrast, the facts are more divergent: the verb in RJA can agree either with

only the first DP (giving rise to what is known as first conjunct agreement) or with the entire conjoined subject DP (i.e. resolved agreement). For example, when the postverbal conjoined subject is plural feminine plus singular masculine, plural feminine agreement (first conjunct agreement) or plural masculine agreement (resolved agreement) are both possible. Interestingly, however, resolved agreement in the VS order is not always possible: its availability is constrained by the sequential order of the two postverbal DPs in terms of the composition of their number features. For example, if the conjoined subject is singular masculine plus plural feminine, only singular masculine agreement (first conjunct agreement) is possible; resolved plural masculine agreement is ungrammatical. My analysis will explain why resolved agreement is possible in some combinations (e.g. plural feminine plus singular masculine = plural masculine) but not others (e.g. singular masculine plus plural feminine = singular masculine).

Explaining the restrictions on resolved agreement as well as integrating the surprising pattern with postverbal conjoined subjects are a challenge for any analysis of subject-verb agreement. The end result will be an improved analysis in terms of the operation Agree (Chomsky 2000, 2001) that can provide a systematic and unified account for a set of complex cross-dialectal observations that cannot be explained otherwise. I have proposed that the variation in agreement patterns and word orders is the result of different sets of features borne by the probe on the functional head T as well as the result of full vs. partial copying of the valued goals, with partial copying giving rise to what I have been referring to as clitic doubling. To extend this account to conjoined subjects, I adopt the operation Multiple Agree and the Continuity condition (Nevins 2007, 2011). The Multiple Agree approach allows us to account for cases where resolved agreement is blocked as a result of interruption effects that render further goals inaccessible for Agree. It will be shown that all the agreement patterns attested in the data follow from this analysis.

91

3.2 Previous analyses of agreement in the context of coordination in SA

In this section, I review two major analyses that have been advanced to account for agreement with conjoined subjects in the SV vs. VS word orders in SA. These analyses have taken two different approaches to agreement, namely, the Spec-head approach (Aoun et al. 1994; §3.2.1) and the Agree-based approach (Soltan 2007a, b; §3.2.2). I argue that the Spec-head approach cannot account for the full set of facts in SA and RJA, particularly the different patterning of the agreement features in RJA in the VS order, i.e. first conjunct vs. resolved agreement. I also argue that Soltan's (2007a, b) analysis falls short of accommodating the set of complex data we have in RJA despite using an Agree-based approach and succeeding in capturing the basic agreement asymmetry manifested in SA with conjoined subjects.

3.2.1 A Spec-head approach to first conjunct agreement (Aoun et al. 1994)

Recall from section 2.3.1 that Aoun et al. (1994) adopt a Spec-head approach for deriving different agreement patterns in SA. Specifically, agreement obtains under a Spec-head relation between the subject in [Spec, IP] and I in both the SV and VS word orders. Subsequently, in the VS word order, the verb moves to the head position F above the subject, losing number agreement as a result. It is not clear, however, how this analysis can explain the fact that the verb agrees only in gender with the first conjunct and not with the gender of the whole conjoined subject as shown in (1–4). If the conjoined subject is in a Spec-head relation with I, we would expect masculine resolved gender agreement rather than the attested pattern in which the verb agrees only in gender with the first conjunct (see also Soltan 2006, 2007b). As can be seen in the examples (1–4) below, agreement is with the first conjunct as evident in the feminine morphology on the verb (the *-t* suffix). Under the analysis of Aoun et al. (1994), however, the verb should agree with the gender of the whole conjoined subject

(i.e. masculine; cf. Corbett 1983 for an extensive discussion of resolution rules) given that it is the entire subject that is in a Spec-head relation with I, a prediction that is not borne out.

(1) ǰaaʔat   [Mariamu   wa   Qaisu]   (FCA: 3SF + 3SM = 3SF)
    came.**3SF**   [Mariam.3SF.NOM   and   Qais.3SM.NOM]
    'Mariam and Qais came.'[5]

(2) ǰaaʔat   [l-banaatu   wa   l-ʔawlaadu]   (FCA: 3PF + 3PM = 3SF)
    came.**3SF**   [the-girl.3PF.NOM   and   the-boy.3PM.NOM]
    'The girls and boys came.'

(3) ǰaaʔat   [Mariamu   wa   l-ʔawlaadu]   (FCA: 3SF + 3PM = 3SF)
    came.**3SF**   **[**Mariam.3SF.NOM   and   the-boy.3PM.NOM]
    'Mariam and the boys came.'

(4) ǰaaʔat   [l-banaatu   wa   Qaisu]   (FCA: 3PF + 3SM = 3SF)
    came.**3SF**   [the-girl.3PF.NOM   and   Qais.3SM.NOM]
    'The girls and Qais came.'

Aoun et al. (1994) make the Spec-head approach work in the context of first conjunct agreement by simply rejecting the existence of real first conjunct agreement in SA. They argue that first conjunct agreement is only apparent in the sense that it results from the application of Coordination Reduction (CR) to an underlying clausal coordination structure; a sentence that displays apparent first conjunct agreement has the structure of coordinated clauses not of coordinated DPs. The following illustrates their proposal: the example in (5) is derived in the fashion given in (6).

(5) ʒaaʔa   [Kariim   wa   Mərwaan]
    came.**3SM**   [Kareem.3SM   and   Marwaan.3SM]
    'Kareem and Marwaan came.'

(6) [ʒaaʔa   Kariim]   wa   [ʒaaʔa   Mərwaan]
    [came.**3SM**   Kareem.3SM]   and   [came.**3SM**   Marwaan.3SM]
    [came.**3SM**   Kareem.3SM]   and   [~~came.3SM~~   Marwaan.3SM]

Spoken Arabic varieties (Lebanese and Moroccan Arabic in particular) show either first conjunct agreement or full agreement with the conjoined subject in the VS order. Aoun

---

[5] In the data provided, I use proper names that are gendered in Arabic in that they can only be male names or female names, but not both. For example, *Qais* and *Saʕeed* are male names, whereas *Mariam* and *Zainab* are female names. Accordingly, I add "3SM" to the male names and "3SF" to the female names.

et al. (1994) propose that these dialects allow either clausal coordination (in the case of the apparent first conjunct agreement) as in (7) or phrasal coordinated subjects (in the case of full agreement with the conjoined subject) as in (8). As for SV sentences, they assume that the preverbal conjoined subject is always a phrasal coordinated constituent, hence full agreement as in (9).[6]

(7)
a. [mša   ʕumar]   w   [m̶š̶a̶   ʕali]   (Moroccan Arabic)
   [left.**3SM**   Omar.3SM]   and   [l̶e̶f̶t̶.̶**3SM**   Ali.3SM]
   'Omar and Ali left.'

b. [raaħ   Kariim]   w   [r̶a̶a̶ħ̶   Marwaan]   (Lebanese Arabic)
   [left.**3SM**   Kareem.3SM] and   [̶l̶e̶f̶t̶.̶**3SM**   Marwaan.3SM]
   'Kareem and Marwaan left.'

(8) raaħo   [ʕomar   w   ʕali]   (Lebanese Arabic)
    left.**3PM**   [Omar.3SM   and   Ali.3SM]
    'Omar and Ali left.'

(9) [ʕumar   w   ʕali]   mšaw   (Moroccan Arabic)
    [Omar.3SM   and   Ali.3SM]   left.**3PM**
    'Omar and Ali left.'

Evidence for their analysis, they argue, comes from semantic tests of plurality. They argue that conjoined subjects fail semantic plurality tests in the case of first conjunct agreement but pass these tests in the case of full agreement with the postverbal conjoined subject. They take that as evidence that first conjunct agreement cases represent clausal coordination and full agreement cases represent phrasal conjunction. Consider the following Lebanese examples taken from their study (1994: 211-214).

(10) The adverbial *sawa* 'together' with conjoined subjects

a. SV: agreement with the whole conjoined subject

[Kariim   w   Marwaan]   raaħo   sawa
[Kareem.3SM   and   Marwaan.3SM]   left.**3PM**   together
'Kareem and Marwaan left together.'

---

[6] Examples (7–9) are from Aoun et al. 1994: 207-208. Glosses for the examples taken from the study of Aoun et al. (1994) are modified for consistency. In addition, I added translations for examples (12) and (15b) below.

b. VS: first conjunct agreement

*[raaħ	Kariim]	w	[~~raaħ~~	Marwaan	sawa]
[left.**3SM**	Kareem.3SM]	and	[~~left.3SM~~	Marwaan.3SM	together]

c. VS: agreement with the whole conjoined subject

raaħo	[Kariim	w	Marwaan]	sawa
left.**3PM**	[Kareem.3SM	and	Marwaan.3SM]	together

'Kareem and Marwaan left together.'

(11) The adverbial *Tnayneetun* 'both' with conjoined subjects

a. SV: agreement with the whole conjoined subject

[Kariim	w	Marwaan]	raaħo	tnayneetun
[Kareem.3SM	and	Marwaan.3SM]	left.**3PM**	both

'Kareem and Marwaan both left.'

b. VS: first conjunct agreement

*[~~raaħ~~	Kariim]	w	[~~raaħ~~	Marwaan	tnayneetun]
[left.**3SM**	Kareem.3SM] and		[~~left.3SM~~	Marwaan.3SM	both]

c. VS: agreement with the whole conjoined subject

raaħo	[Kariim	w	Marwaan]	tnayneetun
left.**3PM**	[Kareem.3SM	and	Marwaan.3SM]	both

'Kareem and Marwaan both left.'

Example (10) above shows that the adverbial *sawa* 'together', which modifies a non-singular DP, can occur in sentences where the verb shows full agreement in the SV (10a) or the VS (10c). In addition, the adverbial *tnayneetun* 'both', which modifies a dual DP, entertains a similar behaviour as evident in (11a; 11c). However, the use of first conjunct agreement in examples (10b; 11b) with *sawa* 'together' and with *tnayneetun* 'both' respectively yields ungrammaticality. The same patterns can be observed with the pronominal reflexive *ħaalun* 'themselves' and the reciprocal *baʕḍun* 'each other', as shown in (12–13).

(12) The reflexive *ħaalun* 'themselves' with conjoined subjects

a. SV: agreement with the whole conjoined subject

[Kariim	w	Marwaan]	biħibbo	ħaalun
[Kareem.3SM	and	Marwaan.3SM]	love.**3PM**	themselves

'Kareem and Marwaan love themselves.'

b. VS: first conjunct agreement

*[biħibb	Kariim]	w	[b̶i̶ħ̶i̶b̶b̶	Marwaan	ħaalun]
[love.**3SM**	Kareem.3SM]	and	[l̶o̶v̶e̶.**3SM**	Marwaan.3SM	themselves]

c. VS: agreement with the whole conjoined subject

biħibbo	[Kariim	w	Marwaan]	ħaalun
love.**3PM**	**[**Kareem.3SM	and	Marwaan.3SM]	themselves

'Kareem and Marwaan love themselves.'

(13) The reciprocal *baʕḍun* 'each other' with conjoined subjects

a. SV: agreement with the whole conjoined subject

[Kariim	w	Marwaan]	biħibbo	baʕḍun
[Kareem.3SM	and	Marwaan.3SM]	love.**3PM**	each.other

'Kareem and Marwaan love each other.'

b. VS: first conjunct agreement

*[biħibb	Kariim]	w	[b̶i̶ħ̶i̶b̶b̶	Marwaan	baʕḍun]
[love.**3SM**	Kareem.3SM]	and	[l̶o̶v̶e̶.**3SM**	Marwaan.3SM	each.other]

c. VS: agreement with the whole conjoined subject

biħibbo	[Kariim	w	Marwaan]	baʕḍun
love.**3PM**	[Kareem.3SM	and	Marwaan.3SM]	each.other

'Kareem and Marwaan love each other.'

The above examples demonstrate that the pronominal reflexive *ħaalun* 'themselves' and the reciprocal *baʕḍun* 'each other', which require plural antecedents, yield grammatical results when used in a sentence where the verb fully agrees with the whole conjoined subject as evident in examples (12a; 12c; 13a; 13c). On the other hand, the occurrence of these elements with the first conjunct renders the structure ill-formed as illustrated in (12b; 13b). A similar effect arises with the intransitive verb 'meet', which requires a non-singular subject. The full acceptability of (14a; 14c) is the result of full agreement with the conjoined subject, while the ungrammaticality of (14b) is the result of first conjunct agreement.

(14) The intransitive *ltaʔa* 'meet' with conjoined subjects

a. SV: agreement with the whole conjoined subject

[Kariim	w	Marwaan]	ltaʔo
[Kareem.3SM	and	Marwaan.3SM]	met.**3PM**

'Kareem and Marwaan met.'

b. VS: first conjunct agreement

*[lta?a	Kariim]	w	[l̶t̶a̶?̶a̶	Marwaan]
[met.**3SM**	Kareem.3SM]	and	[m̶e̶t̶.**3̶S̶M̶**	Marwaan.3SM]

c. VS: agreement with the whole conjoined subject

lta?o	[Kariim	w	Marwaan]
met.**3PM**	[Kareem.3SM	and	Marwaan.3SM]

'Kareem and Marwaan met.'

On the basis of these diagnostics, Aoun et al. (1994) take the ungrammaticality of first conjunct agreement in sentences with an element that inherently denotes semantic plurality such as the adverbial *sawa* 'together' and *tnayneetun* 'both', plural reflexives and reciprocals, and intransitive 'meet' as evidence for the absence of a phrasal coordinated subject. They instead argue for clausal coordination in such cases. This is because, according to them, the string "DP and DP" is not a phrasal coordinated constituent at any point throughout the derivation: each DP is the subject of its own clause. The whole structure is the result of reduction of a clausal coordination structure. By contrast, they consider the grammaticality of full agreement with these elements whether in the SV word order (10a–14a) or the VS one (10c–14c) as an indication that these sentences exhibit phrasal conjunction (i.e. conjunction of DPs not clauses).

Although the semantic plurality tests of Aoun et al. (1994) yield valid results in Lebanese Arabic, they do not extend to SA (Harbert and Bahloul 2002; Soltan 2006, 2007a, b) and other languages such as Welsh (Harbert and Bahloul 2002) and Czech (Johannessen 1996).[7] Conjoined subjects in VS structures in these languages pass all these tests, thus ruling out the possibility of extending the coordination reduction analysis of Aoun et al. (1994) (for further argumentation against the adequacy of the tests used by Aoun et al. 1994, see Munn

---

[7] Glosses for the examples taken from these sources are modified for consistency. In addition, translations have been added for examples (17) and (18).

1999). Let us first consider the following examples from SA given by Soltan (2007a; his example 21).

(15)
a. ʒaaʔat   [Hindu   wa   Zaydun]   maʕan
   came.**3SF**   [Hind.3SF.NOM   and   Zayd.3SM.NOM]   together
   'Hind and Zayd came together.'

b. tuħibbu   [Hindu   wa   ʔaxawaa-haa]
   love.**3SF**   [Hind.3SF.NOM   and   brother.3DM.NOM-her]
   baʕDa-hum   ʔal-baʕD
   some.ACC-them   the-some
   'Hind and her two brothers love each other.'

c. ʔiltaqat   [Hindu   wa   ʔaxawaa-haa]
   met.**3SF**   [Hind.3SF.NOM   and   brother.3DM.NOM-her]
   fii   ʔal-ħafli
   at   the-party.GEN
   'Hind and her two brothers met at the party.'

The above examples show that the adverbial *maʕan* 'together' (15a) as well as the reciprocal *baʕD-a-hum ʔal-baʕD* 'each other' (15b) can occur fully acceptably in first conjunct agreement cases. In addition, the last example (15c) shows that first conjunct agreement can occur with the subject of intransitive *ʔiltaqa* 'meet'.

Similarly, the examples below from Welsh given by Soltan (2007a; his examples 22 and 23 respectively; taken from Harbert and Bahloul (2002: 60)) show that first conjunct agreement is compatible with elements that denote semantic plurality, which is in turn indicative of the presence of true first conjunct agreement with a conjoined subject, not of reduced clausal coordination (as argued by Aoun et al. 1994). Specifically, first conjunct agreement is compatible with the reciprocal *ein gilydd* 'each other' in (16a) and the subject of the verb *cwrdd* 'meet' in (16b). The preposition *rhwng* 'between' in (17) is also inflected for first conjunct agreement even though it requires a plural object.

(16)
a. Es   i   a'm brawd   gyda   ein   gilydd
   went.**1S**   I   and-my-brother   with   each   other
   'I and my brother went with each other.'

b. Cwrddais   i   a'm brawd   ym   Mharis
   met.**1S**   I   and-my-brother   in   Paris
   'I and my brother met in Paris.'

(17)
a. cynnen   rhyngof   fi   a   thi
   strife   between.**1S**   me   and   you
   'Strife between me and you.'

b. cwlwm   o   gariad   sydd   rhyngoch   chwi   a   hi
   bond   of   love   which-is   between.**2P** you   and   her
   'Bond of love which is between you and her.'

The same is also true for Czech in which the so-called 'strong and' *i* meaning both (18a), the distributive 'each' (18b), as well as the reflexive 'themselves' (18c) are compatible with constructions exhibiting first conjunct agreement (Johannessen 1996, cited in Soltan 2007a, b).

(18)
a. Püjdu   tam   já   i   ty
   will-go.**1S**   there   I.NOM   and   you.NOM.2S
   'Both of you and I will go there.'

b. Po   jednom   jablku   sndl   Jan
   at-the-rate-of   one.LOC   apple.LOC   ate.**3S**   John.NOM
   a   Petr
   and   Peter.NOM
   'John and Peter ate an apple each.'

c. Má   se   rád   Jan   i   Petr
   has.3S   REFL.S/P   glad.S   John.NOM   and   Peter.NOM
   John and Peter love themselves.'

RJA, like SA, Welsh, and Czech, is a language in which first conjunct agreement is compatible with semantic plurality tests. Therefore, the clausal coordination analysis of Aoun et al. (1994) cannot be extended to RJA. The results are grammatical when these tests are applied either in the case of first conjunct agreement or resolved agreement, as shown by the following examples, which involve the adverbial *maʕ-baʕiĎ* 'together', the reflexive *Halhum* 'themselves', the reciprocal *baʕiĎhu*m 'each other', and the intransitive *ʔiltaga* 'meet'.

(19) The adverbial *maʕ-baʕiĎ* 'together' with conjoined subjects

a. SV: agreement with the whole conjoined subject (i.e. resolved agreement)

[Qais   wo   Mariam]   ʔiǰuu   maʕ-baʔiĎ
[Qais.3SM   and   Mariam.3SF]   came.**3PM**   with-together
'Qais and Mariam came together.'

b. VS: first conjunct agreement

ʔiǰa   [Qais   wo   Mariam]   maʕ-baʕiĎ
came.**3SM**   [Qais.3SM   and   Mariam.3SF]   with-together
'Qais and Mariam came together.'

c. VS: agreement with the whole conjoined subject (i.e. resolved agreement)

ʔiǰuu   [Qais   wo   Mariam]   maʕ-baʕiĎ
came.**3PM**   [Qais.3SM   and   Mariam.3SF]   with-together
'Qais and Mariam came together'.

(20) The reflexive *Halhum* 'themselves' and the reciprocal *baʕiĎhu*m 'each other' with conjoined subjects

a. SV: agreement with the whole conjoined subject (i.e. resolved agreement)

[Qais   wo   Mariam]   biHibbuu   Halhum/baʕiĎhum
[Qais.3SM   and   Mariam.3SF]   love.**3PM**   themselves/each other
'Qais and Mariam love themselves/each other.'

b. VS: first conjunct agreement

biHibb   [Qais   wo   Mariam]   Halhum/baʕiĎhum
love.**3SM**   [Qais.3SM   and   Mariam.3SF]   themselves/each other
'Qais and Mariam love themselves/each other.'

c. VS: agreement with the whole conjoined subject (i.e. resolved agreement)

biHibbuu   [Qais   wo   Mariam]   Halhum/baʕiĎhum
love.**3PM**   [Qais.3SM   and   Mariam.3SF]   themselves/each other
'Qais and Mariam love themselves/each other.'

(21) The intransitive *ʔiltaga* 'meet' with conjoined subjects

a. SV: agreement with the whole conjoined subject (i.e. resolved agreement)

[Qais   wo   Mariam]   ʔiltaguu
[Qais.3SM   and   Mariam.3SF]   meet.**3PM**
'Qais and Mariam met.'

b. VS: first conjunct agreement

ʔiltaga   [Qais   wo   Mariam]
met.**3SM**   [Qais.3SM   and   Mariam.3SF]
'Qais and Mariam met.'

c. VS: agreement with the whole conjoined subject (i.e. resolved agreement)

ʔiltaguu   [Qais   wo   Mariam]
met.**3PM**   [Qais.3SM   and   Mariam.3SF]
'Qais and Mariam met.'

The adverbial *maʕ-baʕiĎ* 'together', the reflexive *Halhum* 'themselves' and the reciprocal *baʕiĎhu*m 'each other', as well as the subject of the intransitive *ʔiltaga* 'meet' are all compatible with first conjunct agreement in RJA as evident in the grammaticality of the (b) examples in (19–21). These elements can also occur in the presence of resolved agreement, whether with preverbal conjoined subjects as shown in the (a) examples in (19–21) or postverbal conjoined ones as evident in the (c) examples in (19–21).

Summarizing, the above data from SA and RJA as well as other languages such as Welsh and Czech show that the analysis of Lebanese and Morrocan Arabic cannot be extended to SA and RJA. Although it is true that semantic tests of plurality can capture the data in Lebanese and Morrocan Arabic, they fail when it comes to the variation in the agreement patterns manifested in SA and RJA. A more general consequence of this conclusion is that the Spec-head approach to agreement cannot provide a uniform analysis for the set of facts available across the different Arabic varieties. Even if assuming, under the analysis of Aoun et al. (1994), that the postverbal conjoined subject is in a Spec-head relation with I at a certain point in the derivation, there is no way to account for two observations so far in a uniform manner: (i) the invariable obligatory first conjunct agreement in SA and in certain cases in RJA in the VS order, and (ii) the first conjunct vs. resolved agreement patterns manifested in RJA in the VS order. Before I begin to address these two observations, I turn to another analysis existing in the literature on this phenomenon, namely, Soltan's (2007a, b) analysis. I show that Soltan's analysis, though successful in capturing the SA facts, cannot accommodate the data from RJA.

3.2.2 Agree and postcyclic Merge (Soltan 2007a, b)

As shown in section 2.3.4, Soltan (2006, 2007a, b) analyzes the subject-verb agreement asymmetry in SA in terms of the Agree-based approach (Chomsky 2000, 2001) to formal feature licensing in Minimalism rather than the Spec-head approach to agreement. Specifically, Soltan proposes that this asymmetry in SA is the result of having two different underlying structures for the SV and VS word orders: the SV structure has a null *pro* in [Spec, VP] subject to an identification requirement (cf. Rizzi 1982; McCloskey 1986), which forces full agreement in order to allow the derivation to converge at the PF interface. The preverbal subject is a topic base-generated in [Spec, TP], an A'-position according to Soltan, and linked to the null *pro* in the thematic domain. This null *pro* is responsible for the full agreement as pronominals carry full set of agreement features. Since this null *pro* subject is absent in the VS structure in SA, by contrast, partial agreement arises.

The full vs. partial agreement asymmetry in the SV vs. VS word orders in SA is also attested in the context of conjoined subjects, as mentioned in section 3.1. Soltan gives the following examples to illustrate this observation (2007a: his examples (1–3)).

(22) VS: first conjunct agreement

a. ʒaaʔa   [Zaydun   wa   Hindu]
   came.**3SM** [Zayd.3SM.NOM   and   Hind.3SF.NOM]
   'Zayd and Hind came'

b. ʒaaʔat   [Hindu   wa   Zaydun]
   came.**3SF** [Hind.3SF.NOM   and   Zayd.3SM.NOM]
   'Hind and Zayd came'

(23) VS: agreement with the whole conjoined subject

*ʒaaʔaa   [Zaydun   wa   Hindu]
came.**3DM**   [Zayd.3SM.NOM   and   Hind.3SF.NOM]

(24) SV

a. agreement with the whole conjoined subject

[Zaydun   wa   Hindu]   ʒaaʔaa
[Zayd.3SM.NOM   and   Hind.3SF.NOM]   came.**3DM**
'Zayd and Hind came'

b. agreement with either the first or the second conjunct

*[Zaydun	wa	Hindu]	ʒaaʔa/ʒaaʔat
[Zayd.3SM.NOM	and	Hind.3SF.NOM]	came.**3SM**/came.**3SF**

The verbs in (22) exhibit agreement features matching only the gender of the first conjunct (i.e. partial agreement); agreement with the whole conjoined subject is unattested in this language as evident in the ungrammaticality of the dual morpheme in example (23). By contrast, the verb's morphological features in example (24a) agree with the whole preverbal conjoined subject in person, number, and gender (i.e. full agreement); partial agreement, as in the impoverishment of number agreement (24b), renders the structure ill-formed.

Soltan (2007a, b) extends his topic analysis to account for this subject-verb agreement asymmetry with conjoined subjects in SA. In particular, he proposes that full agreement with the whole preverbal conjoined subject, as with simple subjects, is the result of T agreeing with a null *pro* subject in the thematic domain (i.e. [Spec, VP]) necessary by interface condition on *pro* identification. However, for partial agreement with only the first conjunct in the VS word order, he proposes an interaction between the operation Agree and an operation of postcyclic Merge of adjuncts at the PF interface to form the conjoined subject.

Before going into the details of Soltan's (2007a, b) analysis of the subject-verb agreement asymmetry with conjoined subjects in SA, I review his assumptions about the structural and morphological properties of conjoined DPs. Soltan adopts a hierarchical organization for conjoined phrases, where the conjoined phrase consisting of the conjunction head and the second conjunct is adjoined to the first conjunct (Munn 1993, 1999). In other words, the structure of the conjoined phrase #DP# is the result of adjunction: the conjunction head Conj plus its DP_2 complement form an adjunct of DP_1 as shown in (25) below.

(25)

```
              #DP#
             /    \
          DP₁      ConjP
                  /     \
               Conj      DP₂
```
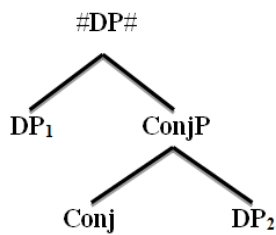
In addition, he assumes that the φ-features of the conjoined phrase #DP# are determined via computing the features of the conjoined DPs by resolution rules (cf. Corbett 1983, 2000). For example, first person plus second person equals first person; singular plus dual equals plural; masculine plus feminine equals masculine; etc.

Under Soltan's (2007a, b) analysis, the target SV structure 'Zayd and Hind read the book' with full agreement on the verb is as in (26b) (Soltan 2007a: 207).

(26)
a. Zaydun   wa   Hindu   QaraʔaA   l-kitaaba
   Zayd.NOM   and   Hind.NOM   read.**3DM**   the-book.ACC
   'Zayd and Hind read the book.'

b. SV: [CP C [TP #DP#Topic T φ/CLASS/ EPP [v*P *pro* v* [VP …]]]]
                          └─── Agree ↑

The structural representation in (26b) shows that the derivation of full agreement with conjoined subjects in the SV word order is just as that with simple subjects. Specifically, the operation Agree takes place between the functional head T and the VP-internal *pro* subject, thus valuing T's uninterpretable φ- and CLASS features. The [EPP] feature of T is satisfied by having a conjoined phrase rather than a simple DP base-generated in [Spec, TP]. This conjoined phrase ends up with default case (i.e. nominative) as in the context of full agreement with simple subjects. First conjunct agreement is not allowed in this context due to the fact that the first conjunct, being base-generated along with the rest of the conjoined DP in [Spec, TP], is never in the domain of agreement.

104

By contrast, the VS sentence 'Read Zayd and Hind the book' with partial agreement on the verb (i.e. agreement only in gender with the first conjunct) is as in (27b) (Soltan 2007a: 208–209).

(27)
a. QaraɁa   Zaydun   wa   Hindu   l-kitaaba
   read.**3SM**   Zayd.NOM   and   Hind.NOM   the-book.ACC
   'Zayd and Hind read the book.'

b. VS: [$_{CP}$ C [$_{TP}$ T $_{DEFAULT/CLASS}$ [$_{v*P}$ [$_{\#DP\#}$ DP$_1$ [$_{ConjP}$ Conj DP$_2$]] $_{v*}$ [$_{VP}$ …]]]]
                    | Agree   ↑   ↑
                               Late-Merge

The structural representation in (27b) shows that the derivation of partial agreement with postverbal conjoined subjects is similar to that with simple subjects with regard to the inventory of the uninterpretable features on T. Specifically, T has only a CLASS feature, but no ϕ-features and no [EPP] feature. However, this partial agreement is only with the first conjunct. Soltan (2007a, b) proposes that the derivation proceeds as follows. The first conjunct is merged in the specifier position of VP in the thematic domain. A subsequent Agree operation takes place between T and the first conjunct DP$_1$ resulting only in CLASS agreement, not φ-agreement. The adjunct ConjP (i.e. Conj DP$_2$) is then introduced postcyclically: it is late-Merged to the first conjunct at the PF interface. After forming the conjoined subject, feature resolution rules apply to compute the φ-features of the conjoined phrase #DP#, thus licensing semantic plurality elements.

The topic analysis has drawbacks that were discussed in section 2.3.4. Extending this analysis to subject-verb agreement with conjoined subjects faces certain additional challenges. For example, although this analysis can successfully capture the set of facts reported for SA, it is not clear how it can capture the facts from RJA. Recall that in RJA, two agreement patterns with conjoined subjects are possible in the VS word order: first conjunct agreement and resolved agreement. Soltan's analysis cannot capture either of these patterns,

for two reasons. First, the inventory of the uninterpretable features on T in the VS word order, according to Soltan, includes only the CLASS feature. It is not clear how this feature can explain the Jordanian data as there is always an uninterpretable number feature on T whether the verb is agreeing with the first conjunct or with the whole conjoined subject (see sections 3.4 and 3.5 for a detailed discussion). Second, for Soltan, the second conjunct does not exist in the syntax and is postcyclically Merged at the PF interface, so it should be completely impossible for its features to play a role in the operation Agree. However, what I refer to as resolved agreement in RJA contradicts this assumption as the second conjunct plays a vital role in this agreement pattern.

In addition, Soltan's assumption of postcyclic Merge in conjoined subjects raises the following question: why does this operation occur in VS sentences but not in SV sentences? Applying the postcyclic Merge operation to the SV word order will give rise to an agreement pattern never attested in the language (i.e. first conjunct agreement in SV sentences). The functional head T agrees with a null *pro* in SV sentences according to Soltan's analysis. However, this *pro* is always co-referential with the conjoined subject which is in an A'-position (i.e. [Spec, TP]). If the second conjunct was postcyclically Merged, *pro* would be co-referential with only the first conjunct, since the second conjunct would have no effect on agreement in this case, a prediction that is not borne out. In brief, the question of why postcyclic Merge is restricted to VS sentences remains unanswered. It rather adds to the *ad hoc* nature of this operation.

On the basis of the aforementioned drawbacks, Soltan's analysis cannot be adopted to accommodate the variation in the agreement patterns manifested in RJA. I suggest that it is more restrictive, and thus preferable, to have an analysis in which the SV and VS word orders have the same underlying structure rather than assuming a null *pro* in one order but not the other. It is also preferable to have an analysis that does not make recourse to an additional

106

non-standard mechanism such as late Merge (see also Crone 2014). The details of such an analysis are presented in the next section, showing how it can capture all the variation in agreement with conjoined subjects in both SA and RJA in the two word orders.

3.3 Agree and Multiple Agree in the coordination context

This section provides an outline of the remaining sections of the chapter in which I put forward an analysis that can provide a systematic and unified account for the licensing of agreement features and case assignment as well as word order in both SA and RJA in the context of coordination. This analysis is based upon Chomsky's Probe-Goal framework (2000, 2001), as I have adopted for agreement with simple subjects, alongside other well-established operations. I argue that this improved analysis can straightforwardly capture all the facts under investigation and avoid the drawbacks of the previous analyses.

The sections are organized as follows. Sections 3.4 and 3.5 both involve postverbal conjoined subjects in RJA: section 3.4 analyzes the first conjunct agreement pattern and section 3.5 analyzes the resolved agreement pattern. The major point in these sections is that the two possible agreement patterns in RJA, i.e. first conjunct agreement and resolved agreement, are the result of two possible probing manners, making use of the Probe-Goal framework (Chomsky 2000, 2001) augmented with Multiple Agree and the Continuity condition in the sense of Nevins (2007, 2011). Section 3.6 continues to focus on postverbal conjoined subjects, but extends the analysis to SA, where first conjunct agreement is the only pattern permissible. The obligatoriness of this pattern will be shown to follow from the fact that the probe on T in SA bears only a single uninterpretable unvalued φ-feature: gender, as proposed in Chapter 2 for simple subjects. Finally, section 3.7 turns to the SV order and attributes the obligatory occurrence of resolved agreement in both SA and RJA to the Coordinate Structure Constraint.

The details of the variant agreement patterns with all possible combinations of the conjoined DPs in the two varieties will be introduced in each section. Table 3 gives a preview of the overall shape of the data summarizing all the possible agreement patterns with both preverbal and postverbal conjoined subjects in SA and RJA. The most striking pattern in the table is in the VS order, where RJA allows either resolved agreement or first conjunct agreement *except in Singular + Plural combinations*, a pattern that will be accounted for in Section 3.5.

Table 3: Possible complex agreement patterns in SA and RJA

Combinations of conjoined DPs	SV order		VS order	
	SA	RJA	SA	RJA
Singular + Singular	resolved	resolved	first conjunct	both
Plural + Plural				both
Singular + Plural				first conjunct
Plural + Singular				both

Before proceeding with the analysis, a few words about the structure of coordination are necessary. I adopt an asymmetric coordinate structure compatible with the X`-Theory in which the coordinate conjunction is the head of the whole coordinate structure (Thiersch 1985; Munn 1987; Collins 1988; Kolb and Thiersch 1991; Kayne 1994; Johannessen 1998). The structure of coordination is as shown in (19) below, where the first conjunct is in the specifier position and the second is in the complement position.

(28) The structure of coordination
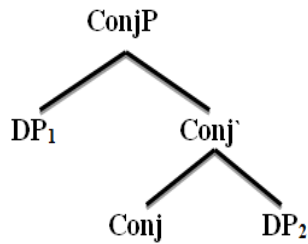
```
              ConjP
             /     \
          DP₁       Conj`
                    /    \
                 Conj     DP₂
```

The major point in my analysis is that resolved agreement is the result of the operation Multiple Agree (Nevins 2007, 2011) whereby the probe establishes a simultaneous Agree relationship with the two goals available in the coordinate structure. Under my analysis, agreement does not target the ConjP itself. Rather, it targets the individual DPs. This contrasts with other analyses that involve probing of the ConjP (cf. Bhatt 2005; van Koppen 2005, 2008; Walkow 2013; Bhatt and Walkow 2013). In addition, my analysis presents a different treatment of case assignment in the context of conjoined subjects. I assume that in Arabic, case is assigned to individual DPs not to the ConjP. This differs from Walkow (2013), for example, who proposes that T agrees with the ConjP and assigns it case; after that, case can spread from the ConjP to all conjuncts. However, under my analysis, I will show that case assignment is best addressed in terms of percolation and then spreading.

3.4 First conjunct agreement with postverbal conjoined subjects in RJA

I have shown in Chapter 2 that, in RJA, plural is the only possible number feature on the verb when there is a plural postverbal subject (§2.4.2.4). While this generalization is true for simple postverbal subjects, it turns out that this is not always the case with postverbal conjoined subjects, which are notionally plural by virtue of consisting of two DPs. The data below show that it is possible, however, to have agreement with only the first conjunct, inducing singular agreement if the first conjunct is singular for example (29a–d; 32a–d), or

plural agreement if the first conjunct is plural (30a–d; 31a–d). Let us consider the following examples. (I use the abbreviation "FCA" to refer to first conjunct agreement.)

(29) Singular + singular = singular (FCA)

a. ʔiǰa   Qais   wo   Saʕeed   (FCA: 3SM + 3SM = 3SM)
   came.**3SM**   Qais.3SM   and   Saʕeed.3SM
   'Qais and Saʕeed came.'[8]

b. ʔiǰat   Mariam   wo   Zainab   (FCA: 3SF + 3SF = 3SF)
   came.**3SF**   Mariam.3SF   and   Zainab.3SF
   'Mariam and Zainab came.'

c. ʔiǰa   Qais   wo   Zainab   (FCA: 3SM + 3SF = 3SM)
   came.**3SM**   Qais.3SM   and   Zainab.3SF
   'Qais and Zainab came.'

d. ʔiǰat   Mariam   wo   Qais   (FCA: 3SF + 3SM = 3SF)
   came.**3SF**   Mariam.3SF   and   Qais.3SM
   'Mariam and Qais came.'

In the above examples, a singular followed by a singular yields singular agreement. This indicates that the verb agrees with only one member of the conjoined subject. The agreement in gender always matches that of the first member which asserts that the pattern attested is first conjunct agreement. For example, when the first conjunct is singular feminine and the second conjunct is singular masculine as in (29d), the verb has a singular feminine form.

---

[8] Although the nouns in this example are proper names, it is worth noting that using proper names vs. common nouns plays no role here: the agreement patterns are the same either way, as illustrated by the following examples.

(i)   a. ʔiǰa   Qais   wo   Saʕeed   (proper; FCA: 3SM + 3SM = 3SM)
         came.**3SM**   Qais.3SM   and   Saʕeed.3SM
         'Qais and Saʕeed came.'

      b. ʔiǰuu   Qais   wo   Saʕeed   (proper; RA: 3SM + 3SM = 3PM)
         came.**3PM**   Qais.3SM   and   Saʕeed.3SM
         'Qais and Saʕeed came.'

(ii) a. ʔiǰa   l-walad   wo   z-zalame   (common; FCA: 3SM + 3SM = 3SM)
         came.**3SM**   the-boy.3SM   and   the-man.3SM
         'The boy and man came.'

      b. ʔiǰuu   l-walad   wo   z-zalame   (common; RA: 3SM + 3SM = 3PM)
         came.**3PM**   the-boy.3SM   and   the-man.3SM
         'The boy and man came.'

Further evidence for the existence of first conjunct agreement in RJA comes from the combination of two plural conjuncts. Examples (30a–d) below show that the verb agrees with the first conjunct in number and gender. For example, when there is a plural feminine first conjunct followed by a plural masculine second conjunct as in (30d), the verb inflects for plural feminine features, which indicates that we have first conjunct agreement.

(30) Plural + plural = plural (FCA)

a. ʔiǰuu   l-wlaad   wo   l-zlaam   (FCA: 3PM + 3PM = 3PM)
   came.**3PM**   the-boy.3PM and   the-man.3PM
   'The boys and men came.'

b. ʔiǰin   n-niswaan   wo   l-banaat   (FCA: 3PF + 3PF = 3PF)
   came.**3PF** the-woman.3PF   and   the-girl.3PF
   'The women and girls came.'

c. ʔiǰuu   l-wlaad   wo   l-banaat   (FCA: 3PM + 3PF = 3PM)
   came.**3PM**   the-boy.3PM and   the-girl.3PF
   'The boys and girls came.'

d. ʔiǰin   l-banaat   wo   l-wlaad   (FCA: 3PF + 3PM = 3PF)
   came.**3PF**   the-girl.3PF and   the-boy.3PM
   'The girls and boys came.'

A similar observation obtains when there is a plural first conjunct followed by a singular second conjunct, yielding plural first conjunct agreement. The example given in (31d) shows that the verb has plural feminine agreement features when the conjoined subject is a plural feminine followed by a singular masculine.

(31) Plural + singular = plural (FCA)

a. ʔiǰuu   l-wlaad   wo   Qais   (FCA: 3PM + 3SM = 3PM)
   came.**3PM**   the-boy.3PM and   Qais.3SM
   'The boys and Qais came.'

b. ʔiǰin   n-niswaan   wo   Mariam   (FCA: 3PF + 3SF = 3PF)
   came.**3PF** the-woman.3PF   and   Mariam.3SF
   'The women and Mariam came.'

c. ʔiǰuu   l-wlaad   wo   Mariam   (FCA: 3PM + 3SF = 3PM)
   came.**3PM**   the-boy.3PM and   Mariam.3SF
   'The boys and Mariam came.'

111

d. ʔiǰin   l-banaat   wo   Qais   (FCA: 3PF + 3SM = 3PF)
came.**3PF**   the-girl.3PF   and   Qais.3SM
'The girls and Qais came.'

A final illustration of the existence of first conjunct agreement in RJA comes from the combination of a singular followed by a plural. In such cases, the verb always agrees with the singular first conjunct in both number and gender. For example, when a singular masculine first conjunct is followed by a plural feminine second conjunct as in (32c), the verb has a singular masculine form.

(32) Singular + plural = singular (FCA)

a. ʔiǰa   Qais   wo   l-wlaad   (FCA: 3SM + 3PM = 3SM)
came.**3SM**   Qais.3SM   and   the-boy.3PM
'Qais and the boys came.'

b. ʔiǰat   Mariam   wo   n-niswaan   (FCA: 3SF + 3PF = 3SF)
came.**3SF**   Mariam.3SF   and   the-woman.3PF
'Mariam and the women came.'

c. ʔiǰa   Qais   wo   l-banaat   (FCA: 3SM + 3PF = 3SM)
came.**3SM**   Qais.3SM   and   the-girl.3PF
'Qais and the girls came.'

d. ʔiǰat   Mariam   wo   l-wlaad   (FCA: 3SF + 3PM = 3SF)
came.**3SF**   Mariam.3SF   and   the-boy.3PM
'Mariam and the boys came.'

Establishing the existence of first conjunct agreement with postverbal conjoined subjects in RJA, I move now to provide an analysis of this agreement pattern. My analysis draws on the Probe-Goal (Agree) framework of Chomsky (2000, 2001) to account for licensing of agreement features and case assignment in which the probe on T, just as in VS sentences with simple subjects, targets two φ-features: number and gender. The derivation of the first conjunct agreement pattern is explained in terms of the clitic doubling analysis I have proposed in Chapter 2. The clitic is the result of the partial agreement (i.e. in number and gender) between the verb and the postverbal subject, which I proposed creates a partial copy of the subject in [Spec, TP]. This is evident in the overt realization of the pronominal clitic in

embedded contexts under the complementizer *ʔinn* 'that' bearing the [Number] and [Gender] features of the first conjunct. The overt realization of this pronominal clitic is obligatory in light of the properties of the complementizer *ʔinn* 'that' as was explained in section 2.3.5. To illustrate the application of clitic doubling, examples representative of each possible combination of conjoined subjects discussed above (examples 29d, 30d, 31d, and 32c) are repeated in (33–36) embedded under the complementizer *ʔinn* 'that'. (The embedded clause is marked by square brackets and the clitic is shown in bold.)

(33) Singular + singular = singular (FCA)

Embedded VS in RJA: singular feminine first conjunct indexed by singular feminine first conjunct agreement/clitic respectively

gultuu	[ʔinn-**ha**	ʕan-jad	ʔiǰat	Mariam	wo	Qais]
said.2PM	[that-**she**	on-reality	came.3SF	Mariam.3SF	and	Qais.3SM]

'You said [that Mariam and Qais did come].'

(34) Plural + plural = plural (FCA)

Embedded VS in RJA: plural feminine first conjunct indexed by plural feminine first conjunct agreement/clitic respectively

gultuu	[ʔinn-**hin**	ʕan-jad	ʔiǰin	l-banaat	wo
said.2PM	[that-**they.F**	on-reality	came.3PF	the-girl.3PF	and

l-wlaad]
the-boy.3PM]

'You said [that the girls and boys did come].'

(35) Plural + singular = plural FCA

Embedded VS in RJA: plural feminine first conjunct indexed by plural feminine first conjunct agreement/clitic respectively

gultuu	[ʔinn-**hin**	ʕan-jad	ʔiǰin	l-banaat	wo
said.2PM	[that-**they.F**	on-reality	came.3PF	the-girl.3PF	and

Qais]
Qais.3SM]

'You said [that the girls and Qais did come].'

(36) Singular + plural = singular (FCA)

Embedded VS in RJA: singular masculine first conjunct indexed by singular masculine first conjunct agreement/clitic respectively

gultuu	[ʔinn-**oh**	ʕan-jad	ʔiǰa	Qais	wo
said.2PM	[that-**he**	on-reality	came.3SM	Qais.3SM	and

l-banaat]
the-girl.3PF]
'You said [that Qais and the girls did come].'

In the embedded clauses in the above RJA examples, the verb agrees with the first conjunct for both number and gender. In addition, the pronominal clitic indexes the first conjunct for both number and gender. For example, when the first conjunct is a singular feminine followed by a singular masculine (33), both the verb and the clitic show singular feminine features.

The derivation of first conjunct agreement proceeds as follows. The conjoined subject is generated in the specifier position of VP (Zagona 1982; Kitagawa 1986; Speas 1986; Kuroda 1988; Koopman and Sportiche 1991) and the verb undergoes V-to-T head-movement (Koopman and Sportiche 1991; Aoun et al. 1994; Aoun and Benmamoun 1999; Benmamoun 2000; Soltan 2006, 2007a, b; Aoun et al. 2010). According to the Probe-Goal (Agree) framework (Chomsky 2000, 2001), the functional head T, as in the VS word order with simple subjects in RJA, probes for two uninterpretable unvalued φ-features: number and gender. T's [uNumber, uGender] probe searches downward in its c-command domain for a goal with matching valued number and gender features. The closest goal (i.e. the first conjunct) has the required interpretable valued number and gender features and therefore values T's [uNumber, uGender] probe. T in turn values the first conjunct's unvalued case feature, assigning it [NOM] case.

Although T agrees only with the first conjunct, the [NOM] case feature of the first conjunct needs to appear on the second conjunct as well; there are no instances in which a conjoined DP remains caseless. Schütze (2001) proposes a case spreading parametric option

114

in which the case feature that is syntactically assigned to the head D may or may not spread to all of the constituents of its projection DP. If it does, as Schütze (2001) states, the entire coordination structure CoDP (equivalent to ConjP in my thesis) receives case, which then spreads to the constituents. Accordingly, I propose an operation of case spreading (Schütze 2001; cf. Johannessen's (1998) case matching) as a last resort to take care of any DPs that did not receive case in the syntax and are in close structural proximity to another DP with case. In particular, I assume that the features of the first conjunct, the specifier of the ConjP, percolate up to the ConjP (Johannessen 1998). This is similar to Lieber's (1989) Back-up Percolation in which if the head is not specified for a certain feature, that feature is allowed to be percolated from the non-head. Accordingly, in the coordination structure, the [NOM] case assigned from T to the first DP (i.e. first conjunct) percolates up to the ConjP then spreads to the second DP.

The partial agreement on T as I proposed triggers the partial copying of the goal (i.e. first conjunct): the [Number] and [Gender] features of the first conjunct are copied to [Spec, TP], satisfying the [EPP] feature of the probe on T. It is these two features that are spelled out as the pronominal clitic in [Spec, TP] in embedded contexts. Since the partial copy in [Spec, TP] and the copy in [Spec, VP] are not identical, the lower copy must be retained and pronounced, giving rise to the clitic doubling (CL_sVS) structure.

The following tree diagram represents the derivation of first conjunct agreement in RJA such as (31d) reproduced here as (37a) along the lines of my clitic doubling analysis.

(37)
a. ʔiǰin   l-banaat   wo   Qais   (FCA: 3PF + 3SM = 3PF)
   came.**3PF**   the-girl.3PF   and   Qais.3SM
   'The girls and Qaiscame.'

115

b. Derivation of first conjunct agreement in a root VS sentence in RJA
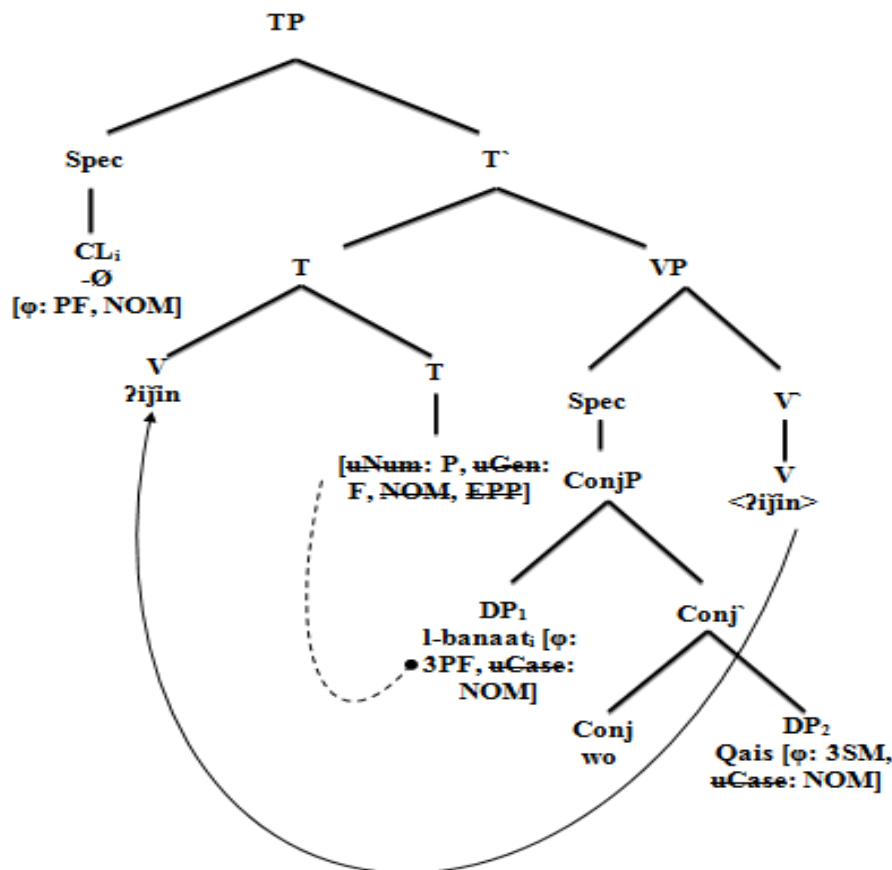
3.5 Resolved agreement with postverbal conjoined subjects in RJA

In addition to the first conjunct agreement pattern with postverbal conjoined subjects in RJA discussed in the previous section, it is possible to have agreement with both conjuncts as one plural unit, inducing plural features on the verb. However, though this resolved agreement pattern is frequent with complex postverbal subjects in RJA, it will be shown in this section that the pattern is subject to certain restrictions. The DPs' number features together with their sequential order determine whether resolved agreement is allowed or not. Specifically, the combinations singular plus singular, plural plus plural, and plural plus singular can yield plural resolved agreement. However, the resolved agreement pattern breaks down with the combination singular plus plural. As far as gender is concerned, it will be shown that when the two conjuncts have the same gender, the resolved agreement pattern trivially exhibits the

shared gender feature. On the other hand, when the gender of the two conjuncts is not the same, the default masculine gender feature is the only possible output.

To illustrate all these observations, I will use the same four possible combinations that were highlighted for first conjunct agreement in the previous section. The first combination is when there is a singular followed by a singular as shown in (38a–d). In such cases, the verb shows plural features. When the gender of the two conjuncts is the same, the gender feature is trivially resolved. Examples (38a–b) show that the verb carries masculine and feminine features respectively in accordance with the gender of the two conjuncts. However, when the two conjuncts carry different gender features, the agreement is always masculine, which is the default value for gender in Arabic (Fassi-Fehri 1993; Harbert and Bahloul 2002; Soltan 2006, 2007b; Aoun et al. 2010), as shown in (38c–d). (In this data I use "RA" to refer to resolved agreement, i.e. agreement with the entire conjoined phrase.)

(38) Singular + singular = plural (RA)

a. ʔiǰuu   Qais   wo   Saʕeed   (RA: 3SM + 3SM = 3PM)
   came.**3PM**   Qais.3SM   and   Saʕeed.3SM
   'Qais and Saʕeed came.'

b. ʔiǰin   Mariam   wo   Zainab   (RA: 3SF + 3SF = 3PF)
   came.**3PF**   Mariam.3SF   and   Zainab.3SF
   'Mariam and Zainab came.'

c. ʔiǰuu   Qais   wo   Zainab   (RA: 3SM + 3SF = 3PM)
   came.**3PM**   Qais.3SM   and   Zainab.3SF
   'Qais and Zainab came.'

d. ʔiǰuu   Mariam   wo   Qais   (RA: 3SF + 3SM = 3PM)
   came.**3PM**   Mariam.3SF   and   Qais.3SM
   'Mariam and Qais came.'

The same resolved agreement pattern is manifested when the conjoined subject is a plural followed by a plural, in which case the verb inflects for plural. The sentence given in (39d), for example, demonstrates that there is a plural feminine followed by a plural masculine with the verb manifesting plural masculine features.

(39) Plural + plural = plural (RA)

a. ʔiǰuu   l-wlaad   wo   l-zlaam   (RA: 3PM + 3PM = 3PM)
   came.**3PM**   the-boy.3PM   and   the-man.3PM
   'The boys and men came.'

b. ʔiǰin   n-niswaan   wo   l-banaat   (RA: 3PF + 3PF = 3PF)
   came.**3PF**   the-woman.3PF   and   the-girl.3PF
   'The women and girls came.'

c. ʔiǰuu   l-wlaad   wo   l-banaat   (RA: 3PM + 3PF = 3PM)
   came.**3PM**   the-boy.3PM   and   the-girl.3PF
   'The boys and girls came.'

d. ʔiǰuu   l-banaat   wo   l-wlaad   (RA: 3PF + 3PM = 3PM)
   came.**3PM**   the-girl.3PF   and   the-boy.3PM
   'The girls and boys came.'

The combination of a plural followed by a singular yields resolved agreement as well.
For example, when the conjoined subject is a plural feminine plus a singular masculine as in
(40d), the verb shows plural masculine features.

(40) Plural + singular = plural (RA)

a. ʔiǰuu   l-wlaad   wo   Qais   (RA: 3PM + 3SM = 3PM)
   came.**3PM**   the-boy.3PM   and   Qais.3SM
   'The boys and Qais came.'

b. ʔiǰin   n-niswaan   wo   Mariam   (RA: 3PF + 3SF = 3PF)
   came.**3PF**   the-woman.3PF   and   Mariam.3SF
   'The women and Mariam came.'

c. ʔiǰuu   l-wlaad   wo   Mariam   (RA: 3PM + 3SF = 3PM)
   came.**3PM**   the-boy.3PM   and   Mariam.3SF
   'The boys and Mariam came.'

d. ʔiǰuu   l-banaat   wo   Qais   (RA: 3PF + 3SM = 3PM)
   came.**3PM**   the-girl.3PF   and   Qais.3SM
   'The girls and Qais came.'

The possibility of resolved agreement disappears, however, when the conjoined
subject consists of a singular followed by a plural. In this combination, only first conjunct
agreement is possible. For example, when the conjoined subject is singular masculine plus

plural feminine as in (41c), only singular agreement is possible not plural. In this case, the verb shows singular masculine features matching those of the first conjunct.

(41) Singular + plural = singular (FCA)

a. ʔiǰa/*ʔiǰuu   Qais   wo   l-wlaad
   came.**3SM/*3PM**   Qais.3SM   and   the-boy.3PM
   'Qaisand the boys came.'   (FCA/*RA: 3SM + 3PM = 3SM/*3PM)

b. ʔiǰat/*ʔiǰin   Mariam   wo   n-niswaan
   came.**3SF/*3PF**   Mariam.3SF   and   the-woman.3PF
   'Mariam and the women came.'   (FCA/*RA: 3SF + 3PF = 3SF/*3PF)

c. ʔiǰa/*ʔiǰuu   Qais   wo   l-banaat
   came.**3SM/*3PM**   Qais.3SM   and   the-girl.3PF
   'Qais and the girls came.'   (FCA/*RA: 3SM + 3PF = 3SM/*3PM)

d. ʔiǰat/*ʔiǰuu   Mariam   wo   l-wlaad
   came.**3SF**/*3PM   Mariam.3SF   and   the-boy.3PM
   'Mariam and the boys came.'   (FCA/*RA: 3SF + 3PM = 3SF/*3PM)

The data thus show that the restrictions on agreement with patterns of the verb depend on the DPs' number features together with their sequential order.

In the subsequent subsections, I present an analysis that can explain the divergent patterning of subject-verb agreement with postverbal conjoined subjects in RJA. Inspired by the insight embodied in the Multiple Agree approach of Nevins (2007, 2011), which is related to person hierarchy and person complementarity effects, I propose that the two possible agreement patterns (i.e. first conjunct agreement and resolved agreement) available in RJA are the result of two possible probing manners. More specifically, I illustrate how further probing, or Multiple Probing, can derive resolved agreement. Resolved agreement can only hold when both goals are probed by the same head. In other words, both the presence and absence of resolved agreement will be shown to be derived within the same mechanism of Multiple Agree, but relying on a Continuity condition in which the sequential order of the two conjuncts in terms of the composition of their singular vs. plural number features is a crucial factor.

119

The analysis is developed as follows. Subsection 3.5.1 presents the major assumptions that I put forward to explain both first conjunct agreement and resolved agreement with postverbal conjoined subjects in RJA. Subsection 3.5.2 provides a discussion of how Multiple Agree works for number and gender features in light of their featural representation to derive the variation in terms of resolved agreement patterns. Subsection 3.5.3 examines the derivation of the resolved agreement pattern in terms of the clitic doubling analysis I have proposed in Chapter 2, together with the operation Multiple Agree and the Continuity condition in the sense of Nevins (2007, 2011).

3.5.1 Major assumptions underlying different agreement patterns with postverbal conjoined subjects in RJA

The following are the six major assumptions that I adopt to account for the variable patterning of subject-verb agreement with conjoined subjects in RJA in the VS word order.

1. The probe searches downward in the syntactic structure until finding the closest goal, at which point the probe is valued. This probing gives rise to all cases of first conjunct agreement attested in (29–32). The sentence in (29d), which is repeated here as (42), is a representative example in which the verb agrees in number and gender with only the first conjunct.

(42) ʔiǰat   Mariam   wo   Qais   (FCA: 3SF + 3SM = 3SF)
     came.**3SF**   Mariam.3SF and   Qais.3SM
     'Mariam and Qais came.'

However, I propose that further downward probing is also optionally permitted if an additional goal is available, unless something interrupts this further probing.

2. Successful further downward probing with an additional goal gives rise to resolved agreement (38–40). Failure of this further probing (41) makes the default agreement with the

120

closest/first goal the only possible agreement pattern, hence only having first conjunct agreement in such cases, as in (41c), repeated here as (43).

(43) Ɂiǰa/*Ɂiǰuu   Qais   wo   l-banaat
      came.**3SM/*3PM**   Qais.3SM   and   the-girl.3PF
      'Qais and the girls came.'   (FCA/*RA: 3SM + 3PF = 3SM/*3PM)

3. The fact that in certain combinations we have only first conjunct agreement indicates that in such cases there is something blocking the occurrence of further downward probing, and as a result, resolved agreement is banned (41).

4. What blocks further downward probing has to do with the sequential order of the conjoined DPs in terms of the representation of their number features. Harley and Ritter (2002) develop a feature-geometric hierarchy for person features, which assumes that first-person features asymmetrically entail third-person features. Inspired by this insight, I assume that plural number feature entails, or more specifically, is composed of more than one singular feature. This follows Gluckman's (2015) proposal that morphological number is a bundle of atomic INDIVIDUAL (IND) features. He assumes that a single IND feature corresponds to singular, whereas a bundle containing multiple IND features corresponds to non-singular. Accordingly, a singular feature does not contain a plural feature in its intrinsic composition, whereas plural features do inherently contain singular features.

5. In the case of resolved agreement, I assume that the probe establishes a simultaneous Agree relationship with two goals. I propose, inspired by Nevins (2007, 2011), that there is a condition of Continuity of Agreement-Path in the case of resolved agreement in RJA. According to this condition, the valuation of the resolved agreement features on the probe is achieved only if the features of the two goals along its path are checked. The geometry of the number features of the two goals together with their linear order affect this valuation process. In other words, the different combinations of DPs affect the applicability of this condition. This condition is successfully met in the following cases:

(44) Singular + singular as in (38d) repeated here:

ʔiǰuu	Mariam	wo	Qais	(RA: 3SF + 3SM = 3PM)
came.**3SM**	Mariam.3SF	and	Qais.3SM	

'Mariam and Qais came.'

(45) Plural + plural as in (39d) repeated here:

ʔiǰuu	l-banaat	wo	l-wlaad	(RA: 3PF + 3PM = 3PM)
came.**3PM**	the-girl.3PF	and	the-boy.3PM	

'The girls and boys came.'

(46) Plural + singular as in (40d) repeated here:

ʔiǰuu	l-banaat	wo	Qais	(RA: 3PF + 3SM = 3PM)
came.**3PM**	the-girl.3PF	and	Qais.3SM	

'The girls and Qais came.'

All the above are licit combinations because they satisfy the Continuity condition in the sense that the path of Agree is not interrupted and thus does not skip the second DP. In other words, resolved agreement in all these combinations is possible as the span is continuous. This is because the number of the first DP is either equivalent to, or more specified than, that of the second DP, thus not forming an intervener that hinders further downward probing. As a result, resolved agreement with such postverbal combinations is attested in RJA. However, the following combination is precluded in the context of resolved agreement because the singular number feature on the first DP, being less specified than the plural feature of the second DP, interrupts the continuous span of Agree. (This is just a brief outline of the Continuity condition; for a detailed discussion of these mechanics, see section 3.5.2 below.)

(47) Singular + plural as in (41c) repeated here:

ʔiǰa/*ʔiǰuu	Qais	wo	l-banaat	
came.**3SM/*3PM**	Qais.3SM	and	the-girl.3PF	
'Qais and the girls came.'			(FCA/*RA: 3SM + 3PF = 3SM/*3PM)	

6. As for the valuation of gender, I propose a condition building mainly on the insight embodied in Nevins' (2011: 963; see also 2007) condition of Matched Values: "All elements within the domain of relativization must contain the same value". When the gender features

of the two DPs are the same as in (38a–b; 39a–b; 40a–b), the condition Matched Values is always trivially satisfied. When there is value-mismatch between the gender features of the two DPs (38c–d; 39c–d; 40c–d), on the other hand, the default masculine value is realized (cf. Schütze 1997; Preminger 2009).

3.5.2 Multiple Agree for number and gender features

In this subsection, I show how Multiple Agree works for number and gender features in light of the featural representation of each. I provide a treatment of number and gender features that can straightforwardly account for the variation that RJA exhibits in terms of resolved agreement patterns in the VS word order with conjoined subjects. This section walks through the logic of the account and the following section presents a detailed analysis of actual data.

As mentioned in the previous section, I take plural to involve a combination of more than one singular or a combination of two plurals. The combination of two singulars (i.e. [IND, IND]; Gluckman 2015) yields plural; similarly, the combination of two plurals (i.e. [IND, IND, IND, IND]; Gluckman 2015) trivially induces plural. A crucial consequence of this approach to number features is that there is an asymmetric relationship between singular and plural: plural [IND, IND] contains singular [IND] but not vice versa. This asymmetry allows us to understand why singular + singular resolves to plural while singular + plural does not. In a singular + singular context, the agreement path is continuous: the first and second DP are both specified as [IND]. Multiple Agree is thus able to target both goals. In a singular + plural context, however, the agreement path is not continuous: the second DP is specified as [IND IND] while the first is specified only as [IND]. Agreeing with the [IND IND] feature of the second DP would violate the Continuity condition, as the second DP has these features while the first DP does not. In other words, the fact that the number feature of the first DP is less specified than that of the second DP causes the former to act as an

intervener, preventing Multiple Agree and leaving singular first conjunct agreement as the only possible pattern in such forms.

In the case of successful resolved number agreement, the probe then starts searching for gender values. (The relative order of number and gender agreement is discussed in Chapter 4 below.) If the probe finds no instance of mismatch between the features of the two conjuncts, gender is trivially valued as it is identical on both conjuncts satisfying the condition Matched Values (cf. Nevins 2007, 2011) as a result. However, if there is a mismatch between the gender of the two conjuncts, the search fails and Agree requires insertion of default φ-features on the probe (in the sense of Schütze 1997; Preminger 2009). The default gender feature is a last resort in such cases as the probe cannot concurrently value two opposite binary features [± FEM]. More specifically, when mismatch between the gender of the two conjuncts occurs, the marked feature (i.e. feminine in Arabic) is deleted and the default/unmarked (i.e. masculine) is used. This can be explained in light of the fact that the morphological system does not afford such a combination of two binary features on the same probe.

The difference between number and gender follows from a difference in the featural representation of each: gender is binarily represented, whereas number is not. Gender is different from number in that neither masculine nor feminine can be said to be combined or contained within each other by a single manifestation of any of them. By contrast, it is logical to say that singular is contained in plural but not the opposite, as proposed by Gluckman (2015) (cf. Nevins 2011: some features are binary, some unary).

Summarizing, RJA allows optional Multiple Agree, whose successful downward application gives rise to resolved agreement. The ban on resolved agreement in certain combinations is an effect of the Continuity condition, which allows number agreement with a second goal when its number feature is equivalent to, or less specified than, that of the first

goal, but not when its number feature is more specified than that of the first goal. In configurations that violate the Continuity condition, resolved agreement cannot occur and first conjunct agreement is the only option.

3.5.3 Derivation of resolved agreement

This section provides a more detailed illustration of the derivation of resolved agreement in light of the proposals made above (Multiple Agree, the Continuity condition, the condition of Matched Values, and the clitic doubling analysis proposed in Chapter 2), with respect to the following examples, which are illustrative of all the possible combinations of conjoined subjects. Examples 38d, 39d, 40d, and 41c are repeated here embedded under the complementizer *ʔinn* 'that' as 48, 49, 50, and 51 respectively. (The embedded clause is marked by square brackets and the subject clitic that appears in such contexts is shown in bold.)

(48) Singular + singular = plural (RA)

Embedded VS in RJA: singular feminine plus singular masculine indexed by plural masculine resolved agreement/clitic respectively

gultuu   [ʔinn-**hom**   ʕan-jad   ʔiǰuu   Mariam   wo   Qais]
said.2PM   [that-**they.M**   on-reality   came.3PM   Mariam.3SF   and   Qais.3SM]
'You said [that Mariam and Qais did come].'

(49) Plural + plural = plural (RA)

Embedded VS in RJA: plural feminine plus plural masculine indexed by plural masculine resolved agreement/clitic respectively

gultuu   [ʔinn-**hom**   ʕan-jad   ʔiǰuu   l-banaat   wo
said.2PM   [that-**they.M**   on-reality   came.3PM   the-girl.3PF   and
l-wlaad]
the-boy.3PM]
'You said [that the girls and boys did come].'

125

(50) Plural + singular = plural (RA)

Embedded VS in RJA: plural feminine plus singular masculine indexed by plural masculine resolved agreement/clitic respectively

gultuu	[ʔinn-**hom**	ʕan-jad	ʔiǰuu	l-banaat	wo	Qais]
said.2PM	[that-**they.M**	on-reality	came.3PM	the-girl.3PF	and	Qais.3SM]

'You said [that the girls and Qais did come].'

(51) Singular + plural = singular (FCA)

a. Embedded VS in RJA: singular masculine plus plural feminine not indexed by plural masculine resolved agreement/clitic respectively

gultuu	[ʔinn-**oh**/*ʔinn-**hom**	ʕan-jad	ʔiǰa/*ʔiǰuu	Qais
said.2PM	[that-**he**/*that-**they.M**	on-reality	came.3SM/*3PM	Qais.3SM
wo	l-banaat]			
and	the-girl.3PF]			

'You said [that Qais and the girls did come].'

b. Embedded VS in RJA: singular feminine plus plural masculine not indexed by plural masculine resolved agreement/clitic respectively

gultuu	[ʔinn-**ha**/*ʔinn-**hom**	ʕan-jad	ʔiǰat/*ʔiǰuu
said.2PM	[that-**she**/*that-**they.M**	on-reality	came.**3SF**/***3PM**
Mariam	wo	l-wlaad	
Mariam.3SF	and	the-boy.3PM	

'You said [that Mariam and the boys did come].'

In the above embedded clauses, the verb agrees with the whole conjoined subject for both number and gender and the pronominal clitic indexes the resolved number and gender features of the conjoined subject. This resolved agreement and clitic doubling are evident in all the combinations except when there is a singular followed by a plural (51), in which case first conjunct agreement is the only possible pattern.

I will start to illustrate the derivation of resolved agreement drawing on embedded contexts because the structural relations are clearest in such contexts. After that, I extend the relevant details to root contexts. Recall that the probe searches downward in the syntactic structure until finding the closest goal giving rise to all cases of first conjunct agreement (see section 3.4 for a detailed discussion). However, since there is a conjoined subject, there is another goal (i.e. the second DP) available for optional further downward probing. If this option is exercised, the result is the resolved agreement pattern.

Based on the assumptions I proposed in section 3.5.1 and the discussion of Multiple Agree for number and gender features in section 3.5.2, the derivation of resolved agreement proceeds as follows. T goes on to agree with the second DP. The [uNumber, uGender] probe on T establishes a simultaneous Agree relationship with the two goals available. However, there is a Continuity condition restricting this Multiple Agree relationship. The linear order of the two goals in terms of the geometry of their number features determines the possibility of having resolved agreement.

Under this analysis, if the number of the first DP is either equivalent to, or more specified than, that of the second DP, the continuous span of Agree is not interrupted and the Continuity condition is met resulting in valuing the probe's resolved agreement features. Specifically, in the case of having two singulars or two plurals, or a plural followed by a singular, resolved agreement is allowed and the [uNumber] probe is valued as plural. However, in the case of having a singular first DP and a plural second DP, the singular being less specified than the plural interrupts further probing and bans resolved agreement. The result of this ban is first conjunct agreement, as in (51) above. To further explain, in the context of a singular + plural, the second DP is specified as [IND IND] while the first is specified only as [IND]. Agreeing with the [IND IND] feature of the second DP would violate the Continuity condition, as the second DP has this set of features while the first DP does not.

After successful resolved number feature valuation, the probe searches for gender feature valuation which is subject to the condition Matched Values. Specifically, if the probe finds the gender feature of the second DP the same as that of the first DP, the condition Matched Values is satisfied and the [uGender] probe is trivially valued with that feature identical on both DPs. When there is mismatch between the gender features of the two DPs, however, the search fails and Agree requires insertion of the default gender feature (i.e.

masculine) on the probe as a last resort, as in (48–50) above. Regardless of whether T agrees only with the first DP (giving rise to first conjunct agreement) or with both DPs (giving rise to resolved agreement), case is assigned to the first DP T agrees with. As discussed in section 3.4, the second DP receives case by percolation (Johannessen 1998; cf. Lieber's (1989) Back-up Percolation) and then spreading (Schütze 2001; cf. Johannessen's (1998) case matching).

Once the valuation of features is successfully established, partial agreement triggers partial copying: the resolved [Number] and [Gender] features of the conjoined DPs subject are copied to [Spec, TP], thus satisfying the [EPP] feature that the probe on T carries. It is these two features that are spelled out as the pronominal clitic in [Spec, TP]. The partial copy in [Spec, TP] means that the copy in [Spec, TP] and that in [Spec, VP] are not identical, hence the obligatory pronunciation of the lower copy, giving rise to the clitic doubling (CL$_s$VS) structure.

The preverbal pronominal clitic in [Spec, TP] bearing the resolved [Number] and [Gender] features of the conjoined DPs subject is spelled out with the [ACC] case assigned by the complementizer *ʔinn* 'that' in embedded contexts. In root contexts, on the other hand, it is left with the [NOM] case from T, thus receiving a null spell-out. The derivation of resolved agreement in RJA such as (40d), which is reproduced here as (52a), is shown in the following tree diagram.

(52)
a. ʔiǰuu   l-banaat   wo   Qais   (RA: 3PF + 3SM = 3PM)
   came.**3PM** the-girl.3PF   and   Qais.3SM
   'The girls and Qais came.'

b. Derivation of resolved agreement in a root VS sentence in RJA
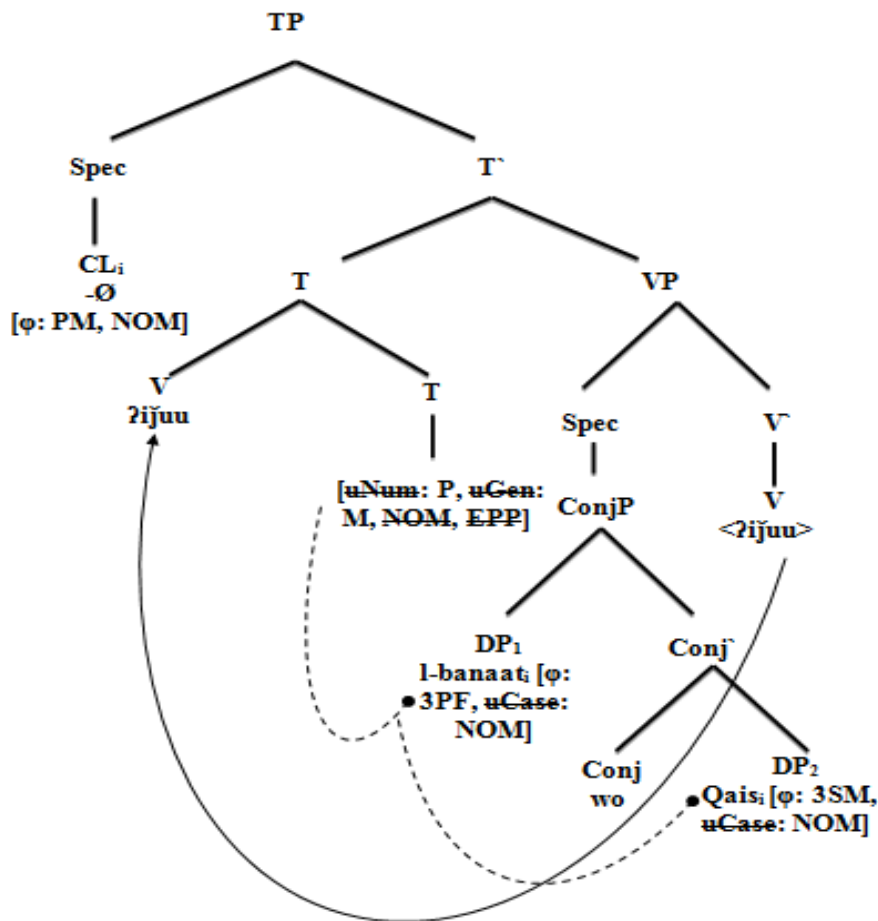
3.6 Agreement with postverbal conjoined subjects in SA

The previous two sections focused on agreement with postverbal conjoined subjects in RJA. In this section, I introduce the agreement pattern allowed in SA in the context of postverbal conjoined subjects. It will be shown that SA differs from RJA in two ways in this context. First, while both first conjunct agreement and resolved agreement are permissible in RJA, only first conjunct agreement is allowed in SA. Agreement with the whole conjoined subject (i.e. resolved agreement) is not possible in SA. Second, though both RJA and SA exhibit partial agreement in the context of first conjunct, the two varieties differ in terms of the richness of this partial agreement. Specifically, partial agreement in RJA involves probing for both number and gender (but not person) while it involves probing for only gender in SA.

For the sake of consistency, I will exemplify with data from SA using the same four potential combinations discussed with RJA in the previous two sections. The examples below show that a singular followed by a singular always yields singular agreement with the gender of the first member of the conjoined subject, which asserts that the pattern is first conjunct agreement. The sentence given in (53d), for example, shows that the verb has a singular feminine form matching the features of the first conjunct.

(53) Singular + singular = singular (FCA)

a. ǰaaʔa/*ǰaaʔaa   Qaisu   wa Saʕeedu
 came.**3SM/*3DM**   Qais.3SM.NOM   and Saʕeed.3SM.NOM
 'Qais and Saʕeed came.'   (FCA/*RA: 3SM + 3SM = 3SM/*3DM)

b. ǰaaʔat/*ǰaaʔataa   Mariamu   wa Zainabu
 came.**3SF/*3DF**   Mariam.3SF.NOM and Zainab.3SF.NOM
 'Mariam and Zainab came.'   (FCA/*RA: 3SF + 3SF = 3SF/*3DF)

c. ǰaaʔa/*ǰaaʔaa   Qaisu   wa Zainabu
 came.**3SM/*3DM**   Qais.3SM.NOM   and Zainab.3SF.NOM
 'Qais and Zainab came.'   (FCA/*RA: 3SM + 3SF = 3SM/*3DM)

d. ǰaaʔat/*ǰaaʔaa   Mariamu   wa Qaisu
 came.**3SF/*3DM**   Mariam.3SF.NOM and Qais.3SM.NOM
 'Mariam and Qais came.'   (FCA/*RA: 3SF + 3SM = 3SF/*3DM)

The existence of first conjunct agreement in SA is further demonstrated in the context of two plural conjuncts. Examples (54a–d) below show that the verb agrees with the first conjunct in gender. For example, when there is a plural feminine first conjunct followed by a plural masculine second conjunct as in (54d), the verb inflects for singular feminine features, which indicates that we have first conjunct agreement. Notice that the number is always singular even though the first conjunct is plural. This is a direct result of the featural specification of the probe on T in SA as will be discussed further below.

(54) Plural + plural = singular (FCA)

a. ǰaaʔa/*ǰaaʔuu   l-ʔawlaadu   wa r-riǰaalu
 came.**3SM/*3PM**   the-boy.3PM.NOM and the-man.3PM.NOM
 'The boys and men came.'   (FCA/*RA: 3PM + 3PM = 3SM/*3PM)

b. ǰaaʔat/*ǰiʔna   n-nisaaʔu   wa   l-banaatu
   came.**3SF/*3PF**   the-woman.3PF.NOM   and   the-girl.3PF.NOM
   'The women and girls came.'   (FCA/*RA: 3PF + 3PF = 3SF/*3PF)

c. ǰaaʔa/*ǰaaʔuu   l-ʔawlaadu   wa   l-banaatu
   came.**3SM/*3PM**   the-boy.3PM.NOM   and   the-girl.3PF.NOM
   'The boys and girls came.'   (FCA/*RA: 3PM + 3PF = 3SM/*3PM)

d. ǰaaʔat/*ǰaaʔuu   l-banaatu   wa   l-ʔawlaadu
   came.**3SF/*3PM**   the-girl.3PF.NOM   and   the-boy.3PM.NOM
   'The girls and boys came.'   (FCA/*RA: 3PF + 3PM = 3SF/*3PM)

The same first conjunct agreement pattern holds when there is a plural first conjunct followed by a singular second conjunct. The example given in (55d) shows that the verb has singular feminine agreement features when the conjoined subject is a plural feminine followed by a singular masculine.

(55) Plural + singular = singular (FCA)

a. ǰaaʔa/*ǰaaʔuu   l-ʔawlaadu   wa   Qaisu
   came.**3SM/*3PM**   the-boy.3PM.NOM   and   Qais.3SM.NOM
   'The boys and Qais came.'   (FCA/*RA: 3PM + 3SM = 3SM/*3PM)

b. ǰaaʔat/*ǰiʔna   n-nisaaʔu   wa   Mariamu
   came.**3SF/*3PF**   the-woman.3PF.NOM   and   Mariam.3SF.NOM
   'The women and Mariam came.'   (FCA/*RA: 3PF + 3SF = 3SF/*3PF)

c. ǰaaʔa/*ǰaaʔuu   l-ʔawlaadu   wa   Mariamu
   came.**3SM/*3PM**   the-boy.3PM.NOM   and   Mariam.3SF.NOM
   'The boys and Mariam came.'   (FCA/*RA: 3PM + 3SF = 3SM/*3PM)

d. ǰaaʔat/*ǰaaʔuu   l-banaatu   wa   Qaisu
   came.**3SF/*3PM**   the-girl.3PF.NOM   and   Qais.3SM.NOM
   'The girls and Qais came.'   (FCA/*RA: 3PF + 3SM = 3SF/*3PM)

The last combination to be highlighted consists of a singular followed by a plural. Similarly, the verb always agrees with the singular first conjunct in gender. For example, when a singular masculine first conjunct is followed by a plural feminine second conjunct as in (56c), the verb has a singular masculine form.

(56) Singular + plural = singular (FCA)

a. ǰaaʔa/*ǰaaʔuu   Qaisu   wa   l-ʔawlaadu
   came.**3SM/*3PM**   Qais.3SM.NOM   and   the-boy.3PM.NOM
   'Qais and the boys came.'   (FCA/*RA: 3SM + 3PM = 3SM/*3PM)

b. ǰaaʔat/*ǰiʔna   Mariamu   wa   n-nisaaʔu
   came.**3SF/*3PF**   Mariam.3SF.NOM   and   the-woman.3PF.NOM
   'Mariam and the women came.'   (FCA/*RA: 3SF + 3PF = 3SF/*3PF)

c. ǰaaʔa/*ǰaaʔuu   Qaisu   wa   l-banaatu
   came.**3SM/*3PM**   Qais.3SM.NOM   and   the-girl.3PF.NOM
   'Qais and the girls came.'   (FCA/*RA: 3SM + 3PF = 3SM/*3PM)

d. ǰaaʔat/*ǰaaʔuu   Mariamu   wa   l-ʔawlaadu
   came.**3SF/*3PM**   Mariam.3SF.NOM   and   the-boy.3PM.NOM
   'Mariam and the boys came.'   (FCA/*RA: 3SF + 3PM = 3SF/*3PM)

In conclusion, all the above examples show that there is always first conjunct agreement only in gender in the VS order with conjoined subjects in SA. The verb always appears singular regardless of the number of the first conjunct. Agreement with the whole conjoined subject (i.e. resolved agreement) is always ruled out. Specifically, the dual number on the verb in the case of having two singular DPs (53), the plural number in the case of having at least one plural DP (54; 55; 56), and the masculine gender in the case of having two DPs with different genders all yield ungrammaticality.
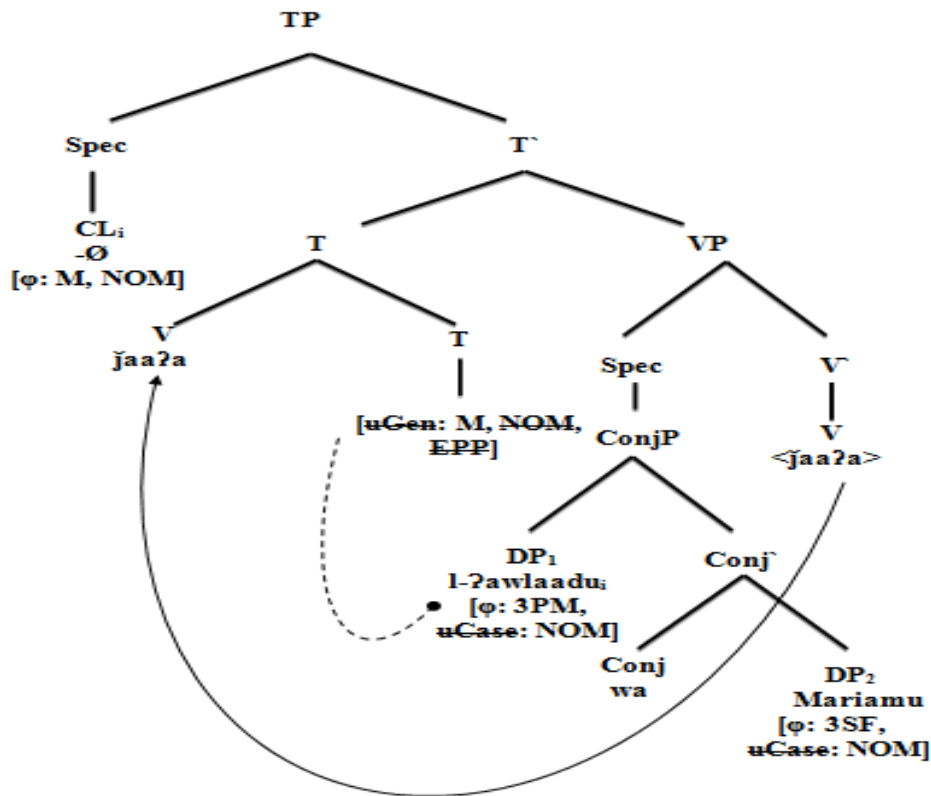
The obligatoriness of first conjunct agreement and absence of resolved agreement in the examples (53–56) can be accounted for by extending the analysis outlined for VS sentences with simple subjects in SA to that with postverbal conjoined subjects. Recall from Chapter 2 that the functional head T in SA probes only for the gender feature, which makes the partial agreement the only available possibility. The same partial agreement pattern is attested in the context of postverbal conjoined subjects whereby the probe targets only the gender of the first DP in the conjoined subject. In order for the probe to target the gender of the two DPs, resolved agreement must occur. However, this will never happen because, for the resolved agreement to emerge, the number features on the two conjoined DPs must be

132

first checked, something impossible due to the featural specification of the probe on T: the probe is just [uGender] in SA. Another reason for the impossibility of resolved gender agreement in the context with mismatched gender features, which is the only place where we would potentially be able to observe resolved agreement happening in SA, is attributed to the fact that Multiple Agree is not possible because there is no way for it to be continuous. This follows from the fact that the two genders are just two different binary values [± FEM], so there is no way for Multiple Agree obeying the Continuity condition to take place. There is a difference in the way gender and number features are represented: gender is represented by a binary feature while singular and plural number both involve the same [IND] feature.

The derivation of first conjunct agreement with postverbal conjoined subjects in SA proceeds in the same fashion as that of first conjunct agreement with postverbal conjoined subjects in RJA with the only difference that the probe on T targets only the gender feature in SA. The following tree diagram represents the derivation of first conjunct agreement in SA as in (55c), which is repeated below as (57a), along the lines of my clitic doubling analysis.

(57)
a. ǰaaʔa/*ǰaaʔuu   l-ʔawlaadu   wa   Mariamu
   came.**3SM/*3PM**   the-boy.3PM.NOM   and   Mariam.3SF.NOM
   'The boys and Mariam came.'   (FCA/*RA: 3PM + 3SF = 3SM/*3PM)

b. Derivation of first conjunct agreement in a root VS sentence in SA

TP
Spec — T`
CL_i
-Ø
[φ: M, NOM]
T — VP
V ǰaaʔa
T [uGen: M, NOM, EPP]
Spec ConjP
V`
V <ǰaaʔa>
DP₁ l-ʔawlaadu_i [φ: 3PM, uCase: NOM]
Conj`
Conj wa
DP₂ Mariamu [φ: 3SF, uCase: NOM]

3.7 Agreement with preverbal conjoined subjects in SA and RJA

After focusing on the intricate patterns exhibited by agreement with postverbal subjects in the preceding sections, I turn now to agreement with preverbal subjects. We have seen in the previous chapter that there is always full agreement (i.e. person, number, and gender) between the verb and the simple preverbal subject in both SA and RJA. The same agreement pattern is attested with complex/conjoined preverbal subjects in the two varieties as well. Furthermore, not only is this agreement full, but it is also always resolved in terms of the combined features of the two conjuncts on the verb. Specifically, when there are two singular conjoined DPs, the dual number feature appears on the verb in SA (1–4/paradigm A) and the plural number feature appears on the verb in RJA (1–4/paradigm B). Additional evidence for the occurrence of resolved agreement comes from cases where there are conjuncts of different genders. In these cases, the default masculine gender is used (3–4; 7–8; 11–12; 15–

16/paradigm A and B) which asserts that resolved agreement has taken place. Before I present my data, it should be made clear that resolving two singular features (i.e. [IND, IND]; Gluckman 2015) gives rise to dual number feature in SA. However, in RJA, dual morphology is not available and the number morphology corresponding to [IND, IND] in such cases is plural. Agreement with only one conjunct, whether the first or the last, is not possible in this word order in either of the two varieties. Let us consider the following data.

Paradigm A
SV in RJA
Agreement is always plural; if masculine + feminine, it is always masculine

Singular + singular = plural (RA)

(1) Qais   wo   Saʕeed   ʔiǰuu   (RA: 3SM + 3SM = 3PM)
    Qais.3SM   and   Saʕeed.3SM came.**3PM**
    'Qais and Saʕeed came.'

(2) Mariam   wo   Zainab   ʔiǰin   (RA: 3SF + 3SF = 3PF)
    Mariam.3SF   and   Zainab.3SF came.**3PF**
    'Mariam and Zainab came.'

(3) Qais   wo   Zainab   ʔiǰuu   (RA: 3SM + 3SF = 3PM)
    Qais.3SM   and   Zainab.3SF came.**3PM**
    'Qais and Zainab came.'

(4) Mariam   wo   Qais   ʔiǰuu   (RA: 3SF + 3SM = 3PM)
    Mariam.3SF   and   Qais.3SM   came.**3PM**
    'Mariam and Qais came.'

Plural + plural = plural (RA)

(5) ʔil-wlaad   wo   l-zlaam   ʔiǰuu   (RA: 3PM + 3PM = 3PM)
    the-boy.3PM   and   the-man.3PM came.**3PM**
    'The boys and men came.'

(6) ʔin-niswaan   wo   l-banaat   ʔiǰin   (RA: 3PF + 3PF = 3PF)
    the-woman.3PF   and   the-girl.3PF came.**3PF**
    'The women and girls came.'

(7) ʔil-ʔawlaad   wo   l-banaat   ʔiǰuu   (RA: 3PM + 3PF = 3PM)
    the-boy.3PM   and   the-girl.3PF came.**3PM**
    'The boys and girls came.'

(8) ʔil-banaat   wo   l-ʔawlaad   ʔiǰuu   (RA: 3PF + 3PM = 3PM)
    the-girl.3PF   and   the-boy.3PM came.**3PM**
    'The girls and boys came.'

Singular + plural = plural (RA)

(9) Qais   wo   l-wlaad   ʔiǰuu   (RA: 3SM + 3PM = 3PM)
Qais.3SM   and   the-boy.3PM came.**3PM**
'Qais and the boys came.'

(10) Mariam   wo   n-niswaan   ʔiǰin   (RA: 3SF + 3PF = 3PF)
Mariam.3SF and   the-woman.3PF   came.**3PF**
'Mariam and the women came.'

(11) Qais   wo   l-banaat   ʔiǰuu   (RA: 3SM + 3PF = 3PM)
Qais.3SM   and   the-girl.3PF came.**3PM**
'Qais and the girls came.'

(12) Mariam   wo   l-wlaad   ʔiǰuu   (RA: 3SF + 3PM = 3PM)
Mariam.3SF and   the-boy.3PM came.**3PM**
'Mariam and the boys came.'

Plural + singular = plural (RA)

(13) ʔil-wlaad   wo   Qais   ʔiǰuu   (RA: 3PM + 3SM = 3PM)
the-boy.3PM and   Qais.3SM   came.**3PM**
'The boys and Qais came.'

(14) ʔin-niswaan   wo   Mariam   ʔiǰin   (RA: 3PF + 3SF = 3PF)
the-woman.3PF and   Mariam.3SF came.**3PF**
'The women and Mariam came.'

(15) ʔil-wlaad   wo   Mariam   ʔiǰuu   (RA: 3PM + 3SF = 3PM)
the-boy.3PM and   Mariam.3SF came.**3PM**
'The boys and Mariam came.'

(16) ʔil-banaat   wo   Qais   ʔiǰuu   (RA: 3PF + 3SM = 3PM)
the-girl.3PF and   Qais.3SM   came.**3PM**
'The girls and Qais came.'

Paradigm B
SV in SA
Agreement is always dual or plural; if masculine + feminine, it is always masculine

Singular + singular = dual (RA)

(1) Qaisu   wa   Saʕeedu   ǰaaʔaa
Qais.3SM.NOM and   Saʕeed.3SM.NOM came.**3DM**
'Qais and Saʕeed came.'   (RA: 3SM + 3SM = 3DM)

(2) Mariamu   wa   Zainabu   ǰaaʔataa
Mariam.3SF.NOM   and   Zainab.3SF.NOM came.**3DF**
'Mariam and Zainab came.'   (RA: 3SF + 3SF = 3DF)

(3) Qaisu   wa   Zainabu   ǰaaʔaa
    Qais.3SM.NOM   and   Zainab.3SF.NOM   came.**3DM**
    'Qais and Zainab came.'   (RA: 3SM + 3SF = 3DM)

(4) Mariamu   wa   Qaisu   ǰaaʔaa
    Mariam.3SF.NOM   and   Qais.3SM.NOM   came.**3DM**
    'Mariam and Qais came.'   (RA: 3SF + 3SM = 3DM)

Plural + plural = plural (RA)

(5) ʔal-ʔawlaadu   wa   r-riǰaalu   ǰaaʔuu
    the-boy.3PM.NOM   and   the-man.3PM.NOM   came.**3PM**
     'The boys and men came.'   (RA: 3PM + 3PM = 3PM)

(6) ʔan-nisaaʔu   wa   l-banaatu   ǰiʔna
    the-woman.3PF.NOM   and   the-girl.3PF.NOM   came.**3PF**
    'The women and girls came.'   (RA: 3PF + 3PF = 3PF)

(7) ʔal-ʔawlaadu   wa   l-banaatu   ǰaaʔuu
    the-boy.3PM.NOM   and   the-girl.3PF.NOM   came.**3PM**
     'The boys and girls came.'   (RA: 3PM + 3PF = 3PM)

(8) ʔal-banaatu   wa   l-ʔawlaadu   ǰaaʔuu
    the-girl.3PF.NOM   and   the-boy.3PM.NOM   came.**3PM**
    'The girls and boys came.'   (RA: 3PF + 3PM = 3PM)

Singular + plural = plural (RA)

(9) Qaisu   wa   l-ʔawlaadu   ǰaaʔuu
    Qais.3SM.NOM   and   the-boy.3PM.NOM   came.**3PM**
    'Qais and the boys came.'   (RA: 3SM + 3PM = 3PM)

(10) Mariamu   wa   n-nisaaʔu   ǰiʔna
    Mariam.3SF.NOM   and   the-woman.3PF.NOM   came.**3PF**
     'Mariam and the women came.'   (RA: 3SF + 3PF = 3PF)

(11) Qaisu   wa   l-banaatu   ǰaaʔuu
    Qais.3SM.NOM   and   the-girl.3PF.NOM   came.**3PM**
     'Qais and the girls came.'   (RA: 3SM + 3PF = 3PM)

(12) Mariamu   wa   l-ʔawlaadu   ǰaaʔuu
    Mariam.3SF.NOM   and   the-boy.3PM.NOM   came.**3PM**
     'Mariam and the boys came.'   (RA: 3SF + 3PM = 3PM)

Plural + singular = plural (RA)

(13) ?al-?awlaadu   wa   Qaisu   ǰaa?uu
    the-boy.3PM.NOM   and   Qais.3SM.NOM   came.**3PM**
    'The boys and Qais came.'   (RA: 3PM + 3SM = 3PM)

(14) ?an-nisaa?u   wa   Mariamu   ǰi?na
    the-woman.3PF.NOM   and   Mariam.3SF.NOM   came.**3PF**
     'The women and Mariam came.'   (RA: 3PF + 3SF = 3PF)

(15) ?al-?awlaadu   wa   Mariamu   ǰaa?uu
    the-boy.3PM.NOM   and   Mariam.3SF.NOM   came.**3PM**
    'The boys and Mariam came.'   (RA: 3PM + 3SF = 3PM)

(16) ?al-banaatu   wa   Qaisu   ǰaa?uu
    the-girl.3PF.NOM   and   Qais.3SM.NOM   came.**3PM**
    'The girls and Qais came.'   (RA: 3PF + 3SM = 3PM)

The resolved agreement regardless of the sequential order of the two DPs in the two varieties in the SV word order raises an obvious question: how can the analysis outlined for the resolved agreement pattern in VS sentences in RJA be extended to the data in SV sentences in both varieties? Specifically, how can we account for the obligatory resolved agreement and absence of first conjunct agreement in this order in the two varieties?

I propose that resolved agreement in the SV order with conjoined subjects is the only possible option due to the Coordinate Structure Constraint (Ross 1967). Let us suppose that we have first conjunct agreement in this order in the two varieties, as shown in the examples below.

(58) *Qais   ?iǰa   wo   Saʕeed   (RJA)
    Qais.3SM   came.**3SM** and   Saʕeed.3SM

(59) *Qaisu   ǰaa?a   wa   Saʕeedu   (SA)
     Qais.3SM.NOM   came.**3SM** and   Saʕeed.3SM.NOM

The structures in the above examples are ungrammatical as a result of having first conjunct agreement. Recall from the previous chapter (section 2.4.1) that full agreement leads to full copying of the goal to [Spec, TP]. This full copying of the first conjunct produces an unattested structure in the language whereby the two conjoined DPs are separated by the

verb, as shown in the above examples. The ungrammaticality of the above examples is due to the violation of the Coordinate Structure Constraint (Ross 1967) which bans movement of one member of a coordinated structure. Full agreement with only the first conjunct will lead to copying of the first conjunct to [Spec, TP], thus violating the Coordinate Structure Constraint. To make the structure converge, the violation should be reconciled. The only way to produce this result is to copy the two DPs to [Spec, TP], and for this to happen the probe must target both of the available goals. By doing so, the Coordinate Structure Constraint is observed and the outcome is a structure that is fully acceptable in the language.

Consequently, the Multiple Agree approach (in the sense of Nevins 2007, 2011) outlined for VS sentences in RJA applies for SV sentences in the two varieties as the only option to prevent the structure from crashing. However, the Continuity condition restricting the probing manner in the VS order in RJA is not at play in the SV order in the two varieties.

A fully detailed description of the derivation of the resolved agreement pattern with preverbal conjoined subjects in both SA and RJA is as follows. The conjoined subject is generated within the lexical projection as a specifier of VP. The verb undergoes V-to-T head-movement. As in the SV word order with simple subjects in the two varieties, the functional head T probes for a complete set of φ-features: person, number, and gender. T's [uφ] probe establishes a Multiple Agree relationship with the two goals available in the sense that the φ-features of the two conjoined DPs are combined to value the probe's resolved agreement φ-features in the following manner:

(i)   The third person features on the two DPs resolve yielding third person,

(ii)   Resolving the number features of the two conjuncts follows Gluckman's (2015) proposal regarding the decomposition of morphological number. In particular, in the case of combining two singulars, the number feature gets the value dual in SA and plural in RJA. The combination of two plurals, a singular

and a plural, or a plural and a singular induces plural morphology on the verb in both varieties, and

(iii) Gender valuation follows in terms of the condition Matched Values (cf. Nevins 2011; see also 2007). This condition is met in the case of no mismatch between the gender features of the two conjuncts, thus valuing gender with that feature identical on both conjuncts. However, in the case of mismatch between the gender of the two conjuncts, the condition Matched Values is not satisfied and the default masculine gender feature is inserted as a last resort (cf. Schütze 1997; Preminger 2009).

The unvalued case feature on the first conjunct is in turn valued by the functional head T which assigns it [NOM] case. After that, the second conjunct receives case by percolation (Johannessen 1998; cf. Lieber's (1989) Back-up Percolation) and then spreading (Schütze 2001; cf. Johannessen's (1998) case matching).

Full agreement triggers complete copying of the conjoined subject from its base position (i.e. its thematic-role position) [Spec, VP] to [Spec, TP], satisfying the [EPP] feature of the probe on T as a result. Complete copying results in the non-pronunciation of the lower copy as it is fully duplicated by the higher copy in [Spec, TP] (cf. the "Identity Condition" that governs the possibility of ellipsis, e.g. Merchant 2001). To put it differently, complete copying gives rise to completely moving the conjoined subject to [Spec, TP]. The representation of the resolved agreement pattern in the two varieties is given below.

(60) Derivation of resolved agreement in the SV order in SA/RJA
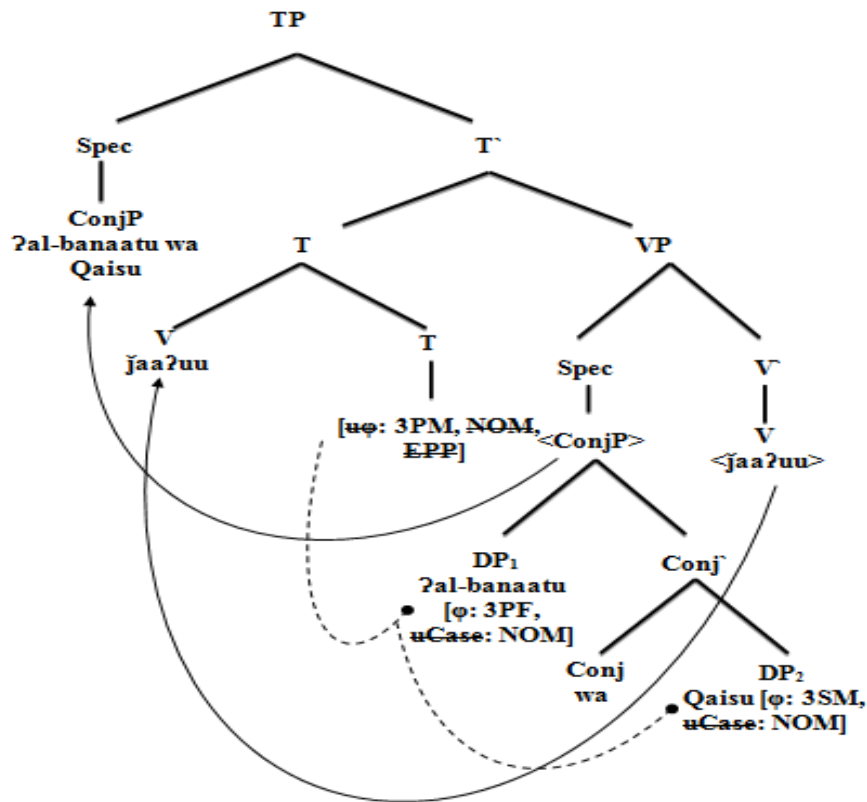
3.8 Agreement with conjoined subjects involving a pronominal

The preceding discussion has focused on the agreement patterns manifested in both SA and RJA in the two word orders when the complex subject consists of two lexical/non-pronominal conjuncts. In this section, I will highlight the agreement patterns attested with conjoined subjects involving a pronominal. Let us first consider the following paradigms to illustrate this phenomenon.

Paradigm C
SV in SA
Conjoined subjects with a pronominal element: always RA and full

(1) ʔanaa   wa   Qaisu/Mariamu/l-ʔawlaadu/
    I   and   Qais.3SM.NOM/Mariam.3SF.NOM/the-boy.3PM.NOM/
    l-banaatu   ǰiʔna
    the-girl.3PF.NOM   came.**1P**
    'I and Qais/Mariam/the boys/the girls came.'

(2) ʔanta   wa   Qaisu/Mariamu   ǰiʔtumaa
    you.SM   and   Qais.3SM.NOM/Mariam.3SF.NOM   came.**2DM**
    'You (SM) and Qais/Mariam came.'

(3) ʔanta   wa   l-ʔawlaadu/l-banaatu   ǰiʔtum
    you.SM   and   the-boy.3PM.NOM/the-girl.3PF.NOM   came.**2PM**
    'You (SM) and the boys/the girls came.'

(4) huwa   wa   Qaisu/Mariamu   ǰaaʔaa
    he   and   Qais.3SM.NOM/Mariam.3SF.NOM   came.**3DM**
    'He and Qais/Mariam came.'

(5) huwa   wa   l-ʔawlaadu/l-banaatu   ǰaaʔuu
    he   and   the-boy.3PM.NOM/the-girl.3PF.NOM   came.**3PM**
    'He and the boys/the girls came.'

Paradigm D
SV in RJA
Conjoined subjects with a pronominal element: always RA and full

(1) ʔanaa   wo   Qais/Mariam/l-ʔawlaad/l-banaat   ʔiǰeena
    I   and   Qais.3SM/Mariam.3SF/the-boy.3PM/the-girl.3PF   came.**1P**
    'I and Qais/Mariam/the boys/the girls came.'

(2) ʔinta   wo   Qais/Mariam/l-ʔawlaad/l-banaat   ʔiǰeetuu
    you.SM   and   Qais.3SM/Mariam.3SF/the-boy.3PM/the-girl.3PF   came.**2PM**
    'You (SM) and Qais/Mariam/the boys/the girls came.'

(3) huwwa   wo   Qais/Mariam/l-ʔawlaad/l-banaat   ʔiǰuu
    he   and   Qais.3SM/Mariam.3SF/the-boy.3PM/the-girl.3PF   came.**3PM**
    'He and Qais/Mariam/the boys/the girls came.'

      The above examples show that the agreement pattern attested in the context of preverbal conjoined subjects involving a pronominal is always full and resolved. I will not present any new proposal here; the same analysis advanced for preverbal lexical conjoined subjects is extended to this context as well. However, a further condition is needed to explain these agreement facts at this point. This condition is related to the way in which person features are resolved. I assume that the combination of person features of the conjoined DPs is computed by the following resolution rules (cf. Corbett 1983, 2000): (i) 1st person + 2nd person = 1st person, and (ii) 2nd person + 3rd person = 2nd person. This follows Harley and Ritter's (2002) feature-geometric hierarchy for person features in which person is represented

by an internally structured feature geometry consisting of privative features. While both first and second persons have the feature [Participant] (meaning speech-act participant, speaker/hearer), first person involves the additional [Speaker] feature. The results of resolved agreement will then follow naturally. Since first person is [Participant, Speaker] and second person is [Participant], resolving these features, the [Speaker] feature contributed by first person will ensure that the entire combination is also first. Resolving second and third person features induces second person due to the [Participant] feature contributed by second person.

Notice that the number and gender features in the above examples are resolved in the same way discussed with lexical conjoined subjects: singular plus singular equals plural, and masculine plus feminine equals masculine. What is new at this point is the way in which person features are resolved. First person is always dominant when the other conjunct is third person (example (1) in the two paradigms); second person is the outcome when resolving second and third person features (examples (2–3) paradigm C and example (2) paradigm D). First conjunct agreement is not allowed in SV word order because full agreement with the first conjunct will lead to a full copy of this conjunct to [Spec, TP], which is a violation of the Coordinate Structure Constraint (see also section 3.7). Therefore, full agreement with the entire conjoined subject (i.e. resolved agreement) which leads to copying the two conjuncts to [Spec, TP] is obligatory.

Recall that there is a variation between SA and RJA in the context of postverbal lexical conjoined subjects: only first conjunct agreement is allowed in SA, while both first conjunct agreement and resolved agreement are permissible in RJA, (and the agreement pattern is partial in both varieties with a difference in the richness of the agreement features in each variety). However, the two varieties cluster together when it comes to postverbal conjoined subjects involving a pronominal. In the two varieties, the verb agrees fully with the first conjunct of the postverbal conjoined subject if it is pronominal, as shown in the (a)

143

examples in the following two paradigms. The verb cannot agree with the entire conjoined subject (i.e. resolved agreement), as shown in the ungrammaticality of the (b) examples in the two paradigms.

Paradigm E
VS in SA
Conjoined subjects with a pronominal element: always FCA and full

(1)
a. ǰiʔtu ʔanaa wa Qaisu/Mariamu/l-ʔawlaadu/
 came.**1S** I and Qais.3SM.NOM/Mariam.3SF.NOM/the-boy.3PM.NOM/
 l-banaatu
 the-girl.3PF.NOM
 'I and Qais/Mariam/the boys/the girls came.'

b. *ǰiʔna ʔanaa wa Qaisu/Mariamu/l-ʔawlaadu/
 came.**1P** I and Qais.3SM.NOM/Mariam.3SF.NOM/the-boy.3PM.NOM/
 l-banaatu
 the-girl.3PF.NOM
 'I and Qais/Mariam/the boys/the girls came.'

(2)
a. ǰiʔta ʔanta wa Qaisu/Mariamu
 came.**2SM** you.SM and Qais.3SM.NOM/Mariam.3SF.NOM
 'You (SM) and Qais/Mariam came.'

b. *ǰiʔtumaa ʔanta wa Qaisu/Mariamu
 came.**2DM** you.SM and Qais.3SM.NOM/Mariam.3SF.NOM
 'You (SM) and Qais/Mariam came.'

(3)
a. ǰiʔta ʔanta wa l-ʔawlaadu/l-banaatu
 came.**2SM** you.SM and the-boy.3PM.NOM/the-girl.3PF.NOM
 'You (SM) and the boys/the girls came.'

b. *ǰiʔtum ʔanta wa l-ʔawlaadu/l-banaatu
 came.**2PM** you.SM and the-boy.3PM.NOM/the-girl.3PF.NOM
 'You (SM) and the boys/the girls came.'

(4)
a. ǰaaʔa huwa wa Qaisu/Mariamu
 came.**3SM** he and Qais.3SM.NOM/Mariam.3SF.NOM
 'He and Qais/Mariam came.'

b. *ǰaaʔaa huwa wa Qaisu/Mariamu
 came.**3DM** he and Qais.3SM.NOM/Mariam.3SF.NOM
 'He and Qais/Mariam came.'

(5)

a. ǰaaʔa   huwa   wa l-ʔawlaadu/l-banaatu
 came.**3SM**   he   and the-boy.3PM.NOM/the-girl.3PF.NO
 'He and the boys/the girls came.'

b. *ǰaaʔuu   huwa   wa l-ʔawlaadu/l-banaatu
 came.**3PM**   he   and the-boy.3PM.NOM/the-girl.3PF.NOM
 'He and the boys/the girls came.'

<div align="center">

Paradigm F
VS in RJA
Conjoined subjects with a pronominal element: always FCA and full

</div>

(1)

a. ʔiǰeet ʔanaa wo Qais/Mariam/l-ʔawlaad/l-banaat
 came.**1S** I and Qais.3SM/Mariam.3SF/the-boy.3PM/the-girl.3PF
 'I and Qais/Mariam/the boys/the girls came.'

b. *ʔiǰeena ʔanaa wo Qais/Mariam/l-ʔawlaad/l-banaat
 came.**1P** I and Qais.3SM/Mariam.3SF/the-boy.3PM/the-girl.3PF
 'I and Qais/Mariam/the boys/the girls came.'

(2)

a. ʔiǰeet ʔinta wo Qais/Mariam/l-ʔawlaad/l-banaat
 came.**2SM** you.SM and Qais.3SM/Mariam.3SF/the-boy.3PM/the-girl.3PF
 'You (SM) and Qais/Mariam/the boys/the girls came.'

b. *ʔiǰeetuu ʔinta wo Qais/Mariam/l-ʔawlaad/l-banaat
 came.**2PM** you.SM and Qais.3SM/Mariam.3SF/the-boy.3PM/the-girl.3PF
 'You (SM) and Qais/Mariam/the boys/the girls came.'

(3)

a. ʔiǰa huwwa wo Qais/Mariam/l-ʔawlaad/l-banaat
 came.**3SM** he   and Qais.3SM/Mariam.3SF/the-boy.3PM/the-girl.3PF
 'He and Qais/Mariam/the boys/the girls came.'

b. *ʔiǰuu huwwa wo Qais/Mariam/l-ʔawlaad/l-banaat
 came.**3PM** he   and Qais.3SM/Mariam.3SF/the-boy.3PM/the-girl.3PF
 'He and Qais/Mariam/the boys/the girls came.'

For conjoined subjects involving a pronominal, I will assume that the postverbal pronominal starts as a null *pro* that is obligatorily spelled out to satisfy a parallelism condition on coordinate structures (Soltan 2006, 2007b). Postverbal pronominal subjects in a conjoined context differ from postverbal non-conjoined pronominal subjects of the type discussed in the previous chapter in that the overtness of the pronominal is not associated

with any emphasis/contrastive focus effects. According to Soltan (2006, 2007b), the
overtness of the first conjunct pronominal is enforced by an interface condition that requires
phonological parallelism of coordinate structures: both conjuncts must have phonetic content.
The following examples (Soltan 2006: 248) illustrate this point.

(61)
a. ǰiʔtu   ʔanaa   wa   Hindu
   came.1S   I   and   Hind.NOM
   'I and Hind came.'

b. ǰiʔna   hunna   wa   ʔabaaʔu-hunna
   came-3PF   they.F   and   fathers.NOM-their.F
   'They (F) and their fathers came.'

(62)
a. *ǰiʔtu   *pro*   wa   Hindu
   came.1S   and   Hind.NOM

b. *ǰiʔna   *pro*   wa   ʔabaaʔu-hunna
   came-3PF   and   fathers.NOM-their.F

As for why full agreement with the postverbal pronominal first conjunct does not
trigger a full copy to [Spec, TP], I attribute that to the fact that such copying will lead to a
violation of the Coordinate Structure Constraint. This is because the first conjunct will be
separated from the second conjunct by the verb in this case, a structure never attested in the
language.

The (b) examples in Paradigm E and F show that resolved agreement with the whole
conjoined subject in VS sentences yields ungrammaticality. I attribute the ungrammaticality
of resolved agreement in the context of postverbal conjoined subjects involving a pronominal
to the fact that full agreement will lead to a full copy of the whole conjoined subject to [Spec,
TP]. This means that the conjoined subject in this case cannot remain postverbally and the
acceptable pattern is to have the SV word order given in paradigms C and D.

The discussion in this section shows that conjoined subjects involving a pronominal
contrast with conjoined subjects consisting of two lexical DPs in VS word order in both SA

146

and RJA. While first conjunct agreement in the context of conjoined lexical DPs in SA exhibits partial agreement involving the gender feature only, first conjunct agreement is full (i.e. in person, number, and gender) when the conjoined subject involves a pronominal. As far as RJA is concerned, unlike in the context of conjoined lexical DPs, only first conjunct agreement is acceptable and the agreement pattern is full; resolved agreement is ungrammatical. The ban on full copying of the postverbal pronominal first conjunct in the two varieties, despite the full agreement with this first conjunct, is attributed to the Coordinate Structure Constraint which prohibits separating the members of the conjoined subject.

3.9 Summary: Agreement with complex subjects in SA and RJA

This chapter has presented an analysis of the complex agreement patterns manifested with conjoined subjects in the two Arabic varieties: SA and RJA. Besides the same full vs. partial agreement asymmetry attested in the two varieties in the two word orders with simple subjects, there is another puzzling asymmetry between the two varieties with postverbal conjoined subjects. While it is only first conjunct agreement that is allowed in SA in this context, it is possible to have both first conjunct agreement and resolved agreement in RJA. The choice between these alternatives in RJA, however, is subject to complex restrictions that do not follow from any previous analyses (e.g. Aoun et al. 1994; Soltan 2007a, b).

I proposed that the operation Multiple Agree and the Continuity condition (Nevins 2007, 2011) play a central role in my analysis of different agreement patterns exhibited with conjoined subjects. Such an analysis straightforwardly allows us to account for cases where resolved agreement is possible in some combinations in RJA (e.g. plural feminine plus singular masculine) but blocked in others (e.g. singular masculine plus plural feminine) as a result of interruption effects that render further goals inaccessible for Agree. Under my

analysis, resolved agreement is the result of the operation Multiple Agree (Nevins 2007, 2011) whereby the probe establishes a simultaneous Agree relationship with the two goals available in the coordinate structure. I proposed that agreement does not target the ConjP itself. Rather, it targets the individual DPs, unlike several other analyses that adopt probing of the ConjP (cf. Bhatt 2005; van Koppen 2005, 2008; Walkow 2013; Bhatt and Walkow 2013). As for case assignment, I assumed that in Arabic, case is assigned to individual DPs not to the ConjP. I argued that case assignment is best addressed in terms of percolation and then spreading. This forms a contrast to Walkow (2013), for example, who proposes that T agrees with the ConjP and assigns it case; after that, case can spread from the ConjP to all conjuncts.

Overall, adopting the operation Multiple Agree (Nevins 2007, 2011) rather than Simple Agree (Walkow 2013) for explaining complex subject agreement patterns contributes to our understanding of agreement with conjoined subjects in general. In addition, my analysis maintains the diagnosis of the full/partial agreement asymmetry by considering the conditioning of clitic doubling and word order rather than directly examining the agreement inflection as was proposed in Chapter 2. Besides capturing the complex cross-dialectal agreement variation, this analysis further supports the systematic correlation between subject agreement features and subject clitic features. In particular, clitics are generated as a side-effect of agreement, a connection that opens up an interesting theoretical possibility. This topic is taken up in the next chapter.

Chapter 4

The internal structure of the probe

This chapter advances an analysis of the internal structure of the probe in SA and RJA building on the common idea that agreement features can have internal hierarchical organization (see e.g. Noyer 1992 for the Universal Feature Hierarchy; Harley and Ritter 2002 for the morphological feature geometry; Harbour 2008 for the syntactic structure of φ-features; Campbell 2012 for the single complex bundle of φ-features). However, I take this idea a step further proposing that the internal structure of the probe in Arabic is best analyzed as parallel to that of a DP. I will show that recognizing a fully articulated DP structure for the probe, with its different potential manifestations, will help us to understand the range of cross-dialectal variation in subject-verb agreement patterns in different word orders in Arabic.

In addition, this chapter considers the established grammaticalization cline from subject pronoun to subject agreement marker in light of the cross-dialectal variation in agreement patterns in Arabic. The varying degrees of richness of the agreement features in SA and RJA are argued to be consistent with this cline, involving the progressive loss of agreement features over time. Examining the microparametric variation in closely related dialects such as SA and RJA is thus a productive way to understand the process of grammaticalization and gain additional insight into known diachronic pathways.

The layout of the chapter is as follows. Section 4.1 reviews existing theoretical proposals regarding the probing mechanisms and syntactic representation of φ-agreement to account for agreement patterns and word order variation in different languages. The spell-out of my proposed analysis, which forms a "compromise" proposal in between existing viewpoints, is put forward in section 4.2. I propose that φ-probes are all associated with a

single functional head T, but they have the same hierarchical structure of φ-features as in the DP (in the sense of Abney 1987 for DP; Ritter 1995 for NumP; Adger 2003 for *n*P; see also Bahloul and Harbert 1992; Shlonsky 1997; Carstens 2008, 2011). As a result, there is still a hierarchical ordering of φ-features despite the fact that they are all located on the same head T. This proposal will allow us to understand why the cross-dialectal variation in agreement patterns presented in this thesis is restricted in particular ways. Section 4.3 puts forward a syntactic representation of the probes in Arabic in light of the DP analysis advanced in the previous section. Section 4.4 highlights a set of implications of the proposed analysis centering on the grammaticalization and diachronic development of pronominals into agreement markers, and showing how my analysis provides support to this theoretical trend. Section 4.5 presents further supporting evidence for the proposed DP-like structure of the probe by showing that probes in the Algonquian languages display a range of variation that is constrained in the same way as those in Arabic. Section 4.6 summarizes the chapter.

4.1 Approaches to probing

This section surveys existing approaches to the external and internal structure of φ-features. I begin by highlighting the traditional view on probing in which the φ-probe acts as an atomic unit in the syntax (Chomsky 2000, 2001), and then move to a rather different approach in which φ-agreement can be separated into distinct syntactic probes for person, number, and sometimes gender. After introducing these manners of probing, I turn to the internal organization of agreement features. Building on the insights of all these analyses, I advance a proposal that can best account for the patterns in the Arabic agreement data.

According to the traditional view, agreement features are licensed in the syntax through the operation Agree (Chomsky 2000, 2001), in which a probe's uninterpretable features are valued by the matching interpretable features on the goal. In other words, the φ-

probe acts as an atomic unit in the syntax, with φ-agreement as a simple operation that satisfies the probe. However, a large body of research has proposed that the picture is more complicated than this. It has been argued that φ-agreement can be separated into distinct syntactic probes for person, number, and sometimes gender, which may be distributed in various ways (see e.g. Shlonsky 1989; Laka 1993; Taraldsen 1995; Sigurðsson 1996; Anagnostopoulou 2003; Béjar 2003; Béjar and Rezac 2003; Sigurðsson and Holmberg 2008; Preminger 2011, 2014).

Preminger (2011), for example, considers the "hierarchy of fragility" in Basque, which is a generalization that person agreement disruption is dependent on number agreement disruption, but not vice versa. Preminger accounts for this hierarchy by proposing that person agreement and number agreement are determined by separate φ-probes and that these separate probes are located on different heads in the syntax. Specifically, instead of having the functional head T bearing a bundled φ-probe as in the traditional account, Preminger posits a Person head probing for person features and a Number head probing for number features. This means that the two Agree operations are totally separate: person and number features probe in separate derivational steps in accordance with their hierarchical order in the clausal spine. For Preminger, then, hierarchical relations among probes, such as the hierarchy of fragility, result from the fact that each probe is located on a different level of the clause structure.

Not all accounts of complex probing assume such a strictly distributed view, however. Coon and Bale (2014) share Preminger's assumption that person and number probes are separate, but they show that these separate probes must nevertheless probe together in order to explain the agreement system in the Eastern Algonquian language Mi'gmaq. This proposal is required by the interaction between person and number features in the Mi'gmaq system, which favors arguments that bear first and second person plural features over all other

arguments in competition for a certain agreement slot. Coon and Bale argue that the preference of this agreement slot for a particular combination of person and number features indicates that the probes for person and number cannot be totally separate. Instead, they propose that the two distinct probes fuse into a single head. In particular, Coon and Bale posit that the person probe is located in an intermediate functional projection above the subject, which they call FP. The number probe in the NumP above FP gets fused with the person probe on the head F, creating a complex probe which searches for both person and number features simultaneously.

Under the analysis that I have advanced in the preceding chapters, the manner of probing in Arabic is somewhere in between that of Basque and Mi'gmaq, maintaining parts of the proposals of both Coon and Bale (2014) and Preminger (2011). Specifically, I assume that there are three probes (for person, number, and gender) associated with the same head T in Arabic, along the lines of Coon and Bale (2014), but that they probe in a sequential order, along the lines of Preminger (2011). The details and implications of this analysis are discussed in section 4.2 below.

In addition to the manner of probing, another related theme in the literature is the internal organization of agreement features (see e.g. Noyer 1992 for the Universal Feature Hierarchy; Harley and Ritter 2002 for the morphological feature geometry; Harbour 2008 for the syntactic structure of φ-features; Campbell 2012 for the single complex bundle of φ-features). In the following subsections, I present the major ideas of three existing analyses that address this issue: Noyer 1992 (§4.1.1), Harbour 2008 (§4.1.2), and Campbell 2012 (§4.1.3). I then show how the insights of these analyses can lead to a compelling proposal for understanding the patterns in the Arabic agreement data at a deeper level.

4.1.1 Noyer (1992)

Noyer (1992) proposes the Universal Feature Hierarchy in (1).

(1)　Universal hierarchy of morphosyntactic features
　　　person features > number features > gender features

According to this hierarchy, person features are superior to number features, and number features are superior to gender/class features. This hierarchy constrains the application of morphological rules that involve these features. For example, a rule that prohibits a specific combination of person and number features must be specified to delete number rather than person because the former is lower on the feature hierarchy. However, Noyer's hierarchy is a stipulation in the sense that there is no clear justification for why the particular order of features in the hierarchy should be person > number > gender. In addition, the hierarchy treats φ-features as an unstructured bundle and does not posit any internal organization of features. Rather, the hierarchy is an external constraint on how the grammar may interact with those features.

4.1.2 Harbour (2008)

Harbour (2008) proposes an internal syntactic structure of φ-features in order to account for discontinuous agreement in a number of languages, the most prominent of which are Yimas and Walmatjari. Harbour observes that in such languages, the leftmost agreement morpheme marks person and the rightmost marks number. Since discontinuous agreement obeys a "person left, number right" linear sequence, Harbour generalizes that person dominates number hierarchically. He proposes a syntactic account for this hierarchy effect, taking φ-sets as syntactic categories with internal syntactic structure. Under Harbour's proposal, the following structure is assigned to φ-features, in which φ is simply a category-like label (but not an actual part of the structure) and person and number are the real syntactic positions.

(2) The syntactic structure of φ-features (Harbour 2008: 187)

φ
|
π
|
ω
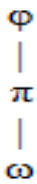
Harbour considers φ-structures to be a functional spine in which person dominates number. He justifies the functional-spine analysis on both syntactic and semantic grounds. Syntactically, he suggests that the person–number relationship is similar to the functional hierarchy C–T–V. Accordingly, the following statements hold true under his proposal: (i) just as C dominates T, person dominates number; (ii) since it is impossible to have C without T, it is impossible to have person without number; and (iii) it is possible to have number without person just as it is possible for T to project without C. Semantically, he notes that person is more abstract than number. Person is associated with presupposition and the assignment of variables to individuals; person changes depending on the discourse situation (e.g. who is the speaker and who is the addressee). By contrast, number is more concrete, as it is an objective property of objects in the world. Harbour takes the greater abstractness of person to explain why it dominates number, given the general tendency for semantic abstractness to increase as we go higher in the structure.

4.1.3 Campbell (2012)

Campbell (2012) argues that φ-features are bundled into sets located on a single syntactic node and that these sets have a rich internal structure, combining two ideas: (i) features have a hierarchical structure (along the lines of Harbour 2008); and (ii) features can be decomposed in the sense that they have a fine-grained structure with entailment relations among the individual sub-features (along the lines of Béjar 2003). Campbell (2012) proposes that, in the internal structure of φ-sets, person dominates number and number dominates

154

gender. Simultaneously, the person, number, and gender features each have their own finer-grained structure of sub-features based on feature entailments. The following structure illustrates Campbell's (2012: 90) hierarchical φ-set representation, in which a feature higher in the structure dominates a feature lower in the structure.

(3) φ-set structure: Relations among feature categories

```
P
|
N
|
G
```
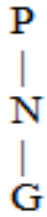
The vertical dimension in (3) represents the between-feature structure; there is also a horizontal dimension which represents the within-feature structure, as illustrated in (4) for first person dual feminine.

(4) Feature structure for first person dual feminine

```
P — PART — SPKR
|
N — NSG — DU
|
G — ANIM — F
```
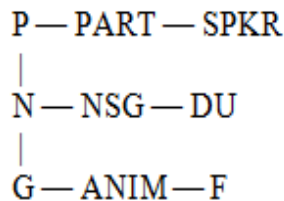
Under this model, agreement features are represented as a single complex feature: the structure in (4) is a single constituent. It is not clear how this representation can account for the different agreement patterns that the preceding chapters have shown to be manifested in Arabic. If agreement features were a single constituent with the above internal structure, the lack of person in agreement in the VS order in RJA and the lack of both person and number in agreement in the VS order in SA would remain unexplained, because, under Campbell's model, it is impossible to have number without having person as the number feature is a dependent of the overall person feature structure. The same applies for the gender feature,

which is also a dependent of the overall person feature structure. Although Campbell's model correctly captures the hierarchical relations among φ-features, the "all-or-nothing" feature structure does not make adequate allowance for individual φ-features to pattern separately.

4.1.4 Summary: Approaches to probing and feature structure

This section has provided an overview of existing approaches to the external and internal structure of φ-features. I will assume that the different agreement patterns in Arabic dialects can be derived from the hierarchical internal structure of φ-sets, along the lines of the above analyses. However, I will take this idea one step further by proposing a principled source for this hierarchical internal structure. I will propose that, rather than being a stipulated hierarchy or geometry, the organization comes from something that is already very well established, namely, the structure of the DP. Specifically, I propose that a φ-probe is a type of DP structure and thus automatically has the same hierarchical structure of φ-features as in the DP: Person-Number-Gender. I turn to this proposal next.
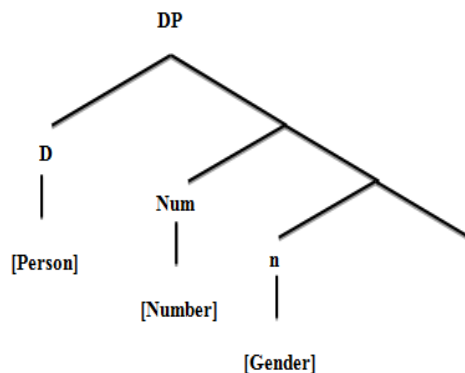
4.2 My proposal

In this section, I explain my proposal in more depth and motivate the internal structure of the probe as a "defective DP" in Arabic. Under this proposal, it is the probe's internal hierarchical structure of φ-features which is responsible for the range of different probing combinations attested in SA and RJA. My proposal can be regarded as a combination of Coon and Bale's (2014) fused probe and Preminger's (2011) probe ordering effect as far as the manner of probing is concerned. As for the internal structure of the agreement features, my proposal is inspired by the analyses of Harbour (2008) and Campbell (2012) but improves on these analyses in that it connects the hierarchy of features directly to the well-established structure of the DP, so no independent principles of structural organization are required.

In subsection 4.2.1, I propose that the person, number, and gender probes in SA and RJA are organized in a DP-like structure. In subsection 4.2.2, I propose that the ordering of probing corresponds to the order of projections in the DP: person probes before number and number probes before gender.

4.2.1 Arrangement of probes

In this subsection, I put forward a proposal for the hierarchical structure of probes in Arabic in which φ-probes are organized in a DP-NumP-*n*P structure. Although I build on Harbour's (2008) hierarchical internal structure of φ-features which he justifies by analogy with the structure of the clause, I connect his proposal more directly to better-established elements of the theory (i.e. the structure of the DP). Accordingly, I consider that the probe has the same hierarchical structure of φ-features as in the DP: Person-Number-Gender, as illustrated in (5) below (Abney 1987 for DP; Ritter 1995 for NumP; Adger 2003 for *n*P; see also Bahloul and Harbert 1992; Shlonsky 1997; Carstens 2008, 2011).

(5) Hierarchical organization of φ-features in the DP

```
              DP
             /  \
            D    \
            |     Num
        [Person]  |  \
              [Number] n
                     |
                  [Gender]
```

The [Gender] feature is located on little *n* (Lecarme 2002; Ferrari 2005; Kihm 2005; Lowenstamm 2008; Acquaviva 2009; Kramer 2009). The [Person] and [Number] features are associated with higher level functional heads: the [Person] feature with the functional category D and the [Number] feature with the functional category Num (Danon 2011).

My proposal connects the hierarchy of probes directly to the well-established structure of the DP, thus making the rationale for the hierarchy more explicit and concrete. My analysis remains compatible with the correlation that Harbour notes between higher levels of structure and more abstract semantics, as this correlation holds in the DP as well as the clause. Under my proposal, however, the semantic facts follow directly from the structure of the probe being shared with that of DP, as the semantics of DP are already independently established. Since the probe is DP-like, the order of person-number-gender and the associated semantics are trivially warranted.

Any possible complex probe, I propose, must be a constituent in the structure in (5). That is, gender can probe without number and person, because nP on its own is a constituent. But crucially, there is no probing for number without probing for gender (in a language in which gender is active in verb inflection) because the NumP constituent includes nP, and there is no probing for person without probing for number because the DP constituent includes NumP.

Recall from the previous chapters that in SV sentences, T probes for a complete set of φ-features: person, number, and gender. Under my proposal, the presence of person, number, and gender probes indicates that the probe is a complete DP-type structure. In VS sentences, on the other hand, T probes only for gender in SA and for both number and gender features in RJA. Under my proposal, the absence of person in both varieties corresponds to the absence of a DP layer in the probe and the absence of number in SA corresponds to the absence of a NumP layer.

4.2.2 Order of probing

Having established the hierarchical structure of probes, I move now to the order in which probing takes place. I propose that the three φ-probes do not probe all at once, but rather in a

sequential order following the hierarchical DP structure: first person, then number, then gender. In this way, I retain the possibility of probe ordering effects in the sense of Preminger (2011) without needing to posit separate agreement projections in the clausal spine.

Evidence for sequential probing in Arabic is clearest in the context of complex subjects in RJA, where the outcome of gender agreement is dependent on the outcome of number agreement. Recall from Chapter 3 that both first conjunct agreement and resolved agreement are possible with postverbal complex subjects in RJA (§3.4; §3.5). The example in (6a) shows that the verb inflects for plural feminine features when there is a plural feminine first conjunct followed by a plural masculine second conjunct, which indicates that we have first conjunct agreement. Similarly, the sentence in (6b), in which there is a combination of a singular followed by a plural, the verb agrees with the singular first conjunct in both number and gender. Notice that there is a singular feminine first conjunct followed by a plural masculine second conjunct, and the verb has a singular feminine form.

(6)
a. Plural + plural = plural (FCA)

| ʔiǰin | l-banaat | wo | l-wlaad | (FCA: 3PF + 3PM = 3PF) |
| came.**3PF** | the-girl.3PF | and | the-boy.3PM | |

'The girls and boys came.'

b. Singular + plural = singular (FCA)

| ʔiǰat | Mariam | wo | l-wlaad | (FCA: 3SF + 3PM = 3SF) |
| came.**3SF** | Mariam.3SF | and | the-boy.3PM | |

'Mariam and the boys came.'

Recall also that, besides the first conjunct agreement pattern shown above, it is possible to have agreement with both conjuncts as one plural unit inducing plural features on the verb (§3.5). In the sentence in (7a), for example, the subject consists of a plural feminine followed by a plural masculine and the verb manifests plural masculine features as a result of resolved agreement. (Since the gender of the two conjuncts is not the same, the default

masculine gender feature is the only possible outcome of resolved agreement.) However, as discussed in Chapter 3, the resolved agreement pattern breaks down when the subject consists of a singular followed by a plural. For example, when the conjoined subject is singular feminine plus plural masculine as in (7b), resolved agreement is ruled out, and only singular feminine agreement with the first conjunct is possible (cf. 6b above).

(7)
a. Plural + plural = plural (RA)

| ʔiǰuu | l-banaat | wo | l-wlaad | (RA: 3PF + 3PM = 3PM) |
| came.**3PM** | the-girl.3PF | and | the-boy.3PM | |

'The girls and boys came.'

b. Singular + plural = *plural (RA)

| *ʔiǰuu | Mariam | wo | l-wlaad | (*RA: 3SF + 3PM =*3PM) |
| came.**3SF**/***3PM** | Mariam.3SF | and | the-boy.3PM | |

'Mariam and the boys came.'

The patterning of number and gender agreement in (6–7) is best understood if we assume that number probes before gender. The full acceptability of resolved agreement in (7a) is due to the fact that the number probe agrees with the number features of both DPs, which then makes it possible for the gender probe to agree with both DPs as well (as evident by the inflection for the default masculine gender on the verb). In (7b), in contrast, the number probe is unable to agree with both DPs due to the Continuity condition discussed in section 3.5; number agreement is restricted to the first conjunct only. Importantly, this restriction carries over to gender agreement: resolved agreement for gender is also impossible in (7b), even though the order of gender features—feminine followed by masculine—is the same as in (7a), where resolved gender agreement is possible. The only relevant difference between (7a) and (7b) is that resolved number agreement fails in (7b), and this failure has the consequence of making resolved gender agreement impossible as well. The dependency of gender agreement upon number agreement is crucial evidence that probing for number takes place before probing for gender.

Summarizing, in this section I have proposed that all probes in Arabic are located on the same head T, their arrangement follows a DP-like structure, and probing takes place in a sequential manner in accordance with this DP-like structure. My proposal that the probe has a DP-like structure raises a further question: what does the internal structure of the functional head T look like if it includes a DP-like set of hierarchically organized probes? I take up this question in the next section.

4.3 Subject agreement as an uninterpretable DP adjoined to T

We can gain insight into the internal structure of the functional head T if we compare the syntactic representation of subject pronouns and attached clitic pronouns, together with Chomsky's recent work on feature inheritance (2004, 2008). To illustrate the difference between a subject pronoun and an attached clitic pronoun, I draw on data from northern Italian dialects (cited in Poletto 1995). While subject DPs appear to the left of the preverbal negative marker as shown in (8), subject clitics appear to its right as in (9). Therefore, Poletto (1995) argues that subject clitics cannot occupy the same position as subject DPs.

(8) To   mama   no   vien
    Your   mother   not   comes
    'Your mother does not come.'

(9) No   la   vien
   Not   she   comes
    'She does not come.'

Subject pronouns, similar to other nominal subjects, are generated as the specifier of VP and then undergo A-movement to [Spec, TP] as shown in the representation given in (10) (see Koopman and Sportiche 1991 for details on the VP-internal subject hypothesis). An attached subject clitic, according to Poletto (1995), originates in the VP like a subject pronoun. However, unlike a subject pronoun, it moves from its base position and adjoins directly to the agreement head (which, in my analysis, is the functional head T), as shown in

(11). This is also consistent with Kayne's (1991: 647) analysis that Romance clitics "invariably left-adjoin to a functional head". It is worth indicating here that the analysis of clitics is controversial and there are many approaches in the literature (see e.g. Sportiche 1996; Anagnostopoulou 2006, 2012, 2014). Since my major point is only that subject clitics have a different relationship with T than full-fledged subject pronouns do, I highlight Kayne's (1991) and Poletto's (1995) analyses due to their simplicity.

(10) Subject pronoun moves to [Spec, TP]
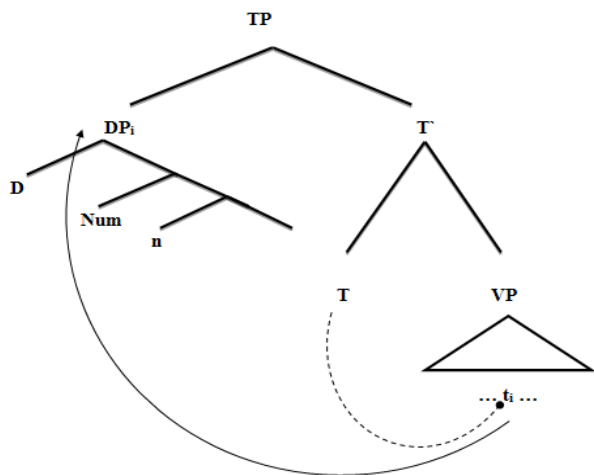
(11) Attached subject clitic adjoins to T (Kayne 1991; Poletto 1995)
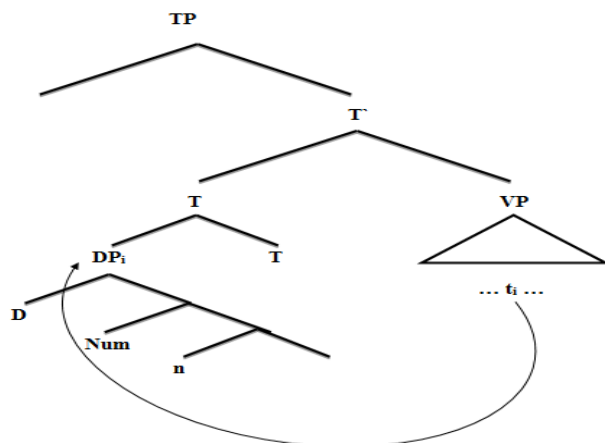
I propose that the structure of a "pronoun-like" set of φ-probes (see section 4.4.1 ahead) on T is quite similar to the attached clitic structure in (11). Chomsky (2004, 2008) has proposed that the functional head T does not bear φ-features inherently, but rather inherits φ-

features from C. It is not clear exactly what kind of operation "inheritance" is: how do features travel from C to T? I propose that inheritance is in fact a very familiar operation: it involves adjunction, in which a pronominal feature structure that is uninterpretable is adjoined to T. To put it differently, inheritance involves adjunction of an uninterpretable constituent made up of φ-features to T. The functional head T is thus not lexically specified as including a DP structure (or a probe). Rather, the hierarchically organized φ-probes on T are added in the syntactic derivation due to inheritance from C and thus appear as an adjoined DP as shown in (12).

(12) Subject agreement as an uninterpretable DP adjoined to T
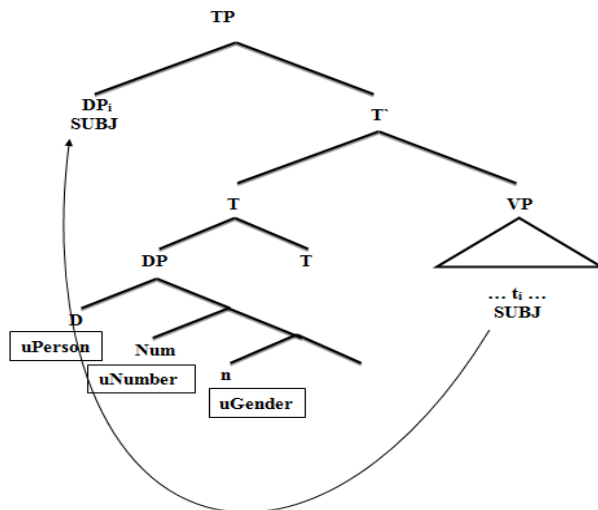
Summarizing, this section has presented an analysis of the structure of the functional head T in light of the proposal that it includes a DP-like set of hierarchically organized probes. The basis of this analysis is the analogy drawn between attached subject clitics and probes. This analysis is merited by the fact that it sheds light on the similarities and differences between subject pronouns and attached subject clitics on one hand, and attached subject clitics and subject agreement on the other. Subject pronouns and attached subject clitics are similar in the sense that both consist of interpretable φ-features and originate in a thematic position. However, they are different in that subject pronouns stand free by

themselves in the structure as independent phrases in [Spec, TP], whereas attached subject clitics are adjoined to T. As for attached subject clitics and subject agreement, the similarity lies in the fact that both are adjoined to T, and the differences are as follows: (i) subject clitics consist of interpretable φ-features whereas a subject agreement probe is a DP with uninterpretable φ-features; and (ii) while attached subject clitics originate in a thematic position, subject agreement is inherited from C. In the following section, I explore some implications of this proposal.

4.4 Implications of my analysis

This section highlights a set of implications of the above analysis. In subsection 4.4.1, I show how the structure of probes is similar to the structure of pronouns. Subsection 4.4.2 discusses the diachronic evolution of agreement markers from pronouns in light of the proposed analysis, building on historical sources of agreement inflections in Arabic. Subsection 4.4.3 discusses a further implication in connection with grammaticalization and semantic bleaching of subject pronouns. Subsection 4.4.4 shows how my analysis strikes a middle ground between two approaches to the nature of rich φ-agreement: Jelinek's (1984) Pronominal Argument Hypothesis and Chomsky's Probe-Goal model.

4.4.1 Probes are uninterpretable pronouns

An implication of my analysis is that probes are essentially uninterpretable pronouns. To illustrate this, let us consider the internal structure of pronouns. Déchaine and Wiltschko (2002) argue that pronouns vary in the richness of their structure. According to them, a pronoun can be either a simple NP, a ϕP (containing NP), or a DP (containing ϕP and NP), as shown in (13).

(13) Possible pronoun structures (Déchaine and Wiltschko 2002: 410)
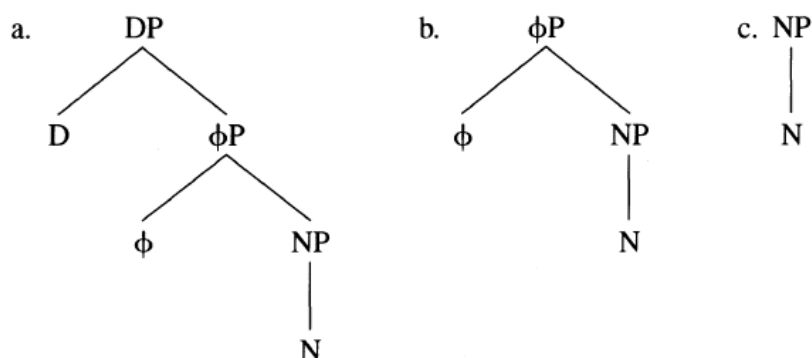
Under my analysis, the structure of probes varies in exactly the same way: a probe can be either an *n*P, a NumP (containing *n*P), or a DP (containing NumP and *n*P). These different probes are found in different word orders across Arabic dialects. For example, the SV order has a DP probe in both SA and RJA, whereas the VS order has a NumP probe in RJA and an *n*P probe in SA. This difference is diagnosed on the surface by the difference in agreement patterns. Probes, like pronouns, can vary in the extent to which they include higher functional projections.

Since the probe has the same hierarchical structure of φ-features found in a full-fledged DP, it is essentially a "defective DP" associated with the functional head T. In other words, the structure of the probe is essentially pronominal, but unlike a true pronoun, its features are uninterpretable and must be valued by agreement. This proposal is useful in that it establishes a connection to the extensive literature on pronouns (e.g. Déchaine and Wiltschko 2002), thus allowing proposals regarding the structure of pronouns to help us better understand the patterning of agreement.

4.4.2 Agreement markers are diachronically pronominal

In this subsection, I turn to another connection between pronouns and probes, but from a diachronic perspective. It is widely believed in the literature that agreement morphology diachronically derives from personal pronouns (Hopper and Traugott 2003: 131), hence it is

natural for agreement markers to maintain all of the contrasts expressed by the personal pronouns of the language. Much work has argued that from a diachronic perspective, grammatical agreement systems develop historically from the incorporation of pronominal arguments into the predicates that select those arguments (Givón 1976; Li and Thompson 1976; Wald 1979; Bresnan and Mchombo 1987; Wechsler and Zlatić 2003; Coppock and Wechsler 2010; Wechsler 2011). That agreement inflection on Arabic verbs, at least in the SV word order, derives historically from incorporated pronouns also has its roots in the literature on Arabic syntax (e.g. Fassi-Fehri 1993). My "pronominal" analysis of probes is congruent with the fact that the diachronic source of agreement (and thus of probes) is pronominal.

A principled explanation of the diachronic trajectory from pronoun to agreement is identified by Bresnan and Mchombo (1987), who propose that grammatical agreement features match those of pronominal anaphora: just as anaphoric agreement has person, number and gender as its features, so does grammatical agreement between the verb and its argument.

Bresnan and Mchombo (1987) use the term "anaphoric agreement" to refer to structures in which the verbal affix is an incorporated pronominal argument of the verb and the coreferential NP has a non-argument function, either as an adjunct or as a topic of the clause. Since the incorporated pronoun is a referential argument itself, an external referential NP cannot also serve as that argument. Therefore, such an external NP can only be related to that argument position of the verb by anaphora with the agreeing incorporated pronoun. This anaphoric agreement contrasts with grammatical agreement, in which an NP instantiates an argument relation to the verb and the verbal affix expresses redundantly the person, number, and gender class of the NP.

Bresnan and Mchombo (1987: 752) state that "discourse-anaphoric relations, and even deixis, universally show agreement in the referentially classificatory categories of person, number, and gender class; these are also the categories of grammatical agreement between a verb and its arguments, reflecting the historical derivation of many agreement systems from pronominal systems". In other words, person, number, and gender features are inherited by agreement morphemes from their pronominal sources (see also Lehmann 1988; Wechsler 2011), which explains the fact that the features of grammatical agreement are pronominal in nature.

Grammatical agreement markers, however, differ from incorporated pronouns in that they lack pronominal reference. Although I argue that grammatical agreement derives from the loss of pronominal reference, it still maintains the grammatical structure of the pronoun (Bresnan and Mchombo 1987). Recall from Chapters 2 and 3 that in the SV word order in both SA and RJA the verb agrees with the subject in all φ-features: person, number, and gender. The full agreement in such word order looks the most like anaphoric agreement of all the agreement in Arabic. This is because the agreement inflection in this word order derives from an incorporated pronoun (cf. Fassi-Fehri 1993), so it is where we can most obviously observe the pronominal/anaphoric origin of agreement in Arabic.

When an incorporated pronoun loses its pronominal reference, the co-occurrence of a preverbal subject NP is natural. However, the remaining grammatical pronominal features of person, number, and gender must match those borne by the subject NP. In brief, the incorporated pronominal in Arabic has undergone grammaticization into an agreement marker.

According to Bresnan and Mchombo (1987), languages that involve pronoun incorporation must display pro-drop (see also Perlmutter 1971). Arabic observes this property as well. Consider the following example.

(14)
a. *hum   jaaʔ**uu**
   they.M   came.**3PM**
   'They came.'⁹

b. jaaʔ**uu**
   came.**3PM**
   'They came.'

There is also a correspondence between the pronominal system and the agreement affixes in historical and comparative studies of Semitic languages. For example, it is widely believed that the agreement system in Arabic has evolved from a pronominal source: the pronominal element has been incorporated into the verb and then developed into an agreement suffix (Gray 1934: 65; Fleisch 1979: 5–27, cited in Benmamoun 2000). Evidence in support of this reasoning comes from the fact that the agreement suffix on the verb in Arabic is almost identical to the independent form of the corresponding pronoun, with some minor phonetic/historical adjustments. Benmamoun (2000), for example, indicates that it is widely accepted within comparative historical Semitic that the third person suffix evolved from demonstratives.[10] The following paradigm, which is retrieved from Benmamoun (2000: 59) illustrates this observation.[11]

---

[9] This example can be accepted only under contrastive reading (see Soltan 2007b).

[10] According to Benmamoun (2000), the first person singular suffix *tu* in Arabic, similar to some other Semitic languages, has probably emerged from the old Semitic Akkadian *ku*.

[11] I have added glosses and translations for the examples. In addition, I clarified what features the pronouns encode under the column "Features of pronouns".

Table 4: Standard Arabic pronouns and agreement affixes

Features of pronouns	Subject pronouns	Agreement affix	Example
1st singular	ʔanaa	-tu	katabtu wrote.**1S** 'I wrote.'
2nd singular masculine	ʔanta	-ta	katabta wrote.**2SM** 'You (SM) wrote.'
2nd singular feminine	ʔanti	-ti	katabti wrote.**2SF** 'You (SF) wrote.'
3rd singular masculine	huwa	-a	kataba wrote.**3SM** 'He wrote.'
3rd singular feminine	hiya	-at	katabat wrote.**3SF** 'She wrote.'
2nd dual	ʔantumaa	-tumaa	katabtumaa wrote.**2D** 'You (D) wrote.'
3rd dual masculine	humaa	-aa	katabaa wrote.**3DM** 'They (DM) wrote.'
3rd dual feminine	humaa	-ataa	katabataa wrote.**3DF** 'They (DF) wrote.'
1st plural	naħnu	-naa	katabnaa wrote.**1P** 'We wrote.'
2nd plural masculine	ʔantum	-tum	katabtum wrote.**2PM** 'You (PM) wrote.'
2nd plural feminine	ʔantuna	-tunna	katabtunna wrote.**2PF** 'You (PF) wrote.'
3rd plural masculine	hum	-uu	katabuu wrote.**3PM** 'They (M) wrote.'
3rd plural feminine	hunna	-na	katabna wrote.**3PF** 'They (F) wrote.'

It is worth indicating that the incorporated pronominal analysis is in accordance with the pragmatic characteristics of SV sentences in Arabic. Many scholars argue that SV sentences instantiate Topic-Comment structures whereby the preverbal subject is a topic and

the real subject is a pronominal element appearing attached onto the verb and is concurrently referential with the preverbal topic (Fassi-Fehri 1993; Plunkett 1993; Soltan 2006, 2007a, b). Under this analysis, the incorporated pronoun has a referential function. However, recall from Chapter 2 that such an analysis of SV sentences has been criticized on several grounds (see §2.3.4). Accordingly, many Arab generative syntacticians propose that preverbal DPs are real subjects and reject the topic analysis (see e.g. Mohammad 1989, 1990; Benmamoun 1992, 2000; Aoun et al. 1994; Ouhalla 1994; Aoun and Benmamoun 1999; Harbert and Bahloul 2002; Aoun et al. 2010). My analysis still maintains that the preverbal DP is a real subject and, simultaneously, maintains the pronominal status of agreement markers through my proposal that the agreement probe has a pronominal structure. However, I assume that the incorporated pronominal suffix has lost its referentiality and become an agreement marker and that the topic, consequently, has become a grammatical subject.

The loss of semantic content of the incorporated pronoun, which is the historical source of agreement, provides diachronic support for my analysis of agreement as an uninterpretable pronominal structure (i.e. a "defective DP"). With regard to Arabic in particular, the pronominal origin of agreement explains why the full set of φ-features is involved in agreement in the SV word order. However, it remains to explain why agreement does not involve a full set of φ-features in the VS word order in Arabic. Recall that in the VS order, the probe in RJA is [uNumber, uGender] (but not [uPerson]) and the probe in SA is only [uGender]. What is the source of this variation?

To account for the variation in probes, I draw upon Bresnan and Mchombo's (1987) proposal that the transition from pronoun to agreement marker is a consequence of the loss of semantic content on an affix, as well as Coppock and Wechsler's (2010) proposal that the historical path from pronoun to agreement marker can involve the loss of person and number

features.[12] I suggest that in the VS word order in RJA and SA, the gradual grammaticalization from independent pronoun to agreement marker has progressed to a stage in which the pronominal feature structure has undergone reduction, leaving it without a DP layer and thus without a [uPerson] probe (and additionally without a NumP layer and a [uNumber] probe in SA). The overall picture is that different degrees of reduction in the structure of the probe across Arabic varieties have led to variation in the patterning of subject-verb agreement.

This account raises another question, however. In the VS word order, the probe in SA is just [uGender] while the probe in RJA is [uNumber, uGender]. This implies that the reduction of the probe has progressed further in SA than in RJA—but how can this be the case, given that SA is more conservative? A more nuanced consideration of the diachronic picture provides a plausible answer to this question. I suggest that at a certain point long ago, the parent of SA lost both the person and number features from the probe in VS sentences due to feature loss in the sense of Coppock and Wechsler (2010). SA, as a conservative variety, preserves this older state of affairs in the probes on T. At a later stage, Arabic dialects such as RJA have innovatively begun to reduce the asymmetry between SV and VS orders through an analogical enrichment of the probe. Specifically, the [uNumber] feature has been added to the VS probe by analogy with the SV probe which has a full set of φ-features. It can thus be said that RJA has taken a step towards undoing the earlier loss of features, although it has not yet completed the analogical enrichment by restoring the [uPerson] feature as well.

This analogical enrichment of the probe in RJA remains consistent with my analysis, as the intermediate stage of adding only number is possible because a NumP is a possible constituent in the proposed DP-like structure of the probe. Given this apparent diachronic trajectory, one could imagine that some future dialect might take the next step and add

---

[12] Coppock & Wechsler (2010) propose that person and number features on object agreement affixes which derived historically from bound pronouns in the Uralic languages, in particular Ostyak and Hungarian, were lost independently at different stages.

[uPerson] as well, thus making the two probes identical and consequently losing the distinction between SV and VS orders.

To summarize, following Coppock and Wechsler (2010), I have proposed that agreement markers in Arabic derive historically from a pronominal source, and that feature loss is a mechanism of historical change that is active in the history of subject-verb agreement in Arabic.

4.4.3 Grammaticalization and semantic bleaching of subject pronouns

A further benefit of my analysis involves the grammaticalization and semantic bleaching of subject pronouns. There is a diachronic trajectory in which freestanding subject pronouns become attached subject clitics, which in turn become subject agreement markers (Bresnan and Mchombo 1987; Coppock and Wechsler 2010). Under my analysis, the structural changes involved in this diachronic trajectory are schematized in Table 5 below.

Table 5: Structural changes in the diachronic trajectory

	Subject Pronoun	**Subject Clitic**	**Subject Agreement**
Syntactic Location	freestanding	adjoined to T	adjoined to T
Interpretability	interpretable	interpretable	uninterpretable
Syntactic Origin	A-position	A-position	Inherited from C

The transition from subject pronoun to attached subject clitic is simple: it involves phonetic reduction from a freestanding phrase to a phonologically dependent clitic adjoined to the functional head T (i.e. its host). Under my proposal that agreement is in fact an uninterpretable pronominal structure adjoined to T, the transition from attached subject clitic to subject agreement is equally simple: it involves nothing more than semantic bleaching (loss of interpretable features) and loss of association with the underlying thematic position.

172

Grammaticalization refers to the diachronic process in which functional elements emerge from content elements (Meillet 1912, cited in Cournane 2010; Hopper and Traugott 2003). In this process, morphemes become more syntactically dependent, less lexical, more functional, and phonologically reduced. The traditional cline of grammaticalization of pronouns is given in (15) (see e.g. Hopper and Traugott 2003; Cournane 2010).

(15) Pronoun > Weak pronoun > Clitic > Agreement > Ø

Cournane (2010) discusses this cline with respect to the types of subjects that can be doubled and the properties of the subject marker in a variety of Romance languages. She argues that the subject marker appears in more environments when it becomes less formally restricted. The farther the subject marker has progressed along the cline from subject clitic pronoun to agreement marker in a particular dialect or language, the more environments in which subject doubling will appear. Cournane (2010) tracks the progression of subject doubling through these environments in detail.

My analysis can be considered complementary to Cournane's (2010) work in that I identify an additional dimension that is relevant to the grammaticalization cline from subject clitic pronoun to subject agreement marker. The diachronic progression is dependent not only upon the number of environments in which clitic doubling occurs, but also upon the internal featural structure of the probe. There is a diachronic trajectory in which features can be lost from the probe in an order that complies with the hierarchical organization of φ-features in the DP. This analysis refines the trajectory in (15) by subdividing the "agreement" stage, allowing for progressive loss of levels of structure in the probe even after it has been grammaticalilzed as a full-fledged agreement marker. A DP-like agreement probe becomes a NumP when the person feature is lost and an nP when both the person and number features are lost.

4.4.4 Agreement and the Pronominal Argument Hypothesis

From Jelinek's (1984) account of the nonconfigurational aspects of the clause structure in a number of languages (in particular Warlpiri) comes a proposal that has since come to be known as the Pronominal Argument Hypothesis (PAH). Among the properties of nonconfigurational languages that the PAH is intended to account for are the following (see Hale 1983; Jelinek 1984; LeSourd 2006): (i) free word order; (ii) null anaphora in the sense that overt NPs are typically optional under appropriate discourse conditions; and (iii) syntactically discontinuous expressions, including in particular discontinuous NPs. In this subsection, I present a brief summary of the PAH showing that my proposal, though different, still maintains the central insight of this theory, i.e. that agreement markers are somehow pronominal.

According to the PAH, the person-number markers internal to a verb in a morphologically rich head-marking language are not agreement. Rather, they are themselves the direct arguments of the verb. More precisely, the major assumption of the PAH is that morphologically expressed affixes which index the subjects and objects of verbs or auxiliaries in nonconfigurational languages insatiate pronouns rather than agreement markers. These pronominal affixes are thus taken to either function as syntactic arguments or identify null pronouns that fulfill this role. Under this hypothesis, overt NPs in such languages are taken to be optional adjuncts because the argument structure of the clause is already complete without them. A major consequence of this characterization is the lack of any syntactic restriction on the relative order of NPs in a language with pronominal affixes, either with respect to each other or with respect to the verb of a clause. This is attributed to the fact that adjuncts are normally added flexibly either to the beginning or to the end of a clause.

This hypothesis is often adopted for the analysis of Algonquian languages (e.g. Russell and Reinholtz 1995 on Swampy Cree; Junker 2004 on East Cree). The rich agreement

inflection and the optionality of overt nominals make the analysis of Algonquian languages along the lines of Jelinek's (1984) PAH reasonable. It is also assumed in the analysis of complex verbs of the sort found in polysynthetic languages of the Navajo type (see Hale 2003). The application of the PAH is illustrated by the following Navajo examples taken from Hale (2003: 13). In (16) below, the prefixes *ni-* and *sh-* are, respectively, the object and subject of the clause. Example (17) shows that if an independent pronoun appears, it will be a contrastive adjunct rather than an argument; it is the prefix, not the independent pronoun, that represents the object argument of the verb.

(16) *nishhozh*

```
ni-    sh-    hozh
2s-    1s-    tickle
'I tickle you.'
```

```
(17) Ni       ni-sh-hozh
     2s        2s-1s-tickle
     'I tickle YOU.'
```

The adequacy of the PAH, however, has been called into question. Austin and Bresnan (1996), for example, note that the argument-indexing clitics that Jelinek takes to be syntactic arguments in Warlpiri do not exist in all Australian languages that exhibit similar nonconfigurational characteristics. Rather, they are an areal feature specific to the region in which Warlpiri is located. In other words, they argue that nonconfigurational characteristics are not dependent upon the presence of such clitics (or other potential pronominal arguments) in a given language.

Similarly, LeSourd (2006) has shown that the PAH is problematic on several grounds. Building on data from the Eastern Algonquian language Maliseet-Passamaquoddy, he concludes that Maliseet-Passamaquoddy "is not appropriately analyzed as a pronominal argument language" (p. 512). For example, he shows that the ordering restrictions on the components of discontinuous constituents in Maliseet-Passamaquoddy and the distribution of

175

agreement over several affixes contradict the predictions of the PAH. Also, he shows that there are arguments that have exactly the same morphosyntactic patterning as pronominally indexed arguments though they are not indexed on the verb. Such problems, according to LeSourd, carry over to other Algonquian languages.

Whether the PAH can account for the different properties of nonconfigurational languages or not lies beyond the scope of my thesis. What concerns me here is the connection of this hypothesis to an existing approach to agreement in Arabic, namely, the incorporation analysis (Fassi-Fehri 1993). Under the incorporation analysis, agreement on the verb is in fact an incorporated pronominal. This incorporation approach to agreement can be regarded as an implementation of the PAH which considers morphological inflections as pronominal arguments.

Under my analysis, however, the agreement inflection that appears on the verb in Arabic, though it agrees with the subject, does not itself have argument status. My analysis differs crucially from the PAH and from the incorporation analysis in that it takes the morphologically expressed affixes on a verb as agreement markers rather than syntactic arguments. Nevertheless, it is the case that such affixes derive from a pronominal source diachronically and they continue to be represented as a type of pronominal DP structure syntactically. My "defective DP" analysis captures the insight that agreement is indeed pronominal on an abstract level as it assumes that probes are essentially uninterpretable pronouns. My proposal thus strikes a middle ground: it maintains the key insight of the PAH and the incorporation analysis, namely that agreement is somehow pronominal, while at the same time allowing it to be an uninterpretable agreement marker valued under the Probe-Goal model of agreement (Chomsky 2000, 2001).

4.5 The DP-like structure of the probe: further evidence from Algonquian

My analysis makes predictions that go beyond Arabic. If probes do share the same structure as pronouns, we expect to find other languages in which variation in the structure of probes is constrained in the same way as it is in Arabic: regardless of the size of the probe, it should always be a possible constituent of the DP (i.e. DP, NumP, or nP).

Although it is beyond the scope of this thesis to offer a broad cross-linguistic survey of variation in agreement features, in this section I present data from Nishnaabemwin, a language that is rich in agreement and is genetically and typologically unrelated to Arabic. Nishnaabemwin (a.k.a. Odawa) is a dialect of the Central Algonquian language Ojibwe (Valentine 2001). I will show that the patterning of the agreement markers of Nishnaabemwin fits strikingly well with the predictions of my analysis: the features of the three different agreement probes conform to the three different possible manifestations of my proposed DP-like probe structure (DP, NumP, nP).

As background, I begin with a brief description of the Algonquian verb template. Algonquian verbs consist of a morphologically complex stem followed by a string of inflectional suffixes. The lexical stem of the verb consists of a root plus a so-called "final" (Bloomfield 1946). Although stem structure in Algonquian languages can be much more complex than the simple root-final combinations that will be shown below (see e.g. Goddard 1990; Brittain 2003; Branigan et al. 2005; Mathieu 2007, 2008; Slavin 2012), the simple root-final template is enough for the purpose of this section because the main focus of this thesis is agreement inflection rather than derivation.

Algonquian transitive verbs contain three slots that are widely agreed to display some sort of φ-feature agreement. The first agreement slot is the aforementioned "final" (Bloomfield 1946), which is a derivational morpheme that occurs at the end of the verb stem before inflectional suffixes are added. The second slot is referred to as "central agreement"

177

(Goddard 1979; Nichols 1980), which consists of a prefix and an inner suffix that work together to index a single argument. The third slot is the "peripheral agreement" (Goddard 1979; Nichols 1980), which is a word-final suffix that indexes another single argument. The following Nishnaabemwin form illustrates these three agreement slots. (All the forms in this section are taken from Valentine's (2001) reference grammar of Nishnaabemwin.) The verb stem, which consists of the root and the final, is shown in square brackets throughout. The central agreement (both prefix and inner suffix) is underlined, and the peripheral agreement (outer suffix) is in bold.

(18) *niwaabmaanaanig*

<u>ni-</u>	[waab-m]	-aa	<u>-naany</u>	**-ag**
1-	[see-TA]	-DIR	-1P	-AN.P

'<u>We</u> see them.'

In what follows I explain what each of the three agreement slots does. The final serves to mark the verb as transitive or intransitive. It also agrees with the animacy of the argument that is closest in the structure to the verb (i.e. the object of a transitive or the subject of an intransitive). Animacy is the gender feature which is active in Algonquian languages; there is no masculine/feminine distinction (Goddard 2002; Mathieu 2012). In other words, a transitive verb stem always ends with a final that indicates the gender of the object (animate or inanimate) as shown in the following minimal pair. (TA = Transitive Animate; TI = Transitive Inanimate.)

(19) *giwaabmaanaawaag*

<u>gi-</u>	[waab-m]	-aa	<u>-naawaa</u>	**-ag**
2-	[see-TA]	-DIR	-2P	-AN.P

'<u>You (pl)</u> see them (animate).' [e.g. You see people]

(20) *giwaabndaanaawaan*

<u>gi-</u>	[waab-nd]	-aa	<u>-naawaa</u>	**-an**
2-	[see-TI]	-DIR	-2P	-IN.P

'<u>You (pl)</u> see them (inanimate).' [e.g. You see books]

It is worth mentioning here that transitive verb stems in general often come in pairs such as the above: one with an animate final and the other with an inanimate final. Another example is the TA stem *bngi-shim-* drop-TA- 'drop an animate' vs. the TI stem *bngi-sdoon-* drop-TI- 'drop an inanimate'. (There are many different finals, as they carry particular semantics of instrumentality, lexical aspect, manner, etc., but nearly all of them also mark animacy.)

As for the central agreement, it agrees with an argument for person, number, and gender. The central agreement in sentence (18) above, for example, agrees with 1st person for person and number, and in (19) it agrees with 2nd person for person and number. The following sentence is an example of central agreement agreeing with a 3rd person for person and number.

(21) *owaabmaawaan*

<u>o-</u>   [waab-m]   -aa   <u>-waa</u>   **-an**
3-   [see-TA]   -DIR   -3P   -AN.OBV
'<u>They</u> see someone (obviative).'[13]

Though only person and number features are visible in the central agreement, we can say that it also agrees for gender (animacy). This is because the central agreement only ever targets animate arguments; it simply cannot index an inanimate. Accordingly, the central agreement always agrees in person, number, and gender. For example, the 3rd-person central agreement morphology in sentence (21) above is, strictly speaking, actually 3rd-person plural *animate* agreement morphology.

The peripheral agreement encodes number (singular or plural) and gender (animate or inanimate), but not person. It also encodes obviation, which is an Algonquian-specific feature that lies outside the scope of my thesis. The peripheral agreement form *-ag* in (18–19) above agrees for animate plural, and the peripheral agreement form *-an* in (20) above agrees for inanimate plural. The same peripheral agreement form *-an* in (21) above agrees for animate

---

[13] Obviative is a further 3rd person that is obligatory when there are two 3rd persons in a single clause.

obviative; obviatives are number-neutral in Nishnaabemwin. The difference between animate

plural *-ag* and inanimate plural *-an* in the above forms clearly shows that the peripheral

agreement agrees for gender. The following minimal pairs further demonstrate that it agrees

for number. In contrast to the overt peripheral suffixes that occur in plural forms, the null

peripheral suffix -Ø indicates singular number for both animates and inanimates.

(22) giwaabmaanaawaag

gi-	[waab-m]	-aa	-naawaa	**-ag**
2-	[see-TA]	-DIR	-2P	-AN.P

'You (pl) see them (animate).'

(23) giwaabmaanaawaa

gi-	[waab-m]	-aa	-naawaa	**-Ø**
2-	[see-TA]	-DIR	-2P	-AN.S

'You (pl) see him/her.'

(24) giwaabndaanaawaan

gi-	[waab-nd]	-aa	-naawaa	**-an**
2-	[see-TI]	-DIR	-2P	-IN.P

'You (pl) see them (inanimate).'

(25) giwaabndaanaawaa

gi-	[waab-nd]	-aa	-naawaa	**-Ø**
2-	[see-TI]	-DIR	-2P	-IN.S

'You (pl) see it.'

The following table summarizes the patterning of the three Nishnaabemwing agreement slots

discussed above.

Table 6: Algonquian agreement slots

	Agreement Slots		
	Final	Central Agreement	Peripheral Agreement
Morpheme	suffix attached directly to the root	prefix + inner suffix	outer suffix
Agreement features	gender	person, number, and gender	number and gender

It is worth indicating that all the forms discussed above show that central agreement consists of a prefix marking person and an inner suffix marking person and number. The prefix and inner suffix pattern together indexing the same argument. As a result, central agreement agrees with an argument for person and number as well as for gender since it only targets animate arguments. However, in "you-and-me" forms, that is, transitive forms in which the arguments are 1st person and 2nd person, the central agreement is able to index both arguments: the prefix can index one argument and the inner suffix can index the other. Peripheral agreement is absent in this case as it only exists for 3rd person arguments. When the clause, for example, involves an interaction between a 1st person plural and 2nd person argument as in 'we saw you' or 'you saw us', the prefix on the verb agrees with the 2nd person argument and the inner suffix agrees with the 1st person plural argument, as in (26).

(26) *giwaabminimin*

gi-	[waab-m]	-in	-imin
2-	[see-TA]	-INV	-1P

'We see you.'

Having an inner suffix specified for both 1st person and plural number, since the shape of the suffix depends on both features, is consistent with my proposal as the agreement probe in this case is a full DP in the sense that three features (person, number, and gender) are targeted. However, the fact that the 2nd person argument would only trigger person agreement on the verb, and not number, might seem to challenge my proposal at first glance. This is because the only morpheme that agrees with the 2nd person argument in this case is the prefix, and since the prefix marks person only, it seems that the 2nd person has been agreed with for person only. This would be problematic if the prefix and inner suffix reflected different probes in the syntax as it would seem that the prefix probe only targets person. However, in all forms except for the "you-and-me" forms, the two components of the central agreement (a prefix and inner suffix) always pattern together to index the same argument, as

in all the examples given earlier. The simplest way to capture the systematic shared patterning of the prefix and inner suffix is to attribute both markers to a single agreement probe on T in the syntax (cf. Goddard's (1979) characterization of a prefix-suffix combination as a "central-participant marker"), with T being spelled out discontinuously as a prefix-suffix combination. The "you-and-me" forms are unique in that T happens to agree with both arguments, as proposed for these forms by Halle and Marantz (1993) and Bruening (2005). Accordingly, T agrees with all features of the 1st person argument and all features of the 2nd person argument. Since we can see person agreement, i.e. 1st person and 2nd person, we can tell that T agreed for the person of both arguments. Also, since we do see number agreement, i.e. plural, we can tell that T did indeed agree for number. The fact that we do not see the number of both arguments in the agreement morphology is simply because there is not enough T-morphology available to spell out two number features. The apparent failure to agree with the number of the 2nd person argument is thus a property of morphology, not syntax. In other words, the presence of number agreement shows us that T did indeed probe for number, which is all that matters for my proposal: the probe on T seeks person and number (as well as gender), not just person alone.

The set of facts observed in Nishnaabemwin fits nicely with the different manifestations proposed for the probe in Arabic. It can be said that the final in Nishnaabemwin clusters with the agreement pattern found in VS sentences in SA, whereby the probe targets one feature: gender (or animacy in this case). Likewise, the peripheral agreement is compatible with the agreement pattern found in VS sentences in RJA. Recall that in this word order, the probe targets both number and gender features, and the same observation obtains in the peripheral agreement in Nishnaabemwin. Finally, the central agreement is similar to the agreement pattern in SV sentences in both SA and RJA in the sense that three features (person, number, and gender) are targeted.

This parallel variation in agreement features in Arabic and Nishnaabemwin adds further support to my analysis of the probe as a "defective DP" that can take the form of a full DP, NumP, or *n*P. My analysis predicts that full agreement corresponds to a full DP constituent and that partial agreement should always be a possible sub-DP constituent, and this is exactly what we find in Nishnaabemwin.

4.6 Summary and conclusion

This chapter has argued for a DP-like internal structure of the probe in SA and RJA building on the insights of various proposals (Harbour 2008; Preminger 2011; Campbell 2012; Coon and Bale 2014). The analysis took as its starting point a number of existing analyses that assume agreement features to have internal hierarchical organization (see e.g. Noyer 1992 for the Universal Feature Hierarchy; Harley and Ritter 2002 for the morphological feature geometry; Harbour 2008 for the syntactic structure of φ-features; Campbell 2012 for the single complex bundle of φ-features). However, I diverted from the details of these analyses proposing instead that a more fully articulated DP structure of the probe, with its different potential manifestations, can account for the cross-dialectal agreement patterns in different word orders in Arabic. As for the probing manner in Arabic, I assumed that there are three probes associated with the same head T in Arabic (along the lines of Coon and Bale 2014), but they probe in a sequential order (along the lines of Preminger 2011). Evidence in support of the grammaticalization cline from subject pronoun to subject agreement marker was also presented. The varying degrees of the richness of the agreement features in SA and RJA in different word orders are argued to be the result of a grammaticalization cline whereby certain features are lost. In addition, it was shown that the proposed analysis maintains the central insight of a widely adopted hypothesis, namely, Jelinek's (1984) Pronominal Argument Hypothesis. Finally, the chapter shows that variation in the features of agreement

in Algonquian is perfectly consistent with the predictions of my analysis, in which partial

agreement always involves a possible sub-DP constituent.

Chapter 5
Summary, conclusions, and implications

This chapter summarizes the content of this thesis and connects it to the broader theoretical and empirical context. Section 5.1 reviews the major conclusions and proposals made in this thesis. Section 5.2 then considers the more general implications of the proposed analysis for theoretical issues including clitic doubling, Multiple Agree, and grammaticalization.

5.1 Summary and conclusions

This study has investigated the variation in agreement patterns in two Arabic varieties: SA and RJA. The two varieties exhibit full agreement between the verb and the subject in SV sentences. However, there is partial agreement between the verb and the subject in VS sentences, with a variation in terms of agreement features in the two varieties.

Chapter 2 provided a description and unified analysis of this cross-dialectal variation in agreement with simple subjects in SA and RJA. The chapter surveyed the existing theoretical work, which has taken a variety of different approaches to analyzing the agreement asymmetry in SA. Five prominent analyses of this syntactic phenomenon in SA were revisited: the agreement loss analysis (Aoun et al. 1994), the incorporation analysis (Fassi-Fehri 1993), the merger analysis (Benmamoun 2000), the topic analysis (Soltan 2006, 2007a, b), and the expletive analysis (Mohammad 1990). Though each of these accounts succeeds in capturing the basic agreement asymmetry manifested in SA, theoretical and empirical evidence was adduced showing that they fall short of accommodating the cross-dialectal variation in agreement features in different Arabic varieties such as RJA. None of these analyses can provide a convincing account of the set of data under investigation.

My analysis, which is expressed using a minimalist approach to syntactic derivations that relies on the Probe-Goal framework of Chomsky (2000, 2001), can systematically explain the patterning of agreement in both SA and RJA. I argued that there is always full agreement (i.e. in person, number, and gender) between the verb and the subject in SV sentences in the two varieties. This full agreement occurs because the functional head T in each variety probes for a complete set of φ-features: person, number, and gender. Simultaneously, I argued that the two varieties exhibit partial agreement between the verb and the subject in VS sentences. This partial agreement is attributed to the existence of a different version of T in VS sentences that does not probe for a complete set of φ-features. However, I proposed that this partial agreement is not the same in the two varieties. While the verb agrees with the subject for gender only in SA, it agrees with the subject for both number and gender in RJA.

This asymmetry regarding partial agreement was explained in light of the fact that each variety has a T with a different probe. In both SA and RJA, however, the probe on T has in common the lack of a person feature, hence making the agreement in a VS sentence partial rather than full. Under this analysis, the difference between SA and RJA lies in the number agreement feature, which is active in VS sentences in RJA but not in SA. This leads to the conclusion that there is variation in which features are probed for. The pattern in SA is the result of having a probe on T that targets only one feature (i.e. gender), whereas the pattern in RJA is the result of having a probe on T that targets two φ-features: number and gender. In other words, the two varieties differ only in terms of the richness of this partial agreement.

The analysis I proposed also recognizes a role for clitic doubling. My clitic doubling analysis draws on the expletive analysis of Mohammad (1990), because a revised version of the insight embodied in his analysis provides the key to an account of the cross-dialectal variation in VS sentences in the two varieties. Using data from both SA and RJA, I showed

186

that Mohammad's proposal is on the right track, as it recognizes the systematic correlations between the features encoded by agreement and the features encoded by a null preverbal expletive, i.e. the singular feature in SA. However, it fails to account for the matching of gender features in SA and the matching of both gender and number features in RJA. Therefore, I proposed to build on Mohammad's idea in which the expletive pronoun is analyzed as an instance of subject clitic doubling rather than an expletive.

A direct corollary of my analysis is that the underlying structure of any VS sentence in Arabic is really CL_sVS rather than VS, where the first S is a subject clitic and the second S is a lexical subject. The first S (i.e. the subject clitic) is always a null pronoun in root contexts; however, it appears overtly in embedded contexts following the complementizer *ʔanna/ʔinn* 'that'. This clitic is the result of the partial agreement between the verb and the postverbal subject, which I proposed creates a partial copy of the subject in [Spec, TP] rather than completely moving the subject to this position as in SV sentences. The preverbal pronominal clitic in [Spec, TP] carries a subset of the features of the postverbal subject: while it carries only the [Gender] feature in SA, it carries the [Number] and [Gender] features in RJA.

Granting the new analysis advanced for agreement with simple subjects, I further argued in Chapter 3 that this analysis can systematically capture the patterning of agreement in a more complex context, i.e. the so-called "first conjunct" context. The asymmetry between full and partial agreement is mirrored by a further asymmetry between agreeing with the first conjunct or with the entire conjoined phrase. With a postverbal conjoined subject, SA allows only agreement with the first conjunct, while RJA allows agreement either with the first conjunct or with the entire conjoined phrase (i.e. resolved agreement). The choice between these two options was shown to be subject to intricate restrictions involving both the features and the order of the two conjoined DPs.

The chapter offered a critical review of the existing approaches to the phenomenon of first conjunct agreement, namely, the Spec-head approach (Aoun et al. 1994) and the Agree-based approach (Soltan 2007a, b). It was argued that the Spec-head approach cannot account for the full set of facts in SA and RJA, particularly the different patterning of the agreement features in RJA in the VS order, i.e. first conjunct vs. resolved agreement. It was also argued that Soltan's (2007a, b) analysis falls short of accommodating the set of complex data we have in RJA despite using an Agree-based approach and succeeding in capturing the basic agreement asymmetry manifested in SA with conjoined subjects.

The set of data presented in this chapter revealed that SA exhibits the same full/partial agreement asymmetry in the context of conjoined subjects as well. In the SV order, for example, full agreement is always with the preverbal conjoined subject as a whole (i.e. resolved agreement). By contrast, the partial agreement in the VS order gives rise to first conjunct agreement, which is the only pattern available in SA in this word order.

In RJA, the SV order matches SA in that there is always full agreement with the entire preverbal conjoined subject (i.e. resolved agreement). In the VS order, by contrast, the facts are more divergent: the verb in RJA can agree either with only the first DP (giving rise to first conjunct agreement) or with the entire conjoined subject DP (i.e. resolved agreement). Interestingly, however, the data have revealed that resolved agreement in the VS order is not always possible: its availability is constrained by the sequential order of the two postverbal DPs in terms of the composition of their number features. Table 7 reviews the overall shape of the data, summarizing all the possible agreement patterns with both preverbal and postverbal conjoined subjects in SA and RJA. The most striking pattern in the table is in the VS order, where RJA allows either resolved agreement or first conjunct agreement *except in Singular + Plural combinations*.

Table 7: Possible complex agreement patterns in SA and RJA

Combinations of conjoined DPs	SV order		VS order	
	SA	RJA	SA	RJA
Singular + Singular	resolved	resolved	first conjunct	both
Plural + Plural				both
Singular + Plural				first conjunct
Plural + Singular				both

The primary goal of this chapter was to explain the restrictions on resolved agreement as well as to intergrate the surprising patterns with postverbal conjoined subjects which appear to be a challenge for any analysis of subject-verb agreement. The end result was an improved analysis in terms of the operation Agree (Chomsky 2000, 2001) that can provide asystematic and unified account for a set of complex cross-dialectal observationsthat cannot be explained otherwise.

To capture all these divergent agreement patterns in this complex context, I adopted the same analysis whereby the variation in agreement patterns and word orders is the result of different sets of features borne by the probe on the functional head T as well as the result of full vs. partial copying of the valued goals, with partial copying giving rise to what I have been referring to as clitic doubling. Though both RJA and SA exhibit partial agreement in the context of first conjunct, the two varieties differ in terms of the richness of this partial agreement. Specifically, partial agreement in RJA involves probing for both number and gender (but not person) while it involves probing for only gender in SA. However, to extend this account to conjoined subjects, I have employed the operation Multiple Agree and the Continuity condition (Nevins 2007, 2011). The Multiple Agree approach allows us to account for cases where resolved agreement is blocked as a result of interruption effects that render further goals inaccessible for Agree. In a nutshell, my alternative analysis for this syntactic

phenomenon builds on the Probe-Goal framework adopted in Chapter 2 and appeals neither to clausal coordination (Aoun et al. 1994) nor to different underlying structures for SV and VS word orders (Soltan 2007a, b).

Most discussion in this chapter was dedicated to the two possible agreement patterns in RJA in VS sentences, i.e. first conjunct agreement and resolved agreement. It was shown that these two possible agreement patterns are the result of two possible probing manners, making use of the Probe-Goal framework (Chomsky 2000, 2001) augmented with Multiple Agree and the Continuity condition in the sense of Nevins (2007, 2011). The major point in my analysis is that resolved agreement is the result of the operation Multiple Agree whereby the probe establishes a simultaneous Agree relationship with the two goals available in the coordinate structure. However, it was shown that this resolved agreement pattern is subject to certain restrictions. The DPs' number features together with their sequential order determine whether resolved agreement is allowed or not. Specifically, the combinations singular plus singular, plural plus plural, and plural plus singular can yield plural resolved agreement. However, the resolved agreement pattern breaks down with the combination singular plus plural. This can be explained in light of the fact the number feature of the first DP is less specified than that of the second DP which causes the former to act as an intervener, preventing Multiple Agree and leaving singular first conjunct agreement as the only possible pattern in such forms.

As for VS sentences in SA, where first conjunct agreement is the only pattern permissible, the obligatoriness of this pattern was shown to follow from the fact that the probe on T in SA bears only a single uninterpretable unvalued φ-feature: gender, as proposed in Chapter 2 for simple subjects. The impossibility of resolved gender agreement in the context with mismatched gender features, which is the only place where we would potentially be able to observe resolved agreement happening in SA, is attributed to the fact that Multiple

Agree is not possible because there is no way for it to be continuous. This follows from the fact that the two genders are just two different binary values [± FEM], so there is no way for Multiple Agree obeying the Continuity condition to take place.

The final point in Chapter 3 is that the obligatory occurrence of resolved agreement in both SA and RJA in the SV order is the result of the Coordinate Structure Constraint (Ross 1967) which bans movement of one member of a coordinated structure. It was made clear throughout the study that full agreement leads to full copying of the goal to [Spec, TP]. Assuming that first conjunct agreement in this order in the two varieties occurs, full agreement with the first conjunct will lead to full copying of the first conjunct producing an unattested structure in the language whereby the two conjoined DPs are separated by the verb, thus violating the Coordinate Structure Constraint. To make the structure converge, the two DPs must be copied to [Spec, TP], and for this to happen the probe must target both of the available goals giving rise to resolved agreement.

Chapter 4 advanced an analysis of the internal structure of the probe in SA and RJA building on the common idea that agreement features can have internal hierarchical organization (see e.g. Noyer 1992 for the Universal Feature Hierarchy; Harley and Ritter 2002 for the morphological feature geometry; Harbour 2008 for the syntactic structure of φ-features; Campbell 2012 for the single complex bundle of φ-features). I proposed that the different agreement patterns in Arabic dialects can be derived from the probe's internal hierarchical structure of φ-features which is responsible for the range of different probing combinations attested in SA and RJA. However, I took this idea one step further by proposing a principled source for this internal hierarchical structure. I proposed that, rather than being a stipulated hierarchy or geometry, the organization comes from the well-established structure of the DP.

I proposed, as far as the manner of probing is concerned, that there are three probes (for person, number, and gender) associated with the same functional head T in Arabic, along the lines of Coon and Bale (2014), but that they probe in a sequential order, along the lines of Preminger (2011). These φ-probes have the same hierarchical structure of φ-features as in the DP: Person-Number-Gender (in the sense of Abney 1987 for DP; Ritter 1995 for NumP; Adger 2003 for *n*P; see also Bahloul and Harbert 1992; Shlonsky 1997; Carstens 2008, 2011). As a result, there is still a hierarchical ordering of φ-features despite the fact that they are all located on the same head T. This proposal allows us to understand why the cross-dialectal variation in agreement patterns presented in this thesis is restricted in particular ways. The DP-like set of hierarchically organized φ-probes on T, I proposed, are added in the syntactic derivation due to inheritance from C (Chomsky 2004, 2008) and thus appear as an adjoined DP to T quite similar to the attached clitic structure (Kayne 1991; Poletto 1995).

5.2 Implications and advantages of my analysis

The proposed Agree-based analysis provides a systematic and unified account for the licensing of agreement features and case assignment as well as word order in both SA and RJA in the contexts of simple subjects and coordination. The subject clitic analysis proposed in Chapter 2 takes the featural specification of the probe on T to be responsible for the difference in word order (SV/VS), the difference in agreement (full or partial), and the difference in the features of the expletive in the sense of Mohammad (1990).

A major outcome of my analysis is that the full/partial agreement asymmetry is not restricted to SA as has been widely perceived, but is also found in other spoken varieties such as RJA. However, it must be approached by considering the conditioning of clitic doubling and word order rather than directly examining the agreement morphology. The full/partial agreement asymmetry can thus be derived as a microparametric correlate of SV/VS word

orders respectively in Arabic. In addition to capturing the cross-dialectal variation in respect to agreement features, this analysis highlights the possibility of a systematic correlation between subject agreement features and subject clitic features. Although clitics are usually treated independently from agreement, in my analysis they are generated as a side-effect of agreement.

Recognizing two different versions of T in Arabic is compatible with Chomsky's recent work (2004, 2008), which proposes that T does not bear φ-features inherently, but rather inherits φ-features from C. This means that, at a deeper lever, the presence of two versions of T in Arabic is the result of the presence of two versions of C: one for SV sentences and one for VS sentences. The different φ-features on T in the two word orders are "inherited" down from the two different C's.

Under my analysis, the difference between SA and RJA in the VS word order lies in the number agreement feature, which is active in VS sentences in RJA but not in SA. The probe is [uGender, uNumber] in RJA and just [uGender] in SA. This can be approached diachronically in the sense that RJA has undergone a change in which T in VS sentences has gained the feature [uNumber], thus reducing the difference between the two versions of T. Since the version of T that occurs in SV sentences is φ-complete in both dialects, adding [uNumber] to the version of T that occurs in VS sentences leads to the conclusion that RJA has made the two versions of T more similar. This opens the possibility that some future dialect might take the next step and add [uPerson] as well, thus making the two versions of T identical and consequently losing the distinction between SV and VS clauses.

Adopting the operation Multiple Agree (Nevins 2007, 2011) rather than Simple Agree (Walkow 2013) for analyzing complex subject agreement patterns in Chapter 3 maintains the diagnosis of the full/partial agreement asymmetry and the clitic doubling analysis. Moreover, the range of cross-dialectal variation in subject-verb agreement patterns in different word

orders in Arabic is best understood by recognizing a fully articulated DP structure for the probe as proposed in Chapter 4, with its different potential manifestations. Connecting the hierarchy of probes to the well-established structure of the DP is more compelling: since the probe is DP-like, the order of Person-Number-Gender and the associated semantics are trivially warranted.

In addition, my analysis considers the established grammaticalization cline from subject pronoun to subject agreement marker. The varying degrees of richness of the agreement features in SA and RJA are argued to be consistent with this cline, involving the progressive loss of agreement features over time. Under my analysis, the agreement inflection that appears on the verb in Arabic, though it agrees with the subject, does not itself have argument status. Such agreement affixes, however, derive from a pronominal source diachronically and they continue to be represented as a type of pronominal DP structure syntactically. My "defective DP" analysis captures the insight that agreement is indeed pronominal on some abstract level as it assumes that probes are essentially uninterpretable pronouns. It also strikes a middle ground as it maintains the key insight of the PAH and the incorporation analysis, namely that agreement is somehow pronominal, while at the same time allowing it to be an uninterpretable agreement marker valued under the Probe-Goal model of agreement (Chomsky 2000, 2001).

Finally, my analysis makes predictions that go beyond Arabic. If probes do share the same structure as pronouns, we expect to find other languages in which variation in the structure of probes is constrained in the same way as it is in Arabic: regardless of the size of the probe, it should always be a possible constituent of the DP (i.e. DP, NumP, or nP). The patterning of the agreement markers of the Algonquian language Nishnaabemwin fits strikingly well with the predictions of my analysis: the features of the three different

194

agreement probes conform to the three different possible manifestations of my proposed DP-like probe structure (DP, NumP, nP).

References

Abd El-Moneim, Aliaa Ahmed. 1989. *The role of INFL*. Doctoral dissertation, University of Connecticut.

Abney, Steven Paul. 1987. *The English noun phrase in its sentential aspect*. Doctoral dissertation, MIT.

Acquaviva, Paolo. 2009. Roots and lexicality in distributed morphology. In York Papers in Linguistics, ed. by Alexandra Galani, Daniel Redinger, and Norman Yeo, 2: 1–21. York: University of York.

Adger, David. 2003. *Core syntax: A Minimalist Approach*. Oxford: Oxford University Press.

Al-Aboudi, Fahmi B. 1987. *The syntax of 'Idaafah', annexation in Arabic*. Doctoral dissertation, Indiana University.

Al-Balushi, Rashid Ali. 2011. *Case in Standard Arabic: The untraveled paths*. Doctoral dissertation, University of Toronto.

Al-Daher, Zeyad. 2016. Pseudo wh-fronting: A diagnosis of wh-constructions in Jordanian Arabic. Doctoral dissertation, University of Manitoba.

Al-Horais, Nasser. 2009. A minimalist approach to agreement in Arabic. *Newcastle Working Papers in Linguistics* 15: 1–21.

Al Khatib, Sam. 2009. On the Structure of Possessives in Palestinian Arabic. In Working Papers of the Linguistics Circle of the University of Victoria 19: Proceedings of the 23rd Northwest Linguistics Conference 2007, 1–12.

Al-Momani, Islam. 2010. Direct object relative clauses in Jordanian Arabic: A Minimalist Approach. *International Journal of Academic Research* 2.3: 226–237.

Alotaibi, Mansour. 2013. A problem with wh-questions in Modern Standard Arabic. In *Language at the University of Essex 2012 Proceedings*, 1–8.

Anagnostopoulou, Elena. 2003. *The Syntax of Ditransitives: Evidence from Clitics*. Berlin/New York: Mouton de Gruyter.

Anagnostopoulou, Elena. 2006. Clitic doubling. In *The Blackwell Companion to Syntax* ed. by Martin Everaert and Henk van Riemsdijk, 519–581. Malden, Mass.: Blackwell Publishing.

Anagnostopoulou, Elena. 2012. *Variation in clitic doubling*. Handout for a mini-course on "Meaning Domains, Phases and Agree" held at Leiden University, September 5.

Anagnostopoulou, Elena. 2014. Clitic doubling. In *The Blackwell Companion to Syntax*, ed. by Martin Everaert and Henk van Riemsdijk. Malden, Mass.: Blackwell Publishing. Updated version of the chapter on Clitic Doubling.

Aoun, Joseph. 1999. Clitic-doubled arguments. In *Beyond Principles and Parameters: Essays in Memory of Osvaldo Jaeggli*, ed. by Kyle Johnson and Ian Roberts, 13–42. Dordrecht: Kluwer Academic Publishers.

Aoun, Joseph, and Elabbas Benmamoun. 1999. Gapping, PF merger, and patterns of partial agreement. In *Fragments: Studies in Ellipsis and Gapping*, ed. by Shalom Lappin and Elabbas Benmamoun, 175–192. New York/Oxford: Oxford University Press.

Aoun, Joseph, Elabbas Benmamoun, and Lina Choueiri. 2010. *The Syntax of Arabic*. New York: Cambridge University Press.

Aoun, Joseph, Elabbas Benmamoun, and Dominique Sportiche. 1994. Agreement, word order, and conjunction in some varieties of Arabic. *Linguistic Inquiry* 25.2: 195–220.

Austin, Peter, and Joan Bresnan. 1996. Non-configurationality in Australian Aboriginal languages. *Natural Language and Linguistic Theory* 14.2: 215–268.

Bahloul, Maher, and Wayne Harbert. 1992. Agreement asymmetries in Arabic. In *Proceedings of WCCFL 11*, ed. by Jonathan Mead, 15–31.

Béjar, Susana. 2003. *Phi-syntax: A theory of agreement*. Doctoral dissertation, University of Toronto.

Béjar, Susana, and Diane Massam. 1999. Multiple case checking. *Syntax* 2.2: 65–79.

Béjar, Susana, and Milan Rezac. 2003. Person licensing and the derivation of PCC effects. In *Romance Linguistics: Theory and Acquisition*, ed. by Ana Teresa Perez-Leroux and Yves Roberge, 49–62. Amsterdam: John Benjamins.

Benmamoun, Elabbas. 1992. *Functional and inflectional morphology: Problems of projection, representation and derivation*. Doctoral dissertation, University of Southern California.

Benmamoun, Elabbas. 2000. *The Feature Structure of Functional Categories: A Comparative Study of Arabic Dialects*. New York/Oxford: Oxford University Press.

Bhatt, Rajesh. 2005. Long distance agreement in Hindi-Urdu. *Natural Language and Linguistic Theory* 23.4: 757–807.

Bhatt, Rajesh, and Martin Walkow. 2013. Locating agreement in grammar: An argument from agreement in conjunctions. *Natural Language and Linguistic Theory* 31.4: 951–1013.

Bloomfield, Leonard. 1946. Algonquian. In *Linguistic Structures of Native America*, ed. by Harry Hoijer, 85–129. New York: Viking Fund Publications in Anthropology.

Borer, Hagit. 1984. *Parametric Syntax: Case Studies in Semitic and Romance Languages*. Dordrecht: Foris Publications.

Borer, Hagit. 1986. The syntax of pronominal clitics. In *Syntax and Semantics 19: The Syntax of Pronominal Clitics*, ed. by Hagit Borer. New York: Academic Press.

Borer, Hagit. 1996. The construct in review. In *Studies in Afroasiatic Grammar*, ed. by Jacqueline Lecarme, Jean Lowenstamm and Ur Shlonsky, 30–61. The Hague: Holland Academic Graphics.

Borsley, Robert. 1999. *Syntactic Theory: A Unified Approach*. 2nd ed. London: Arnold.

Branigan, Phil, Julie Brittain, and Carrie Dyck. 2005. Balancing syntax and prosody in the Algonquian verb complex. In *Papers of the 36th Algonquian Conference*, ed. by Hans Christoph Wolfart, 75–93. Winnipeg: University of Manitoba.

Bresnan, Joan, and Sam A. Mchombo. 1987. Topic, pronoun, and agreement in Chicheŵa. *Language* 63.4: 741–782.

Brittain, Julie. 2003. A Distributed Morphology account of the syntax of the Algonquian verb. In *Proceedings of the 2003 Annual Conference of the Canadian Linguistic Association*, ed. by Stanca Somesfalean and Sophie Burelle, 25–39.

Bruening, Benjamin. 2005. *The Algonquian inverse is syntactic: Binding in Passamaquoddy*. Manuscript, University of Delaware.

Campbell, Amy Melissa. 2012. *The morphosyntax of discontinuous exponence*. Doctoral dissertation, University of California.

Carnie, Andrew. 2011. *Modern Syntax: A Coursebook*. New York: Cambridge University Press.

Carstens, Vicki. 2008. DP in Bantu and Romance. In *The Bantu-Romance Connection: A Comparative Investigation of Verbal Agreement, DPs, and Information Structure*, ed. by Cécile De Cat and Katherine Demuth, 131–166. Amsterdam: John Benjamins.

Carstens, Vicki. 2011. Hyperactivity and hyperagreement in Bantu. *Lingua* 121.5: 721–741.

Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris Publications

Chomsky, Noam. 1993. A Minimalist Program for linguistic theory. In *The View from Building 20: Essays in Honor of Sylvain Bromberger*, ed. by Kenneth Hale and Samuel Jay Keyser, 1–52. Cambridge, Mass.: MIT Press.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Mass.: MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, Mass.: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A Life in Language*, ed. by Michael Kenstowicz, 1–52. Cambridge, Mass.: MIT Press.

Chomsky, Noam. 2004. Beyond explanatory adequacy. In *Structures and Beyond: The Cartography of Syntactic Structures, Volume 3*, ed. by Adriana Belletti, 104–131. New York: Oxford University Press.

Chomsky, Noam. 2008. On phases. In *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*, ed. by Robert Freidin, Carlos Peregrín Otero and Maria Luisa Zubizarreta, 133–166. Cambridge, Mass.: MIT Press.

Collins, Chris. 1988. *Part 1: Conjunction adverbs*. Manuscript, MIT.

Comrie, Bernard. 1987. *The World's Major Languages*. New York: Oxford University Press.

Coon, Jessica, and Alan Bale. 2014. The interaction of person and number in Mi'gmaq. *Nordlyd* 41.1: 85–101.

Coppock, Elizabeth, and Stephen Wechsler. 2010. Less-travelled paths from pronoun to agreement: The case of the Uralic object conjugations. In *Proceedings of the LFG10 Conference*, ed. by Miriam Butt andTracy Holloway King, 165–185. Stanford: CSLI.

Corbett, Greville G. 1983. Resolution rules: Agreement in person, number and gender. In *Order, Concord and Constituency*, ed. by Gerald Gazdar and Geoffrey K. Pullum, 175–214. Dordrecht: Foris Publications.

Corbett, Greville G. 2000. *Number*. Cambridge: Cambridge University Press.

Cournane, Ailís. 2010. Using synchronic microvariation to understand pathways of change: Subject clitic doubling in Romance dialects. In *Proceedings of the 2010 Annual Conference of the Canadian Linguistic Association*, ed. by Melinda Heijl.

Crone, Phil. 2014. *Agreement with conjoined subjects in Arabic*. Paper presented at Stanford Department of Linguistics QP Fest, Stanford University, April 25.

Danon, Gabi. 2011. Agreement and DP-internal feature distribution. *Syntax* 14.4: 297–317.

Déchaine, Rose-Marie, and Martina Wiltschko. 2002. Decomposing pronouns. *Linguistic Inquiry* 33.3: 409–442.

Demirdache, Hamida. 1992. *Nominative NPs in Modern Standard Arabic*. Manuscript, MIT.

den Dikken, Marcel. 2011. Phi-feature inflection and agreement: An introduction. *Natural Language and Linguist Theory* 29.4: 857–874.

Dobrovie-Sorin, Carmen. 1990. Clitic-doubling, wh-movement, and quantification in Romanian. *Linguistic Inquiry* 21.3: 351–398.

El-Hassan, Shahir A. 1977. Educated spoken Arabic and the Levant: A critical review of diaglossia and related concepts. *Archivum Linguisticum* 8.2: 112–132.

Everett, Daniel L. 1986. Piraha clitic doubling and the parameterization of nominal clitics. In *MIT Working Papers in Linguistics 8: Papers in Theoretical Linguistics*, 85–127.

Fassi Fehri, Abdelkader. 1988. Agreement in Arabic, binding and coherence. In *Agreement in Natural Language: Approaches, Theories, Descriptions*, ed. by Michael Barlow and Charles A. Ferguson, 107–158. Stanford: CSLI.

Fassi-Fehri, Abdelkader. 1993. *Issues in the Structure of Arabic Clauses and Words*. Dordrecht: Kluwer Academic Publishers.

Ferguson, Charles A. 1959. Myths about Arabic. *Georgetown University Monograph Series on Language and Linguistics* 12: 75–82.

Ferrari, Franca. 2005. *A syntactic analysis of the nominal systems of Italian and Luganda: How nouns can be formed in the syntax*. Doctoral dissertation, New York University.

Franco, Jon. 1991. Spanish Object Clitics as Verbal Agreement Morphemes. In *MIT Working Papers in Linguistics14: Proceedings of SCIL 3*, 99–113.

Givón, Talmy. 1976. Topic, pronoun and grammatical agreement. In *Subject and Topic*, ed. by Charles N. Li, 149–188. New York: Academic Press.

Gluckman, John D. 2015. *Decomposing morphological number in local contexts*. Paper presented at WCCFL 33, Simon Fraser University, Vancouver, March 27.

Goddard, Ives. 1979. *Delaware Verbal Morphology: A Descriptive and Comparative Study*. New York/London: Garland.

Goddard, Ives. 1990. Primary and secondary stem derivation in Algonquian. *International Journal of American Linguistics* 56.4: 449–483.

Goddard, Ives. 2002. Grammatical gender in Algonquian. In *Papers of the 33rd Algonquian Conference*, ed. by Hans Christoph Wolfart, 195–231. Winnipeg: University of Manitoba.

Hale, Ken. 1983. Warlpiri and the grammar of non-configurational languages. *Natural Language and Linguistic Theory* 1.1: 5–47.

Hale, Kenneth L. 2003. On the significance of Eloise Jelinek's pronominal argument hypothesis. In *Formal Approaches to Function in Grammar: In Honor of Eloise Jeline*, ed. by Andrew Carnie, Heidi Harley, and MaryAnn Willie, 11–43. Amsterdam: John Benjamins.

Halle, Morris, and Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In *The View from Building 20*, ed. by Kenneth Hale and Samuel Jay Keyser, 111–176. Cambridge, Mass.: MIT Press.

Harbert, Wayne, and Maher Bahloul. 2002. Postverbal subjects in Arabic and the theory of agreement. In *Themes in Arabic and Hebrew Syntax*, ed. by Jamal Ouhalla and Ur Shlonsky, 45–70. Dordrecht: Kluwer Academic Publishers.

Harbour, Daniel 2008. Discontinuous agreement and the syntax-morphology interface. In *Phi Theory: Phi Features across Modules and Interfaces*, ed. by Daniel Harbour, David Adger, and Susana Béjar, 185–220. Oxford: Oxford University Press.

Harley, Heidi, and Elizabeth Ritter. 2002. Person and number in pronouns: A feature geometric analysis. *Language* 78.3: 482–526.

Hopper, Paul J., and Elizabeth Closs Traugott. 2003. *Grammaticalization*. 2nd ed. Cambridge: Cambridge University Press.

Hurtado, Alfredo. 1984. *Clitic chains*. Manuscript, Simon Fraser University.

Iatridou, Sabine. 1991. *Clitics and island effects*. Manuscript, MIT.

Jaeggli, Osvaldo. 1982. *Topics in Romance Syntax*. Dordrecht: Foris Publications.

Jaeggli, Osvaldo. 1986. Three issues in the theory of clitics: Case, double NPs, and extraction. In *Syntax and Semantics 19: The syntax of pronominal clitics*, ed. by Hagit Borer, 15–42. New York: Academic Press.

Jelinek, Eloise. 1984. Empty categories, case, and configurationality. *Natural Language and Linguistic Theory* 2.1: 39–76.

Johannessen, Janne Bondi. 1996. Partial agreement and coordination. *Linguistic Inquiry* 27.4: 661–676.

Johannessen, Janne Bondi. 1998. *Coordination*. New York/Oxford: Oxford University Press.

Junker, Marie-Odile. 2004. Focus, obviation, and word order in East Cree. *Lingua* 114.3: 345–365.

Kayne, Richard S. 1975. *French Syntax: The Transformational Cycle*. Cambridge, Mass.: MIT Press.

Kayne, Richard S. 1984. *Connectedness and Binary Branching*. Dordrecht: Foris Publications.

Kayne, Richard S. 1991. Romance clitics, verb movement, and PRO. *Linguistic Inquiry* 22.4: 647–686.

Kayne, Richard S. 1994. *The Antisymmetry of Syntax*. Cambridge, Mass.: MIT Press.

Kihm, Alain. 2005. Noun class, gender and the lexicon-syntax-morphology interfaces: A comparative study of Niger-Congo and Romance languages. In *The Oxford Handbook of Comparative Syntax*, ed. by Guglielmo Cinque and Richard S. Kayne, 459–512. Oxford: Oxford University Press.

Kitagawa, Yoshihisa. 1986. *Subjects in Japanese and English*. Doctoral dissertation, University of Massachusetts.

Kolb, Hans-Peter, and Craig Thiersch. 1991. Levels and empty categories in a Principles and Parameters approach to parsing. In *Representation and derivation in the theory of grammar*, ed. by Hubert Haider and Klaus Netter, 251–302. Dordrecht: Kluwer Academic Publishers.

Koopman, Hilda, and Dominique Sportiche. 1991. The position of subjects. *Lingua* 85: 211–258.

Kramer, Ruth. 2009. *Definite markers, phi-features, and agreement: A morphosyntactic investigation of the Amharic DP*. Doctoral dissertation, UC Santa Cruz.

Kuroda, Sige-Yuki. 1988. Whether we agree or not: A comparative syntax of English and Japanese. In *Papers from the 2nd International Workshop on Japanese Syntax*, ed. by William J. Poser, 103–143. Stanford: CSLI.

Laka, Itziar. 1993. The structure of inflection: A case study in X^0 syntax. In *Generative Studies in Basque Linguistics*, ed. by Jose Ignacio Hualde and Jon Ortiz de Urbina, 21–70. Amsterdam: John Benjamins.

Lecarme, Jacqueline. 2002. Gender polarity: Theoretical aspects of Somali nominal morphology. In *Many Morphologies*, ed. by Paul Boucher, 109–141. Somerville, MA: Cascadilla Press.

Lehmann, Christian. 1988. On the function of agreement. In *Agreement in Natural Language*, ed. by Michael Barlow and Charles A. Ferguson, 55–65. Stanford: CSLI.

LeSourd, Phillip S. 2006. Problems for the pronominal argument hypothesis in Maliseet-Passamaquoddy. *Language* 82.3: 486–514.

Li, Charles N., and Sandra A. Thompson. 1976. Subject and topic: A new typology of language. In *Subject and Topic*, ed. by Charles N. Li, 457–489. New York: Academic Press.

Lieber, Rochelle. 1989. On percolation. In *Yearbook of Morphology* 2, ed. by Geert Booij and Jaap van Marle, 95–138. Dordrecht: Foris Publications.

Lowenstamm, Jean. 2008. On little n, √, and types of nouns. In *Sounds of Silence: Empty Elements in Syntax and Phonology*, ed. by Jutta M. Hartmann, Veronika Hegedűs and Henk Van Riemsdijk, 105–144. Amsterdam: Elsevier.

Mathieu, Éric. 2007. Petite syntaxe des finales concrètes en Ojibwe. In *Papers of the 38th Algonquian Conference*, ed. by Hans Christoph Wolfart, 295–321. Winnipeg: University of Manitoba.

Mathieu, Éric. 2008. The syntax of abstract and concrete finals in Ojibwe. In *Proceedings of NELS 37*, ed. by Emily Elfner and Martin Walkow, 101–114.

Mathieu, Éric. 2012. Flavors of division. *Linguistic Inquiry* 43.4: 650–679.

McCloskey, James. 1986. Inflection and conjunction in Modern Irish. *Natural Language and Linguistic Theory* 4.2: 245–281.

McCreight, Katherine L. 1988. *Multiple case assignments*. Doctoral dissertation, MIT.

Merchant, Jason. 2001. *The Syntax of Silence: Sluicing, Identity, and the Theory of Ellipsis*. Oxford: Oxford University Press.

Merchant, Jason. 2006. Polyvalent case, geometric hierarchies, and split ergativity. In *Papers from the 42nd Regional Meeting of the Chicago Linguistic Society*, 57–76.

Mitchell, Terry F. 1978. Educated spoken Arabic in Egypt and the Levant, with special reference to participle and tense. *Journal of Linguistics* 14.2: 227–258.

Mohammed, Mohammad A. 1988. On the parallelism between IP and DP. In *Proceedings of WCCFL 7*, ed. by Hagit Borer, 241–254.

Mohammad, Mohammad A. 1989. *The sentential structure of Arabic*. Doctoral dissertation, University of Southern California.

Mohammad, Mohammad A. 1990. The problem of subject-verb agreement in Arabic: Towards a solution. In *Perspectives on Arabic Linguistics I: Papers from the First Annual Symposium on Arabic Linguistics*, ed. by Mushira Eid, 95–126. Amsterdam: John Benjamins.

Mohammad, Mohammad A. 2000. *Word Order, Agreement and Pronominalization in Standard and Palestinian Arabic*. Amsterdam/Philadelphia: John Benjamins.

Munn, Alan Boag. 1987. Coordinate structure and X-bar theory. *McGill Working Papers in Linguistics* 4.1: 121–140.

Munn, Alan Boag. 1993. *Topics in the syntax and semantics of coordinate structures*. Doctoral dissertation, University of Maryland.

Munn, Alan Boag. 1999. First conjunct agreement: Against a clausal analysis. *Linguistic Inquiry* 30.4: 643–668.

Nevins, Andrew. 2007. The representation of third person and its consequences for person-case effects. *Natural Language and Linguistic Theory* 25.2: 273–313.

Nevins, Andrew. 2011. Multiple agree with clitics: Person complementarity vs. omnivorous number. *Natural Language and Linguistic Theory* 29.4: 939–971.

Nichols, John D. 1980. *Ojibwe morphology*. Doctoral dissertation, Harvard University.

Nordlinger, Rachel. 1998. *Constructive Case: Evidence from Australian languages*. Stanford: CSLI.

Noyer, Rolf, 1992. *Features, positions and affixes in autonomous morphological structure*. Doctoral dissertation, MIT.

Ouhalla, Jamal. 1994. Verb movement and word order in Arabic. In *Verb Movement*, ed. by David Lightfoot and Norbert Hornstein, 41–72. Cambridge: Cambridge University Press.

Ouhalla, Jamal. 1997. Remarks on focus in Standard Arabic. In *Perspectives on Arabic Linguistics X: Papers from the 10th Annual Symposium on Arabic Linguistics*, ed. by Mushira Eid and Robert R. Ratcliffe, 9–45. Amsterdam: John Benjamins.

Oxford, Will. 2014. *Microparameters of agreement: A diachronic perspective on Algonquian verb inflection*. Doctoral dissertation, University of Toronto.

Parkinson, Dilworth B. 1996. Variability in Standard Arabic grammar skills. In *Understanding Arabic: Essays in Contemporary Arabic Linguistics in Honor of El-Said Badawi*, ed. by Alaa Elgiball, 91–101. Cairo: American University in Cairo Press.

Perlmutter, David M. 1971. *Deep and Surface Structure Constraints in Syntax*. New York: Holt, Rinehart and Winston.

Pesetsky, David. 2013. *Russian Case Morphology and the Syntactic Categories*. Cambridge, Mass.: MIT Press.

Plunkett, Bernadette. 1993. The position of subjects in Modern Standard Arabic. In *Perspectives on Arabic Linguistics V: Papers from the 5th Annual Symposium on Arabic Linguistics*, ed. by Mushira Eid and Clive Holes, 231–260. Amsterdam: John Benjamins.

Poletto, Cecilia. 1995. The diachronic development of subject clitics in North Eastern Italian dialects. In *Clause Structure and Language Change*, ed. by Adrian Battye and Ian G. Roberts, 295–324. Oxford: Oxford University Press.

Preminger, Omer. 2009. Breaking agreements: Distinguishing agreement and clitic doubling by their failures. *Linguistic Inquiry* 40.4: 619–666.

Preminger, Omer. 2011. Asymmetries between person and number in syntax: A commentary on Baker's SCOPA. *Natural Language and Linguistic Theory* 29.4: 917–937.

Preminger, Omer. 2014. *Agreement and Its Failures*. Cambridge, Mass.: MIT Press.

Radford, Andrew. 2009. *Analyzing English Sentences: A Minimalist Approach*. Cambridge: Cambridge University Press.

Richards, Norvin. 2013. Lardil "case stacking" and the timing of case assignment. *Syntax* 16.1: 42–76.

Ritter, Elizabeth. 1988. A head-movement approach to construct-state noun phrases. *Linguistics* 26.6: 909–929.

Ritter, Elizabeth. 1991. Two functional categories in noun phrases: Evidence from Modern Hebrew. *Syntax and Semantics* 25: 37–62.

Ritter, Elizabeth. 1995. On the syntactic category of pronouns and agreement. *Natural Language and Linguistic Theory* 13.3: 405–443.

Rizzi, Luigi. 1982. *Issues in Italian Syntax*. Dordrecht: Foris Publications.

Ross, John R. 1967. Constraints on variables in syntax. Doctoral dissertation, MIT.

Rouveret, Alain, and Jean-Roger Vergnaud. 1980. Specifying reference to the subject: French causatives and conditions on representations. *Linguistic Inquiry* 11.1: 97–202.

Russell, Kevin, and Charlotte Reinhottz. 1995. Hierarchical structure in a non-configurational language: Asymmetries in Swampy Cree. In *Proceedings of WCCFL 14*, ed. by José Camacho, Lina Choueiri, and Maki Watanabe, 431–445.

Schneider-Zioga, Patricia. 1990. *Double object constructions and small clauses*. Manuscript, University of Southern California.

Schneider-Zioga, Patricia. 1993. *The syntax of clitic doubling in Modern Greek*. Doctoral dissertation, University of Southern California.

Schütze, Carson T. 1997. *INFL in child and adult language: Agreement, case, and licensing*. Doctoral dissertation, MIT.

Schütze, Carson T. 2001. On the nature of default case. *Syntax* 4.3: 205–238.

Shlonsky, Ur. 1989. *The hierarchical representation of subject-verb agreement.* Manuscript, University of Haifa.

Shlonsky, Ur. 1997. *Clause Structure and Word Order in Hebrew and Arabic: An Essay in Comparative Semitic Syntax.* New York/Oxford: Oxford University Press.

Shlonsky, Ur. 2000. Remarks on the complementizer layer of Standard Arabic. In *Research in Afroasiatic Grammar*, ed. byJacqueline Lecarme, Jean Lowenstamm and Ur Shlonsky, 325–344. Amsterdam: John Benjamins.

Shlonsky, Ur. 2004. The form of Semitic noun phrases. *Lingua* 114.12: 1465–1526.

Sibawayh, Abu Bishr. 1977. *Al-Kitaab*. Cairo: Impression, Dar Al-Qalam Press.

Sigurðsson, Halldór Ármann. 1996. Icelandic finite verb agreement. *Working Papers in Scandinavian Syntax* 57: 1–46.

Sigurðsson, Halldór Ármann, and Anders Holmberg. 2008. Icelandic dative intervention: Person and number are separate probes. In *Agreement Restrictions*, ed. by Roberta D'Alessandro, Susann Fischer and Gunnar Hrafn Hrafnbjargarson, 251–280. Berlin: Mouton de Gruyter.

Siloni, Tal. 2002. Adjectival constructs and inalienable constructions. In *Themes in Arabic and Hebrew Syntax*, ed. by Jamal Ouhalla and Ur Shlonsky, 161–187. Dordrecht: Kluwer Academic Publishers.

Slavin, Tanya. 2012. Phonological and syntactic evidence for stem structure in Oji-Cree. *International Journal of American Linguistics* 78.4: 497–532.

Soltan, Usama. 2006. Standard Arabic subject-verb agreement asymmetry revisited in an agree-based minimalist syntax. In *Agreement Systems*, ed. by Cedric Boeckx, 239–265. Amsterdam: John Benjamins.

Soltan, Usama. 2007a. On agree and postcyclic merge in syntactic derivations: first conjunct agreement in Standard Arabic revisited. In *Perspectives on Arabic Linguistics XIX: Papers from the 19th Annual Symposium on Arabic Linguistics*, ed. by Elabbas Benmamoun, 191–216. Amsterdam: John Benjamins.

Soltan, Usama. 2007b. *On formal feature licensing in minimalism: Aspects of Standard Arabic morphosyntax*. Doctoral dissertation, University of Maryland.

Speas, Margaret J. 1986. *Adjunctions and projections in syntax*. Doctoral dissertation. MIT.

Sportiche, Dominique. 1992. *Clitic constructions*. Manuscript, UCLA.

Sportiche, Dominique. 1996. Clitic constructions. In *Phrase Structure and the Lexicon*, ed. by Johan Rooryck and Laurie Zaring, 213–277. Dordrecht: Kluwer Academic Publishers.

Sproat, Richard. 1985. Welsh syntax and VSO structure. *Natural Language and Linguistic Theory* 3: 173–216.

Suleiman, Yasir, 2003. *The Arabic Language and National Identity: A Study in Ideology*. Washington, D.C.: Georgetown University Press.

Suñer, Margarita. 1988. The role of agreement in clitic-doubled constructions. *Natural Language and Linguistic Theory* 6.3: 391–434.

Suñer, Margarita. 1992. Subject clitics in the Northern Italian vernaculars and the matching hypothesis. *Natural Language and Linguistic Theory* 10.4: 641–672.

Taraldsen, Knut Tarald. 1995. On agreement and nominative objects in Icelandic. In *Studies in Comparative Germanic Syntax*, ed. by Hubert Haider, Susan Olsen and Sten Vikner, 307–327. Dordrecht: Kluwer Academic Publishers.

Thiersch, Craig. 1985. *VP and scrambling in the German Mittelfeld*. Manuscript, Tilburg University.

Valentine, J. Randolph. 2001. *Nishnaabemwin Reference Grammar*. Toronto: University of Toronto Press.

van Koppen, Marjo. 2005. One probe – Two goals: Aspects of agreement in Dutch dialects. Doctoral dissertation, Leiden University.

van Koppen, Marjo. 2008. Agreement with coordinated subjects: A comparative perspective. In *Linguistic Variation Yearbook 2007*, ed. by Jeroen Van Craenenbroeck, 121–161. Amsterdam: Benjamins.

Wald, Benji. 1979. The development of the Swahili object marker: A study of the interaction of syntax and discourse. In *Discourse and Syntax*, ed. by Talmy Givón, 505–524. New York: Academic Press.

Walkow, Martin. 2013. When can you agree with a closest conjunct? In *Proceedings of WCCFL 31*, ed. by Robert E. Santana-LaBarge, 474–483.

Wechsler, Stephen. 2011. Mixed agreement, the person feature, and the index/concord distinction. *Natural Language and Linguist Theory* 29.4: 999–1031.

Wechsler, Stephen, and Larisa Zlatić. 2003. *The Many Faces of Agreement*. Stanford: CSLI.

Zagona, Karen T. 1982. *Government and proper government of verbal projections*. Doctoral dissertation, University of Washington.