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Modality, Control and Restructuring in Arabic

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MODALITY, CONTROL AND RESTRUCTURING IN ARABIC

by

Yasser A. Albaty

A Dissertation Submitted in
Partial Fulfillment of the
Requirements for the Degree of
Doctor of Philosophy
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ABSTRACT

MODALITY, CONTROL AND RESTRUCTURING IN ARABIC

by

Yasser Albaty

The University of Wisconsin-Milwaukee, 2019

Under the Supervision of Professor Hamid Ouali

The dissertation examines theories of modality and control with data from Standard Arabic (SA). In particular, I show that complementations of particular modal and control verbs in SA are not clausal, but smaller phrases. This challenges proposed accounts in the literature of modality in SA as well as theories of control within Minimalism. I alternatively argue for a novel account of both constructions that posits a monoclausal (i.e., restructuring) structure.

First, Chapter 2 investigates modality verbs in SA and shows that subjunctive complements of modality do not exhibit the properties of clausal complementation. I examine the syntax-semantics properties of modality which reveal insights into the structure of modality. I argue that modality verbs are situated based on their semantic denotation. In this respect, I show that SA provides novel arguments to the long-held assumption that epistemic modality is high while root modality is low. Previously-unnoticed data are also discussed where it is shown that morphosyntactic properties comply with semantic restrictions that are independently motivated. Hence, I propose that modal verbs in SA have discrete positions in the clause structure and that they do not all target the same syntactic position. I discuss several arguments for this claim including Cinque's (2001, 2006) hierarchy and its relative ordering. I present a novel analysis that posits that modality in SA is a restructuring (monoclausal) structure.

The second part of the dissertation examines recent theories of control in Minimalism and argues that SA provides a new intriguing challenge in various theoretical and empirical aspects. In particular, I show that various empirical issues arise with the Movement Theory of Control (Hornstein, 2001; Boeckx and Hornstein, 2006, Hornstein et al., 2010), the Agree Theory of Control (Landau, 2000, 2004, 2006), and the Functional Theory of Control (Cinque, 2001, 2006; Grano, 2012). In Chapter 3, I establish that SA has obligatory control and examine the two types of control classified after Landau (2000). I argue that both Partial Control (PC) and Exhaustive Control (EC) obtain in SA. I propose a biclausal (i.e., non-restructuring) analysis for PC that postulates an embedded null syntactic subject (i.e., PRO).

In Chapters 4 and 5, I provide a battery of restructuring diagnostics that show that EC in SA is restructuring and pose an enormous challenge to contrasting analyses. The chapters discuss various issues that pertain to theories of control and finite control crosslinguistically. In particular, it is shown that control theories that postulate biclausal constructions for EC make untenable predications and are thus empirically challenged. I propose a new restructuring analysis for EC in SA that derives its properties and does not encounter the empirical challenges observed with other theories. The proposed account has crosslinguistic consequences and also sheds new lights into the discrepancies between forward and backward control.

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LIST OF ABBREVIATIONS

1, 2, 3 First, Second, Third Person

ACC Accusative

ACT Active

DAT Dative

F Feminine

GEN Genitive

IMP Imperfective

M Masculine

Neg Negative

NOM Nominative

NUM Number

PASS Passive

POSS Possessive

PL Plural

PERF Perfective

PRES Present

PST Past

SUB Subject

SUBJ Subjunctive

SG Singular

REF Reflexive

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1. INTRODUCTION

1.1 Introduction

This dissertation examines modality and obligatory control verbs (exhaustive control and partial control) in Standard Arabic (SA) and asks whether SA is a restructuring language. I will investigate the complementation of these verbs and their clause structure. The main proposal here is that these predicates do not have a non-uniform clause structure, as previously analyzed. In particular, I will argue that SA is a restructuring language and that modality and exhaustive control constructions show various syntactic and semantic properties of restructuring structures (i.e., they are monoclausals). On the other hand, I will argue that even though partial control selects subjunctive complements, similar to the other two classes, it is nonetheless a non-restructuring configuration (i.e., it is a biclausal). The motivation for this proposal comes from recent theories of restructuring assuming that reduced complementation is a property of crosslinguistically-recognized classes of predicates.

An increasing number of languages have recently been argued to conform to the theory of restructuring, including Basque (Arregi and Molina-Azaola, 2004), Brazilian Portuguese (Modesto, 2016), Chamorro (Wurmbrand, 2013), English, Greek, and Chinese (Grano, 2012), German, Dutch, Japanese (Wurmbrand, 2001, 2004), Hindi (Bhatt, 2005; Homer and Bhatt, 2019), Italian (Cinque, 2001, 2006; Cardinaletti and Shlonsky, 2004), German, Dutch, Japanese (Wurmbrand, 2001, 2004), Chamorro (Wurmbrand, 2013), Isbukun Bunun (Wu, 2013), among others. I will argue that Standard Arabic (SA) is no different. An immediate consequence of this proposal is a re-examination of clause structure in SA, in particular, the clause structure of crosslinguistically restructuring predicates, including modal verbs, causatives, motion verbs, aspectual verbs, and *some* obligatory control verbs (see Wurmbrand, 2001, 2015 and Grano, 2012 for a thorough discussion). Here, I will only

investigate the two extremes of the restructuring predicates spectrum, namely modality and obligatory control verbs. This dissertation, therefore, will offer a case study of the complementation in modality and obligatory control in SA. I argue in the chapters to follow that modals with subjunctive complements and exhaustive control verbs are restructuring and that these predicates instantiate a monoclausal structure, not a biclausal structure as previously assumed (Fassi Fehri, 1993, 2012; Mohammad, 2000; Aoun et al., 2010, among others).

The organization of this chapter is as follows. The next section considers the main assumptions of this dissertation with respect to clause structure and complementation in SA. In section 1.3, I will briefly discuss the adopted Minimalist framework. I will then review the phenomenon of restructuring and the main relevant approaches in section 1.4, paying close attention to the two contemporary approaches pursued by Wurmbrand (1998, 2001, 2004) and Cinque (1999, 2001, 2006). Section 1.5 highlights the significance of the dissertation and outlines its organization.

1.2 Main claim

Considering the syntactic and syntax-semantics interface properties of modality and exhaustive control verb constructions in SA, I argue for the hypothesis in (1).

- (1) *The restructuring hypothesis*: subjunctive modality and exhaustive control constructions in SA are restructuring in that they have only one CP, one TP, and one syntactic subject.

The assumption of restructuring adopted here follows Wurmbrand (1998, 2001, 2004) and Cinque (2001, 2004, 2006) in that there is no restructuring role in the grammar. In particular, I argue that restructuring configurations do not start as biclausal and then undergo a

restructuring rule or a *clause union rule*, as previously assumed within the approach of Government and Binding (GB) (see Wurmbrand, 2001 for a historical discussion of restructuring; see also §1.3 below). Nonetheless I, depart from the two approaches in crucial aspects. I first depart from Cinque's approach in that I propose that there is lexical restructuring in addition to functional restructuring while Cinque assumes only the latter type. On the other hand, I depart from Wurmbrand's approach in assuming that the complement of lexical restructuring in SA is not a bare VP, but a MoodP. I further depart from her approach in postulating obligatory head movement of the embedded verb to a higher functional phrase (i.e., it obligatorily vacates the complement phrase). The clause structure that emerges from the adopted hypothesis is structurally Minimalist in that it proposes that projection of phrases is only assumed if there is syntactic or semantic evidence for it.

The dissertation also assumes another Minimalist-driven motivation for restructuring. In particular, Grano (2012) argues that economy makes monoclausality an optimal structural option. In other words, as stated in Grano (2012: 109): "don't do with two clauses what you can do with one clause." The hypothesis above can also be seen as an extension of a crosslinguistic model that argues against language-specific analyses should a crosslinguistic analysis be possible.

1.3 Minimalism: theoretical framework

The theoretical framework adopted in this thesis is the theory of Principles and Parameters (P&P) as assumed within the Minimalist Program (Minimalism, henceforth) as proposed in Chomsky (1995, 2000, 2001, 2004, 2005). While there are various versions of the Minimalist agenda and its proposals, the fundamental architecture of the Language Faculty within Minimalism, as well as its main computational processes and interface levels, is relatively the same. Below I will discuss the relevant topics of Minimalism.

Minimalism is fundamentally driven by two P&P assumptions. The first one is that language consists of a lexicon and a computational system. The second assumption is that Language Faculty is innate. Minimalism takes these two assumptions for granted and asks why-questions about the design of Language Faculty (Chomsky, 2000). This set of questions and corresponding hypotheses are the reason why Minimalism is a *program*, not a theory by itself.¹ The program rests on three fundamental guidelines, as explicitly stated in Boeckx (2006: 83): (i) economy, (ii) virtual conceptual necessity, and (iii) symmetry.

Minimalism also assumes that the computational system interfaces with two language-external systems: articulatory–perceptual and conceptual–intentional. These two systems correspond to two linguistic interface levels, namely Phonetic Form (PF) and Logical Form (LF), respectively. Recent Minimalism further assumes that the basic operations within the computational system are Merge, Agree, and Transfer (Chomsky et al., 2019).² In addition, Minimalism also proposes a set of formal features that are required to be valued by Agree for a derivation to *converge*; otherwise, it crashes. I elaborate below.

Merge is a syntactic operation which combines two syntactic objects (selected lexical items) such as α and β and merges them into one binary set, $\{\alpha, \beta\}$. Merge is taken to be the only primitive hierarchical operation defined by Universal Grammar (UG) (Chomsky et al., 2019). Agree, on the other hand, refers to the operation of formal feature valuation at a distance. The assumed features within Minimalism are two variants, uninterpretable features [uF] and interpretable features [F] while Agree serves as a *minimal* search operation that

¹ See Boeckx (2006) for a detailed discussion on the scientific assumptions that research programs such as Minimalism rest on and the advantages of pursuing them

² Early Minimalism assumes that the computational system also has the operation MOVE, responsible for displacement. However, recent Minimalism deems MOVE a variant of Merge, Internal Merge in particular. Also, another operation that might be incorporated in the system (Chomsky et al., 2019, fn.13) is the Feature Inheritance operation, responsible for deleting ϕ -features of phase heads (Chomsky, 2008; Ouali, 2008).

relates the [uF] on a *probe* with a matching *goal* bearing [F] in its c-command domain. This is referred to as feature valuation or checking. Finally, Transfer is a recent Minimalist development that comes with a new assumption that a derivation does not have one Spell-Out point, but rather that a derivation has multiple Spell-Out points (Uriagereka, 1999; Chomsky, 2000, 2001). The points of Spell-Out (or Transfer to be accurate, see fn.3) are referred to as *Phases* in that syntactic derivation proceeds in cycles (i.e., phases) at which a syntactic structure can be *encapsulated* (in Lasnik's, 2002 term) and sent to PF and LF. Phases are generally recognized to be vP, CP (Chomsky, 2001, 2007; Chomsky et al. 2019), and DP (Bošković, 2013). The consequence of the concept of phase on syntactic derivation is that phases (more accurately phases' domains; i.e., complements) are not accessible to subsequent syntactic operations that affect their structure. Nonetheless, this does not necessitate that they are spelled-out upon Transfer and cannot be pronounced elsewhere.³

With these assumptions in mind, a syntactic derivation within Minimalism begins by a lexical array, *Numeration*, which is a *selection* of lexical items from the lexicon, followed by Merge, which combines two syntactic objects. Merge comes into two flavors: External Merge, the structure-building operation that merges two objects from numeration in a bottom-up fashion (i.e., hierarchically), and Internal Merge, which takes already-merged elements and re-merges them (i.e., Move). The resulted derivation must satisfy Full Interpretation, which requires that the output is interpretable at the interface levels of PF and LF (i.e., there are no uninterpretable features). In other words, Agree is required to value uninterpretable features before Transfer comes about.

³ This clearly indicates that Transfer is not equal to Spell-Out. Evidence for this as discussed in Chomsky et al. (2019: 13) comes from data such as (i) and (ii). In (i) the NP α has an embedded Phase β which should be sent off to the interface levels. But if α undergoes further syntactic operations, i.e., movement, as in (ii), β will not be pronounced in-situ, but in its derived position. If Transfer means Spell-Out, this would be impossible.

(i) [_{α} the verdict [_{β} that Tom Jones is guilty]]

(ii) [_{α} the verdict [_{α} that Tom Jones is guilty]] seems to have been reached (α) by the jury.

The above discussion lays out the fundamental assumptions within Minimalism with respect to its architecture and derivational operations. It is not my primary goal here to discuss other assumptions within Minimalism, though many of them will be touched upon throughout the dissertation. For detailed discussions on Minimalism, see Chomsky (2001, 2002, 2004), Lasnik (2002), Boeckx (2006), Lasnik and Lohndal (2010), Bošković (2013), Collins and Stabler (2016), and Chomsky et al. (2019).

1.4 Restructuring: an overview

The main goal of this section is to selectively review the literature of restructuring, a phenomenon that has received various analyses since the influential works of Aissen & Perlmutter (1976) and Rizzi (1978, 1982). The literature on restructuring is vast and I will not do justice to all of it here. I will try, instead, to lay out some of the central studies that will be of importance to the current dissertation. The classical idea of restructuring, as the name indicates, is that a biclausal structure undergoes *restructuring* to become a monoclausal one (Wurmbrand, 2001). It was first discussed in Italian (Rizzi, 1978, 1982) and Spanish (Aissen & Perlmutter, 1976). In restructuring languages, seemingly biclausal sentences show transparency effects that only obtain with a subset of verbs. Clitic climbing has been taken to be the hallmark of restructuring in a number of these languages. In particular, it was observed that only with some matrix predicates can a clitic of the embedded clause climb to the matrix verb. Later studies reveal that this is found in several other related and unrelated languages (see Wurmbrand, 1998, 2001, 2015 Cinque, 2006; Grano, 2012). Consider the Italian data below in which clitic climbing is only possible with *can*, but not with *believe*.

- (2) Mario sa risolver-**lo** da solo.
 Mario can solve-it by himself

‘Mario can solve it by himself.’ (Rizzi, 1982: 4)⁴

(3) Mario **lo**-sa risolvere da solo.
Mario it-can solve by himself
‘Mario can solve it by himself.’ (Rizzi, 1982: 4)

(4) Credo che Gianni **la**-presenterà a Francesco.
believe._{1SG} that Gianni her-present._{FUT} to Francesco
‘I believe that Gianni will present her to Francesco.’ (Rizzi, 1982: 6)

(5) ***la**-Credo che Gianni presenterà a Francesco.
her-believe._{1SG} that Gianni present._{FUT} to Francesco
‘I believe that Gianni will present her to Francesco.’ (Rizzi, 1982: 6)

Italian restructuring verbs, for instance, allow the clitic of the embedded verb (the infinitive) to *climb* to the matrix verb (the restructuring verb) as seen above. The object clitic pronoun *lo* ‘it’ in (2) is originally attached to the right of the embedded verb (i.e., as a suffix). This clitic can climb to the matrix restructuring verb *sa* ‘can’, as shown in (3) (note that in Italian, the clitic is at the immediate left of a finite verb but at the immediate right of the infinitive). With non-restructuring verbs, however, clitic climbing is blocked. The verb *credo* ‘believe’ in (4), for instance, instantiates a bi-clausal structure, as indicated by the presence of the complementizer *che* ‘that’. Hence, clitic climbing of the object pronoun *la* ‘her’ is ungrammatical, as shown in (5).

Rizzi (1978, 1982) analyzes this transparency with clitic climbing as a lack of clausal boundary facilitated by a movement of the embedded verb to the matrix verb, establishing a complex verb. However, the introduction of Minimalism (Chomsky and Lasnik, 1993, Chomsky, 1995) has provided a fresh look at clause structure with the assumption that

⁴ Throughout the dissertation, glossing from other resources has been modified for consistency.

combined features determine phrase structures (Wurmbrand, 2001: 226; on Minimalism, see §1.3 above). Therefore, contemporary theories of restructuring argue against postulating a *restructuring* or *clause union* rule, as was previously assumed in studies within Government and Binding (GB) (see Wurmbrand, 2001 for the history of restructuring and pre-Minimalist analyses). Instead, it is assumed that restructuring is a monoclausal structure from the beginning of the derivation (Wurmbrand, 1998, 2001, 2015a; Cinque, 2000, 2004, 2006; Grano, 2012 among others). That is, there is no syntactic operation required to derive transparency effects in restructuring.

Clitic climbing has been known as a transparency effect in many Romance languages since Rizzi (1982). Languages differ, however, as to what constitutes a transparency effect of restructuring. For instance, Wurmbrand (1998, 2001) argues that a transparency effect in German is the long passive. In such constructions, the embedded object moves to Spec, TP of the matrix verb (the embedding verb) and realizes its case as NOM. This occurs when the matrix verb is passivized. This movement is possible with restructuring verbs in German, such as *versucht* ‘try’, as shown in (6)a, but not with non-restructuring verbs, such as *geplant* ‘plan’, as shown in (6)b. This variance in restructuring diagnostics makes it necessary to ascertain and state the diagnostics available to the language under study. As such, one of the major contributions of this dissertation is to provide various diagnostics of restructuring in SA.

(6) a. dass der Traktor zu reparieren versucht wurde.
 that the tractor-NOM to repair tried was
 ‘that they tried to repair the tractor’ (Wurmbrand, 2001: 19)

b. *dass der Traktor zu reparieren geplant wurde.
 that the tractor-NOM to repair planned was

‘that they planned to repair the tractor.’ (Wurmbrand, 2001: 36)

Crosslinguistically, there are subsets of verbs that appear to be restructuring verbs, as discussed above. These are mostly functional verbs, shown in the table below. Lexical verbs, on the other hand, show variance among languages (Wurmbrand, 2001, 2015; Grano, 2012). In this dissertation I will argue, following insights from Grano (2012), that exhaustive control verbs in SA are restructuring verbs. This will be taken up in Chapter 5.

Verb	German	Dutch	Spanish	Italian	Japanese
Modal verbs	✓	✓	✓	✓	✓
Motion verbs	✓	✓	✓	✓	✓
Aspectual verbs	✓	✓	✓	✓	✓
Causatives	✓	✓	✓	✓	✓

Table 1: Core restructuring verbs (adopted from Wurmbrand, 2001: 7)

As alluded to above, restructuring has been analyzed under different approaches. Rizzi (1982) and others propose a biclausal structure that is transparent due to embedded verb movement forming of a complex verb. A more recent line of analysis adopts a monoclausal structure all the way from the beginning (Wurmbrand, 1998, 2001; Cinque, 2000; 2006, Grano, 2012). I will call the first approach *transformational restructuring* (Rizzi, 1982, Burzio, 1986), and I will call analyses that assume a monoclausal structure in all stages of derivation *free restructuring* (Wurmbrand, 1998, 2001, 2004, 2015a; Cinque, 2001, 2002, 2006; Grano, 2012, among others). The latter approach makes use of a non-transformational driven structure and assumes that restructuring is a straightforward result of the monoclausal

structure. That is, transparency does not need to be accounted for; it is a by-product of monoclausality. I will discuss below the two lines of analysis in detail, starting with the transformational approach.

The transformational approach accounts for transparency effects (i.e., local operations that are only allowed in restructuring constructions) by proposing a syntactic operation that transforms a biclausal structure into a monoclausal-like one. This operation is what Rizzi (1982) calls the *restructuring* rule, Haegman and van Riemsdijk call the *reanalysis process* (1986), and others (Evers, 1972) describe as a result of a *pruning* rule (see Wurmbrand, 2001 for further discussion). It follows that the *transformational restructuring* approach accounts for transparency properties by a syntactic operation that renders the complement transparent to clause-bounded operations. Various approaches have been put forth in this line of analysis. Among the more common ones are the head movement approach (i.e., V-movement to the matrix V; Rizzi, 1982) and the VP-approach where the embedded infinitival VP moves to the matrix clause (Burzio, 1986).

On the other hand, two analyses are assumed within the monoclausal approach to restructuring (i.e., free restructuring). The first argues that all restructuring verbs are functional verbs, realized directly into the functional domain in a structure along the lines of (7)a (Cinque, 2004, 2006; Grano, 2012). On the other hand, Wurmbrand (1998, 2001, 2004) argues that the structure suggested by Cinque is only compatible with functional restructuring verbs and that another account should be proposed for lexical restructuring verbs (i.e., verbs that clearly show a thematic relation with the subject). Hence, she proposes the bare VP-complementation approach, shown in (7)b, which assumes that lexical restructuring verbs embed another bare VP, not a vP or bigger phrases (i.e., TP or CP).

- (7) a. [CP [FP ... [FP V_{restr} [FP ... [VP V]]]]] (Cinque, 2006: 12)

b. [CP [TP [_vP [VP V_{lex.} restr [VP V ..]]]]]

(Wurmbrand, 2001: 17)

Next, I will briefly discuss Cinque's and Wurmbrand's approach to restructuring as insights from them will be adopted in this dissertation.

1.4.1 Cinque's approach to restructuring

Cinque develops a research program on restructuring within the cartographic project that has been initiated since Rizzi (1997). In various works, building on his Functional Hierarchy of adverbs (Cinque, 1999), Cinque (2001, 2004, 2006) proposes that restructuring verbs are functional verbs that also have a fixed order in the functional spine. His influential approach and contribution to restructuring contrast in non-trivial ways with Wurmbrand's approach, which will be discussed in the next section (Wurmbrand, 1998, 2001, 2004).

Cinque's (2002, 2006) main idea is that functional heads are rigidly ordered and that this applies crosslinguistically regardless of variance in word order.⁵ The underlying assumption of his idea is that the universal order of functional heads is reminiscent of Chomsky's (2001) Uniformity Principle. Cinque (2006:3) thus argues that "all languages share the same functional categories and the same principle of phrase and clause composition." This assumption is the core of what has been known as *the cartographic project* as well as Cinque's Hierarchy (1999, 2001, 2006).

Cinque extends the universal functional hierarchy from adverbs to also include restructuring verbs, arguing that they are functional as well. A portion of Cinque's Hierarchy is given below (2006:12):

⁵ In Chapters 4 and 5, I will extensively discuss Grano (2012) who builds on Cinque's approach to pursue a theory of exhaustive control and provide arguments against the functional approach to this type of control constructions.

- (8) MoodP_{speech act} > MoodP_{evaluative} > MoodP_{evidential} > ModP_{epistemic} > TP(Past) > TP(Future) > MoodP_{irrealis} > ModP_{alethic} > AspP_{habitual} > AspP_{repetitive(I)} > AspP_{frequentative(I)} > ModP_{volitional} > AspP_{celerative(I)} > TP(Anterior) > AspP_{terminative} > AspP_{continuative} > AspP_{retrospective} > AspP_{proximative} > AspP_{durative} > AspP_{generic/progressive} > AspP_{prospective} > ModP_{obligation} > ModP_{permission/ability} > AspP_{Completive} > VoiceP > AspP_{celerative(II)} > AspP_{repetitive(II)} > AspP_{frequentative(II)}

Cinque proposes that the verbs that correspond to the semantics of the function heads in (8) are functional and are therefore directly inserted into the corresponding head. Put differently, these functional heads do not instantiate a lexical phrase (i.e., VP) but are instead in the functional domain. The monoclausality of restructuring thus follows naturally under this analysis shown in (9)a, which clearly argues against the biclausal structures given in (9)b.

- (9) a. [CP [FP ... [FP V_{restr} [FP ... [VP V]]]]] (monoclausal) (Cinque, 2006: 12)
 b. [CP [FP ... [VP V [CP ... [VP V]]]]] (biclausal)

Cinque's argument for the functional status of restructuring verbs relies heavily on the relative ordering of restructuring verbs that conforms to Cinque's Hierarchy (Cinque, 1999, 2006). He shows that restructuring verbs embedded under each other show a fixed order and do not co-occur freely. For example, when *tendere* 'tend' and *volere* 'want' co-occur, the accepted order is *tendere*>*volere*, while the reverse is ungrammatical. This is illustrated in (10).

- (10) a. Lo tenderebbe a voler fare sempre lui.
 it tend to want do always himself
 'He would tend to want to always do it he himself.'
 b. *Lo vorrebbe tendere a fare sempre lui.
 it want tend to do always himself

‘He would want to tend to always do it he himself.’ (Cinque, 2006: 18)⁶

From the above data, Cinque takes this rigid order as a reflection of the functional hierarchy with the order $ASP_{\text{predispositional}} > Mod_{\text{volitional}}$. Another example is the rigid order between the two restructuring verbs, *volere* ‘want’ and the aspectual *smettere* ‘stop’ as shown in (11). Similarly, the ordering corresponds to $Mod_{\text{volitional}} > Asp_{\text{terminative}}$, and the reverse (stop>want) is ungrammatical.

(11) a. Non vi vuole smettere di importunare.
NEG you want stop to bother
‘he does not want to stop bothering you.’

b. *Non vi smettere di vuole importunare.
NEG you stop to want bother
‘he does not stop wanting to bother you.’ (Cinque, 2006: 18)

Additional evidence Cinque provides to support his analysis comes from restrictions on using the same adverb twice (which I will refer to as the restriction on adverb co-occurrence, henceforth). Adverbs like *già* ‘already’ and *sempre* ‘always’ can occur only once in monoclausals. Cinque (2006) argues that this is precisely the case in restructuring, as the contrast in the examples below shows;

⁶ word-by-word glossing is not provided by source and is added here for clarity and consistency.

- (12) a. Maria vorrebbe **già** averlo **già** lasciato.
 Maria want already have.him already left
 ‘Maria would already want to have already left him’
- b. *Maria **lo-**vorrebbe **già** aver **già** lasciato.
 M him-want already have already left (Cinque, 2006: 17)

Notice that this restriction is operative when transparency effects (such as clitic climbing and Long NP-movement) obtain as in (12)b. (12)a, on the other hand, is biclausal as the verb *want* in Italian is ambiguous between restructuring and non-restructuring and only in a construction where clitic climbing obtains is it restructuring.

Cinque argues that the relative ordering and the restriction on adverb co-occurrence follow naturally under the monoclausal analysis but would be puzzling under any biclausal approach. Cinque further argues that restructuring verbs do not assign thematic roles and thus do not have an external argument. Even though he discusses some cases where selection does appear, he conjectures that this is just an appearance (see Cinque, 2006; Ch.1 for further discussion).

The dissertation will put a number of Cinque’s assumptions into action. I will particularly adopt his view to modality in SA, arguing that modal verbs are functional heads that comply with Cinque’s theory. I will additionally provide evidence for Cinque’s Hierarchy and for the idea that modal verbs have different structural positions at LF and PF. Notice that the different LF positions proposal refers to epistemic modals being operators that scope over proposition (i.e., over TP) while root modals are operators that scope over properties/predicates (i.e., over VP/vP). I will provide novel arguments to Cinque’s hierarchy based on modality interpretations and the asymmetry of their aspectual properties. On the other hand, I will argue against Cinque’s assumption that restructuring verbs are functional

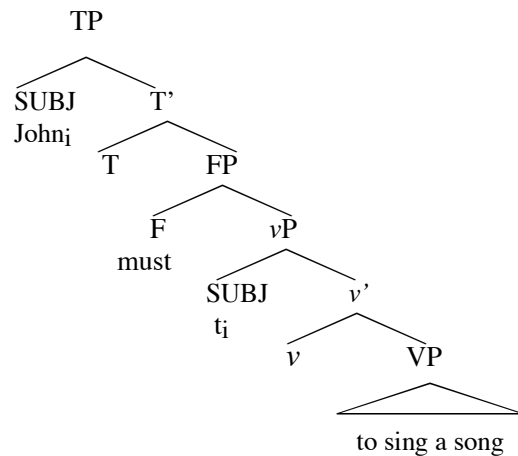
across the board. In fact, it will be shown that one modal verb is in fact purely lexical with all the properties of lexical verbs. This will be discussed in Chapter 2. Consequently, I will argue that restructuring is not only functional but in fact comes into two types, functional and lexical, as it is pursued in Wurmbrand (1998, 2001, 2004 seq.) which I discuss next.

1.4.2 Wurmbrand's approach to restructuring

Wurmbrand (1998, 2001, 2004) follows a different line of analysis for restructuring than the one proposed by Cinque (2001, 2004, 2006). While Cinque proposes that restructuring verbs are functional heads that correspond to the hierarchy discussed above, Wurmbrand argues that restructuring verbs are not uniformly functional. In particular, she argues that restructuring has two classes, *functional restructuring* and *lexical restructuring*. While she agrees with Cinque that functional restructuring is less marked and universally robust, she nevertheless argues that Cinque's theory encounters various empirical challenges that would be puzzling if all restructuring predicates were only functional. She hence proposes that the two classes are not just mere notational differences but are indeed empirically attested.

Wurmbrand's (1998, 2001) main proposal is that control infinitivals are not CPs uniformly, but that there is a well-defined class of verbs that embeds phrases smaller than a CP. She argues that (lexical) restructuring verbs do not embed CPs, TPs, or vPs, but rather bare-VPs. As for functional restructuring, on the other hand, she proposes a monoclausal structure for modals, aspectuals, and other functional heads, similar to Picallo (1990) and others. This is shown in (13) (adopted from Wurmbrand, 1998: 32).

(13)

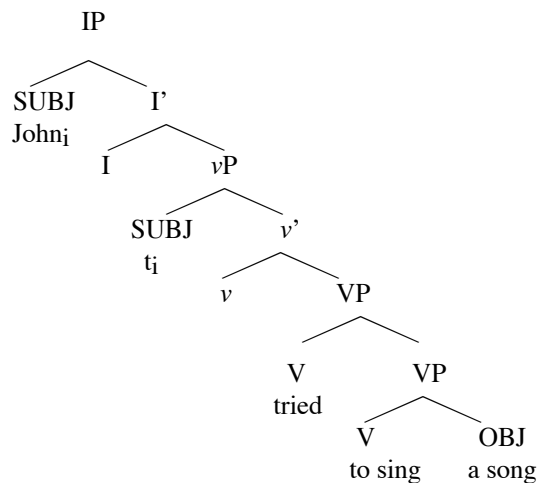


Notice that the above structure assumes that the main predicate is the infinitival verb and the functional head (the modal here) is in the extended projection. Wurmbrand argues that the above account does not lead to complications involved with transformational restructuring; that is, there is no need to assume a *restructuring* or *clause unification* rule (Wurmbrand, 1998: 32).

The functional restructuring analysis that Wurmbrand assumes is not new and shares with Cinque (1999, 2001, 2006) the same assumption of modals being functional. Wurmbrand's new insight is that lexical restructuring specifically is also a monoclausal structure nonetheless it is not functional. Defining a clause by the presence of vP, TP, and CP, she argues that lexical restructuring is similar to functional restructuring with respect to monoclausality. More importantly, she argues against Cinque's (2001, 2006) approach, proposing that control restructuring verbs are lexical predicates embedding a subjectless bare VP as in (14) (adopted from Wurmbrand, 1998: 33); this is what she calls lexical restructuring (Wurmbrand, 1998, 2001, 2004).⁷

⁷ Wurmbrand (2001) proposes four types of infinitival predicates: lexical restructuring, functional restructuring, reduced non-restructuring, and non-restructuring.

(14)



In the above structure, we see that there is only one vP associated with the matrix verb *try*. The infinitival is a bare-VP that does not have an external argument and thus does not constitute a vP . The central assumption that Wurmbrand pursues is that the infinitival VP is semantically a property, not a proposition, along the lines of Chierchia (1984), and that this is a case of semantic control where no embedded syntactic subject (i.e., no PRO or overt DP) is assumed. I will discuss this analysis in detail in Chapters 4 and 5 where I propose that an analysis along these assumptions is an adequate analysis for Exhaustive Control (EC) in SA.

1.5 Significance and organization

1.5.1 Significance

The dissertation provides an in-depth investigation into various understudied constructions in SA. The aim is not only to provide a systematic description of the empirical findings but also to pursue a line of analysis that enriches the theories of these constructions.

In particular, the study of modality is, to my knowledge, the first investigation in SA that looks into the syntax-semantics interface of modality and addresses the semantic ambiguity of modals. A number of findings are thus novel. First, the main proposal, i.e., that

modality constructions in SA are monoclausal, argues against the standard analysis that they are biclausal (Fassi Fehri, 1993, 2012; Mohammad, 2000; Aoun et al. 2010). Second, there are various novel observations regarding modality, including that modal verbs have different structural positions that bear on various idiosyncrasies between epistemic modals and root modals on the one hand and among root modal verbs on the other. Modality in SA shows new support for the crosslinguistic assumption that epistemic modals are structurally high while root modals are structurally low. In addition, the finding that the dynamic modal requires voice matching with the embedded verb provides a new and robust argument that SA is a restructuring language. I also report that SA has an actuality entailment effect, a previously unnoticed property of modality in SA.

Chapter 3 argues that SA has partial control in the sense of Landau (2000, 2004). I provide various arguments in support of this proposal. The finding that SA has partial control is not only new, but actually theoretically crucial, as it challenges Landau's theory of partial control in which he argues that partial control cannot obtain in agreeing complements.

Chapters 4 and 5 examine exhaustive control in SA and present various arguments that support the main claim. I will argue that exhaustive control constructions in SA are restructuring and argue that there is no embedded *PRO/pro*. I adopt various diagnostics of restructuring suggested in the literature and develop additional new ones. The discussion in these two chapters is theoretically oriented as I argue against two Minimalist theories of control that are widely adopted. Alternatively, I propose a novel analysis for exhaustive control in SA that derives the facts of exhaustive control in SA without the empirical challenges that the previous analyses encounter. I also argue that the proposed analysis can account for forward control and backward control in SA and seem to naturally extend to other languages.

1.5.2 Organization of dissertation

This section summarizes the main ideas developed in the following chapters. Chapter 2 examines modal verbs constructions and seeks an adequate analysis to derive their properties. I first show that ambiguity arises with modal verbs in SA in that the modal can be epistemic or root and associate this ambiguity with an assumption in the literature of syntax and semantics that the two modal interpretations follow from the different position each interpretation has. I will draw on this assumption to show that various empirical arguments bear on it, including different syntactic, semantic, and morphological properties.

Chapter 3 has two parts. In the first part, I critically discuss control theories in Minimalism and how new data from SA in this chapter and the following two pose novel challenges. I will particularly challenge the Movement Theory of Control (Hornstein, 1999, 2001, 2003; Boeckx et al., 2010), the Agree Theory of Control (Landau, 2000, 2004, 2006), and the Raising Theory of Restructuring (Grano, 2012). The second part of Chapter 3 considers whether or not partial control obtains in SA, arguing that it does and discussing an analysis that derives the observed facts.

Chapters 4 and 5 examine exhaustive control in SA. Chapter 4 begins with empirical arguments and various diagnostics of restructuring that support the main hypothesis. I will systematically show how alternative control theories are empirically challenged by these arguments and that the uniform biclausal approach to both EC and PC face different challenges. In Chapter 5, I will provide a new analysis for EC in SA that assumes a monoclausal structure and will argue that it accounts for EC properties and sheds light on a crosslinguistic phenomenon of backward control.

Chapter 6 summarizes the findings of the previous chapters and discusses theoretical implications, limitations, and future works.

2. Modality in SA and restructuring

2.1 Introduction

The aim of this chapter is to investigate modal verbs in SA and propose a novel account to capture their syntactic and semantic properties. Specifically, I will argue that modal verbs are restructuring verbs that instantiate a monoclausal structure. They are also realized in the functional structure, conforming to a crosslinguistically established order, known as Cinque's Hierarchy (Cinque, 1999, 2001, 2006). This contrasts with the standard assumptions about SA modal verbs, which are generally taken to instantiate a biclausal structure (Fassi Fehri, 1993, 2012; Mohammed 2000; Aoun et al. 2010, among others).

One of the well-known properties of modality is the different interpretations that a modal verb receives, a property that has been established crosslinguistically (Jackendoff, 1972; Kratzer, 1981, 1991; Picallo, 1990; Palmer, 1991; Wurmbrand, 1998, 2001; Butler, 2003, Iatridou & Zeijlstra, 2013; Giannakidou & Mari, 2019). The ambiguity of modality holds in Arabic as well. For instance, the sentence in (15) has two readings; in the first, the modal *jumkin* 'may' has an epistemic reading. In such a reading, the speaker *knows* (i.e., has evidence) that the subject would go (for example that he normally goes to such a place, or he likes the people there and so forth). The second reading is a root reading (here, it is a permission given to the subject to go). That is, this reading is compatible with the regulations of, say, his parents, that Fahad goes.

- (15) jumkinu ʔan jaðhab-a fahd-u.
 may SM go.3MS-SUBJ Fahad-NOM
 'It is possible that Fahad would go.' (*epistemic reading: compatible with the speaker's knowledge*)
 'Fahad is allowed to go.' (*root reading: permission*)

The ambiguity of modal verbs leads to a conclusion that the different interpretations of the same modal correspond to different structural differences (generally assumed at LF) (Jackendoff, 1972; Picallo, 1981; Palmer, 1990; Cinque, 1999, 2006; Wurmbrand 2001; Hacquard, 2006, 2010). I will elaborate more on this later.

In this chapter, I will address the following questions:

1. What is the structure of modality constructions in SA?
2. Does SA show restructuring effects with modal constructions?
3. How can we account for the semantic and syntactic facts pertaining to modality?

Addressing these questions, I propose a monoclausal analysis for modal verbs in Arabic that is not only compatible with restructuring as a typological phenomenon (see Wurmbrand, 1998, 2001; Cinque, 1999, 2006), but also with the semantics and syntax of modality in Arabic and crosslinguistically. In particular, I propose the following:

1. Arabic modal verbs are restructuring verbs (i.e., they instantiate a monoclausal structure).
2. Arabic shows compatibility with *Cinque's Hierarchy* (Cinque, 1999, 2006).
3. Modal constructions are better analyzed with a restructuring analysis that takes into account the structural differences among modals.

One contribution of this study lies in investigating modality from a restructuring perspective, which has not been investigated in SA before. Specifically, the purpose of the chapter is threefold. First, it investigates whether Arabic is a restructuring language. Second, if Arabic shows any restructuring effect, it must be evident in functional heads, as discussed above. Hence, if modals are indeed restructuring verbs, as I argue here, then an alternative

account to the standard biclausal approach is called for. Third, the current study investigates *Cinque's Hierarchy* (Cinque, 1999, 2006) which is a proposed UG order of functional heads (more on this in Section 2.4.3; see also Chapter 1, for a discussion).

Further, accounting for the structural differences of modality interpretations, I pursue an approach that accounts for modality in Arabic by assigning every modal interpretation a discrete position. The proposed account does not only explain Arabic modality facts and the proposed typological structural differences, but also accounts for an intriguing result of the interaction between aspect and modality, namely *the actuality entailment effect*, first explored by Bhatt (1999) (more on this in §2.5). Moreover, the discussion of Arabic modality and the proposed account shed light on two related crosslinguistic phenomena. First, I argue that Arabic modality reflects the structural distinction made between epistemic and root modals not only at LF, but at PF as well. Second, I propose that Arabic modality also shows at PF the semantic distinction assumed between epistemic and root modals whereby the former are speaker-oriented while the latter are subject-oriented (see §2.6.1 for further discussion).

2.1.1 Restructuring with modals

The importance of functional categories was realized long ago in generative grammar. However, only with the seminal works of Chomsky (1988), Pollock (1989), Ouhalla (1991) and others did functional categories start to attract much interest. The advent of the *cartography project* (Cinque, 1999, 2004, 2006; Rizzi 2004; Rizzi and Cinque, 2016; Belletti, 2004) provides much insight into the parametric variation that exists among languages. The main assumption of the project is that all languages share the same functional categories and adhere to a fixed rigid order of functional heads (Cinque, 1999, 2002, 2006).

(18) Credo che Gianni la-presenterà a Francesco.
 believe._{.ISG} that Gianni **her**-present._{.FUT} to Francesco
 ‘I believe that Gianni will present her to Francesco.’ (Rizzi, 1982: 6)

(19) *la-Credo che Gianni presenterà a Francesco.
her-believe._{.ISG} that Gianni present._{.FUT} to Francesco
 ‘I believe that Gianni will present her to Francesco.’ (Rizzi, 1982: 6)

However, as discussed above, languages differ in the appropriate restructuring diagnostics and clitic climbing is not possible to all languages. In German, long passive has been taken to be the hallmark of restructuring (Wurmbrand (1998, 2001) which is only possible with restructuring verb as shown (20)a, repeated from (6)a), but not so with non-restructuring verbs, such as *geplant* ‘plan’, as shown in(20)b, repeated from (6)b above. Restructuring diagnostics across languages will be discussed in detail in §4.3.

(20) a.dass der Traktor zu reparieren versucht wurde.
 that the tractor-_{NOM} to repair tried was
 ‘That they tried to repair the tractor.’ (Wurmbrand, 2001: 19)

b.*dass der Traktor zu reparieren geplant wurde .
 that the tractor-_{NOM} to repair planned was
 ‘That they planned to repair the tractor.’ (Wurmbrand, 2001: 36)

As discussed in Chapter 1, there also seem to be subsets of verbs that are restructuring verbs crosslinguistically. These are generally functional verbs (shown in the Table below, repeated from Chapter 1).

Table 1: Core restructuring verbs (Wurmbrand, 2001:7)

Verb	German	Dutch	Spanish	Italian	Japanese
Modal verbs	✓	✓	✓	✓	✓
Motion verbs	✓	✓	✓	✓	✓
Aspectual verbs	✓	✓	✓	✓	✓
Causatives	✓	✓	✓	✓	✓

Restructuring constructions have been analyzed under different approaches, as discussed above. Cinque (2006), for instance, argues that all restructuring verbs are functional verbs, realized directly into the functional domain. Even though Wurmbrand argues that Cinque's claim is only valid to functional heads, she shares with him that functional verbs, such as modals, are realized in the functional domain and that they instantiate a monoclausal structure. Thus, the different assumptions will not be at stake in this chapter given it deals with modality and both approaches converge on an analysis along the lines given in (21).

(21) [CP [FP ... [FP V_{restr} [FP ... [VP V]]]]] (Cinque, 2006: 12)

2.1.2 Modality

It is widely assumed in the studies of modality across languages that the same modal verb can come in different flavors, as discussed above (Kratzer, 1981, 1991; Picallo, 1990; Palmer,

1991, 2001; Butler, 2003). For example, the modal *must* in (22) is an epistemic modal. A Kratzerian's view of this modal would translate the sentence as *in view of the evidence available to the speaker at the utterance time, it must be the case that John is sick and that is the reason for his absence*. Epistemic modals involve assumptions based on what the speaker knows; *must* is a necessity (universal) modal and *may* is a possibility (existential) modal. On the other hand, *must* in (23) is what is a root modal.⁹ In this case, it expresses obligations imposed on *John*, understood as *in view of rules/obligations, John has to leave*.

(22) John must be sick. (*in a context where John is expected to come, for instance*)

(23) John must leave now! (*in a context where a person of authority is giving an order*)

Similarly, the modal verb *can* is ambiguous between two readings; root (deontic/permission) and dynamic (ability). This is exemplified in (24) and (25). In the former, *can* is a root modal that can be defined as a possibility modal that denotes permission to the subject. This would be translated as *it is compatible with the rules/regulations that you leave*. On the other hand, the modal *can* in (25) can be translated as *it is compatible with the abilities of the subject that he (John) can lift the table*.

(24) You can leave now. (*in a context of a mother allowing her kid to leave home*)

(25) John can lift the table. (*in a context where the speaker knows that John has a physical ability that allows him to lift the table*)

The interpretation differences observed above has been assumed to correspond to structural differences, as mentioned above (Jackendoff, 1972; Picallo, 1981; Wurmbrand, 1998, 2001; Cinque, 1999, 2006; Hacquard, 2006, 2010). It is generally assumed that

⁹ A note about terminology is in order; in the literature, root is used as a cover term to all non-epistemic readings (von Stechow and Heim, 2016). I will keep using this general distinction till it is important to make further distinctions among the root readings (i.e., circumstantial, deontic, dynamic, etc.).

epistemic modals are higher than T whereas root modals are below T. I will build on this structural assumption and argue that SA modals are consistent with this conjecture.

The remainder of the chapter is organized as follows. Section 2.2 discusses modality facts in SA and sketches the existing biclausal analyses proposed in the literature of SA. I then examine the categorization of the heads *?an* and *?anna* in SA in Section 2.3, providing various arguments that show that the two heads are different and that the standard categorization is empirically inadequate. I alternatively propose that *?an* is a mood marker and not a complementizer, while *?anna* is a genuine complementizer. In Section 2.4, I discuss the interpretations of modality in general and the structural differences proposed for epistemic and root modals crosslinguistically. I then present the restructuring diagnostics that provide compelling evidence for the restructuring (i.e., monoclausal) structures for modals in SA. Section 2.5 provides a detailed discussion of the proposed restructuring analysis and how it accounts for the properties of modality in SA. In Section 2.6, I extend the proposed analysis to novel properties of modality in SA. In particular, I will discuss empirical consequences of the analysis including Dative Modality constructions (DMs), aspectual asymmetry, the lexical dynamic modal, and the actuality entailment effect of Bhatt (1999). Various novel observations will be discussed to support the proposed analysis and militate against the biclausal approach to modality in SA. Section 2.7 concludes the chapter.

2.2 Arabic modality facts

Languages use modality with different constructions and categories. Arabic is no exception.

Modality in Arabic can be established by using modals verbs (26), adjectives (27), prepositional phrases (28), and modal particles (29).¹⁰

(26) jumkin-u *(ʔan) jarbaḥ-a aḥmad-u .
might- IND SM¹¹ win- SUBJ Ahmad- NOM
‘Ahmad might win.’

(27) mumkinun *(ʔan) jarbaḥ-a aḥmad-u .
possible SM win-SUBJ Ahmad- NOM
‘It is possible for Ahmad to win.’

(28) min al-mumkini *(ʔan) jarbaḥ-a aḥmad-u .
of the-possible SM win- SUBJ Ahmad-NOM
‘It is possible for Ahmad to win.’

(29) qad *(ʔan) jarbaḥ-u aḥmad-u .
may SM win. IND Ahmad- NOM
‘Ahmad may win.’

¹⁰ Other modal particles in Arabic are *laʕalla* and *rubamma*, both of which have the same meaning of *qad* ‘might/may’. For further discussion, see Bahloul (2007).

¹¹ SM stands for Subjunctive Marker. One could gloss *ʔan* as an infinitival marker *to* in English, following Bahloul (2007). However, as various assumptions are made in this work regarding its category, I will gloss it as SM, which is the category adopted in this work.

As is evident from the data above, the different strategies of modality in Arabic manifest different syntactic properties. In the first three strategies, the complement of the modal is headed by the obligatory mood marker *ʔan* which assigns the subjunctive mood to the embedded verb (or using Feature-checking system, *ʔan* checks the feature [+Subjunctive] on the verbal head; see Chapter 5 for elaboration on this point). The selection of this mood marker is vital to the structure of modality in Arabic, as the different categories assigned to this particle trigger different assumptions about clause structures and clause size (Fassi Fehri, 1993, 2012; Bahloul, 2007, Mohammad, 2000; Aoun et al. 2010). This issue will be taken up in Section 3. In contrast, the modal particle *qad* does not select the mood marker *ʔan*, as shown in (29). In the current work, the focus will only be on the modality strategy of the modal verbs in Arabic, exemplified in (26). Notice the modal *jumkin* ‘may’ can also have another complement clause headed by *ʔanna* ‘that’ which will thus have indicative mood, as shown below in (30). This type of complementation (i.e., complements of modal headed by *ʔanna*) will not be investigated here and will only be discussed when a comparison with the subjunctive complement counterpart is appealing.

- (30) *jumkinu* *ʔanna* *aħmad-a* *rabiħa*.
 might that Ahmad-ACC won.3MS
 ‘Ahmad might have won.’

Arabic verbs inflect for agreement, and since modal verbs are verbs, one expects that agreement should always obtain. Interestingly, the modal verbs in Arabic, namely *jadžib* ‘must’, *yanbayi* ‘must’, *jumkin* ‘may’, and *yuħtamal* ‘might’ generally show default agreement, i.e., they almost always have invariable forms (with the exception of *jajib* ‘must’ which can optionally agree in gender with a theme argument; see Soltan, 2007:109 for a

discussion). On the other hand, the modal *jastatʕiiʕ* ‘can’ inflects for all of the same agreement patterns as regular verbs. In other words, non-agreeing modals appear with a Default Agreement (DA) (i.e., 3MS) and do not show the agreement asymmetry, a well-known property of SA. Note that in SA, agreement in gender, number, and person is considered Full Agreement (FA) which obtains in SVO, while agreement only in gender gives rise to Partial Agreement (PA) which obtains in VSO.¹² However, the modal *jastatʕiiʕ* ‘can’ shows typical SA agreement patterns as regular verbs and it thus shows the agreement asymmetry. Consider first the data in (31)-(33) for the agreement patterns of non-agreeing modals.

(31) j-anbayi ʔan j-uʔaadir-a aħmad-u. (DA: ✓)
3MS-should SM 3MS-leave-SUBJ Ahmad-NOM
 ‘Ahmad should leave.’

(32) *t-anbayi ʔan t-uʔaadir-a hind-u. (PA: ✗)
3FS-should SM 3FS-leave-SUBJ Hind-NOM

(33) a. j-anbayi ʔan *j-/t-uʔaadir-a hind-u.
3MS-should SM 3MS/3FS-leave-SUBJ Hind-NOM
 ‘Hind should leave.’

b. hind-u. j-anbayi ʔan *j-/t-uʔaadir-a .
Hind-NOM 3MS-should SM 3MS/3FS-leave-SUBJ
 ‘Hind should leave.’

¹² There is no consensus in the literature of Arabic as to whether or not person is inflected for in PA (Aoun et al., 2010).

As can be seen in (31), a modal verb with default agreement (3MS) is grammatical (i.e., it does not agree with *Hind*, a female name in Arabic). In contrast, when the modal verb agrees with *Hind* as in (32), it is ungrammatical. Notice that the lexical (embedded) verb has to agree with the thematic subject as shown in (33) while the modal would still not reflect for agreement in both VS or SV word orders. Now consider the paradigm in (34) for agreement patterns of the modal *jastatʿiif* ‘can’, where it inflects for all agreement patterns (i.e., PA with post-verbal agreeing subject (34)a-b; it does not allow DA (34)c; it reflects for the agreement asymmetry (34)d-e).

- (34) a. $\text{ʔan } \text{t-astatʿiif} \text{u}$ ʔan $\text{t-u} \text{y} \text{aadir-a}$ hind-u. (PA in VVS: ✓)
 3FS-should SM 3FS-leave-SUBJ Hind-NOM
 ‘Hind can leave.’
- b. $\text{ʔan } \text{j-astatʿiif} \text{u}$ ʔan $\text{j-u} \text{y} \text{aadir-a}$ $\text{a} \text{hmad-u.}$ (PA in VVS: ✓)
 3MS-should SM 3MS-leave-SUBJ Ahmad-NOM
 ‘Ahmad can leave.’
- c. $\text{*ʔan } \text{j-astatʿiif} \text{u}$ ʔan $\text{t-u} \text{y} \text{aadir-a}$ hind-u. (DA in VVS: ✗)
 3MS-should SM 3FS-leave-SUBJ Hind-NOM
 ‘Hind can leave.’
- d. al-banaat-u jastatʿiif-na ʔan $\text{juy} \text{aadir-na.}$ (FA in SVV: ✓)
 the-girls-NOM can-3FPL SM leave-3FPL
 ‘The girls can leave.’
- e. *al-banaat-u $\text{j-tastatʿiif} \text{u}$ ʔan $\text{juy} \text{aadir-na.}$ (DA or PA in SVV: ✗)
 the-girls-NOM 3MS/3FS-can SM leave-3FPL

Word orders with modal constructions are no different from the word orders found with regular verbs in Arabic, namely both SVO and VSO are available. In other words, modal verbs are compatible with a pre-modal subject or a post-verbal subject. To be precise, both MVS(O) and SMV(O) are possible, as given in (35) and (36). Word order with modal verbs, however, has a restriction that is not observed with regular verbs: the subject cannot immediately follow the non-agreeing modal verbs. That is, there is a strict adjacency between the modal and the main verb, or more accurately between the modal verb and the Mood phrase that contains the verb, i.e., *ʔan*-phrase. Violating this renders a sentence ungrammatical, as shown in (37).

(35) j-adʒibu ʔan t-uʔaadir-a hind-u.
 3MS-must SM 3FS-leave-SUBJ Hind-NOM
 ‘Hind must leave.’

(36) hind-u j-adʒibu ʔan t-uʔaadir-a.
 Hind-NOM 3MS-must SM 3FS-leave-SUBJ
 ‘Hind must leave.’

(37) *j-adʒibu hind-u ʔan t-uʔaadir-a.
 3MS-must Hind-NOM SM 3FS-leave-SUBJ

There is, however, only one way for the subject to follow these modal verbs, made possible by its nesting inside a prepositional phrase selected by the modal. This is shown in (38) and (39).

(38) j-adʒibu ʕala hind-in ʔan t-uʔaadir-a .
 3MS-**must** **on** Hind-DAT SM 3FS-leave-SUBJ
 ‘Hind must leave.’

(39) jumkinu li-ʕali-jin ʔan y-uʔaadir-a .
 3MS-**may** **to**-Ali-DAT SM 3MS-leave-SUBJ
 ‘Ali may leave.’

The claim above about modals *selecting* a preposition is supported by the fact that the choice of the PP is not free. That is, with the modal *jadʒib* ‘must’, the preposition has to be *ʕala* ‘on’ and not any other preposition. Violating this gives rise to ungrammaticality, as shown in (40). The same is also true for the modal *jumkin* ‘may’, which selects the preposition *li* ‘to/for’; using other prepositions leads to ungrammaticality as shown in (41). The facts from this type of modality constructions are intriguing and will be shown to have a significant influence on the interpretation of modality and consequently on the analysis of modality in SA. Henceforth, I will refer to these constructions with a dative subject as Dative Modality constructions (DMs.). I will discuss this construction further in §2.6.1.

(40) *jadʒibu fi/li/?ila/ʕind hind-in ʔan t-uʔaadir-a.
 must **in/to-/to/at** Hind-DAT SM 3FS-leave-SUBJ
 (‘Hind must leave.’)

(41) *jumkinu ʕala/fi/?ila/ʕind ʕali-in ʔan y-uʔaadir-a.
 may **on/in/to/at** Ali-DAT SM 3MS-leave-SUBJ
 (‘Ali may leave.’)

The facts that modal verbs are invariant in terms of agreement and do not allow adjacency with the subject have been taken to argue for the lack of thematic relation between the modal verb and the subject (Fassi Fehri, 1993, 2012; Althawab, 2014). More scrutiny, however, shows that modal verbs inflect for gender, but only if the agreeing nominal has the feature [-animate], as shown in (42) and (43) (see Soltan, 2007 for discussion on agreement of deontic modality in SA). We see in this data that modal indeed agrees with the inanimate DP, which can be masculine or feminine from the lexicon. Thus we see in (42) that the modal has 3MS because the DP is masculine but it has 3FS in (43) because the following DP is feminine. Further, these modals behave like intransitive verbs in that they do not assign Acc Case, as shown in (44), which supports the claim that modals in SA do not have external arguments.

(42) j-adʒibu ad-dafʃ-u ḥaalan.
 3MS-must the-payment-NOM.MS now
 ‘Payment must be made now.’

(43) t-adʒibu as^ʃ-s^ʃadaqa-t-u ʃala al-qaadir-ii-na.
 3FS-must the-charity-F-NOM on the-capable-DAT-3MPL
 ‘The financially capable must donate to a charity.’

(44) *t-adʒibu as^ʃ-s^ʃadaqa-t-u al-qaadir-ii-na/ al-qaadir-uu-na
 3FS-must the-charity-F-NOM the-capable-ACC-3MPL/ the-capable-NOM-3MPL

The modal *jastaʃiiʃ* ‘can’ behaves differently. While the other modals don’t inflect for subjects (unless they are inanimate) and behave like intransitive verbs in not assigning Case, as shown above, this modal verb behaves like non-modal verbs in terms of agreement asymmetry and accusative Case assignment, as evidenced in (45) and (46).

(45) $\text{[j]-astat}^{\text{ii}\text{f}}\text{-u}$ al-awlaad-u al-qiraaʔat- [a] . (VSO= PA)
 3MS-can-IND the-boys-NOM the-reading-ACC
 ‘The boys can read.’

(46) al-awlaad-u $\text{[j]-astat}^{\text{ii}\text{f}}\text{-u-una}$ al-qiraaʔat- [a] . (SVO= FA)
 the-boys-NOM 3MS-cab-IND-PL the-reading-ACC
 ‘The boys can read.’

In addition, the modal *jastatⁱⁱf* ‘can’ has both perfective and imperfective forms, given in (47) and (48). The other modals are generally used in imperfective forms as shown in (49), while their perfective forms are marked or otherwise ungrammatical as shown in (50) with the exception of *jadʒibu* ‘must’ which has an acceptable perfective form. In other words, these modals have invariant forms. To express a past state of affairs, the auxiliary/aspectual *kaan* ‘was’ must be used before the imperfective form of the modal, as shown in (51).¹³

(47) $\text{jastat}^{\text{ii}\text{f}}\text{u}$ al-walad-u ʔan jaqraʔ-a.
 can.IMPF the-boy-NOM SM read-SUBJ
 ‘The boy can/is able to read’

(48) $\text{istat}^{\text{aa}\text{f}}\text{a}$ al-walad-u ʔan jaqraʔ-a.
 can.PERF the-boy-NOM SM read-SUBJ
 ‘The boy could/was able to read.’

¹³ It is sometimes assumed that the perfective form of *jadʒibu* is marked (Bahloul, 2007; Althawab, 2014) and preferred in conditional constructions. Nonetheless, it is in fact acceptable in various contexts; more on this will be said in §2.6.2. Moreover, a qualification on the perfective form of *jumkinu* ‘may’ is in order. I marked it above as odd/ungrammatical as a modal verb since it is generally unacceptable though it gets better in conditional contexts; this perfective form is fine however in a non-modality meaning which is best translated as *managed to*. This latter meaning is not of our interest here.

- (49) jadʒibu/ jumkinu/ janbayi ʔan t-uʔaadir-a hind-u.
 must /may /should/ SM 3FS-leave-SUBJ Hind-NOM
 ‘Hind must/may/should/might leave.’
- (50) waɖʒaba/ ??/*amkana /*inbaya/ ʔan t-uʔaadir-a hind-u.
 must.PERF / may.PERF /should.PERF SM 3FS-leave-SUBJ Hind-NOM
 ‘Hind had to leave.’
- (51) kaana jadʒibu/ jumkinu/ janbayi ʔan t-uʔaadir-a hind-u.
 was must /may /should/ SM 3FS-leave-SUBJ Hind-NOM
 ‘Hind was required/possible/expected to leave.’

The above discussion has laid out the basic facts of modal verbs in non-finite contexts in SA in terms of word order, agreement, case assignment, and selectional properties. In sum, it is evident that modal verbs in Arabic can have pre-modal subjects and post-verbal subjects. The latter, however, is restricted in that direct adjacency with the subject is illicit; thus, the subject has to either follow the main verb (modal+V+S) or be incorporated into a *selected* PP (modal+[PP[subject]] +V). As for agreement, modal verbs generally have default agreement, however the modal *yastatʕiʕ* ‘can’ stands out among the modal verbs in that it behaves like non-modal verbs with respect to agreement and case, as well as its selecting an external argument, a property that turns out to be crucial as will be shown below (see §2.6.3). Other facts regarding the interpretations of modals (i.e., epistemic and root readings), relative ordering (Cinque, 1999, 2006) and the restriction on adverb co-occurrence (Cinque, 2006), among others will be the topic of section 2.4.

2.3 *ʔan* and *ʔanna*: Same category or different?

In this section, and in light of the above discussions, I would like to revisit the category of the two functional heads *ʔan* and *ʔanna* in SA. I will particularly propose that a uniform categorization of both heads as complementizers is untenable and thus will argue against the current standard assumption in SA (Aoun, 1981; Fassi Fehri, 1993, 2012; Muhammad, 2000; Soltan, 2007; Aoun et al. 2010). In particular, while *ʔanna* will be categorized as a C head following the standard assumption, *ʔan* will be categorized as a (subjunctive) mood head.¹⁴ As will be elucidated below, various differences between the two heads show that they cannot have the same category as each other.

An obvious difference between *ʔanna* and *ʔan* is that the former is a Case assigner while the latter is not, as can be seen below. In particular, the DP in (52) has Nom Case, but has Acc in (53) due to the presence of *ʔanna*. On the other hand, *ʔan* only affects the mood on the adjacent verb, as it assigns a subjunctive mood (temporal case, as in the terminology of Fassi Fehri, 1993), as shown in (54) and (55). Note that the presence of *ʔanna* in the first pair of sentences below does not affect mood, as the verb remains indicative in both sentences.

(52) ar-radʒul-u sa-jaðhab-u baakiran.
the-man-NOM FUT-go-IND early
‘The man will go early.’

(53) ʔinna ar-radʒul-a sa-jaðhab-u baakiran.
that the-man-ACC FUT-go-IND early
‘The man (indeed) will go early.’

¹⁴ In this respect, *ʔanna* is a finite complementizer while *ʔan* is a subjunctive mood assigner that generally requires a non-finite verb following it (more on this below).

(54) janaam-u ar-radʒul-u baakiran.
 sleep-IND the-man-NOM early
 ‘The man sleeps early.’

(55) ʔan janaam-a ar-radʒul-u baakiran ...
 SM sleep-SUBJ the-man-NOM early
 ‘Literally: The man to sleep early ...’
 ‘For the man to sleep early ...’

The above examples also show differences with respect to the (anti-)adjacency requirement of both heads. *ʔanna* has an anti-adjacency requirement with verbs, and thus licenses SVO word order only. In other words, while sentences without *ʔanna* can have SVO word order, as shown in (52), or VSO word order, as shown in (54), sentences headed by *ʔanna* (or its variant, *ʔinna*) obligatorily have SVO word order, as exemplified in (53) above. A violation of anti-adjacency with verbs leads to ungrammaticality, as given in (56). On the other hand, being a verbal mood assigner, *ʔan* has an adjacency requirement with the verb, as shown in (55) above. This adjacency cannot be interrupted, as shown in (57).

(56) *ʔinna s-jaðhab-u ar-radʒul-a baakiran.
 that FUT-go-IND the-man-ACC early

(57) *ʔan ar-radʒul-u / fi d-daar-i janam-a .
 SM the-man-NOM/ in the-room-DAT sleep-SUBJ

There is crosslinguistic evidence that these different adjacency requirements between a C head and Mood head argue for different categorization. In particular, the adjacency requirements we observed above in SA are reminiscent of what is observed with the Greek C head *oti* and the subjunctive Mood head *na*. In this respect, Giannakidou (2009) argues

against the standard assumption in Greek that *na* and *oti* are both C heads due to various arguments including different adjacency requirements. Similar to SA, the Mood head *na* must be strictly adjacent to the verb, while the C head is not subject to the same adjacency requirement. This is shown below.

(58) a. thelo o Pavlos **na** **erthi**. (Modern Greek)
 want.1SG the Paul.NOM SM come.3SG
 ‘I want Paul to come.’

b. *thelo **na** **o Pavlos** erthi.
 want.1SG SM the Paul.NOM come.3SG (Giannakidou, 2009:1891)

(59) a. i maria nomizi [**oti** **efige** o yanis].
 the Mary.NOM think.3SG.PRES that leave.3SG.PAST the John.NOM
 ‘Mary thinks that John left.’ (Kapetangianni, 2010: 22)

b. O Pavlos ipe oti i Roxani efije.
 the Paul said.3SG that.IND the Roxanne left.3SG
 ‘Paul said that Roxanne left.’ (Giannakidou, 2009: 1891)

Giannakidou points out another difference between *oti* and *na* in Greek in that *na* can co-occur with complementizers such as *ja* ‘for’, *prin* ‘before’, *xoris* ‘without’, and *pu* ‘that’. An example is given in (60).

(60) Theloume mia gramatea **pu** **na** milai Italika.
 want.1PL a secretary that SM speak.3S Italian

‘We want a secretary who speaks Italian.’ (Giannakidou, 2009: 1892)

In fact, a similar observation can be replicated with the subjunctive Mood marker in SA. *?an* can co-occur with *?anna* as the examples below show.

- (61) a. *?anna* *?an* *tas^ʕumuu* *xairun lakum*.
 that SM fast.2MPL.SUBJ good for you.2MPL

‘That for you to fast is good.’ (Khalaily, 1994, cited in Shlonsky, 2000: 333)

- b. *?aʕtaqidu* ***?anna*** ***?an*** *taðhab-a* *afd^ʕal min* *?an* *tabqa-a*.
 think.1S that SM go- SUBJ.2MS better than SM stay-SUBJ.2MS

‘I think it is better you leave than stay.’

‘I think it would be better for you to leave.’

Furthermore, *?anna* and *?an* contrast in their compatibility with extraction. While the latter allows extraction of DPs out of complements phrases, the former does not. To show this, compare (62) below with the derived sentence in (63). Movement of the subject out of the *?anna*-clause is blocked.

- (62) *jumkinu* *?anna* *al-walad-a* *yaadara*.
 may that the-boy-ACC left.3MS
 ‘The boy may have left.’

- (63) **al-walad-a*₁ *jumkinu* *?anna* *t*₁ *yaadara*.
 the-boy-ACC may that left.3MS

One might argue that the ungrammaticality of (63) above is due to a violation of Case requirement of *ʔanna*, given its role as a Case assigner and thus requiring adjacency to a DP. However, there is reason to believe that this is not so. In particular, focus movement in Arabic retains the case assigned prior to movement (Ouhalla, 1993, 1997; Aoun et al. 2010). This is shown in (64). This provides solid evidence that *ʔanna* in the above example already discharged its case, as shown in the case retained by the raised subject. Thus, ungrammaticality has to follow from another reason, which I argue to be the incompatibility of *ʔanna* with DP extraction.¹⁵

(64) a. ʔallafat zajnab-u riwaayat-an.
 wrote.3FS Zaynab-NOM novel-ACC
 ‘Zaynab wrote a novel.’

b. RIWAAYAT-AN ʔallafat zajnab-u .
 novel-ACC wrote. 3FS Zaynab-NOM
 ‘It was a NOVEL that Zaynab wrote.’ (Ouhalla, 1997: 11)

In contrast to the incompatibility of C heads (*ʔanna* and *ʔinna*) with the extraction of DPs, *ʔan* allows for extraction. Topicalization/focus movement is allowed in modal constructions with the *ʔan* head, as shown in (65), which contrasts with the illicit sentence in (63), above.

(65) a. jumkinu ʔan ju-yaadir-a al-walad-u.
 may SM 3MS-left-SUBJ the-boy-NOM
 ‘The boy may leave.’

¹⁵ Guglielmo Cinque (personal communication) proposes that extraction blocking observed with *ʔanna* is reminiscent of the *that*-trace effect.

- b. al-walad-u jumkinu ʔan ju-yaadir-a ~~al-walad-u~~.
the-boy-NOM may SM 3MS-left-SUBJ
‘The boy may leave.’

To summarize so far, I have shown that categorizing *ʔan* and *ʔanna* as the same functional category cannot be maintained, contra the standard assumption (Fassi Fehri, 1993, Muhammad, 2000 among others).¹⁶ If the reasoning above is on the right track, then the proposal that *ʔan* is a mood head and not a complementizer while *ʔanna* is a complementizer is supported. It has also been shown that the C head is associated with the assignment of Acc Case, which, in turn, requires adjacency with a DP. On the other hand, the mood head has an anti-adjacency requirement with the DP and in contrast must be strictly adjacent to a verb, giving rise to subjunctive mood. Finally, (in)compatibility with extracting NPs out of *ʔanna* and *ʔan* clauses has been investigated and I show that only the latter is compatible with the extraction of NPs. In light of the above evidence, I categorize *ʔan* as a mood head and reject its standard categorization as a complementizer; a categorization that paves the way for a more accurate discussion of clausal structure for sentences that have modal verbs in non-finite contexts. This will be further discussed with respect to control constructions as investigated in the following chapters.¹⁷

¹⁶ Another interesting difference between *ʔan* and *ʔanna* is that the latter is associated with focus and considered a focus marker, while the former is neutral (see Ouhalla, 1993, 1997, 1999; Shlonsky 2000).

¹⁷ *ʔan* and *ʔanna* also show another difference in that the latter heads a finite clause while the former heads a non-finite clause (similar to English *that* and *to*). The mood head *ʔan* resists finite (i.e., tensed) verbs, as given below (though see Chapter 3 for further details) :

- (i) a. **jadʒibu/ jumkinu/ jastatʿiiʕu* *ʔan* *ḍahaba aħmad-u*
must/ may/ can SM **went** Ahmad-NOM
b. **jadʒibu/ jumkinu/ jastatʿiiʕu* *ʔan* *sa- yaḍhab aħmad-u*
must/ may/ can SM **FUT-go** Ahmad-NOM

2.4 Modal clause structure

There is a vast amount of literature on the syntax and semantics of modal verbs and their clause structures crosslinguistically (Kratzer,1989,1991; Picallo,1990, Palmer, 1990, Cinque,1999, 2006; Wurmbrand, 1999, Butler, 2003; Hacquard, 2006, 2010). Arabic modal verbs, however, have not received much attention and there are only a few studies that have addressed, in passing, the semantics or the syntax of modality in Arabic (Fassi Fehri, 1999, 2012; Ouhalla, 1993; Bahloul, 2007).¹⁸

In general, modal constructions in Arabic have been analyzed as biclausal due to the categorization of the non-finite subjunctive marker *ʔan* as a complementizer (Aoun, 1981; Fassi Fehri, 1993; Muhammad, 2000; Shlonsky, 2000; Aoun et al, 2010). In contrast to this view, I propose that modal constructions in non-finite contexts are monoclausal, as is the case crosslinguistically (see Rizzi, 1982 for Italian; Palmer, 1990, Butler, 2003, Grano, 2012 for English; Picallo, 1990 for Catalan; Wurmbrand, 1998, 2001 for German, and Cinque, 2006 for a crosslinguistic claim). Arabic modal verbs, thus, are restructuring verbs that instantiate a monoclausal structure and not a biclausal one. Various arguments will be discussed below that support this view and militate against the biclausal approach. As I discussed in Section 2.2 above, the main reason for the biclausal approach of Arabic constructions that have the *ʔan* head was assigning it a C head, a category that cannot be maintained, as we have shown above.

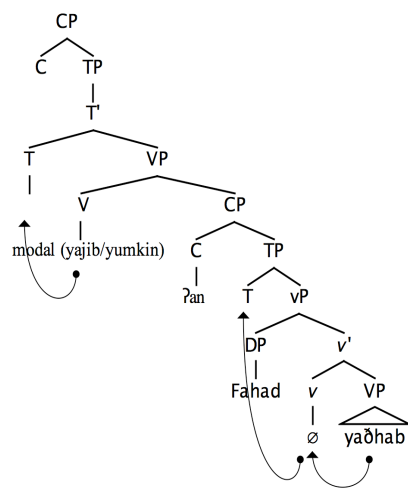
¹⁸ In HPSG, there is Althawab (2014).

2.4.1 Structure of modals

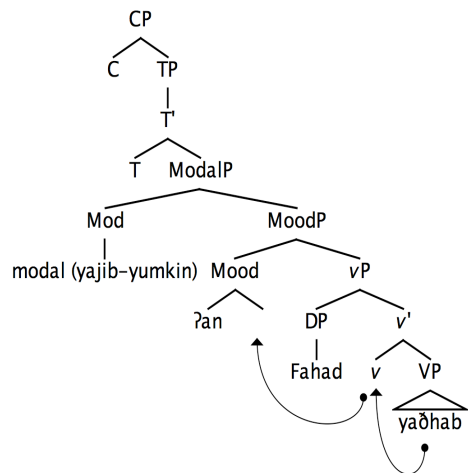
There are two possible structures of modal verbs in Arabic, as discussed above. The standard view proposes that modal verbs with subjunctive complements are biclausal (Fassi Fehri, 1993, 2012; Aoun et. al. 2010). On the contrary, I propose that these constructions (i.e., modals with subjunctive complements) are restructuring; that is, they constitute a monoclausal structure. Furthermore, I claim that modals are functional heads (more on this below). The two opposing accounts are given in (67) for the sentence in (66).

- (66) jadʒibu/ jumkinu ʔan jaðhab-a fahd-u.
 must / may that/SM go-SUBJ Fahad-NOM
 ‘Fahad must/may go’

(67)



a. Biclausal approach



b. Monoclausal approach

Recall from the discussion above on categorizing *ʔan* and *ʔanna* that the main motivation for positing the biclausal analysis builds on *ʔan* being a C head. I will argue, nonetheless, that the biclausal analysis fails on further empirical grounds, in addition to its misclassification of *ʔan*. In particular, I will provide various arguments that these constructions in SA are

restructuring. In the following sections I will discuss various restructuring/monoclausality diagnostics that challenge the biclausal analysis of subjunctive modality constructions in SA and support the restructuring analysis.

2.4.2 The semantics of modals and corresponding clause structure

Crosslinguistically, the same modal verb can come into different flavors (Kratzer, 1981, 1991; Picallo, 1990; Butler, 2003, von Stechow & Heim, 2016 among many others). As alluded to above, *must*, for example, is ambiguous between epistemic and root readings, as discussed in (22) and (23) above and repeated below in (68) and (69), respectively. The same ambiguity holds true for other modals as well, such as *may* and *can*. This is also the case in SA, as in many other languages. The modal *jumkin* ‘may’ is ambiguous between epistemic and deontic, as exemplified in (70), repeated from above.

(68) John must be sick. (*in context where he was expected to come, for instance*)

(69) John must leave now! (*in context where a person of authority is giving an order*)

(70)	jumkinu	ʔan	jaðhab-a	fahd-u .	
	may	SM	go.3MS-SUBJ	Fahad-NOM	
	‘It is possible that Fahad would go.’				(<i>epistemic reading: compatible with the speaker’s knowledge</i>)
	‘Fahad is allowed to go.’				(<i>root reading: permission</i>)

The polysemy of the same modal word (i.e., being epistemic in one context and root in another for the same sentence, or root in one and dynamic in another) has been accounted for in various ways. Kratzer (1981,1991) argues against positing two lexical entries of the same modal. Alternatively, she argues that modals come with one specification only, the modal force; one can be either a necessity or possibility modal (i.e., either universal or

existential). The modal flavor (i.e., epistemic, root, dynamic) is entirely context-based (i.e., world-based). In her theory, this is presented in a form of conversational background, which has two context-based parameters, namely the modal base and the ordering source (see Portner, 2009 and von Stechow and Heim, 2016 for a detailed discussion on Kratzer's approach).

Other accounts for the polysemy of modals associate syntactic structure with the semantics of the modals. The core idea is to assign an epistemic modal a position in the functional layer that is different from the position of a root modal. Jackendoff (1972) and Palmer (1981), among others, suggest that epistemic modals are high (i.e., above T) while root modals are low (i.e., below T). This claim has been attested crosslinguistically under the cartography project of Cinque (1999, 2001, 2004, 2006) with what has been known as *Cinque's Hierarchy*. The relevant order is given in (71).

(71) *Cinque's Hierarchy*

$\text{Mod}_{\text{epistemic}} > \text{T}_{\text{past}} > \text{T}_{\text{future}} > \text{Mod}_{\text{obligation}} > \text{Mod}_{\text{ability}} > \text{Mod}_{\text{permission}} > \text{Voice}$

Building on the structural difference assumed in Cinque's Hierarchy, Hacquard (2006, 2009, 2010) investigates the syntax-semantic interface for modality and proposes that the distinction between epistemic and root modals is anchored by the appropriate event-participant (Bybee et al. 1994).¹⁹ The assumption is that epistemic modals are *speaker-oriented* while root modals are *subject-oriented*. In a nutshell, her account works as follows. The modal is relativized to the content in its scope. If the modal is high (i.e., higher than TP),

¹⁹ Hacquard's (2006, 2009, 2010) approach departs from Kratzer's semantics of modals in an important way in that she proposes that modals are relativized not to words, but to events, which are structurally variables that must be locally bound. The implementation of binding is what derives Cinque's hierarchy of modals in that there are two binders in the structure: Tense and Aspect; if they are bound by Aspect, which is a quantifier under her theory, then the complement of the modal must be in the actual world. Otherwise, it is not. This, she argues, derives the actuality entailment effect, originally suggested in Bhatt (1999). Hacquard's approach, however, is particularly relevant to the discussion in §2.6.4, in which I will argue that actuality entailment obtains in SA and thus SA sheds further light on this recent area of research.

then it is relativized to the proposition. Since the variable (of the modal) is higher than any binder in TP (i.e., the tense and aspect), it has to be bound by a speech event binder and thus it is keyed to the utterance time and the speaker. Being relativized to the bearer of knowledge (i.e., the speaker) and to the utterance time, the modal will receive an epistemic interpretation. On the other hand, root modals are low in the structure scoping over a VP. Thus, they are relativized to the VP event and the participant (which is generally the subject). The event variable will therefore be bound by aspect/tense, and thus the running time of the root modal is the tense provided by the sentence. All in all, Hacquard's account seems to be successful in both predicting and explaining the structural differences between epistemic and root modals (for further details, see Hacquard, 2010). Insights from Hacquard's work will also be relevant to the discussion of *actuality entailment* in §2.6.4.²⁰

We can conclude from the different accounts above that there are three core assumptions that hold crosslinguistically about modality:

1. The same modal can have different meanings depending on the context.
2. Epistemic modals are high in the structure while root modals are low.
3. There is a fixed order among modals with respect to each other (Cinque's Hierarchy).

In view of the above assumptions, I would like to argue that they are puzzling for the biclausal approach to modals in SA (e.g., Fassi Fehri, 1993, 2012). They cannot be accounted for nor predicted under this line of analysis. This stems from the assumption within the biclausal approach that each modal verb constitutes an independent clause and the

²⁰ Another widely-adopted view in the early generative literature on the epistemic-root distinction reduces it to epistemic being a raising structure while root being a control structure (see Barbiere, 2006 for a discussion). This dissertation clearly argues against this configurational distinction.

proposition it takes is an embedded (full) clause; i.e., CP or TP, as sketched in (72)a, below. It follows then that a modal verb is a verb that starts in V and moves to I or T for EPP for instance. Therefore, the structural difference between epistemic and root modals is lost. In addition, that there is a relative order between modals will completely be unpredicted.

In what follows, I will discuss the various arguments that support the restructuring (monoclausal) analysis adopted here for modality in SA. Under this analysis, modal verbs (except the dynamic modal) are functional heads that select a vP, or more precisely, a moodP headed by the subjunctive (non-finite) head *ʔan*, and do not select a TP nor a CP, as previously analyzed. The restructuring analysis is sketched in (72)b, below, though a revision will be taken below.

- (72) a. [CP ... [FP [VP modal [CP [C *ʔan* [vP [subject [VP main verb]]]]]]]]
 b. [CP ... [FP modal [moodP [*ʔan* [vP [subject [VP main verb]]]]]]]]

The proposed restructuring analysis of modal verbs follows the line of analysis in Wurmbrand (1998, 1999, 2001) and Cinque (1999, 2002, 2006) among others. Since I adopt a crosslinguistic approach of modals, I will draw on (dis)similarities between Arabic modal verbs and German modal verbs which Wurmbrand (1999, 2001) convincingly argues to be restructuring verbs (for discussion on English modals, see Butler, 2003; Grano, 2012, among others). Below, I will present the core restructuring diagnostics that show support for the proposed account. I will then examine the proposed restructuring analysis to discuss how it successfully accounts for the restructuring diagnostics among other properties that will be discussed in the remainder of this chapter.

2.4.3 Diagnostics of restructuring

As discussed above, restructuring by definition is about monoclausality (in the contemporary term). Various diagnostics of restructuring have been proposed for different languages (Wurmbrand, 1998, 2001; Cinque, 2004, 2006; Hacquard, 2010; Grano, 2012). In other words, transparency effects (i.e., monoclausality and clause-bounded operations) may vary from one language to another. Since Rizzi (1982), clitic climbing has been known to be the hallmark of restructuring in Romance languages (Aissen & Perlmutter 1976, Napoli, 1981; Rizzi, 1982; Burzio, 1986; Cardinaletti & Shlonsky, 2004; Cinque, 2006). As discussed above, clitic climbing in Italian is a clause-bounded operation that can only obtain with restructuring verbs, as exemplified by (16) and (17) above, repeated below in (73) and (74), respectively.

(73) Mario sa 49esolver-lo da solo.
Mario can solve-**it** by himself
'Mario can solve it by himself.' (Rizzi, 1982: 4)

(74) Mario lo-sa risolvere da solo.
Mario **it**-can solve by himself
'Mario can solve it by himself.' (Rizzi, 1982: 4)

Other languages show different transparency effects. Wurmbrand (1998, 2001) proposes that long passive, pronoun scrambling, and infinitive for participle (IPP) are the transparency effects in German. In Dutch, she proposes that IPP and verb raising are the transparency effects. Bhatt (2005) argues that Long Distance Agreement (LDA) is a restructuring diagnostic in Hindi. Crosslinguistically, Cinque (2006) proposes two properties for monoclausality. The first diagnostic is a prohibition against using the same adverb twice.

The second one is the relative order of restructuring verbs with respect to each other, which is at the core of Cinque’s Hierarchy (Cinque 1999, 2006). Albaty & Ouali (2018) build on Cinque (2006) with a discussion of the restriction on adverb co-occurrence, arguing that it holds in Arabic (Najdi Arabic and Moroccan Arabic, in particular). We also argue, along with Wurmbrand (2015, 2016), that voice matching (for lexical restructuring) and lack of embedded tense provide other diagnostics of restructuring. A summary of major transparency (restructuring) effects is given in Table 2 below.

Table 2: Transparency (restructuring) effects in some languages

	Transparency (restructuring) effects
Arabic	<ul style="list-style-type: none"> • Voice matching • Restriction on co-occurrence of adverbs • Lack of embedded tense (Albaty & Ouali, 2018)
French	<ul style="list-style-type: none"> • Quantifier climbing • <i>En</i> and <i>y</i> climbing • Adverb climbing • Long movement in ‘easy-to please’ construction (Kayne, 1975; Pollock, 1978; Cinque, 2006)
Italian	<ul style="list-style-type: none"> • Clitic climbing • Auxiliary switch (Rizzi, 1982, Napoli, 1981; Burzio, 1986; Cardinaletti & Shlonsky, 2004, Cinque, 2006)
German	<ul style="list-style-type: none"> • Long passive • Pronoun scrambling • IPP effect (Wurmbrand, 1998, 2001)
Dutch	<ul style="list-style-type: none"> • Verb raising • IPP effect (Wurmbrand, 1998, 2001)
Japanese	<ul style="list-style-type: none"> • Lack of embedded tense marking (Wurmbrand, 1998, 2001)
Basque & Hindi	<ul style="list-style-type: none"> • Long distance agreement (Arregi and Molina-Azaola, 2004; Bhatt, 2005)
	<ul style="list-style-type: none"> • Non-finite complementation • Prohibition of embedded subject • Inverse scope of universal quantifier

Chinese, English, Greek,	(Grano, 2012)
Crosslinguistically	<ul style="list-style-type: none"> • Prohibition against using the same adverb twice • Relative order of restructuring verbs (Cinque’s Hierarchy, Cinque, 2006) • Voice matching (Wurmbrand, 2016; Wurmbrand and Shimamura, 2017)

In view of the above discussion, I will first discuss extraction (in)compatibility from embedded phrases and argue that it provides a restructuring diagnostic (i.e., a transparency effect) in SA. This will be further investigated and supported by Cinque’s crosslinguistic diagnostics of restructuring in sections 2.4.3.2 and 2.4.3.3

2.4.3.1 Restructuring diagnostics in Arabic

Here I propose that Arabic has a transparency effect that shows the restructuring status of embedding verbs. In particular, I argue that (in)compatibility with extraction is a transparency diagnostic in SA. This is evident in the differences between *?anna* and *?an* discussed in section 2.3 above. The complementizer *?anna* blocks extraction of embedded DPs as shown in (62) and (63) above, repeated in (75) and (76).

(75) jumkinu ?anna al-walad-a yaadara.
may that the-boy-ACC left.3MS
‘The boy may have left.’

(76) *al-walad-a₁ jumkinu ?anna t₁ yaadara.
the-boy-ACC may that left.3MS

Therefore, I argue that verbs that select the complementizer *ʔanna* are non-restructuring verbs, and hence instantiate a biclausal structure. This includes modal verbs that select finite clauses as shown in the examples below. The predictions of the biclausal approach to modality and the restructuring analysis are contrasting, as given in (77). I elaborate below.

(77) a. **The restructuring analysis’s prediction:** Focus movement out of subjunctive modality constructions to a root-initial position should be licit.

b. **The biclausal analysis’s prediction:** Focus movement out of subjunctive modality constructions should be illicit (similar to *ʔanna*-clauses).

The biclausal approach’s prediction follows from the behavior observed with *ʔanna* where extraction (i.e., focus movement) is not allowed as shown in the minimal pair above. Notice that, as discussed above, the incompatibility of extraction found with *ʔanna* cannot be reduced to case requirement. Even when its Acc Case is discharged to a pronoun, as shown in in (78), extraction of the object (i.e., topicalization) is still prohibited.

(78) *zajd-an ʔinn-ii raʔay-tu.
 Zayed-ACC that-me saw-I

Intended: ‘It is Zayed that I saw.’

(Fassi Fehri, 1993: 168)

The blocking of extraction with non-restructuring verbs such as *jadʕunn* ‘think’ which selects *ʔanna* is indeed the case. That is, moving the embedded object to the matrix clause (focus movement, along the lines of Ouhalla, 1997) is ungrammatical, as shown in (80) and (81), derived from (79). In fact, Muhammed (2000: 96) clearly states that *ʔanna* introduces

an opaque domain for extraction (subject extraction, in particular), providing data from raising verbs in SA which introduce *ʔanna* and do not allow subject extraction.

(79) aḏʕunn-u ʔanna zajd-an kasara al-baab-a.
 think-1SG that Zayd-ACC broke the-door-ACC
 ‘I think that Zayd broke the door.’

(80) ??/*al-baab-a aḏʕunn-u ʔanna zajd-an kasara.
 the-door-ACC think-1SG that Zayd-ACC broke

(81) *aḏʕunn-u al-baab-a ʔanna zajd-an kasara .
 think-1SG the-door-ACC that Zayd-ACC broke

(82) *[[ʔajju al-awlaad-i] [iddaʕaa aḥmad-u [e_i ʔanna [e_i dʒaaʔ-u]]]]?
 which-NOM the-boys-DAT claimed.3MS Ahmed-NOM that came.3MPL
 (*‘Which boys did Ahmed claim that came?’) (Muhammad, 2000: 96)²¹

If ungrammaticality in these constructions is due to movement, base-generated DPs in the left periphery with a coreference relation with a pronoun in the embedded clause are predicted to be licit. This prediction is borne out as shown in (83). This construction is Clitic Left Dislocated (CLLD), which is known to be base-generated in the left periphery (i.e., not a result of movement). In particular, I argue, following Soltan (2007) and Aoun et al. (2010),

²¹ Bracketing and empty category assumptions are from the source. I did not provide the raising data from Muhammad (2000) since they are exactly similar to the above data, except that Muhammad pays close attention to the inability of raising verbs to agree with a subject; a point that is not of our interest here.

that NPs in CLLD are base-generated in TopP and have a coreference relation with a pronominal clitic inside the sentence.²²

- (83) al-baab-u_i að^sunn-u ʔanna zajd-an kasara-hu_i.
 the-door-NOM think-1SG that Zayd-ACC broke-it
 ‘The door, I think that Zayd broke it.’

With the above discussion in mind, let us now examine the predictions of the two analyses. We find that extraction out of an *ʔan* phrase is grammatical, as shown in (65) above, repeated in (84). Notice that modal constructions with an *ʔan* complement not only allow for subject extraction, which provides a contrastive focus reading, but also for the extraction of objects as in (85), which similarly has a contrastive focus reading. Evidence for movement of these DPs and against base-generated topics comes from (i) lack of a resumptive, shown only with CLLD, as discussed above, (ii) Case is preserved with the moved DP even in the left periphery.

- (84) al-walad-u₁ jumkinu [ʔan yuʔadir-a t₁]
 the-boy-NOM may SM leave-SUBJ
 ‘the boy may leave’

- (85) al-kurat-a₁ jumkinu [ʔan j-ad^srib-a al-walad-u t₁].
 the-ball-ACC may SM 3MS-hit-SUBJ the-boy-NOM
 ‘it is the ball that the boy may hit.’

²² It is a well-known fact that peripheral NPs in Arabic CLLD constructions have Nom case (Aoun et al., 2010). Case is crucial in distinguishing between a focused element and CLLD, where the latter is Nom while the former preserves the case received before focus movement. See Aoun et al. (2010) for further discussion.

(86) *ʔajju al-awlaad-i jadʒibu ʔan jusaafiruu.*
 which-NOM the-boys-DAT must SM travel.3MPL.SUBJ

‘Which boys must depart?’

‘[[Which boys]_i [e_i must [that e_i depart.]]]’ (Muhammad, 2000: 100)

The data above show that the prediction of the biclausal analysis to modality is not borne out. In fact, the confirmed prediction is instead the contrasting one that follows from the restructuring analysis.²³ Crosslinguistic evidence supports both the restructuring analysis and the extractions properties we observed above. We find that only genuine complementizers block extraction as also observed in Italian and Dutch, given in (87) and (88), respectively.

(87) **[Certe risposte]_i, non si sanno mai se dare t_i.*
 certain answers not SI knows ever whether give
 ‘They don't know whether to give certain answers.’ (Rizzi, 1982: 47)

(88) *dat Jan [die brief]_i, heeft geprobeerd (*om) zijn broer t_i te schrijven.*
 that Jan the letter has tried COMP his brother to write
 ‘That John has tried to write the letter to his brother.’ (Wurmbrand, 2001:103)

In sum, we have established a diagnostic for restructuring in SA that shows that subjunctive complements of modal verb in SA are transparent and thus modal constructions

²³ Muhammad (2000: 100) indeed points out that *ʔan* contrasts with *ʔanna* in that it allows extraction. Yet, he proposes that modality constructions with *ʔan*-complement are biclausal and that *ʔan* is a C head. He nonetheless does not explicitly address the asymmetry in extraction between the two heads, though he seems to reduce this to the fact that only *ʔanna* is a Case assigner, a point that I discuss above and argue against; see the sentence in (78), where even when case requirements are met the sentence is still ungrammatical.

are restructuring. If the distinction I have proposed above accurately bears on restructuring and non-restructuring verbs (i.e., on the size of the complement), one would assume that a crosslinguistic diagnostic of restructuring should lead to the same conclusion. Given that Cinque (2006) proposes two crosslinguistic diagnostics for restructuring, I will investigate their validity in SA.²⁴

2.4.3.2 Cinque’s restriction on adverb co-occurrence

Cinque (2006) proposes two crosslinguistic criteria for restructuring. In particular, he argues that (some) adverbs cannot be used twice in one simple clause (i.e., monoclausal) when transparency effects obtain. In particular, he contends that adverbs such as *always* and *already* cannot be used twice in monoclausal sentences while they are licit in biclausal ones. This is exemplified in the Italian sentences given in (89)-(92),²⁵ (adapted from Cinque, 2006:17).

(89) Maria vorrebbe **già** aver-lo **già** lasciato.
 Mary would.want already have-him already left
 ‘Mary would already want to have already left him’

(90) *Maria **lo** vorrebbe **già** aver **già** lasciato.
 Mary him would.want already have already left

²⁴ Susi Wurmbrand (personal communication) points out to me that CP blocking of extraction observed here is evidenced crosslinguistically, as CPs always block restructuring transparencies, such as scrambling in German and Dutch (exemplified above). She further suggests that this blocking might be analyzed under the freezing analysis she proposes; I refer the interested reader to Wurmbrand (2015). The extraction blocking might also be accounted for under Rizzi’s (2005, 2006, 2014) Criterial Freezing approach to movement; for a discussion that this obtains in Arabic, see Jarrah (2017, 2019) and references therein.

²⁵ *Want* in Italian is ambiguous between restructuring and non-restructuring, which is why the double adverb is acceptable in its biclausal usage but not in its restructuring usage, evidence by clitic climbing. The same has been argued for English (Grano, 2012). Also, bolding in the data is added.

(91) Si vorrebbe **sempre** aver **sempre** esperienze come queste.
 One would.want always have always experiences like these
 ‘One would always want to always have experiences like these’

(92) *Esperienze come queste si vorrebbero **sempre** aver **sempre**.
 experiences like these one would.want always have always

In the above sentence, Cinque argues that (89) and (91) are biclausal; hence, no prohibition obtains against the occurrence of the same adverb twice. Their corresponding restructuring sentences, (90) and (92), respectively, are monoclausal as evidenced by clitic climbing.

Consequently, the restriction on the adverb co-occurrence obtains. Cinque argues that this follows from Cinque’s hierarchy of functional heads, including adverbial phrases, situated as specifiers in his articulate functional structure. In particular, he argues that since we have one functional structure in monoclausals and that adverbs are compatible with functional structure heads (i.e., they are specifiers of semantically related heads), the restriction on using two instances of the same adverb follows naturally. This is because there is only one position for the adverb, say *always*, and thus two instances of the same adverb would be unlicensed.

Before applying this diagnostic to possible restructuring verbs in Arabic, I will test this diagnostic on uncontroversial monoclausal constructions in Arabic. The aspectual/auxiliary verb *kaana* ‘be’ is generally assumed to be in the same clause with the main verb (Ouhalla, 1993; Fassi Fehri, 2012; Aoun et al. 2010). This construction will therefore be a good testing ground for Cinque’s adverb restriction discussed above, since such a construction is monoclausal even in standard analyses of SA. The prediction is borne out in SA. We can see that while (93) is grammatical, (94) is ungrammatical due to the co-occurrence of the same adverb in one clause. This restriction cannot be reduced to other factors such as the distribution of adverbs, as they can be placed before or after the auxiliary.

If we have a different adverb, like *previously*, having two different adverbs is perfectly fine, as shown in (95).

(93) kaana aħmad-u jadrusu **daaʔiman** .
 was.3MS Ahmad-NOM study.3MS always
 ‘Ahmad was always studying.’

(94) *kaana **daaʔiman** aħmad-u jadrusuu **daaʔiman**.
 was.3MS always Ahmad-NOM study.3MS always

(95) {saabiqa} kaana {saabiqa} aħmad-u jadrusuu **daaʔiman**.
 previously was.3MS previously Ahmad-NOM study.3MS always
 (‘Previously, Ahmad was always studying’); ‘Ahmad used to always study.’

We now have evidence that Cinque’s restriction on adverb co-occurrence holds in SA. With this in mind, let us consider the different predictions that the biclausal analysis and the restructuring analysis make with respect to adverb co-occurrence. This is given in (96).

- (96) a. **The restructuring analysis’s prediction:** Adverb co-occurrence with subjunctive modality constructions is illicit.
- b. **The biclausal analysis’s prediction:** Adverb co-occurrence with subjunctive modality constructions is licit.

Testing these predictions, consider the data below.

(97) jadʒibu ʔan jadrus-a aħmad-u **daaʔiman**.
 must SM study.3MS-SUBJ Ahmad-NOM always
 ‘Ahmad must always study.’

- (98) jadʒibu **daaʔiman** ʔan jadrus-a aħmad-u
must always SM study._{3MS-SUBJ} Ahmad-NOM
‘Ahmad must always study.’
- (99) *jadʒibu **daaʔiman** ʔan jadrus-a aħmad-u **daaʔiman.**
must always SM study._{3MS-SUBJ} Ahmad-NOM always
- (100) *jumkinu **daaʔiman** ʔan jadrus-a aħmad-u **daaʔiman.**
may always SM study._{3MS-SUBJ} Ahmad-NOM always

We see that adverb placement in SA can be at the end of the sentence (97) or in the middle of the sentence, preceding *ʔan* in particular, as in (98). The data in (99) and (100) show that it is ungrammatical to have two instances of the same adverb *daaʔiman* ‘always’ in subjunctive modality constructions. This confirms the prediction of the restructuring analysis given in (96)a and militates against the prediction of the biclausal analysis given in (96)b. Notice that the ungrammaticality of the adverb co-occurrence above cannot be reduced to a restriction against using two adverbs in modality constructions as this is acceptable as shown in (101).

- (101) jumkinu **daaʔiman** ʔan jadrus-a aħmad-u **bidʒidin.**
may always SM study._{3MS-SUBJ} Ahmad-NOM seriously
‘Ahmad may always study seriously.’
‘Ahmad is always capable of studying seriously.’ = he is a serious student.

On the other hand, there is no restriction on having two instances of the same adverb in biclausal constructions (i.e., non-restructuring verbs) as shown with the verb *jaquul* ‘say’, which uncontroversially instantiates a biclausal sentence. This is exemplified in (102).

- (102) jaquulu ʕali-un_i **daaʔiman** ʔanna-hu_i jaqraʔu **daaʔiman**.
 say._{3MS} Ali-NOM always that-he read._{3MS} always
 ‘Ali always says that he always reads.’

The fact that Cinque’s restriction on adverb co-occurrence is valid with modality in SA is in line with the extraction diagnostic we discussed above. Both tests lend support to the restructuring analysis and militate against the biclausal analysis. Yet, we still have an additional argument in favor of the restructuring analysis. This comes from the relative ordering of modal verbs which will be discussed immediately below.

2.4.3.3 The relative ordering of modal verbs

Cinque (1999, 2006) argues that restructuring verbs have a relative fixed order. In particular, Cinque contends that the relative ordering is predicted given that restructuring verbs are functional and that functional heads comply with Cinque’s Hierarchy. This is puzzling to any biclausal account to restructuring, as Cinque argues, while it naturally follows under a rigidly ordered hierarchy. A portion of his hierarchy is given in (103), below.

- (103) Asphabitual > Aspdelayed (or ‘finally’) > Asppre-dispositional > Asp-repetitive (I) > Asp-frequentative (I)
 Modvolition > Asp-celerative (I) > Asp-terminative > Asp-continuative > Asp-perfect >
 Asp-retrospective > Asp-proximate > Asp-durative > Asp-progressive > Asp-prospective >
 Asp-inceptive > Modobligation > Modability > Asp-frustrative/success > Modpermission >
 Asp-conative > Asp-completive (I) > Voice > Asp-celerative (II) > Asp-inceptive (II) >
 Asp-completive(II) > Asp-repetitive (II) > Asp-frequentative (II) (Cinque, 2006: 93)

In order to arrive at the relative ordering, Cinque examines constructions that have a pair of restructuring verbs, as discussed above (see §1.4.1). For a concrete example, consider (104) and (105). Accordingly, Cinque argues that when *tendere* ‘tend’ co-occurs with *voler*

‘want’, the relative order is *tendere* > *volere*, which makes (104) grammatical and (105) ungrammatical (repeated from (10)a and (10)b, respectively).

(104) Lo tenderebbe a voler fare sempre lui. (Cinque, 2006:18)
 him would.tend to want do always himself

‘He would tend to want to always do it he himself’

(105) *Lo vorrebbe a tende fare sempre lui. (Cinque, 2006:18)
 him would.want to tend do always himself

Examining Cinque’s hierarchy is beyond the scope of the current thesis and I will instead focus on modal verbs. Cinque (1999, 2006) argues that epistemic modals precede root modals, an assumption that has been widely assumed in the literature. Among root modals, there is also relative ordering, giving rise to the ordering $\text{Mod}_{\text{obligation}} > \text{Mod}_{\text{ability}} > \text{Mod}_{\text{permission}}$. The resulting order would thus indicate that SA modals should have the order *jumkin*_{epistemi} > *jadʒib*_{obligation} > *tastatʕiiʕ*_{ability} > *jumkin*_{permission}. Before further examining the relative ordering in SA, the predictions of the biclausal analysis and the restructuring analysis are given in (106).

(106) a. **The restructuring analysis’s prediction about the relative ordering:** modal verbs are relatively ordered.

b. **The biclausal analysis’s prediction:** modal verbs are not relatively ordered as each instance of modal verb constitute an independent clause.

Notice that the biclausal analysis is, in theory, not compatible with a relative ordering given that it assumes that modal verbs would belong to different clauses (and that they are actually verbs that should start in V). Therefore, a relative ordering is not only untenable

under this analysis, but it is in fact impossible. On the other hand, the proposed analysis follows a longstanding assumption in the literature of syntax and semantics that there are structural differences between modals and thus even if this might not follow from the analysis itself (though I argue it does), the analysis is evidently consistent with it.

Now, let us examine the relative ordering epistemic > obligation. This order is indeed grammatical as seen in (107), while the reverse order is ungrammatical, as in 0. The same fact seems to hold in English, as shown by the translations of both sentences and has been reported in the literature (see von Stechow & Iatridou, 2009 for a discussion).²⁶

(107) a. jumkinu ʔan jadzib-a ʔan t-aðhab-a ʔila al-maḥkamat-i.
 may SM must-SUBJ SM 2MS-go-SUBJ to the-court-DAT
 ‘You may have to go to court.’

(Context: a lawyer telling a client about the possibilities he has)

b. jumkinu ʔan jadzib-a ʔan jakuuna ḥaada að-ðihni.
 may SM must SM be sharp the-brain
 ‘He may have to be clever.’

[from Al-Jazirah Newspaper: <http://www.al-jazirah.com/2016/20160503/rj7.htm>]

²⁶ von Stechow and Iatridou (2009:16) report that the reverse ordering is possible, providing the English example below in the context that follows.

(i) For the test costs to be reimbursed, it has to be (DEONTIC) possible (EPISTEMIC) that the patient has Alzheimer’s.

(context: An insurance company will only pay for an expensive test if there is a possibility that the patient may have Alzheimer’s)

- (108) *jadʒibu ʔan jumkin-a ʔan t-aðhab-a ʔila al-maḥkamat-i.
 must SM may-SUBJ SM 2MS-go-SUBJ to the-court-DAT
 (*‘You must may/possibly go to court.’)

Next, let us examine the other ordering of modals, obligation > ability. Again, SA conforms to this ordering. In particular, the obligation modal verb *jadʒib* ‘must’ precedes the ability modal *jastatʕiif* ‘can’ as in (109).

- (109) a. jadʒibu ʔan tastatʕiif-a ʔan tusadʒila al-kurat-a/ hadafan.
 must SM can.2MS-SUBJ SM score the-ball-ACC/goal
 ‘You must be able to score a goal’

(Context: a coach ordering his soccer player to focus on the goal to score)

- b. jadʒibu ʔan tastatʕiif-a al-muṣaaradʕat-u laʕib-a dawri-ha.
 must SM can.2MS-SUBJ the-opposition-NOM playing-ACC role-it
 ‘The opposition party must be able to live up to its expected role.’

[from Al-Hayat Newspaper: <http://www.alhayat.com/article/905882>]

- c. jadʒibu ʔan tastatʕiif-a lams-a nafsi al-mantʕiqat-i xalf ðʕahrik-a.
 must SM can.2MS-SUBJ touching-ACC same the-area-GEN behind back-your
 ‘You must be able to touch the same area of your back.’

[from Al-Youm Alsabia Newspaper: <http://www.youm7.com/375325>]

On the other hand, when the ability modal precedes the obligation one, it is ungrammatical, as we can see in (110). This again conforms to Cinque’s hierarchy of the relative order of

restructuring verbs, and indeed suggests that the meaning of each modal is rigidly ordered in the functional layer.

- (110) *j-/t-astatʿiiʕu ʔan jadʒib-a ʔan tusadʒila al-kurat-a
 2MS/2FS-can. SM must-SUBJ SM score the-ball-ACC
 (* ‘you are able to must score a goal’)

We thus see that SA modals comply with Cinque’s Hierarchy and its relative ordering.

Finally, in this respect, I wish to consider an interesting instance of having the same modal word twice with different readings.²⁷ The modal *jumkin* can occur twice in a sentence with two different meanings. The higher must be epistemic and the lower must be root (permission, in particular), as shown in (111). The reverse order is infelicitous. This is compatible with Cinque’s order of epistemic modals being higher than root modals, but not vice versa.

- (111) a. jumkinu ʔan jumkin-a ʔan tuyaadir-a al-ʕamal-a .
 may SM may-SUBJ SM leave.2MS-SUBJ the-work-ACC
 ‘You may be able to leave work’

(Context: a co-worker throwing a suggestion that it is possible that the manager allows you to leave work early, for instance)

‘You are able to possibly leave work’

²⁷ The order ability>permission is not used here because the modal of ability *jastatʿiiʕ* ‘can’ has both interpretations, which makes it difficult to give a clear judgment; I will leave this for future work.

b. jumkinu ʔan jumkin-a ʔan na-stadill-a li-haaða al-ħukmi.
 may SM may-SUBJ SM 1PL-evidence- SUBJ to-this the-judgment
 ‘We may be able to support this fatwa ...’

[from Al-Riyadh Newspaper: <http://www.alriyadh.com/435130>]

The facts from the relative ordering of modals provide further support that modal constructions in SA are restructuring. We particularly see that the prediction of the restructuring analysis in this respect is borne out. The biclausal analysis’s prediction, on the other hand, is not borne out and it seems obvious that this very fact should be puzzling to the biclausal analysis.

Two qualifications are in order. First, the three diagnostics discussed above are clearly challenging to the biclausal approach. On the contrary, the functional approach to modal verbs, along the lines of Wurmbrand (1998, 2001) and Cinque (1999, 2006), does predict and account for them. In particular, extraction (i.e., focus movement) out of subjunctive complements of modals to root-initial position is possible because there is no embedded focus zone (i.e., there is no embedded left periphery for the focus feature on the nominal to be valued). Thus, what appears to be a long movement is actually a short one in modality constructions discussed above. On the contrary, non-restructuring complements headed by *ʔanna* do not allow long focus movement to the root clause because *ʔanna* is a C head that indicates the presence of an embedded left periphery and thus a focus feature on a nominal can be valued locally (though this does not apply to wh-movement as it is triggered

by +wh feature).²⁸ This might follow from economy principles or the Minimal Link Condition proposed in Chomsky (1995).²⁹

Further, the two crosslinguistic restructuring effects, suggested by Cinque (2006), are also accounted for under the restructuring analysis, given that we deal with functional heads that are fixed in the functional categories. This seems to be UG-specified properties of functional heads and their corresponding meanings, as suggested by Cinque (1999, 2006). That this is the case is supported by the fact that this is attested in one language after another, as observed by crosslinguistic surveys such as Cinque (2006). Second, the biclausal approach to modal verbs, suggested by Fassi Fehri (1993, 2012), Muhammed (2000), and Aoun et al. (2010), can explain neither the restriction on adverb co-occurrence nor the relative ordering.³⁰ This is because under these biclausal analyses the modal verb instantiates an independent clause with its own functional domain and the embedded verb instantiates its own domain as well (i.e., there are two CPs for such constructions). Thus, it is hard to conceive how two separate functional domains are ordered with respect to each other. I thus conclude that the biclausal analysis fails to account for the modality construction properties discussed above and argue that the above properties of the modality constructions lend support to the restructuring analysis. I elaborate below.

²⁸ Thanks to Usama Soltan (personal communication) who brought up the issue with wh-movement under this assumption. Notice, in this regard, that wh-movement is different from focus movement in that it is not clause-bounded. I will discuss this further in Chapter 4 (see §4.3.1.3, in particular).

²⁹ The Minimal Link Condition states that “K attracts α only if there is no β , β closer to K than α , such that K attracts β ” (Chomsky, 1995: 285).

³⁰ Fassi Fehri (1993:159), for instance, states that “modals do not appear to belong to the same inflectional domain as that of the thematic verb.” This clearly shows that the biclausal analysis explicitly assumes two different inflectional domains in modal constructions; notice that this claim made on modals with subjunctive complements, discussed in this chapter. In Fassi Fehri (2013: 243), the same assumption still holds as he proposes that *ʔan* is a C head similar to *ʔanna*, but differs, among other things, in that it is not a C root head.

2.5 Analysis: The restructuring analysis of modals in SA

In this section I will discuss the restructuring analysis in further detail and argue that it accounts for the facts associated with modal verbs. In particular, I propose that modal verb constructions are restructuring. Following a multitude of crosslinguistic evidence, I further propose that each modal in SA has a fixed position in the inflectional domain; in particular, epistemic modals are above T while root modals are below T. The proposed analysis will be supported by four additional empirical arguments discussed in the sections to follow. These arguments are Dative Modality Constructions (DMs) (§2.6.1), the aspectual asymmetry between epistemic and root modals (§2.6.2), the lexical properties of the dynamic modal (§2.6.2), and finally a novel observation in SA related to the actuality entailment (§2.6.4) .

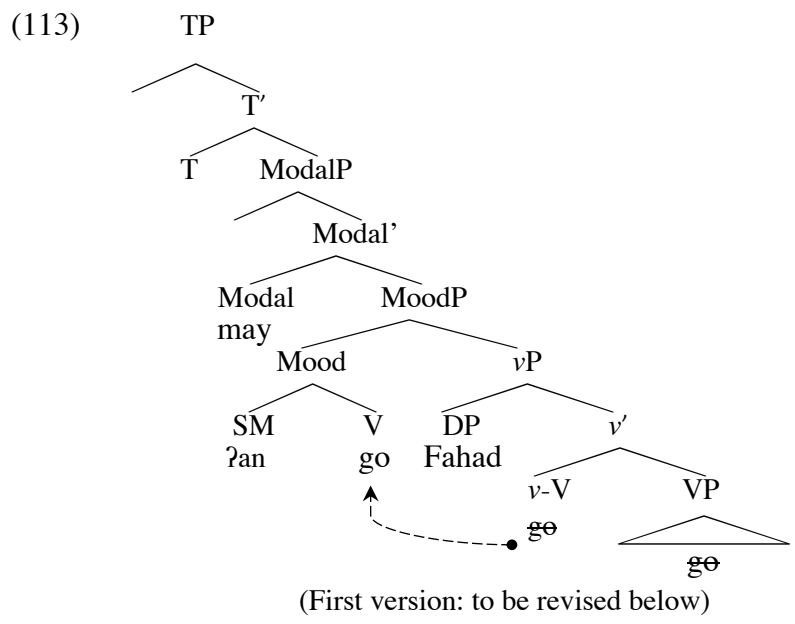
The proposed analysis assumes the modal verbs *jadzib* ‘must’, *janbayi* ‘must’, *jumkin* ‘may’, *juhtamal* ‘might’ are functional heads in the functional layer (except *jastat‘iif* ‘can’, which will be discussed later). This is supported by the restructuring diagnostics examined above in section 2.4.3. In light of the discussion so far, below are a number of facts that an account of modality in Arabic should be able to account for:

1. Epistemic modals are higher in the structure than root modals, as crosslinguistically observed.
2. Extraction out of subjunctive complements of modals is allowed.
3. The co-occurrence of the same adverb in modality constructions is illicit.
4. There is a relative ordering among modals (i.e., Cinque’s Hierarchy).

I argue that the proposed restructuring (monoclausal) analysis accounts for the above facts. I further argue that these facts will be puzzling under the biclausal analysis suggested in Arabic literature (Fassi Fehri, 1993, 2012; Muhammad, 2000; Aoun et al., 2010, among many others). It is now prudent to look closely to the restructuring analysis.

The restructuring analysis proposed here is as follows. In modal constructions, following the main definition of restructuring adopted in this thesis, there is only one projection of each of the following phrases: vP , TP, CP. In particular, I argue against postulating two instances of CP or TP as suggested in biclausal analyses (see Fassi Fehri, 1993, 2012; Muhammad, 2000; Aoun et al., 2010). The restructuring analysis of modal constructions such as (15) above, repeated in (112), would be along the lines of (113) (notice that it would be revised later).³¹

- (112) jumkinu ?an jaðhab-a fahd-u.
 may SM go-SUBJ Fahad-NOM
 ‘It is possible that Fahad would go’
 ‘Fahad is allowed to go.’



Even though the above analysis is monoclausal and thus accounts for some of the criteria put forward above for a modality analysis, it does not address the structural

³¹ I use English glossing of Arabic in syntax trees for ease of exposition. This will be used throughout the dissertation.

differences between epistemic and root modals. Under this account, modals are assumed to be in one place regardless of their modality interpretation; thus the structural difference would be as problematic as it is for the biclausal analysis and would therefore predict a uniform position for modals, contrary to fact. In particular, we have seen evidence that epistemic modals are higher than root modals as evidenced by the ability of an epistemic modal to embed a root modal, which in turn can embed a dynamic modal (as we have seen in the discussion about relative order of modals above). An example of epistemic > root is repeated in (114).

- (114) jumkinu ?an jadʒib-a ?an t-aðhab-a ?ila al-maḥkamat-i .
 may SM must-SUBJ SM 2MS-go-SUBJ to the-court-DAT
 ‘You may have to go to court.’

Furthermore, it has been suggested by many in the literature that epistemic modals and root modals do not have the same position in the functional domain (Jackendoff, 1972; Palmer, 1981, 1990; Cinque, 1999, 2006; Wurmbrand, 2001; Butler, 2003; Hacquard, 2006, to name a few). Wurmbrand (2001), for instance, shows that a German epistemic modal can embed a root modal but not the other way around, as shown in (115), and a root modal can embed a dynamic modal (116), but not the other way around, similar to what we have already established in Arabic, repeated for comparison in (117) and (118). Thus, we see that both SA and German are compatible with Cinque’s Hierarchy.

- (115) Er dürfte zu Hause sein müssen.
 He might at home be must
 ‘He might have to be at home.’

(*‘It might be that it must be the case that he is at home.’) (Wurmbrand, 2001: 186)

(116) Er muß bis morgen schwimmen können.

He must by tomorrow swim can

‘He must be able to swim by tomorrow.’ (Wurmbrand, 2001: 186)

(117) jaɖʒibu ʔan tastatʔiiʃ-a ʔan tusadʒila al-kurat-a .

must SM can.2MS-SUBJ SM score the-ball-ACC

‘You must be able to score a goal.’

(Context: a coach ordering his soccer player to focus on the goal to score)

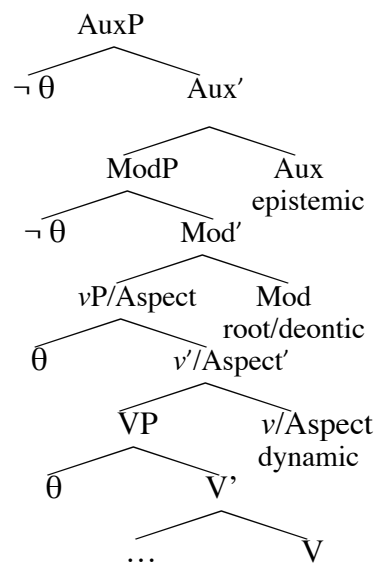
(118) *tastatʔiiʃu ʔan jaɖʒib-a ʔan tusadʒila al-kurat-a .

can.2MS SM must-SUBJ SM score the-ball-ACC

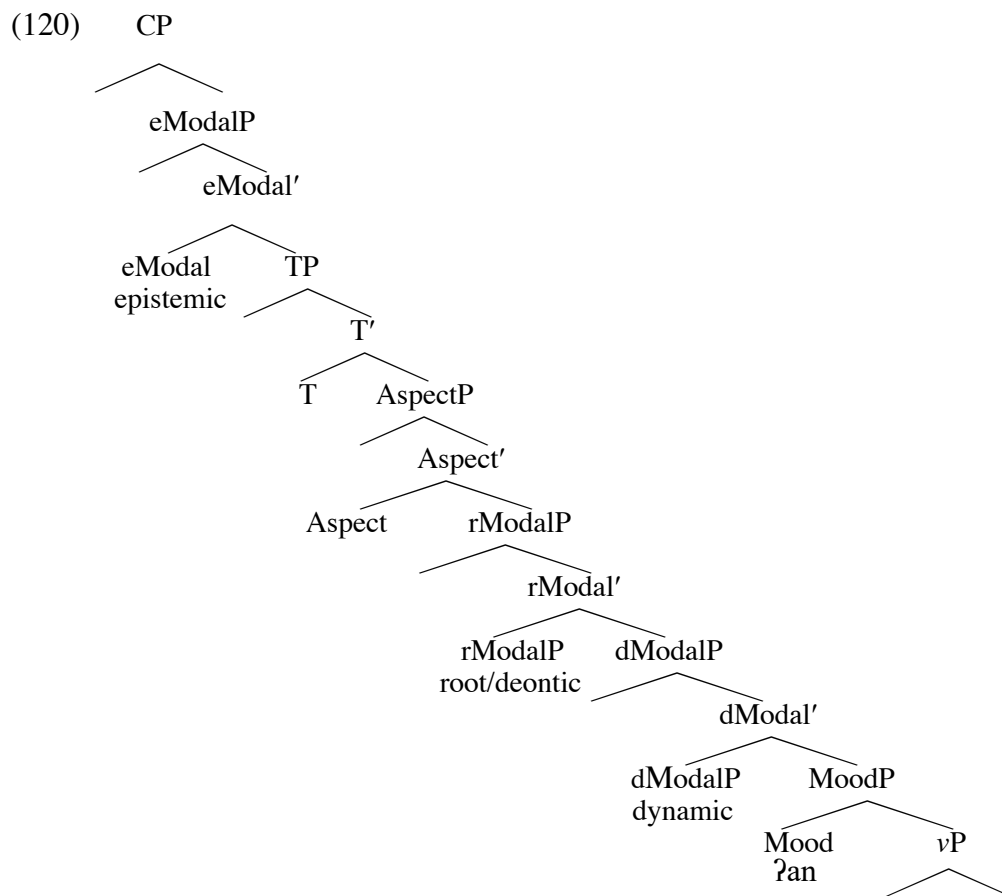
(* ‘you are able to must score a goal.’)

Wurmbrand (2001:183) proposes the structure in (119) for modal constructions in German.

(119)



We can draw from the discussion above that the restructuring analysis suggested earlier for Arabic in (113) does not account for the structural differences between epistemic and root modals as it assumes one position for all modal verbs, which is the same problematic assumption made in previous studies of Arabic modality. An adequate account of Arabic modal verbs needs to address the desiderata discussed above. Accordingly, I will revise the above analysis to propose a more articulate structure, shown in (120).



Restructuring Analysis of Modals in SA (final version)

In the above analysis, I follow Cinque (1999, 2006), Wurmbrand (2001), and Butler (2003), among others, in that each modal flavor (i.e., epistemic, deontic, dynamic) has a discrete position in the functional structure. This is not an ad hoc assumption. It has been shown in many languages that interactions between tense/aspect and modality support a

relative order (see Cinque, 2006; Butler, 2003; Bhatt, 1998; Hacquard, 2006) and have interpretation consequences that should be reflected or accounted for in any account of modality. The current account places the epistemic modal above TP while root and dynamic modals are below TP (and AspP), following Cinque (1999, 2006) and Wurmbrand (2001), among others.³² The significance of Aspect in modality will particularly arise when we discuss actuality entailment and consider insights from Bhatt (1999) and Hacquard (2006, 2009) with respect to the effect of Aspect on modality interpretation.

Further, I show below that Arabic modality provides support for an account that takes both the syntactic and semantic facts into consideration. In particular, I will discuss two facts that provide further support for the proposed analysis: (i) the semantic distinction overwhelmingly recognized in the literature between epistemic and root modals, in that the former is *speaker-oriented* while the latter is *subject-oriented* (see Hacquard, 2006, 2009, for instance). SA, in this respect, manifests structural differences that bear on the interaction between the modal verb and the subject (in particular the dative modality constructions (DMs)), (ii) Arabic modality also shows asymmetry among modals with respect to thematic relations; in particular, the dynamic modal has an external thematic argument (i.e., subject), while epistemic and root modals are purely functional. This property makes it possible for the dynamic modal (and not for the others) to allow passive voice and to fully inflect for agreement; both of which are empirically supported in SA. Another fact that this analysis will account for is the actuality entailment effect (Bhatt, 1999; Hacquard, 2006). I will address these issues in the following sections.

³² There might be a parametrization with respect to the structural positions of modals when one considers the idea that some languages are aspectual; a claim made for languages such as Arabic and Hebrew (see Bahloul, 2007; Al-Aqarbeh and Al-Sarayreh, 2017; see Fassi Fehri, 2012 for arguments against this assumption). If this is on the right track, one might, thus, need to consider whether epistemic modals in these languages should only be above AspP, irrespective of TP. This is an intriguing question that I do not intend to tackle here and leave it as an open question.

2.6 Additional empirical support for the restructuring analysis

2.6.1 Dative modality

As alluded to above, it is a rather robust assumption that epistemic and root modals contrast in their structural positions. Semantically, epistemic modals are generally classified as *speaker-oriented* while root modals are *subject-oriented*. In this section, I will show that this distinction indeed comes about in syntax and that it does not only occur at LF. In particular, I propose that while an epistemic modal in Arabic cannot impose selectional restrictions on the subject (presumably because it is too high to do so), root and dynamic modals do (in different ways that even manifest further distinctions). In this respect, I will argue that the subject- vs. speaker-orientation property for modals can be reduced to a structural difference.

In section 2.2 above, I have discussed the (im)possible positions of subject in modality constructions. We have seen that modals cannot be immediately followed by the subject, as shown by the ungrammaticality of (121), repeated from (37). This leads to the availability of only $V_{\text{modal}}VS$ or $SV_{\text{modal}}V$ word orders, where the subject in the latter is in a left periphery position and it is based-generated position in the former. However, we have also found that the subject can be flanked between the modal and the main verb only under one condition: if it is embedded in a PP, yielding $V_{\text{modal}}[PP[S]]V$, giving rise to the DMs. This is shown in (122) and (123), repeated from (38) and (39) above.

(121) *jadʒibu hind-u ʔan t-uʔaadir-a.
must Hind-NOM SM 3FS-leave-SUBJ
‘Hind must leave.’

(122) jadʒibu ʕala hind-in ʔan t-uʔaadir-a .
must on Hind-DAT SM 3FS-leave-SUBJ

‘Hind must leave.’

(123) jumkinu li-ʕali-in ʔan j-uʕaadir-a.
 may to-Ali-DAT SM 3MS-leave-SUBJ

‘Ali may leave.’

With respect to DMs in SA, the claim I am making here is that modals *select* particular prepositions, as discussed above in section 2.2. In particular, the modal *jadʒibu* ‘must’ must be followed by the preposition *ʕala* ‘on’, while the modal *jumkinu* must be followed by *li* ‘to/for’ as shown in (124) below. This is interesting in that it shows that modals (under some readings, as will be made clear shortly) can interact with the internal structure of the embedded phrase *vP*, or more accurately *MoodP* (to be made precise below). In other words, modals in SA select PP as internal arguments (i.e., experiencers that are incorporated into PPs), along with *MoodP*. Importantly, they do not select external arguments (except the agreeing dynamic modal, which will be discussed later, see §2.6.3) and thus they are functional heads (hence, they are *raising* predicates; see Wurmbrand and Haddad, 2016 for a discussion on word order and agreement in raising in SA including some modal verbs).

(124) a. jadʒibu ʕala/*fi/*li-/*ʔila/*ʕind hind-in ʔan t-uʕaadir-a .
 must on/in/for/to/at Hind-DAT SM 3FS-leave-SUBJ

‘Hind must leave.’= there is an obligation on Hind such that she must leave.

b. jumkinu li-/*ʕala/*fi/*ʔila/*ʕind ʕali-in ʔan j-uʕaadir-a.
 may to/on/in/to/at Ali-DAT SM 3MS-leave-SUBJ

‘Ali may leave.’= A permission is granted for Ali such that he can leave.

With the above background in mind, let us now consider to the possible modal readings that arise with DMs, i.e., [Modal [PP [Subject]] [V...]]. Remember that similar to *must* and *may* in English, *jaɖʒib* ‘must’ and *jumkin* ‘may’ are ambiguous in SA between epistemic and root readings, as shown in (125).

(125) *jaɖʒibu* *ʔan* *ja-kuun-a* *ʒali-un* *huna.*
 must SM 3MS-be-SUBJ Ali-NOM here

‘Ali must be here.’

a. Given what the speaker knows, it is a necessary assumption that Ali is here (the speaker saying the utterance to a person asking where Ali can be at this time, for instance) = *epistemic*

b. Ali is required to be here; it is a rule/obligation on Ali to be here (the speaker can be Ali’s boss who uses his authority to obligate Ali to be present at his request) = *deontic/root*

Surprisingly, the ambiguity disappears in DMs in that only root readings are possible while epistemic readings are infelicitous, This is shown in (126) and (127). This shows that DMs are only compatible with root readings and never with epistemic ones, an interesting and novel observation in SA.

(126) *jaɖʒibu* *ʒala* *hind-in* *ʔan* *t-uɣaadir-a.*
 must **on** Hind-DAT SM 3FS-leave-SUBJ

‘Hind must leave.’

a. Hind is required to leave. (root: ✓)

b. # ‘It is a necessary assumption that Hind leaves.’ (epistemic: ✗)

2.6.2 Modality and aspectual asymmetry

Aspectual properties provide another intriguing difference between epistemic modals and root modals that supports the assumed structural difference. In particular, I will show that root modals have perfective forms while epistemic modals do not. The purpose of this section is thus to argue that this aspectual asymmetry can be reduced to the different structural positions of epistemic and root modals.

As discussed above, modals in SA are ambiguous between epistemic and root readings. However, when the necessity modal *jadzib* ‘must’ is in the perfective form, only the root interpretation is possible. Consider the minimal pair given in (128) and (129).

(128) *jadzib* *ʔan* *t-uʔaadir-a* *hind-u.*
 must.IMPRF SM 3FS-leave-SUBJ Hind-NOM

‘Hind must leave.’

a. Hind is required to leave. (root: ✓)

b. It is a necessary assumption that hind leaves (now) (epistemic: ✓)

(129) *wadʒaba* *ʔan* *t-uʔaadir-a* *hind-u.*
 must.PERF SM 3FS-leave-SUBJ Hind-NOM

‘Hind was required to leave’ (root: ✓)

‘It was a necessary assumption that hind leaves’ (epistemic: ✗)

further proposes that they can be either in Voice or Aspect; both would be possible given the proposed analysis here. However, given that many details need to be investigated and related complexities arise, I will remain neutral as to the particular analysis for DMs and leave it as an open question (see Soltan, 2007 for a related discussion).

This is in fact what has also been found in other languages such as Catalan (Picallo, 1990) and German (Wurmbrand, 2001). In particular, both authors note that epistemic interpretations do not obtain with perfective modals. An example from German is given below.

(130) Sue hat zu Hause arbeiten müssen. (German)

Sue has at home work must-IPP

‘Sue had an obligation to work at home.’

‘It must have been the case that Sue worked at home.’ (Wurmbrand, 2001: 184)

This fact about epistemic modals is interesting and indeed sheds light on the position of the modal. In particular, we assume here, following a great deal of work on modality, that epistemic modals are above T while root modals are below T. In fact, recall from the proposed analysis in (120) that root modals are below both T and Asp, while epistemic modals are above both of them. I argue thus that this is the distinction that really matters with respect to the aspectual asymmetry. In particular, it follows from this assumption that only root modals can have perfective forms given that they can move to Aspect to check this affix (i.e., root modals in the proposed analysis is in the scope of Aspect). On the other hand, epistemic modals cannot have perfective forms because they are not within the scope of Aspect and thus they are not able to be in perfective forms. That this is the behavior of epistemic modals (i.e., resistance to being under the scope of perfective aspect crosslinguistically) should follow from the structural differences of modals along the lines assumed above. This indicates that this is an essential property of modality that should be accounted for. Related to this intriguing property, below I examine the properties of the dynamic modal *jastatʕiiʕ* ‘can’ that also manifest various interesting differences from other

root modals. In particular, the differences between the dynamic modals and deontic modals will further support the structural differences assumed above, following *inter alia*, Cinque (1999) and Wurmbrand (2001).

2.6.3 Dynamic modal: the lexical modal

The modal *jastatʕiif* ‘can’ has both perfective and imperfective forms and two non-epistemic interpretations: permission and ability. These are shown in (131) and (132), repeated from (47) and (48) above.

- (131) *jastatʕiif* *al-walad-u* *ʔan* *jaqraʔ-a*.
 can.IMPF the-boy-NOM SM read-SUBJ
 ‘The boy can/is able to read’
 ‘The boy is allowed to read.’

- (132) *istatʕaaʕa* *al-walad-u* *ʔan* *jaqraʔ-a*.
 can.PERF the-boy-NOM SM read-SUBJ
 ‘The boy was able to read.’
 ‘The boy was allowed to read.’

The dynamic modal *jastatʕiif* ‘can’ also differs from other root modals in various properties: it fully agrees with the subject, shows the agreement asymmetry, and behaves as a transitive verb in assigning accusative Case (see §2.2 for details). The last property in particular makes a clear prediction: the dynamic modal can be passivized. Indeed, passivization makes a clear distinction between root and dynamic modals in SA in that only the latter can be passivized. This is crucial for showing the relative structural differences

between root and dynamic modals, which is already proposed in the current account. (134)

below is the passive of the dynamic modal construction of (133).

(133) *jastatʕiiʕu* *atʕ-tʕaalib -u* *ʔan* *jaqraʔ-a* *al-kitaab-a.* (Active)
 can.ACT the-student-NOM SM read.ACT-SUBJ the-book-ACC
 ‘The student can read the book.’

(134) *justatʕaaʕu* *ʔan* *juqraʔ-a* *al-kitaab-u.* (Passive)
 can.PASS SM read.PASS-SUBJ the-book-NOM
 ‘The book can be read (by someone).’

The passive construction of the dynamic modal reveals a novel observation in SA. In particular, I find that with this particular modal (and with exhaustive control verbs of *forget*-type, as will be discussed in Chapters 4 and 5), there is a voice matching requirement. That is, either both the matrix and the embedded verbs are passive, or both are active. Any violation to this requirement renders the sentence ungrammatical as shown below.

(135) a. **justatʕaaʕu* *ʔan* *jaqraʔ-a* *al-kitaab-u/a.* (Mixed voice: **X**)
 can.PASS SM read.ACT-SUBJ the-book-NOM/ACC

 b. **jastatʕiiʕu* *ʔan* *juqraʔ-a* *al-kitaab-u/a.* (Mixed voice: **X**)
 can.ACT SM read.PASS-SUBJ the-book-NOM/ACC

This is interesting not only in terms of the voice facts themselves, but actually for the fact that the voice matching requirement is a recent discovery among restructuring languages

crosslinguistically (see Wurmbrand, 2015; Wurmbrand and Shimmaru, 2017).³⁴ In particular, voice matching is increasingly considered as a new restructuring diagnostic for lexical verbs. In other words, when a construction shows the voice matching requirement, we have a monoclausal structure. Consider the data below from Serbio-Croatian (adopted from Wurmbrand, 2015: 8; for further data and discussion, see also Chung, 2004; Wo, 2012; Wurmbrand and Shimmaru, 2017 and references therein).

(136) Te melodije su (bile) pokušavane da budu odsvirane.
 Thesemelodies.NOM were (been) tried.[PASS].PART that be.3PL played.[PASS]
 ‘They tried to play these melodies.’

(137) *Te melodije su (bile) pokušavane da odsviraju.
 These melodies.NOM were (been) tried.[PASS].PART that played.3PL. [ACT]
 Lit. ‘These melodies were tried to play.’
 Intended ‘They tried to play these melodies.’

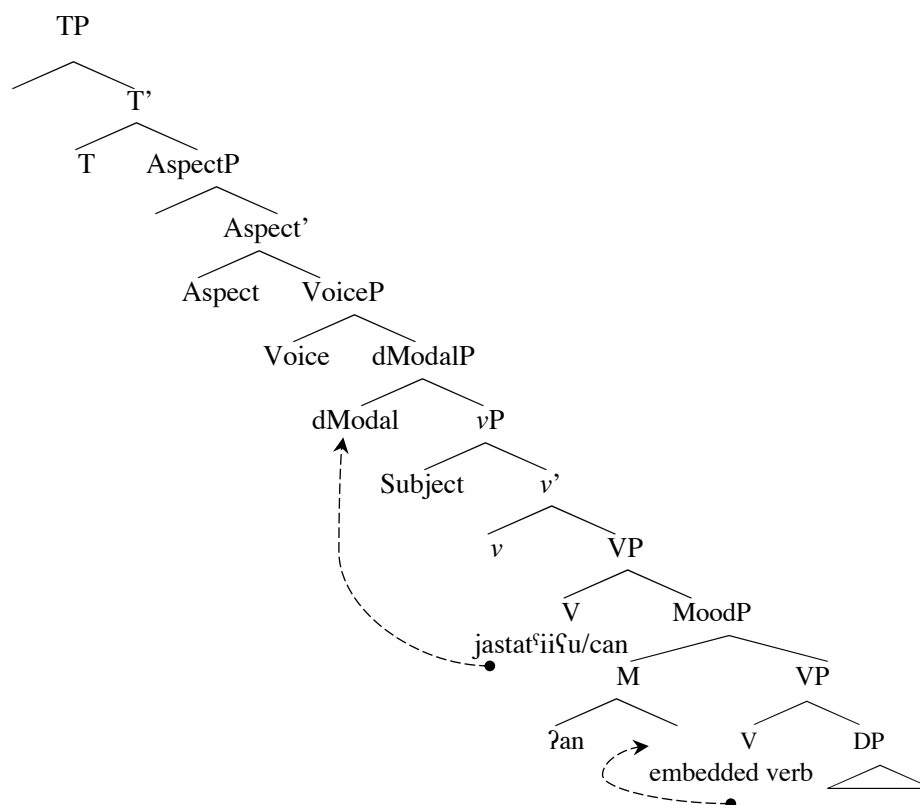
Voice matching is crucial in different respects. It shows not only that the dynamic modal is structurally different from other modals, but also that it is a thematic verb similar to transitive verbs. This, also, shows that the dynamic modal starts as a pure lexical verb in a V head and then moves to the dynamic modal position in the functional structure. This, therefore, strongly suggests a case of lexical restructuring, along the lines suggested by Wurmbrand (1998, 2001, 2004, 2013, 2015). That is, we have a case of restructuring where both the matrix and the embedded verbs are purely lexical verbs. Notice that this would suggest a case of obligatory control, which is generally taken to be biclausal (Landau, 2000,

³⁴ I owe thanks to Susi Wurmbrand (personal communication) for discussing the significance of the voice matching property.

2004, 2006, 2013; Hornstein, 1999, 2003; Boeckx et al., 2010). I argue, however, that lexical verbs, particularly Exhaustive Control (EC) verbs, do not instantiate a biclausal control structure as assumed in the standard control theories. Since I will discuss lexical restructuring in the following chapters, I will not discuss the dynamic modal in detail here and instead only provide an analysis for this type of restructuring (see Chapters 4 and 5 for details; for the detailed analysis, see §5.3).

The above facts lead us to conclude that we indeed have a case of lexical restructuring as suggested in Wurmbrand (2001, 2004) where it is argued that lexical restructuring is a case of bare VP embedding. That is, the matrix V selects a subjectless VP. The embedded VP is thus not a proposition (i.e., it does not have a syntactic subject, PRO/pro), but rather a property along the lines suggested by Chierchia (1984) for infinitives and gerunds (for further discussion, see Chierchia, 1984; Wurmbrand, 2001; Grano, 2012; see Chapters 4 and 5 for details). While I adopt Wurmbrand's approach to lexical restructuring, I, however, depart from her analysis in that the dynamic modal in SA embeds a MoodP, not a VP. This is supported by the fact that *ʔan* is obligatory with all modal verbs, as discussed in section 2.2 above. Accordingly, the suggested structure for dynamic modal constructions in Arabic is given in (138) (various assumptions are ignored here since a detailed discussion will be provided in Chapter 5).

(138)



The above analysis assumes that the dynamic modal embeds a reduced phrased MoodP headed by the subjunctive marker *?an* and that the embedded verb does not have a syntactic subject. Various questions and qualifications need to be addressed but they will put a side for now and will be thoroughly discussed in Chapter 5.

Here, I will just quickly comment on the voice matching requirement. The analysis proposed above assumes that there is only one Voice head and thus there is only one source of voice information. Given that SA has voice morphology, as we have also seen with aspect, the voice affix requires moving to Voice head (i.e., via head movement). This predicts that both verbs move, and indeed I will argue that this is the case. That is, both the matrix and embedded verb will end up in the Voice head, and only the embedding verb moves higher to Aspect and Tense, which is independently motivated in SA (see Benmamoun, 2000; Soltan, 2007; Aoun et al., 2010; Ouali, 2014; for a discussion on voice matching in Arabic, see Albaty and Ouali, 2018). If these assumptions are on the right track, then voice matching follows naturally under the proposed analysis. On the other hand, the voice matching fact will

be puzzling to the standard analysis of modality in SA (Fassi Fehri, 1993, 2012; Mohammad, 2000; Aoun et al. 2010).

In addition, the proposed analysis assumes that the subject can stay in Spec, *v*P while both verbs move across it to Voice. This would give rise to the VVSO word order. The prediction is indeed borne out and is known as backward control (BC), adopting the terminology of Polinsky and Potsdam (2002, 2006). Notice that BC is used here merely as a description; I will later argue that VVSO cannot arise in standard control configurations in SA (i.e., constructions with embedded syntactic subject be it PRO as assumed in Landau, 2000, 2004 or a copy as assumed in Hornstein, 2000, 2001, seq.). The discussion of the subject interpretation and possible subject positions is postponed to Chapters 4 and 5 where all the details about control in SA will be provided. Below, I conclude this chapter with another novel observation regarding the dynamic modal in SA which serves as an additional argument for the proposed analysis.

2.6.4 Actuality entailment

This section will extend the restructuring analysis to address the actuality entailment effect, which has been argued to obtain with root modals in the perfective form (Bhatt, 1999; Hacquard, 2006, 2010, 2016). The actuality entailment is essential to the current proposal as it provides further support for the restructuring analysis. This comes from recent insights from Hacquard's works in which she argues that actuality entailment arises in restructuring constructions. Hence, if it obtains with Arabic modal verbs, it further shows that they are restructuring verbs. In addition, the fact that Arabic shows this effect is important to further understand this recent phenomenon as it has only recently been investigated.

The actuality entailment concerns perfective aspect and emerging inferences. In particular, as discussed originally in Bhatt (1999), the perfective aspect of the ability modal makes it necessary that the complement of the modal is true in the actual world. That is, an uncancelable inference emerges from the sentence. It was first observed with dynamic modals (Bhatt, 1999), but subsequent studies have found it with root modals in general (i.e., non-epistemic modals) (Hacquard, 2006). This indicates that the actuality entailment effect obtains with root modals and never with epistemic modals. Actuality entailment is shown in the French example in (139).

(139) a. Jean pouvait soulever un frigo, mais il ne l'a pas soulevé. (French)
 Jean could-_{IMPF} lift a fridge, but he NE it-has not lifted
 'Jean could lift a fridge, but he didn't lift it.' (Hacquard, 2016:3)

b. Jean a **pu** soulever un frigo, # mais il ne l'a pas soulevé.
 Jean has could(_{PFV}) lift a fridge, but he NE it-has not lifted
 'Jean could lift a fridge, #but he didn't lift it.' (Hacquard, 2016: 3)

In this example, the imperfective form of the modal does not force the actuality of the complement, but the perfective form of the modal does, as (139)b shows that cancelling the inference is contradictory and thus illicit (Hacquard, 2006).

Interestingly, the actuality entailment effect is not expected under the standard assumptions of both modality and aspect (Hacquard, 2016). Hacquard's reasoning for this is that modality is understood to be a means that people use to express possibilities beyond the actual time and place; aspect, on the other hand, has the function of locating an event in time.

Therefore, it was rather surprising that an interaction between modality and aspect gives rise to such an effect.

Even though I am not discussing the actuality entailment in detail here for space reasons, I will show that it arises with Arabic modality, similar to what has been found in Hindi and Greek (Bhatt, 1999), French (Hacquard, 2006, 2010, 2016), and Italian (Cinque, personal communication). This is interesting for two reasons. First, it shows that we need to consider the interaction between aspect and modals under any modality account. Second, actuality entailment turns out to be a semantic diagnostic of restructuring, as Hacquard (2006) argues. In light of this, the discussion in this respect is twofold. It sheds light on the proposed account by testing how it addresses this independent effect. It also contributes to the study of actuality entailment across languages as only a few languages have been examined so far.

The perfective form of the dynamic modal in Arabic shows the actuality entailment effect. Similar to the French examples above, the imperfective form of the modal, given in (140), does not force the complement to be actualized as evidenced by the acceptability of the continuation that cancels the actual entailment. The perfective modal, on the other hand, does force the actuality entailment of the complement, as shown in (141) and thus the continuation that cancels the entailment is infelicitous. That is, the action of *lifting the table* has to occur in the past and in the actual world.

(140) jastat^{ʕiiʕu} fahd-un ʔan jaħmila at^ʕ-t^ʕawailat-a, laakin lam jaʕʕal.
 can.IMPF Fahad-NOM SM lift the-table-ACC but neg.PAST do.3MS

‘Fahad could lift the table, but he did not lift it.’

- (141) *istatʕaaʕa fahd-un ʔan jaħmila atʕ-tʕawailat-a, # laakin lam jaʕʕal.*
 can.PERF Fahad-NOM SM lift the-table-ACC but neg.PAST do.3MS
 ‘Fahad was able to lift the table, # but he did not.’

The restructuring analysis of Arabic modality proposes a position for the dynamic modal that is below AspP. In fact, it goes even further to propose that it starts even lower in the lexical domain first, then moves to the dynamic modal head in the functional layer. If we follow Hacquard’s (2006, 2009) account of actuality entailment, the proposed account is compatible with her analysis of actuality entailment. In the proposed structure for dynamic modals, Aspect scopes over the modal and the event (say, *lifting the table* in the above example). In virtue of this, perfective aspect locates the running time of the event in the perfective time, which has to be realized prior to the utterance time in the actual world. In other words, Hacquard’s analysis for actual entailment requires modals to be relativized to events, which are also variables that need to be bound locally by a (time) binder; thus, both T and Asp are possible binders. However, given that aspect is a closer binder to root modals, it binds the event variable and thus relativizes the modal to the actual world.

Even though the actuality entailment effect deserves more elaboration, it suffices to show that the effect does obtain in SA and that the proposed analysis is compatible with Hacquard’s analysis for actuality entailment. The basic idea is that since (perfective) aspect scopes over the modal, it would force the realization of the whole sentence in the actual world. If this is on the right track, this provides another piece of evidence for the restructuring analysis pursued here. Whether Hacquard’s semantics of aspect is right or a different mechanism is called for, the current account, I assume, is compatible with the core idea related to the crosslinguistic hierarchy of aspect > root > dynamic suggested in Cinque (1999, 2006), which Hacquard’s analysis builds on. I leave it for future work to flesh out more details.

2.7 Conclusion

In this chapter I have proposed a novel approach to modal verbs in SA that accounts for their semantic and syntactic properties. In particular, I first have argued that Arabic modality with subjunctive complements instantiate a restructuring construction. In other words, modality in SA involves a monoclausal structure. In this respect, I have investigated a set of restructuring diagnostics including *inter alia*, extraction, the restriction on adverb co-occurrence, and relative ordering. The proposed analysis accounts for the facts of modality in SA and also sheds lights on certain crosslinguistic assumptions including the structural differences between epistemic, root, and dynamic modals that are based on observed semantic differences. These properties are puzzling to the standard biclausal analyses for Arabic modals.

Interestingly, I have also shown that the structural differences have various manifestations in that only *subject-oriented* modals (root and dynamic) allow the construction in which the subject can be embedded into a selected PP (i.e., experiencer) while *speaker-oriented* modals (epistemic) do not. These have been accounted for by proposing that epistemic is above AspP and TP while root and dynamic modals are below them. We have seen additional support for the proposed analysis which comes from the aspectual asymmetry between modals where only non-epistemic (i.e., root and dynamic) modals have perfective forms.

In addition, the dynamic modal has been investigated and shown to be different from other root modals in various properties including passivization, accusative case assignment, and transparency to the agreement asymmetry. These clearly argue that this modal is a lexical verb. Because the dynamic modal shows thematic properties, I have proposed that it starts first in the lexical structure (hence, it is lexical restructuring). A novel observation that also emerges with respect to the dynamic modal is that dynamic modal constructions require voice

matching, a property that has been widely taken to be a restructuring diagnostic. Given that the dynamic modal is a case of lexical restructuring and thus it belongs to the exhaustive control of Landau (2000), the proposed analysis is just sketched here and will be detailed in Chapters 4 and 5. Lastly, we have seen that the proposed analysis for the dynamic modal sheds light on the intriguing effect of actuality entailment (Bhatt, 1999; Hacquard, 2006, 2010). The fact that SA shows the actuality entailment effect is another new finding that it lends further support to the proposed analysis.

3. Control in SA: restructuring and non-restructuring

3.1 Introduction

The study of control has been essential to syntactic theory, providing valuable insights into our understanding of human language. Recent work on control, especially the work of Landau (2000, 2004, 2013, 2015, 2018), Hornstein (1999, 2001, 2003) and Boeckx and Hornstein (2004, 2006a), raise new theoretical and empirical considerations relevant to the still-unsettled debate on control theories within the Minimalist agenda. The aim of this chapter and the chapters to follow is to present novel empirical observations relevant to this debate by examining control in Standard Arabic (SA) and its reflection on Minimalist theories of control. Taking Landau's (2000) classification of control into partial control (PC) and exhaustive control (EC) as a point of departure, I will focus on two recent dominant theories of control: the Agree Theory of Control (Landau, 2000, 2004, 2006) and the Movement Theory of Control (Hornstein, 1999, 2001, 2003; Boeckx and Hornstein, 2004, 2006a; see also Boeckx, Hornstein and Nunes, 2010). I will examine these theories with respect to control in SA, arguing that they face various empirical challenges. I will alternatively pursue a non-uniform analysis to control in SA. In particular, I argue that EC and PC are structurally different and therefore cannot be accounted for by a uniform analysis. I propose that EC is monoclausal (i.e., a restructuring) while PC is biclausal. This is at odds with both theories of control which assume a uniform biclausal structure for EC and PC. While this chapter examines both EC and PC, particular focus will be paid to PC since EC will be discussed in detail in the next two chapters.

This chapter is organized as follows. In the next section, I will review control theories, their successes and challenges, and how data from SA posit a new challenge. In

section 3.3.2, I will examine obligatory control in SA and establish the existence of EC and PC in this language. While the existence of EC is not surprising, that PC obtains in SA is of particular interest for control theories. I will present novel data from SA that provide a strong argument that PC obtains in finite control languages, contra Landau's (2000) claim. This is crucial to a recent debate on this issue (Landau, 2000, 2015; Sheehan, 2012, 2014b, 2015, 2018; see also Sevdali and Sheehan, to appear) where Landau argues that PC do not obtain in finite control but the recent empirical evidence challenges this claim. PC in SA weighs in this debate, supporting the proposal that PC obtains in finite control languages. In fact, I will show that SA does not only have not one way to realize PC, but has three different patterns. In section 3.3.3 I will examine the temporal properties of PC and EC in SA based on recent insights from Grano (2012), concluding that Landau's (2000) generalization regarding Tense and control needs further modification. I will then provide an analysis for PC in SA in section 3.4. Section 3.5 concludes the chapter.

3.2 Previous theories of control

Control has always been both dynamic and vital to theoretical advances in generative syntax. Indeed, there exist no shortage of theories contributing to our understanding of control constructions and their properties across languages. Although an exhaustive discussion of theories of control is beyond the scope of this chapter (see Landau, 2013 for a thorough and critical review), I discuss what seem to be the most dominant theories of control below. A strong emphasis will be put on theories of control within the Minimalist Program (Chomsky, 1995, 2000). I will start with a brief discussion of control theory within Principles and Parameters (Chomsky, 1981; Chomsky and Lasnik, 1993; Chomsky, 1995), pointing out its advantages and challenges. I will then delve into investigating the Movement Theory of Control (O'Nill, 1997; Hornstein, 1999, seq.) and the Agree Theory of Control (Landau,

2000, seq.). These two theories induce much debate within the Minimalist approach and have been widely adopted in recent works on control. Reviewing the two theories and their theoretical and empirical aspects, I will show that control in SA raises various novel challenges to both. I conclude this section with a discussion of the Predicational theory of Control as presented in Chierchia (1984) and Wurmbrand (2001). This theory will be essential for the proposed analysis of Exhaustive Control (EC) in SA as I argue that neither the ATC nor the MTC would be able to account for it.

3.2.1 PRO-theory

Control structures have been a cornerstone in generative grammar since Rosenbaum's (1967) seminal work on *Equi-NP Deletion*. Under this account, the control structure was defined as a deletion of an embedded NP corresponding to one in the matrix clause, as in *John tried ~~John~~ to go*. This line of analysis indeed captured the intuition that the unpronounced subject of the embedded clause is a co-referent of the matrix subject. Nevertheless, it did not address more profound questions about the interpretive restriction in addition to ruling out acceptable interpretations associated with what is known as partial control (Landau, 2000, 2013a).

Within Principle and Parameters, Chomsky (1981) proposes the Theta Criterion, which necessitates the existence of a null pronoun PRO to satisfy the requirement of bearing exactly one theta role.³⁵ Chomsky proposed that the interpretation between the controller (i.e., the overt NP) and the controlee (i.e., PRO) is mediated by coindexation, and the distribution of PRO is regulated by binding conditions. In particular, PRO has two properties: it is an anaphor and a

³⁵ Another reasoning for the postulation of PRO is the EPP requirement (Polinsky, 2013).

pronominal. Thus, conditions A and B both operate on PRO to circumvent government. This is formulated under PRO-theorem stated below (Chomsky, 1981; 191):

(142) *PRO-Theorem*

"PRO is ungoverned."

The theorem was put forward to account for PRO being caseless. If it were governed, it would be case marked, which in turn would violate the Case Filter requiring the overtness of nouns that bear Case. However, given that PRO is null and caseless, the Case Filter is circumvented. This restriction against governed positions also regulates the environment where PRO is licensed; only non-finite clauses have a defective T that cannot assign Case to its specifier. This guarantees that PRO is caseless and thus both the Case Filter and Theta Criterion are satisfied. Incorporating the above assumptions about PRO, control theory successfully captures the contrast observed in (143).

(143) a. John_i hoped [CP PRO_i to win].

b. *John_i hoped [CP that PRO_i would win].

(143)a is acceptable given that there is no violation to induce a crash of the derivation; Theta Criterion is satisfied, PRO is caseless given that it is in the specifier of a non-finite clause, and PRO is ungoverned (PRO-theorem). (143)b, on the other hand, is ungrammatical due to violations of the PRO-theorem and being in a Case position as it is the specifier of a finite clause.³⁶ This, therefore, makes the position of PRO the position of an overt DP.

³⁶ PRO is governed in (143)b by a finite T, a violation of the PRO-theorem. Notice that the PRO-theorem also restricts PRO from the object position in examples like (i):

(i) *John called PRO.

Traditional control theory is challenged once we look beyond English, however. Control theory in the 80s and 90s was based on the two assumptions just alluded to, among others: PRO is caseless, and PRO is associated with non-finite clauses. Nonetheless, these assumptions were challenged on empirical grounds. On the one hand, the idea that PRO is only postulated in non-finite clauses has been challenged in various languages where control obtains in finite clauses (i.e., finite control languages such as Arabic, Hebrew, Greek, Romanian, and Persian, among many others). On the other hand, the stipulation of caseless PRO was also challenged by findings related to concord case in Icelandic and Russian which show that PRO is actually case-marked, similar to other nominals. I take each point in turn below starting with the latter.

One aspect of control theory in P&P that has been challenged is the stipulation that PRO is caseless. Even though this has been modified in the Minimalist version of control (Chomsky & Lasnik, 1993; Chomsky, 1995) as we will discuss below, the fact that PRO is case-marked has been shown in different languages (Landau, 2000, 2004, 2013; Polinsky, 2013). Concord case in languages such as Icelandic and Russian provides strong evidence that PRO bears Case. Landau (2000, 2006, 2013) shows that PRO bears a distinct case from the controller. Case checking in the embedded clauses below shows that Case is local, not parasitic on the matrix clause. This is shown in (144) where *all* and *alone* bear a different case from their controllers.

- (144) a. strákarnir vonast til [að PRO vanta ekki alla í skólann]. (Icelandic)
the boys_{NOM} hope for to PRO_{ACC} to.lack not all_{ACC} in the.school
‘The boys hope not to be all absent from school.’ (Landau, 2013:103)

b. my poprosili Ivana [PRO pojti odnomu]. (Russian)
 we.NOM asked Ivan.ACC PRO.DAT to.go alone.DAT
 ‘We asked Ivan to go alone.’ (Landau, 2013:103)

Another empirical and theoretical issue with standard control theory is the strong correlation between control and non-finiteness.³⁷ PRO as the hallmark of control is only licensed in non-finite clauses. It follows, then, that we do not expect to find control in finite clauses. However, this runs into immediate issues since control in many languages indeed obtains in finite clauses. Arabic, Balkan languages, Hebrew, and Persian, among other languages all induce control in finite clauses (Borer, 1989; Fassi Fehri, 1993, 2012; Iatridou, 1993; Landau, 2000, 2006, 2013; Ghomeshi, 2001; Kapetangianni and Seely, 2007, among many others). Data in (145) and (146), from Arabic and Greek, respectively, challenge the assumption that control is a property of non-finiteness.

(145) nasia/ħaawala/taħallama/ ħarafa aħmad-u_i [ʔan jaftaħ-a PRO_{i/*k/*arb} al-baab-a].
 forgot/tried/learned/knew .3MS Ahmad-NOM SM open-SUBJ.3MS the-door.ACC
 ‘Ahmad forgot/tried/learned/knew(how) to open the door.’

(146) o yanis_i kseri [na horevi PRO_{i/*j}]³⁸
 the John.NOM know .3SG.PRES SM dance .3SG
 ‘John knows (how) to dance.’
 ‘*John knows (how) he/she to dance.’ (Kapetangianni, 2010: 21)

³⁷ In fact, the problem extends to control theory in Minimalism (Chomsky & Lasnik, 1993) since null Case is also assumed to be assigned under non-finite T. This eliminates control from finite clauses, which runs against abundant empirical evidence crosslinguistically.

³⁸ For consistency, some changes on the glossing/notations are applied which minimally differ from the sources. Notice that SM stands for Subjunctive Marker.

In both examples above, there is an obligatory coreference between PRO and the controller, *Ahmad* and *John* while other interpretations are impossible (i.e., salient reference from context or an arbitrary reference).

More significantly, the examples above show that the embedded clause is clearly finite in both languages. The finiteness of the embedded clause is evidenced by agreement/inflection. Faced with a crosslinguistic challenge, various assumptions within standard control theory seem to be problematic. Among various empirical and theoretical issues are whether control is a property of PRO and what the syntactic licensing of PRO is. Put differently, if PRO is the control apparatus and is only licensed in non-finite clauses, how is control achieved in finite clauses as observed in so many languages?

If control is assumed to be a UG property, it is, thus, impossible to deny it from finite languages based on theoretical assumptions, especially given the robust evidence of finite control.³⁹ This necessitates reformulating control theory with a more general approach. Indeed, this step has been taken by various researchers. Three different lines of analyses have been put forward to tackle the issue of finite control (see Kapetangianni, 2010 for further details). Some researchers (Borer, 1989; Philippaki-Warbuton, 1987; Spyropoulos, 2007, among others) propose that finite control is licensed under a different mechanism associated not with PRO but with *pro*. Another approach assumes that finiteness is related only to tense; thus, agreement/inflection in subjunctive control falls under the realm of non-finiteness as well (Iatridou, 1993). A more recent approach is Landau's theory of control, (Landau, 2000, 2004, 2006), according to which, control is a property of PRO and its distribution and interpretation depend on features licensing under Chomsky's (2000) Agree system. I will examine this approach in detail in section 3.2.3.

³⁹ The discussion here owes a debt to San-Martin (2004), Kapetangianni (2010), Polinsky (2013), and Landau (2013).

In addition, the Movement Theory of Control (O’Neil, 1997; Hornstein, 1999, 2001, seq., among others) introduces a radical reformulation of control in general. It proposes that control follows from independent syntactic operations (movement and Case), arguing for the reduction of PRO from grammar. Since it does away with PRO, the restriction of control to finiteness disappears. This theory thus provides a novel way to account for finite control. Consequently, various works adopt the Movement Theory of Control (MTC) to account for finite control in Greek and Romanian (Alboiu, 2007; Alexiadou et al. 2010; Kapetangianni, 2010; see also Grano, 2012 for a discussion). I will discuss the MTC in further details below.

3.2.2 Movement Theory of Control

The advent of the Minimalist Program (MP) (Chomsky & Lasnik, 1993; Chomsky, 1995, 2000) has sparked various theoretical reformulations. Minimalism eliminates various assumptions of Government and Binding (GB). For instance, while GB had four levels of representation (deep structure, surface structure, PF, and LF), Chomsky (1995) deemed the former two levels unnecessary and thus they were eliminated. This follows from the condition that only interface levels are indispensable. However, the elimination force does not extend to control theory since it follows from both a conceptual necessity and a UG property.

The reductionist agenda of MP does not leave control theory untouched, however. O’Neil (1997) and Hornstein (1999, 2000, 2001) argue that PRO is a mere stipulation with no independent justification. Two Minimalist eliminations make this argument prevail, namely the elimination of deep and surface structures. With these two representations gone, the Projection Principle and the Theta Criterion do not require PRO in D-structure as it is not assumed anymore. But with PRO gone with the wind in this view, how is control achieved? Hornstein (1999, 2001, 2003) argues that control (i.e., the strict coreference known as

obligatory control (OC)) is a case of A-movement with two copies in the chain, only the higher of which is pronounced. The surface structure restricts movement to a theta position, but again, this level of representation is eliminated within MP. Thus, in Hornstein's view, movements that target theta positions (i.e., A-position) are now possible. The derivation of OC under MTC is exemplified in (147).

(147) [TP John [vP ~~John~~ [tried [TP ~~John~~ to [vP ~~John~~ win]]]]]

The MTC induces a clear violation of the Theta Criterion. Hornstein, however, argues that theta roles can be reduced to features checking and that an argument can check two theta roles (features). Thus, *John*, in the example above, checks two theta roles: the external theta roles of *win* and *tried*.

The pronunciation of copies under the MTC is regulated under the Principle of Chain Reduction (Nunes, 2004) which appeals to Kayne's (1994) Linear Correspondence Axiom (LCA). Notice that one virtue of the MTC is that it predicts/allows for the possibility of pronouncing the lower copy, a prediction that is confirmed in various languages including Arabic, as I will discuss below (for empirical findings on this issue in Arabic, see Hallman, 2011; Ouwaydah and Shlonsky, 2016 for Lebanese Arabic; Glesheler et al. 2017 for Standard Arabic; Albaty and Ouali, 2018 for Najdi and Moroccan Arabic). This pattern of control can be categorized under backward control (BC) as convincingly argued for by Polinsky and Potsdam (2002, 2006) in Tsez. Subsequent studies show BC in other languages such as Malagasy (Potsdam, 2009), Modern Greek (Alexiadou et al. 2010, Kapetangianni, 2010), Omani Arabic (Al-Blushi, 2008), Romanian (Albou, 2007), Telugu (Haddad, 2009) among other languages. (148) shows examples of BC in Arabic and Greek (however, I will argue against BC in Arabic below):

(148) a. nasia ~~aħmad-u~~ [ʔan jaftaħ-a aħmad-u al-baab-a]. (Arabic)
 forgot._{3MS} SM open-SUBJ._{3MS} Ahmad-NOM the-door._{ACC}
 ‘Ahmad forgot to open the door.’

b. ~~o Janis~~ emathe [na pezi o Janis kithara]. (Greek)
 learned._{3SG} SM play._{3SG} John._{NOM} guitar
 ‘John learned to play the guitar.’ (Alexiadou et al. 2010: 96)

The MTC seems to be supported on both theoretical and empirical grounds. Evidently, it removes PRO from Grammar and appeals alternatively to independently necessary machineries in natural language (i.e., movement and Case). Thus, it successfully addresses the issues of the controller identity and the non-overtness of the controlee (Potsdam & Haddad, 2017). On empirical grounds, the BC pattern which follows trivially within the MTC cannot be explained under any PRO-based theory of control (Chomsky, 1981 and Chomsky & Lasnik, 1993). Also, BC constitutes the largest challenge to the Agree Theory of Control proposed by Landau (2000, 2004, 2013), as will be shown below.

Regardless of its success, the MTC has received much criticism from different perspectives (Culicover and Jackendoff, 2001; Landau, 2003, 2007; Bobaljik and Landau, 2009; Grano, 2012, among many others; for replies see Hornstein, 2003; Boeckx and Hornstein 2004, 2006a, 2006b and seq.). Empirically, it both over- and under-generates (Landau, 2000, 2013). Providing various empirical issues, Landau argues that the MTC over-generates, as shown in (149) (adopted from Landau, 2013: 64).

(149) * John_i was hated [t_i to live like that]

b. * John’s_i examination of the patient convinced Mary [t_i to applaud himself].

Landau argues that the MTC, appealing to A-movement, wrongly allows for ungrammatical constructions, namely passivization of the embedded subject as in (149)a and sideward movement out of complements as in (149)b. Landau also argues that the MTC undergenerates data and prevents empirically attested constructions such as partial and split control, as shown (150) illustrates:

(150) Mary_i thinks that John_k wants to PRO_{i+k} meet at noon. (→ Mary and John meet at noon).

If control follows from A-movement, as the MTC proposes, then the partial control interpretation would be impossible (i.e., the interpretation where PRO does not only refer to the controller, but also to another reference that makes PRO plural). This clearly shows that the MTC does not predict an interpretation that is readily available and robust in various languages. In the next chapter I will show, based on new data from SA, that the MTC has additional empirical issues with EC. In particular, I will argue that it fails to account for two facts related to control in SA: agreement and nominalized complements.

3.2.3 Agree Theory of Control

Landau (2000, 2004, 2006, 2013) provides a comprehensive theory of control with much crosslinguistic support. The Agree Theory of Control (ATC, henceforth) proposes a Minimalist, but non-reductionist, view of control. That is, it preserves the life of PRO as a property of control but develops new Minimalist apparatuses to derive the distribution of PRO. A fundamental goal of the ATC is to account for finite control, where the traditional PRO theory of control fails. Another goal is to account for the phenomenon of partial control, at which the MTC seems to fail as Landau (2000, 2006) argues. I will lay out the main thesis and assumptions of the ATC and then discuss its empirical successes and challenges.

The ATC appeals to Agree, developed in Chomsky (2000), to derive control. This is essential to Landau's theory as it complies with the Minimalist approach, derives control properties, and, most importantly, does not restrict control to non-finiteness. The main assumption of the ATC is that PRO is an undeniable property of Grammar and that control is irreducible to other independent mechanisms (i.e., A-movement as assumed in Hornstein, 1999, 2001, seq.). Landau proposes a features-based system that derives control and resolves two issues with standard control theory, namely the distribution of PRO and finite control. Below, I will discuss the main ingredients of Landau's theory. I then turn to the challenges the theory encounters and provide new empirical challenges from SA.

Landau (2000, 2003, 2004, 2006) proposes that control (i.e., the distribution of PRO) is captured by appealing to semantic tense and agreement. In particular, he argues that control is regulated by features on I and C heads of the complement clause. This assumption is at odds with the standard theory of control (Chomsky, 1981; Chomsky & Lasnik, 1993; Chomsky, 1995) which reduces control to Case; that is, PRO is only possible in a caseless position (and recently in a null Case position). In fact, one of Landau's main assumptions is that PRO has a case just as any other nominal. Landau shows that concord case in languages such as Icelandic and Russian clearly argues for case-marked PRO. The relevant data have been discussed above in (144), and are repeated in (151) for convenience.

(151) a. strákarnir vonast til [að PRO vanta ekki alla í skólann]. (Icelandic)

the boys._{NOM} hope for to PRO._{ACC} to.lack not all._{acc} in the.school

'The boys hope not to be all absent from school.' (Landau, 2013:103)

b. my poprosili Ivana [PRO pojti odnomu]. (Russian)

we._{NOM} asked Ivan._{ACC} PRO._{DAT} to.go alone._{DAT}

‘We asked Ivan to go alone.’

(Landau, 2013:103)

Appealing to features on I and C, Landau’s system successfully captures the contexts where PRO is licensed (i.e., control) and where lexical DP/*pro* are licensed (i.e., no control). In particular, Landau proposes that [+T] and [+Agr] on I and C are required for licensing lexical DPs and *pro*. On the other hand, any other combination with a negative value licenses PRO. That is, PRO is postulated when one of these bundles exists: [-T, -Agr], [-T, +Agr], [+T, -Agr]. This means that indicative clauses license lexical DPs and *pro*, while other types of clauses (i.e., infinitive, subjunctive) license PRO. Agreement features specifically rely on inflection manifestation; that is, overt agreement is evidence for [+Agr] while abstract agreement is evidence for [-Agr]. As for tense features on C and I, Landau (2004: 840) proposes the following feature system:

(152) *Specifying [Agr] on embedded I°/C°*

a. On I°: i) overt agreement \Rightarrow [+Agr]

ii) abstract agreement \Rightarrow [-Agr]

iii) no agreement \Rightarrow \emptyset

b. On C°: i) [+Agr] \Rightarrow [+T]

ii) otherwise \Rightarrow \emptyset

Another feature specification incorporated in the ATC is referentiality. In particular, Landau proposes that lexical DPs and *pro* are [+R] (i.e., independent reference) whereas PRO is [-R]. The referentiality features interact with tense and agreement features. The process is regulated by the *R-assignment Rule*, given below (Landau, 2004: 842).

(153) *R-assignment Rule*

For X° [α_T, β_{Agr}] \in {I°, C° . . . }:

$\emptyset \rightarrow [+R]/X^\circ []$, if $\alpha = \beta = '+'$

$\emptyset \rightarrow [-R]/\text{elsewhere}$

With the above formal system, Landau argues that the ATC is capable of deriving control. That is, the distribution of PRO is now associated with tense and agreement features that interact with PRO by *Agree*.

Another influential insight of Landau's work is the new classification of control predicates into two types: Exhaustive Control (EC) and Partial Control (PC). Both are variants of obligatory control, as Landau convincingly argues. The difference lies in the interpretation of PRO in the two configurations. In EC, on the one hand, the interpretation of PRO is a strict identity of the controller. The interpretation of PRO in PC, on the other hand, allows for the controller to be a subset of the contree. That is, PRO *partially* includes the controller but also includes another context-related reference. The EC vs. PC examples are shown in (154) and (155) (adopted from Landau, 2000:5).⁴⁰

(154) Exhaustive control

- a. The chair_i *managed* [PRO_i to *gather* the committee at 6].
- b. *The chair_i *managed* [PRO_i to *gather* at 6].
- c. Mary_i knew that John_k *began* [PRO_k to work (**together*) on the project].

(155) Partial control

- a. The chair_i *preferred* [PRO_{i+} to *gather* at 6].
- b. Mary_i thought that John_k didn't *know* [where PRO_{i+k} to go *together*].

Notice that the minimal pair where *manage* and *begin* in (154)b-c are incompatible with the collective verb *gather* and the collective adverb *together*, respectively. It is exactly the

⁴⁰ For consistency, minor modifications on notations are made. Italics are also added here for clarification.

opposite with the PC verbs *prefer* and *know* in (155). Given that collectives require a plural subject, they are not licensed with EC verbs with a singular controller, but they are licensed with PC verbs in the same environment. Landau uses this fact to argue that PRO in PC is different from PRO in EC; the latter is exhaustive of the controller (i.e., strict identity) while the former is partial (it is satisfied as long as the controller is a member of the plural reference). This also entails another interesting property of PRO PC; it is syntactically singular but semantically plural (i.e., PRO+). Landau points out that it is this very property that allows PRO PC to license collectives such as *meet*, *gather*, and *together*.

This distinction between control predicates has proven to be important and robust crosslinguistically. Landau argues that the distinction is associated with semantics in two respects; first, the EC/PC distinction follows from the semantic classes of predicates, as given in (156) and (157) (adopted from Landau, 2013:158)..

(156) EC-predicates

a. Implicative

dare, manage, make sure, bother, remember, get, see fit, condescend, avoid, forget, fail, refrain, decline, neglect, force, compel

b. Aspectual

begin, start, continue, finish, stop, resume

c. Modal

have, need, may, should, is able, must

d. Evaluative (adjectives)

rude, silly, smart, kind, (im)polite, bold, modest, cruel, cowardly, crazy

(157) PC-predicates

a. Factive

glad, sad, regret, like, dislike, hate, loathe, surprised, shocked, sorry

b. Propositional

believe, think, suppose, imagine, say, claim, assert, affirm, declare, deny

c. Desiderative

*want, prefer, yearn, arrange, hope, afraid, refuse, agree, plan, aspire,
offer, decide, mean, intend, resolve, strive, demand, promise, choose,
eager, ready*

d. Interrogative

*wonder, ask, find out, interrogate, inquire, contemplate, deliberate, guess,
grasp, understand, know, unclear*

The other semantic contribution to the distinction between EC and PC is related to semantic tense. In particular, Landau (2000, 2004, 2006, 2013) argues that the PC/EC distinction boils down to Tense. PC complements are tensed while EC complements are untensed. Reference to semantic tense in control types is diagnosed by using distinct temporal adverbials. That is, EC predicates do not allow temporal mismatch (158) while PC predicates do (159) (from Landau, 2013:269). Notice that in PC (i.e., tensed complements), the complement can be irrealis (159)a or past (159)b. The discussion of tense properties of control will be further taken up in section 3.3 with data from SA that show that the tensed/untensed distinction for EC/PC is not fully satisfactory.

(158) a. **Yesterday*, John *managed* to solve the problem *tomorrow*.

b. **Yesterday*, John *began* to solve the problem *tomorrow*.

(159) a. *Yesterday*, John *hoped* to solve the problem *tomorrow*.

b. *Today*, John *claimed* to have solved the problem *last week*.

An essential advantage of the ATC is that it accounts (in fact, allows) for finite control. As discussed above, this type of control was not allowed under the standard theory of

embedded C, then, enters an Agree relation with PRO. Being mediated by C, the interpretation allows for a less strict identity of PRO, which in turn gives rise to the PC interpretation. In particular, Landau, following Sauerland and Elbourne (2002), proposes that PRO in PC has a [+Mer] feature, standing for Mereology. This feature, Landau suggests, reflects semantic number, not syntactic number. Thus, collective nouns such as *committee* and *team* are [+Mer] whereas singular nouns such as *John* are [-Mer]. Landau (2004: 835) explains, “PRO agrees with the controller in all ϕ -features, including syntactic number, may be semantically plural even when the controller is singular.” This, however, does not address what C has to do with syntactic vs. semantic number. Yet, Landau contends that because PC is mediated by C (and not in a direct relation with T) and it is not specified for [Mer], PRO can bear a feature that is different from the controller (i.e., the controller is [-Mer] while PRO in PC is [+Mer]). The [+Mer] would thus account for why a singular controller (*John*, for instance) with a PC matrix verb is compatible with a collective embedded predicate such as *meet*, *convene*, or *together*, as in *John wanted to **meet** at noon*. Notice that the opposite is true for EC predicates. That is, feature valuation of PRO in EC is not mediated by C and thus must inherit all the features of the controller, including the feature of [α Mer]. Therefore, the ATC accounts for the ungrammaticality of sentences such as **John forgot to **meet** at noon*.

The advent of the ATC provides various insights to control and sheds new light on understudied patterns of control such as partial control and split control. In addition, it avoids the empirical and theoretical challenges that the standard theory of control encounters, as discussed above (i.e., the Null Case and the non-finite position of PRO, both of which lead to elimination of finite control). Nonetheless, the ATC itself is not without its own problems. The theory encounters various theoretical and empirical challenges that are not easy to overcome. In fact, a major contribution of this dissertation is that it provides various new empirical arguments against the ATC. In particular, I argue that any theory of control that

evidence for the MTC and at the same the strongest challenge against the ATC (see Boeckx and Hornstein, 2006; Alexiadou et al. 2010; Kapetangianni, 2010; Landau, 2013). Notice that the overt subject in BC in various languages, including Arabic, is clearly in the embedded clause. This is evidenced by the fact that the subject intervenes between the embedded verb and its object (see Alexiadou et al. 2010 for BC in Greek). This runs against predictions involving the Calculus features that Landau proposes. The ATC in particular assumes that the embedded T in EC control constructions has $[-T, +Agr]$, as shown above in (161).

Consequently, this bundle of features will generate a $[-R]$ feature by the R-assignment rule stated in (153), which should not be compatible with overt DPs. Nevertheless, we see in the above examples of BC that we have a licensed lexical DP which is $[+R]$ under Landau's own system. The derivation should thus crash, contrary to fact. This shows that BC provides lethal evidence against the ATC, a fact that Landau (2013, 2015) acknowledges, admitting that it constitutes unequivocal support for the MTC.

The ATC does not only fall short with respect to backward control, however. In fact, it has been argued that it also faces issues with canonical forward control, as well.

Kapetangianni & Seely (2007) argue that empirical data from Greek show that the ATC fails in finite control cases which the theory was originally intended to account for. In particular, because the distribution of PRO is associated with tense specifications in the ATC system, it fails to predict some OC cases. In particular, Landau (2004) proposes that OC in Greek occurs only in clauses that have anaphoric tense (i.e., untensed). In this respect, Greek has control in subjunctive clauses headed by the subjunctive *na*. Landau further argues that only untensed subjunctives (what he refers to as C-subjunctives) can induce OC. On the other hand, tensed subjunctives (F-subjunctives in his terms) do not induce OC but instead only No

Control (NC), with *pro* as a subject. This prediction, however, is not borne out, as shown in

(163) (adopted from Kapetangianni & Seely, 2007: 139).⁴¹

(163) **hthes** o Yanis entharine ti Maria na erthi
 yesterday the John_{-NOM} encouraged_{-3SG/PAST} the Mary_{-ACC} SM come-3SG
avrio s ta □lso□hliac tu.
 tomorrow to the birthday_{-ACC} his
 ‘**Yesterday**, John encouraged Mary to come to his birthday party **tomorrow**.’

For Landau, that the embedded clause allows for the temporal adverb *tomorrow* is an indication for [+tense], which in turn should not be compatible with OC, contrary to fact. The only possible interpretation in this example is OC, as Kapetangianni & Seely argue by showing that the null element has all the properties of OC (i.e., a c-commanding antecedent, impossible overt embedded DP, and impossible non-obligatory control interpretation).

The same empirical issue is also observed in SA. Interpreting the adverbial *tomorrow* as an indication for [+tense], as Landau assumed, leads us to incorrectly assume that we have a PC construction since [+tense] is the hallmark of PC. PC is compatible with an embedded distinct overt DP as has been shown with F-subjunctives in Greek (Landau, 2004) and as I will show in section 3.3.2.4 for SA. Thus, following the ATC, a control construction with embedded *tomorrow* should allow a distinct overt DP. Again, this is not borne out in SA as shown below.

(164) bilamsi tadzannaba aħmad-u ?an j-usaafir-a ??/(fahd-un) yadan.
 yesterday avoided_{-3MS} Ahmad_{-NOM} SM _{3MS-travel}-SUBJ Fahad_{-NOM} tomorrow
 ‘Yesterday, Ahmad avoided to travel tomorrow.’

⁴¹ Pires (2006, ch:3) considers the same data and raises various theoretical and empirical issues against the ATC.

This strongly suggests that the association between control and tense as it is in the ATC does not seem to be on the right track. This is reinforced by recent insights from Wurmbrand (2014) who examines tense in infinitives, proposing that irrealis tense is not an indication for the presence of (semantic) tense, as inaccurately assumed by Landau (2000). In section 3.3.3 I will particularly discuss insights from Grano (2012) and Wurmbrand (2014) and provide data that support a different classification of embedded tense. I will show that the assumed correlation between tense and control in the ATC should be revisited, not only for infinitives, but also for finite control subjunctives.⁴²

The ATC also faces various theoretical issues. The R-assignment rule, which is a central assumption of the ATC is an ad hoc rule. In fact, as pointed out in Kapetangianni (2010), R-assignment also seems to violate the Inclusiveness Condition (Chomsky, 1995, 2000), an essential derivational principle that forbids adding new features during the derivation. Inclusiveness is defined in Chomsky (1995:28) as “no new objects are added in the course of computation apart from rearrangements of lexical properties.” With this in mind, the R-assignment rule introduces the feature [R] on both I and C heads in the course of the derivation based on the features on T and Agr (i.e., [+T+Agr] generates [+R] while other combinations generate [-R]). This seems to add further issues to the stipulative nature of the rule.⁴³

Another issue is related to the semantics of control. In particular, Landau appeals to Agree not only to predict the distribution of PRO, but also to derive the control interpretation (both EC and PC interpretations). This, again, seems to be less than sufficiently explanatory. First, Agree is a purely syntactic operation and is widely assumed to be a PF operation. It

⁴² Landau (2013) considers Wurmbrand's insights regarding infinitival tense and suggests that they can be reconciled within the ATC.

⁴³ This theoretical issue can, however, be circumvented by assuming that the feature is not assigned during the derivation, but it is a part of the lexical entry.

thus begs the question of how a syntactic operation is able to derive a semantic interpretation. Landau seems to address this point by suggesting this is achieved by coindexation and the interpretation of PRO as a variable. However, this appears to be a redefinition of the issue rather than providing an explicit syntactic-semantic mechanism for it. In recent works, Landau (2013, 2015, 2018) indeed acknowledges this challenge to the ATC. Landau (2015: 14) points out that “the Agree model is chiefly concerned with agreement and feature transmission but says very little about the interpretation of OC constructions.” Landau addresses this issue by positing that this issue is not specific to the ATC and that other theories are on equal foot. Nonetheless, this should not undermine the vital role that semantics plays in control.

In this respect, Landau (2015) examines these issues and others involved in the ATC and proposes various modifications. He, for instance, proposes new mechanisms for control, namely predicative control and logophoric control, to replace EC and PC, respectively. He also reclassifies control predicates to attitude (i.e., PC) vs. non-attitude (i.e., EC) predicates and suggests a more semantic-transparent approach. Though a thorough discussion of Landau’s modified approach and its success is beyond our purposes here, it seems evident that various empirical issues persist. Backward control, for instance, seems to still be a problem. Pitteroff and Schäfer (2017) also discuss Landau’s modified approach and argue against some assumptions related to implicit control. It therefore seems that the modified approach to control in Landau (2015) is not yet a full-fledged theory of control.⁴⁴

⁴⁴ Another problem with the ATC is that it postulates two PROs, one has [+Mer] and the other has [-Mer] or unspecified Mer. This, therefore, assumes an additional null element in the grammar, an assumption that needs an empirical justification to be made, which seems here to be lacked as it is only an ad hoc assumption.

3.2.4 Control as no control: Predicational Theory of Control

Another approach to control proposes that control does not involve syntactic control per se (i.e., PRO or movement), but instead follows from the syntax-semantics interface. This approach follows a semantic control approach where control is derived by semantics, not by syntax (it is also referred to as the predicational theory of control, see Landau, 2013 for a discussion). This approach has been popularized by Wurmbrand (2001, 2004), who argues that restructuring constructions are derived by Chierchia's (1984) treatment for gerunds and infinitives as VPs.

Chierchia proposes that gerunds and infinitives are not propositional but properties (i.e., they do not have an external syntactic argument, PRO). To derive the subject interpretation, he proposes a meaning postulate that takes the control complement to be a property brought about by the controller. In particular, it takes the control complement to be a property-denoting phrase, considered as a predicate. It also establishes a dependency between the controller and the predicate, and not PRO itself. Thus, an approach along this line can derive the control interpretation without assuming a control structure resorting to PRO. Within this approach, the sentence in (165) has the interpretation that “in all the worlds where Mary's attempt succeeds, she has the property of swimming.” (Landau, 2013: 47).

(165) Mary tried to swim.

One of the strongest arguments for the predicational approach to control is Chierchia's argument of inferences. He argues that a propositional approach to infinitives and gerunds would lead to incorrect inferences. Consider the data below (from Chierchia, 1984: 44).

(166) a. Nando likes everything Ezio likes.

b. Ezio likes playing tennis

c. ∴ Nando likes playing tennis.

The inference in (166)c only has the meaning that Nando likes his own playing of tennis and not that he likes Ezio's playing tennis. The argument against PRO here is that if PRO were assumed to be the complement of (166)b, then a strict interpretation should be available in (166)c, in addition to the sloppy reading. In other words, if both (166)b and (166)c has PRO, the latter sentence (the inference sentence) should allow an interpretation that Nando likes Ezio's playing tennis, contrary to fact. Chierchia argues that lexical entailment would account for the impossibility of the strict reading in infinitives and gerunds while an approach that takes the control complement to be syntactically sentential and semantically propositional would fall short.

The interpretation of the embedded subject according to this approach follows from a semantic postulate as assumed in Chierchia (1984). In other words, there is no syntactic subject at the syntactic level. The embedded subject follows from the semantics of the sentence, i.e., lexically. That is, the subject follows lexically from a meaning postulate, as shown below (adopted from Chierchia, 1984: 38; notice that \Box_j stands for a context dependent modal operator).

(167) a. (try)' $(P)(x) \rightarrow \Box_j P(x)$

b. 'Whenever x tries to bring about P, then in all the contextually relevant situations (namely those where what x tries actually succeeds) x does P.'

Wurmbrand (2001) adopts Chierchia's approach, though she argues that Chierchia's claim on infinitivals is too strong. In particular, she proposes that some infinitivals are in fact propositionals that require a syntactic subject (i.e., PRO) while other infinitivals are in

accordance with Chierchia's proposal. She argues that it follows from semantics whether a control complement is a proposition or a property: if the understood subject is flexible, the complement is a proposition semantically and bears PRO syntactically. If, on the other hand, the understood subject is fixed (i.e., it is OC, or more accurately in current terms, EC), then the complement is semantically a property and syntactically a reduced structure complement (i.e., VP). That is, the VP-complementation approach entails the absence of PRO. The two types of control complementation assumed in Wurmbrand (2001) correspond to syntactic control vs. semantic control, where the latter is a property (with no PRO) and the former is a proposition (with PRO).

Wurmbrand takes semantic control to constitute a case for restructuring; that is, it is subsumed under the monoclausal approach. She argues that various properties of restructuring and transparency are observed in OC constructions, which she takes to be properties of restructuring in general. These include long movement, scrambling, and pronoun fronting. Other transparency (i.e., restructuring) properties in other languages include clitic climbing, auxiliary inversion, and lack of embedded sentential tense, among others (see Wurmbrand, 2001 for a detailed discussion). I will further discuss this approach in the next two Chapters as I will adopt various assumptions of her theory.

I would like to conclude this section with a summary of the control theories discussed above and their theoretical and empirical properties. This is given in the table below.

Table 2: Theories of control

Theory of Control	Strongest Empirical Support	Theoretical Consequence/assumptions	Challenges
<p>PRO theory (Chomsky 1981; 1988; Chomsky & Lasnik, 1993; Chomsky, 1995; San Martin, 1996 etc.)</p>	<p>Distribution of PRO, Theta-Criterion</p>	<ul style="list-style-type: none"> - PRO theorem. - Caseless PRO. - Null Case of PRO. 	<ul style="list-style-type: none"> - Ad hoc Case of PRO (no Case/null Case) - Finite control cannot be handled.
<p>Movement Theory of Control (O’Niel, 1997; Hornstein, 1999, 2001, 2003; Boeckx and Hornstein, 2003, 2006)</p>	<ul style="list-style-type: none"> - Backward control - Copy control - Properties of PRO are reduced to A-positions and Condition A 	<ul style="list-style-type: none"> - Eliminating PRO from Grammar in accordance with the Minimalist agenda - Modification of the Theta Criterion. - Reducing control to narrow syntax (i.e., abandoning the role of semantics & pragmatics in control.) 	<ul style="list-style-type: none"> -Over-generating and under-generating. - Partial control, shift control, and implicit control.
<p>Agree Theory of Control (Landau, 2000, 2004, 2006)</p>	<ul style="list-style-type: none"> - Finite control - Two types of OC: EC and PC. 	<p>Recasting distribution of PRO on an independently required system of Agree</p>	<ul style="list-style-type: none"> - Backward control - Ad hoc assumptions. - Lack of a semantic role.
<p>The Predicational theory of Control (Chierchia, 1984; Wurmbrand, 1998, 2001, 2004; Keine & Bhatt, 2016)</p>	<ul style="list-style-type: none"> - Monoclausal properties - Control complement is a property-denoting phrase (as opposed to propositional phrase). 	<ul style="list-style-type: none"> - Clause structure (in control) is not uniform: CP complements are uniformly assumed under both PRO theory and the ATC; TPs under the MTC. - Interpretation of controlee is derived from predication and semantic entailment. - the significance of semantics in control 	<ul style="list-style-type: none"> - Restructuring properties are variant and language-specific. - The interpretation of the embedded subject requires assumptions in the semantics and at LF.

3.3 Control in Standard Arabic

The discussion of control in SA will bring various novel findings that provide unique insights into control theories. This is for two reasons. First, control in SA has yet to be fully discussed in the literature. Second, control constructions in SA show various distinctive properties. I thus argue that these properties make SA a better testing ground for control theories. In particular, data from SA can be used to test the predictions of the two competing and well-established theories of control, namely the ATC and the MTC. This is so for various reasons. First, SA is a finite control language. Second, SA control predicates have two complement options: a verbal complement or a nominalized complement, each with its own properties that can be used to reflect on control theories. Third, control in SA includes both forward and backward control. Finally, SA has rich agreement patterns evidenced by its well-known agreement asymmetry. That is, in SVO word order, the preverbal subject agrees with the verb for all phi features, i.e., full agreement (FA). On the other hand, in VSO the post-verbal subject agrees with the verb only in gender and person, and crucially not in number, yielding partial agreement (PA). This agreement asymmetry is shown in (168) and (169). These properties in totality provide a wide and interesting empirical ground to investigate control theories.

(168) VS(O) = partial agreement

a. darasa-t al-fataat-u.
studied-FEM.SG the-girl.NOM
'The girl has studied.'

b. darasa-t al-fatajaat-u.
studied-3SG.F the-girls.NOM
'The girls have studied.'

(169) SVO = full agreement

a. al-fataat-u darasa-t.

the-girl-NOM studied-3F.SG

‘The girl has studied’,

b. al-fatajaat-u daras-na.

the-girls-NOM studied.3F.PL.

‘The girls have studied.’

That SA is a finite control language is not unique. Finite control exists in a number of the world’s languages including Greek, Romanian, Hebrew, and Persian, among many others. It is thus the combination of all the properties listed above that make SA a better testing ground for control theories. For instance, the two control patterns (forward vs. backward) have different agreement realizations. In this respect, Greek, which is one of the most well-studied languages in the MTC (Alexiadou et al. 2010; Kapetangianni, 2010) is a finite control language and has both of the two patterns of control. The difference between SA and Greek lies in that only the former triggers a different agreement realization with each control pattern. Therefore, insights from SA data will not only test PRO postulations in the ATC, but also test the A-movement assumptions of the MTC.

The two complementation types (i.e., verbal vs. nominalized) also provide a wider territory to examine and evaluate the MTC and the ATC as both should be able to account for control into nominalized complements. It turns out that nominalized complements of control predicates shed an interesting light on the MTC and whether movement out of nominalized complements is licensed. Below, I will show that various facts from SA pose a challenge to both theories and provide new insights to our understanding of control.

proposed for SA do derive control properties without the empirical drawbacks of the two theories.

The two accounts proposed here will be supported by various empirical arguments. While discussion of the properties of both EC and PC will provide insight into the two proposed analyses, I will leave for the next chapter the detailed discussion of the analysis and arguments for the restructuring of EC. Instead, I will focus here on the properties of OC in general and on EC and PC as two different types of OC that both obtain in SA. After establishing that, I will then devote the rest of the chapter to PC, discussing various novel observations. EC, on the other hand, will be meticulously discussed in the next two chapters.

3.3.1 Obligatory control in SA

In this section, I will show that the properties for OC are indeed found in SA. This is essential for two reasons. First, to show that finite control in SA induces OC. Second, and consequently, to argue against previous studies that undermine or restrict the existence of OC in SA (Fassi Fehri, 2012). In this respect, a very limited number of studies have discussed control in SA (obligatory control, in particular) and they either discuss it in passing or focus on a very specific property of control (Fassi Fehri, 1993, 2012; Hazout, 1995; San-Martin, 2004; Greshler et al., 2017; Albaty & Ouali, 2018). To my knowledge, there is no thorough study of control in SA and this chapter and the following two thus aim to fill this gap. Here I will systematically examine control in SA, discuss OC types, and evaluate control theories that derive the pertaining facts.⁴⁵

⁴⁵ I will not discuss adjunct control which, to my knowledge, has not been studied in Arabic. Adjunct control is orthogonal to the goal of this dissertation which focuses on complementation and clause size.

Landau (2000, 2004, 2006, 2013) provides well-examined criteria for identifying OC. *The OC signature*, as Landau calls it, provides the properties of OC constructions. The absence of these properties would indicate that we do not have OC, but instead either no control (NC) or non-obligatory control (NOC).⁴⁶ The OC signature is given (173).

(173) *The OC Signature*

In a control construction [. . . X_i . . . [S PRO_i . . .] . . .], where X controls the PRO subject of the clause S:

- a. The controller(s) X must be (a) co-dependent(s) of S.
- b. PRO (or part of it) must be interpreted as a bound variable. (Landau, 2013: 29)

With the above criteria at our disposal, we can identify whether SA has OC. Landau argues that the OC signature in (173) eliminates three control configurations from OC: arbitrary control (174), long-distance control (175), and non c-commanding control (176) (adopted from Landau, 2013; 29).

(174) *Mary hates [PRO_{arb} to nominate oneself].

(175) *Mary_i realized that John hated [PRO_i to nominate herself].

(176) *Mary'_{si} colleagues hated [PRO_i to nominate herself].

Another property that follows from the *OC signature* is the sloppy interpretation under ellipsis. That is, the interpretation of PRO in (177) has to be interpreted sloppily (the immediate c-commanding DP, i.e., Sue) and not the DP controller in the antecedent sentence (i.e., Mary).

⁴⁶ Landau (2000, 2013) correctly, I believe, argues that OC contrasts with NC and not with NOC, as widely assumed. This, for him, follows from the complementary syntactic environments for control types, as will be discussed below.

(177) Mary_i expected [PRO_i to attend the ceremony], and Sue_j did too expect [~~PRO_{j/*i} to attend the ceremony~~]
 (Landau, 2013; 30)

In SA, All the four properties for OC obtain with EC constructions of *forgot*-type verbs, which are EC predicates as in Landau (2000, 2004, 2013). The data below (178)-(181) show that control constructions in SA comply with the OC signature (see §3.3.2 below for further discussion on EC).

(178) *Arbitrary interpretation of PRO is impossible*

*nasia fahd-un_i [ʔan PRO_{arb} juhaððib-a alnfasa fi as-su:qi].
 forgot Fahad-NOM SM behave oneself in the mall-GEN
 ‘(*Fahad forgot to behave oneself in the mall).’

(179) *Long-distance antecedent is excluded*

*ʕarafat hind-u_i ʔanna fahd-an_k nasia [ʔan PRO_i juraʃʃiħa nafsaha].
 Knew.FSG Hind-NOM that Fahad-ACC forgot SM nominate.3MS herself

(180) *Necessity of C-commanding between X and PRO*

*nasia [zamiil-u Hind-in_i]_k [ʔan PRO_i juraʃʃiħa nafsaha].
 Forgot.3MS colleague Hind’s SM nominate.3MS herself
 ‘(*Hind’s (male) colleague forgot to nominate herself).’

(181) *Only sloppy interpretation under ellipsis*

nasia fahdu_i [ʔan PRO_i jaðħba-a ila lso:qi], wa ʕali-un_k
 forgot.3MS Fahad-NOM SM go.3MS to the market and Ali.NOM
 nasia [~~ʔan PRO_{k/*i} jaðħba-a ila alsu:q-i~~] kaða:lik/aidʕan.
 forgot.3MS SM go to the market too
 ‘Fahad_i forgot to go to the market and Ali_j did too [~~forgot PRO_{j/*i} to go to the market~~].’

- (184) *pro*_i *ʔuriidu* *ʔan* *PRO*_{i/*arb/*k} *ʔadxuul-a* , *wa fahdu* *kaḏa:lik*.
 want.ISG SM *enter*.ISG-SUBJ and Fahad too
 ‘I want to get inside, and Fahad_k does too [~~*PRO*_{i/*arb/*k} want to get inside~~].’

It seems to me that the claim that OC does not obtain in SA is based on theoretical grounds related to government and the PRO-theorem (obviously, Fassi Fehri did not examine the OC properties suggested for instance in Williams, 1987 or Landau, 2000, 2013). In particular, the assumption that the subjunctive marker *ʔan* is a C head entails that PRO will be governed by C, which induces a violation of the PRO-theorem.⁴⁸ This would entail that only *pro* would be possible in that position, which in turn allows variant interpretation. If this correctly captures the assumption of Fassi Fehri, then it follows that only *pro* is postulated and thus he would deny OC in SA. Indeed, discussing (183), Fassi Fehri points out that C in this construction cannot be deleted, and thus *truncation* or smaller complementations to control predicates are untenable, according to him. This is at odds with various facts, however. First, the PRO-theorem has already been shown to be theoretically and empirically inadequate and should thus be abandoned (see §3.2.1).

In addition, the claim that *ʔan* is a C head has also been challenged in different perspectives, and the evidence against this classification is converging (it does not assign Case, it requires a strict adjacency with a verb, and it allows for DP extraction, among other properties discussed in Chapter 2 in detail; also see Albaty and Ouali, 2018 for related discussion). I

am not making the case of OC/EC in SA based on *want*, but on more consistent predicates suggested in Wurmbrand (1998, 2001), Landau (2000, 2004) and Grano (2012, Ch.3). See below for further discussion.

⁴⁸ Another potential reason for Fassi Fehri denying OC in SA verbal complements might be the assumption that C is a barrier, and thus blocks OC (see Hornstein and Lightfoot, 1987 for example). This, again, runs counter to crosslinguistic evidence for OC with CP complements as well (see Landau, 2013). Notice that I will defend an analysis that rejects CP complementation of control. Thus, at any rate, any barrier-based argument should not be concerning.

alternatively categorize it as a Mood marker, similar to *na* in Greek and other subjunctive markers in different languages. Crosslinguistically, subjunctive markers are widely assumed to be Mood heads, not C heads. With this categorization at hand and with the above established facts about OC, the conclusion that SA has OC is not only warranted but inescapable.

Notice that *want* is ambiguous between control and no control in many languages and indeed it is variant from language to language (see Wurmbrand, 2001; Kapetangianni, 2010; Grano, 2012 for detailed discussions about *want* in English, German, and Greek). The claim made here, however, is not about this verb per se, but about OC in SA in general. Notice that even if Fassi Fehri discussed another EC predicate, he would eventually have the same assumption of denying OC in SA for the obvious theoretical reasons he seems to have adopted. As for *want*, once pragmatic considerations are controlled, it actually shows the properties of OC as shown above (though the situation is more complex, as I will discuss below).

As for the deverbal nominal complement of control in SA, I agree with Fassi Fehri that (182) actually does not allow any interpretation other than OC. The deverbal noun, which I will refer to as nominalization hereafter, is an intriguing property of control in SA. In fact, all OC verbs can either have a verbal complement or a nominalized complement. Unlike English which restricts nominalization to some OC predicates (see Pires, 2006), there is no restriction on nominalization with OC predicates in SA. I will discuss nominalization in control in the next section.

Fassi Fehri's (2012) discussion of control has also raised an interesting point about *C deletion* and *truncation*, which he redeemed impossible due to the impossibility of *ʔan* deletion. However, considering the facts in their entirety would lead us to argue for the contrary. For Fassi Fehri, the aim of discussing C deletion and truncation in SA was to investigate complementation in control constructions. In particular, he points out that a *vP* or *TP* complementation for control predicates in SA is impossible (under the assumption of truncation

by deletion; i.e., *pruning* of higher heads, which entails restructuring). This, again, was based on the assumption that all verbal complements of control predicates in SA are CPs, headed by *lan*. I argue, however, that smaller complementation (i.e., smaller than a CP) to control predicates is possible, and in fact on many occasions (EC, in particular) it is necessary.

Although it is true that *lan* is obligatory with all verbal complements of control in SA, it is, in fact, not a C head. As discussed above, it is instead a subjunctive mood head in MoodP. This is evidenced by various properties of *lan* such as licensing extraction and requiring strict adjacency with a verbal element. These properties of *lan* are not unique to SA, but have been found with subjunctive mood heads in various languages including Balkan languages where such markers are obligatory with control predicates. For example, *na* in Greek is a subjunctive marker and has been analyzed as a Mood head (see Philippaki-Warbuton, 1996; Giannakidou, 1998, 2009; Kapetangianni and Seely, 2007 and the references therein). If this is on the right track, then *lan* is not a C head, but a mood head. Therefore, I argue that truncation and small complementation are actually possible in SA control constructions, contra Fassi Fehri (2012). In particular, I argue that complements of EC predicates are not only truncated to TP or *v*P (though there is no process of truncation per se), but even to smaller phrases. I propose that EC has a VP-complementation along the lines of Wurmbrand (2001, 2004, 2007, seq.) headed by MoodP. That is, complements of EC control predicates do not project propositional phrases (i.e., CP, TP, and *v*P), but rather a subject-less phrase (i.e., no PRO or *pro*). This will be fleshed out in the next chapter.

The upshot of this subsection is that OC obtains in SA, evidenced by examining the OC criteria developed by Landau (2000, 2004). Once this fact is established, examination of further properties of OC is possible. Below, I examine Landau's classification of OC and show that SA exhibits both EC and PC; a finding that challenges Landau (2000) as PC is not expected to arise in finite control languages. I then discuss the properties of PC and EC in SA which show

non-trivial discrepancies regarding embedded DPs and tense properties. The discussion will be essential to evaluating control theories and will elucidate previously undiscussed properties of control in SA.

3.3.2 Exhaustive Control (EC) vs. Partial Control (PC)

In this section, taking Landau's (2000, 2004, 2013) distinction between EC and PC as a point of departure, I will show that indeed both of the two types of OC obtain in SA. Landau argues that both types belong to OC and that both comply with the OC signature. This view, however, does not receive a consensus. Polinsky (2013), for instance, argues that PC is an instance of NOC. Nonetheless, the arguments Landau (2000, 2013) raises are compelling and I will, therefore, adopt his distinction (see also Potsdam and Haddad, 2017).

Evidence for the distinction between EC and PC is crosslinguistically robust. It has been observed in English, Greek, Hebrew, Romanian, Chinese, German, Danish, Japanese, and Brazilian Portuguese (Landau, 2000, 2004, 2013; Wurmbrand, 2001; San-Martin, 2004; Kapetangianni, 2010; Grano, 2012, among many others; for an extensive discussion, see Landau, 2013). The EC and PC predicates in SA are given below.

(185) EC predicates in SA

nasia 'forgot', taḏarraʔa 'dared', tamkkana (min)/istatʕaaʕa 'managed',
aqlaqa/azʕaḏʒa 'bothered', taḏakkar 'remembered', fajila 'failed'

(186) PC predicates in SA

tamanna/ʔamila 'hoped/wished', xatʕtʕatʕa 'planned', qarrara 'decided', ʔaraada
'wanted', ʔaḥaba 'loved.'

Even though PC predicates are more than EC predicates in languages, EC, as noted by Landau (2000), is the more common type used in syntactic and semantic discussions of control (an exception to this is *want*, which seems to be the most common predicate used to show control and is actually a PC predicate, though see above for discussion of its special case). I will start by establishing EC in SA and will then look more closely at PC in the next subsection.

3.3.2.1 EC

Recall the contrast between EC and PC with respect to licensing collective predicates, as shown below. While PC predicates such as *want* are compatible with an embedded collective verb, *meet*, EC predicates such as *forget* are not.

(187) John wants to meet at noon. (PC)

(188) *John forgot to meet at noon. (EC)

We have already touched upon EC in establishing OC in SA by appealing to the OC signature of Landau. EC predicates, by definition, are those in which the controllee (i.e., PRO in PRO-theories) does not allow any reference other than the controller. That is, it does not allow a subpart relation between the controller and controllee (Landau, 2000, 2004; Grano, 2012). It thus requires a strict coreference. It follows then that EC predicates are not compatible with collective predicates such as *gather*, *meet*, and *together*, as discussed above. However, since both PC and EC are types of OC, the only difference lies in the *partiality* interpretation that PC allows (though other qualifications will also be discussed in the course of the chapter). Therefore, EC predicates are those that do not have the partiality

interpretation property. This is evident from the PC properties established in Landau (2000), given in (189).

- (189) The PC category (Landau, 2000: 36)
- a. Arbitrary control is impossible.
 - b. Long-distance control is impossible.
 - c. Strict reading of PRO is impossible.
 - d. De re reading of PRO is impossible.
 - e. Partial control is possible.

Most of the properties above are OC properties in general, (189) a-d. What really distinguishes the two types of OC (i.e., EC and PC) is only (189)e. As alluded to above, the availability of partial control indicates that PC PRO (i.e., PRO in PC contexts) allows for the controller (i.e., the c-commanding DP) to be a proper subpart of the interpretation of PRO which can (and sometimes must) include other (contextually provided) references. This can be shown with the examples from English below (repeated from (154) and (155) above) for EC and PC, respectively.

- (190) a. The chair_i *managed* [PRO_i to *gather* the committee at 6]. (EC)
 b. *The chair_i *managed* [PRO_{i+} to *gather* at 6]. (EC)
 c. Mary_i knew that John_k *began* [PRO_k to work (**together*) on the project]. (EC)
- (191) a. The chair_i *preferred* [PRO_{i+} to *gather* at 6]. (PC)
 b. Mary_i thought that John_k didn't *know* [where PRO_{i+k} to go *together*]. (PC)

It seems to me that EC is best examined as the elsewhere type of OC types, and thus should be examined along with PC. That is, what is not a PC predicate is actually an EC. This

makes perfect sense considering the fact that most control verbs are actually PC predicates and “only a small minority are EC verbs” as Landau (2000:27) points out.

There is, however, a complication in looking for EC with respect to PC in finite control languages. On the one hand, EC and PC are indistinguishable in infinitival languages such as English except in one case, namely where the embedded verb/adverb is collective. While PC predicates are compatible with collective predicates (*meet, gather, together*, for instance), EC predicates are not, as shown above. The same fact observed in English holds in other languages as well such as Italian, Spanish, and German, among others (Landau, 2000, 2013, 2016). On the other hand, finite control languages such as Arabic, Greek, and Romanian differ in a non-trivial way from infinitival languages. In these languages, the corresponding collective (embedded) verbs *obligatorily* bear plural morphology that reflects plural agreement. That is, the embedded (collective) verb *must* agree with the embedded subject (i.e., PRO). In the case of PC PRO, the agreement should be plural given that PC PRO is understood as the controller + someone else. However, the agreement manifestation in control should, presumably, not be compatible with PC, according to Landau (2000, 2013).

Landau (2000, 2013) argues that PC cannot obtain with embedded clauses that bear agreement. That is, inflected predicates block the PC interpretation. In fact, for Landau, this boils down to an important distinction between semantic plural vs. syntactic plural. In this respect, he argues that PC PRO is semantically but not syntactically plural. This predicts that any syntactic reflection of syntactic plurality (either by plural reflexives, anaphors, or plural/dual agreement) would block the PC interpretation. Consider the minimal pair in (192) below (adopted from Landau, 2000:7) where *each other* reflects syntactic agreement.

(192) John told Mary that ...

- a. He preferred to meet at 6. (semantic plural: ✓)
- b. *He preferred to meet *each other* at 6. (syntactic plural: ✗)

On the basis of data such as (193) from Hebrew, Landau shows PC incompatibility with syntactic plural agreement realized on the quantifier *all*.

- (193) *xasavnu se-Gil raca la'azov *kulanu/kulam* lifney xatsot.
we-thought that-Gil wanted to-leave all [PL/3PL] before midnight
'We thought that Gil wanted to all leave before midnight.' (Landau, 2000: 51)

Landau takes the above properties of syntactic vs. semantic plurality of PC PRO to propose the generalization in (194) (Landau, 2000: 60), which strictly proposes that the semantic number of PC PRO can be plural, but the syntactic number should match the number of the controller.

(194) *The PC-Generalization*

In tensed complements, PRO inherits all phi-features from the controller, including semantic plurality, but not necessarily semantic singularity.

While it is true that the PC generalization above captures the fact considered by Landau, further scrutiny and new data challenge it in various respects. Since discussion of these challenges will take us far away from EC, I will postpone it to the next section. For the sake of argument, let us assume, for now, that Landau's generalization in (194) holds and pursue a less controversial approach to distinguish EC and PC in finite control languages.

There seems to be another interesting property that splits EC from PC (in addition to the PC interpretation of PRO). In particular, discussing control in Greek, a finite language, Landau (2004) finds that PC predicates (F-subjunctives in his terms) allow for an embedded subject, while EC predicates (C-Subjunctive in his terms) do not. Grano (2012: 32) takes this observation further and proposes that the generalization in (195) holds crosslinguistically:

The prediction of this generalization is, thus, to find an embedded distinct subject with PC predicates, but not so with EC. This is borne out in both SA and Greek (both are finite control languages).

(195) PC predicates admit overt embedded subjects; EC predicates do not.

The prediction of the above generalization is, thus, to find an embedded distinct subject with PC predicates, but not so with EC.⁴⁹ This is borne out in both SA and Greek (both are finite control languages).⁵⁰

(196) EC in SA

nasia/ ʕarafa/istatʕaaʕa fahd-un ʔan jaðhab-a (*aħmad) ila al-souqi.
 forgot/knew/can._{3MS} Fahad-NOM SM go-SUBJ._{3MS} Ahmad to the-market
 ‘Fahad forgot to /knew how to/can *(Ahmad) go to the market.’

(197) PC in SA

amila/xatʕtʕatʕa/qarrara/araada fahd-un ʔan jaðhab-a (aħmad-u) ila al-souqi.
 hoped/planned/decided/wanted Fahad-NOM SM go-SUBJ._{3MS} Ahmad-NOM to the-market
 (‘Fahad hoped/planned/decided/wanted (for) Ahmad to go to the market.’)

(198) EC in Greek

a. o yanis tolmise na figi (*i maria).
 the John._{NOM} dared._{3SG} SM leave._{3SG} the Mary._{NOM}
 ‘John dared (*for Mary) to leave.’ (Kapetangianni, 2010: 2)

⁴⁹ Of course, when a distinct subject is embedded, we do not have a control structure.

⁵⁰ Glossing for Greek has been slightly modified for consistency.

b. o yanis kseri na horevo (*i maria).
 the John._{NOM} know._{1SG} SM dance._{3SG} the Mary._{NOM}
 ‘John knows (how) (*Mary) to dance.’ (Kapetangianni, 2010:29)

(199) PC in Greek

a. o Yanis elpizi na figi i Maria.
 the Yani._{NOM} hope._{3SG} SM leave._{3SG} the Maria._{NOM}
 ‘Yani hopes Mary leaves.’ (Grano, 2012: 298)

b. o yanis theli na figi i maria.
 the John._{NOM} want._{3SG} SM leave._{3SG} the Mary._{NOM}
 ‘John wants Marry to leave.’ (Kapetangianni, 2010:44)

The above data clearly support the generalization given in (195). We see that EC verbs such as *forget*, *know*, *dare*, and *can* do not allow for an embedded subject. On the other hand, PC verbs, such as *hope*, *decide*, *want*, *plan*, allow for an embedded distinct subject.⁵¹ The availability of embedded subject, thus, can be considered a distinction between EC and PC in finite control languages. If this is true, then we have another property for PC predicates that sets them apart from EC predicates.

Notice that it is true that PC in finite control languages such as SA and Greek allow for a disjoint reference (i.e., no obligatory coreference) when the embedded subject is null (see Kapetangianni, 2010 for discussion of Greek). However, the fact that this interpretation is marked and requires both pragmatic information and rich context make it plausible to

⁵¹ In English, PC appeals to ECM and *for-infinitives*, respectively, to allow similar constructions:

- i. John wanted her to leave.
- ii. John decided for Mary to cook grits. (Levine, 2015: 81)

propose that in these cases we have *pro* and not PRO. Therefore, we do not have NOC, but rather NC (no control). I will take this issue up further in section 3.3.2.4 where I discuss the licensing (un)availability of an embedded DP with PC and EC (see Albiou, 2007 for a similar proposal in Romanian, and Landau, 2000, 2013 for a critical review of NOC and OC and evidence that OC only alternates with NC, not NOC).

To sum up this section, we find that EC obtains in SA and that an essential property of EC in finite control languages is that it does not allow an embedded distinct DP. It will also be shown that EC predicates do not allow partial control. PC, on the other hand, has been shown to allow for an embedded DP. Further properties of EC in SA will be discussed in a comparison with PC below.

3.3.2.2 PC

The PC phenomenon has received little attention in the literature as Landau (2000, 2013) points out. Arabic is no exception. As far as I know, PC has never been discussed in Arabic and thus the present study will fill this gap and contribute to our understanding of PC crosslinguistically.

The classification of EC/PC is based on the semantics of the predicates. EC consists of modal, aspectual, and implicative predicates. PC, on the other hand, consists of factive, propositional, desiderative, and interrogative predicates. The predicates of the two types are given below, repeated from (156) and (157), respectively.

(200) EC-predicates

a. Implicative

dare, manage, make sure, bother, remember, get, see fit, condescend,

avoid, forget, fail, refrain, decline, neglect, force, compel

b. Aspectual

begin, start, continue, finish, stop, resume

c. Modal

have, need, may, should, is able, must

d. Evaluative (adjectives)

rude, silly, smart, kind, (im)polite, bold, modest, cruel, cowardly, crazy

(201) PC-predicates

a. Factives

glad, sad, regret, like, dislike, hate, loathe, surprised, shocked, sorry

b. Propositional

believe, think, suppose, imagine, say, claim, assert, affirm, declare, deny

c. Desiderative

want, prefer, yearn, arrange, hope, afraid, refuse, agree, plan, aspire,

offer, decide, mean, intend, resolve, strive, demand, promise, choose,

eager, ready

d. Interrogative

wonder, ask, find out, interrogate, inquire, contemplate, deliberate, guess,

grasp, understand, know, unclear

In this respect, Landau also proposes that EC PRO is different from PC PRO. Recall from the properties of PC PRO given in (189) above that only PC PRO allows the controller to be a subpart of the whole reference (i.e., a group reference that includes the controller). That is, EC PRO is [uMer] while PC PRO [+Mer]. This is shown in the cluster examples below, repeated from above:

Below, I argue against this and that the competing generalization in (205) holds, at least in SA (though I will show that it extends to other finite languages as well).

(205) In non-finite clauses, PC obtains with collective predicates. In finite clauses, PC obtains with embedded verbs that bear a non-singular agreement, given that the subject is inclusive.

For our current purposes, however, I will first show that PC obtains in SA with non-agreeing complements, a case that should be compatible with Landau's assumption.

Interestingly, this is possible in Arabic given that control predicates generally allow for both verbal complements and nominal complements. The latter should, in principle, be compatible with Landau's generalization since inflection/agreement is excluded inside nominalization.

Consider the examples below.

(206) araada/fad^sd^sala aħmad-u al-liqaaʔ-a/al-idʒtimaaʕ-a
sariʕan.
wanted._{3MS}/preferred._{3MS} Ahmad-NOM the-PL-meeting-ACC/the-convening-ACC quickly
'Ahmad wanted/preferred meeting quickly.'

(207) rafad^sa/arrada/aħabba aħmad-u al-d^saħab-a sawijjan.
refused._{3MS}/Wanted._{3MS}/liked._{3MS} Ahmad-NOM the-PL-going-ACC together
'Ahmad refused/wanted/liked going together.'

The above example shows that nominalized complements do not allow inflection/agreement and they are compatible with collective (nominalized) predicates such as *meet*, *convene*, and *together*. This clearly establishes the fact that PC obtains in SA, at least with nominalized complements. This can be further supported by the fact that non-agreeing

collective predicates (i.e., inside a nominalized complement) are not acceptable with EC predicates as shown in (208), while they are acceptable with corresponding PC predicates as shown in (209) and above. This shows that PC is blocked with EC predicates even in nominalized complements.

(208) *naisa/tadʒannaba/taḏakkara aḥmad-u al-liqaʔ-a/al-idʒtimaʕ-a bikaθarah.
 forgot/avoided/remembered Ahmad-NOM the-meeting-ACC/the-convening-ACC much
 (*Ahmad forgot/avoided/remembered to meet/convene several times.)

(209) araada/fadʕdʕala aḥmad-u al-liqaʔ-a/al-idʒtimaʕ-a bi-kaθrah.
 wanted /preferred Ahmad-NOM the-meeting-ACC/the-convening-ACC with-many
 ‘Ahmad wanted/preferred to meet with many attendees.’
 or: ‘Ahmad wanted/preferred to meet several times.’

One might argue that the nominals above are actually referential nouns similar to *John wants the apple* or *John liked/hated the meeting*. While it is true that the same nominal forms can be found with non-derived nouns such as *the meeting*, there is evidence that the ones used above are actually nominalized complements (deverbal nouns) and not referential nouns. This is based on VP-adverbs and their licensing conditions.

It is well-established that only *action* or *process* nominals accept VP-adverbs (Alexiadou, 2010).⁵² All the nominal complements above are modified by low-adverbs such as *quickly*. This, in turn, requires the projection of a VP inside the nominalized phrase for the adverb to be licensed. This is widely assumed for process nominals (also called deverbals and action nominals). Fassi Fehri (1993), Hazout (1995), Borer (1999), and Alexiadou (2010),

⁵² There are generally two types of nominals: argument taking nominals (gerund and derived nominals) and non-argument taking nominals (nouns, referred to as result nominals). See Alexiadou (2010) for further details.

(following Sheehan, 2012, 2014b) and supports the claim that the syntactic vs. semantic plurality is superfluous.

The above conclusion that PC obtains in SA can be challenged by various arguments, however. First, Arabic is a pro-drop language, a fact that complicates the situation even further. It is, thus, possible that we do not have a case of control per se, but rather *pro*. In other words, one might argue that in the above construction it is not control that involves PRO, but actually a canonical pro-drop embedded clause. However, there is converging evidence that strongly challenges this argument.

The claim that the construction above is not control but a case of *pro* has a direct prediction: *pro* can be realized as an overt pronoun as is normally the case in pro-drop languages, as shown in (211).

- (211) *pro/ana* anaama baakiran.
 pro/I sleep.1S early
 ‘I sleep early.’

In potential PCs in SA, the prediction is not borne out; surprisingly, the corresponding overt plural pronoun is unacceptable in the PC construction above. This is shown in (212).

- (212) *araada/fad^sd^sala aħmad-u ?an na-ltaqia **nahnu** masaa?an.
 wanted._{3MS}/preferred._{3MS} Ahmad-NOM SM 1PL-meet-SUBJ we evening
 ‘Ahmad wanted/preferred for us (including him) to meet in the evening.’

This is rather interesting. There seems to be nothing blocking the overtness of *pro* here, yet it is unacceptable. More interestingly, in relation to the inclusiveness condition we have in the generalization in (205), the sentence above is only acceptable under the non-

inclusive interpretation of *we*, an interpretation where Ahmad wanted or preferred that a group of people that does *not* include him to meet. The overtness of *pro* in pro-drop languages is normally associated with a focus/topic reading which is exactly the case in this situation, as shown below. Notice that a control construction (i.e., PC) is not acceptable even under a focus/topic reading of the pronoun.

(213) araada/fad^dala aħmad-u ?an na-ltaqia naħnu masaa?an.
 wanted._{3MS}/preferred._{3MS} Ahmad-NOM SM 1PL-meet-SUBJ we evening
 ‘Ahmad wanted/preferred for us (not including him) to meet in the evening.’

A question that immediately arises is: why do we get the asymmetry in (212) and (213)? While providing an analysis for this asymmetry is beyond the purview of this work, it seems that inclusiveness (which is a property of PC) is not compatible with pronominals, overt or covert. Along these lines, then, one can also suggest that since the complement is subjunctive, a defective clause (i.e., it is not a phase), there is a binding violation of condition B given that the matrix controller will bind the pronoun (clearly the interpretation of *we* includes Ahmad, which requires co-indexation/binding). Again, empirical evidence supports this line of argumentation. Consider the following minimal pair.

(214) *nadima aħmad-u ?an ðahab-na naħnu sawijjan
 regretted._{3MS} Ahmad-NOM SM went-1PL we together
 Intended: ‘Ahmad regretted going (Ahmad + the speaker) together.’

(215) nadima aħmad-u ?anna-na ðahab-na naħnu sawijjan
 regretted._{3MS} Ahmad-NOM that-1PL went-1PL we together
 ‘Ahmad regretted that we (Ahmad + the speaker) went together.’

In (214), similar to (212) above, inclusiveness is obligatory in PC, thus the overtness of the pronoun induces a condition B violation. In (215), on the other hand, the inclusiveness is possible, and the sentence is acceptable. The difference lies in that in the latter sentence the complement is not subjunctive, but indicative, which is a strong phase (evidenced by *that*). Coindexation between *Ahmad* and *we* does not violate condition B as the pronoun is free in its binding domain. Below I will discuss crosslinguistic evidence that further supports this line of analysis.

The incompatibility between *pro* and inclusiveness we observed above provides empirical support for partial binding. In particular, Grano (2012) proposes that partial control follows from partial binding, suggested in Rullmann (2004). Rullmann particularly proposes that partial binding ensues in constructions such as (216).

- (216) a. Every woman₃ I_s date wants us_{S, 3} to get married. (Rullmann, 2004: 163)
 b. Every woman₃ I_s date wants PRO_{S, 3} to get married. (Grano, 2012: 55)
 c. John wants to PRO₊ meet at noon.

Rullmann argues that *us* in (216)a is a variable partially bound by the quantifier (the choice of the woman) and partially bound by *I*. Grano extends this proposal to PC PRO, proposing that PRO is also a partially bound variable. In (216)b, Grano proposes that PRO is bound by the two syntactic antecedents (*every x* and *I*). It follows, then, that in PC constructions such as (216)c PRO is satisfied by partial binding and does not require two antecedents. That is, once a syntactic binder (providing a member of the set that PRO₊ refers to) is present, the binding requirement of PRO is met, and the other member(s) of PRO can contextually be provided.

If the above discussion is on the right track, then the asymmetry in (212) and (213) follows. Inclusiveness is only compatible with bound pronouns. *pro*, on the other hand, is a pronoun that has to be free in its domain and therefore the overtness of *pro* (as inclusive

we/they) would be unacceptable, a prediction that is borne out as we see above. When partial binding does not obtain, inclusiveness (i.e., PC) does not arise. Accordingly, the overtness of *pro* is licit (as a non-inclusive pronoun such as *we* in (213), for instance) and the sentence is acceptable. If this is true, then this seems to be a possible and simple analysis for the *overtiness asymmetry* we observe in SA above. It can also be extended to other finite control languages to test the restriction of the overtness of *pro* in PC constructions. This is in fact borne out in Modern Greek as will be shown below.

The upshot of the above discussion about the *overtiness asymmetry* is that an argument that PC PRO is *pro* cannot be maintained. If this is correct and PC ensues in SA with an embedded agreeing predicate, the generalization I provide in (205) is supported. Notice that the inclusiveness condition on PC has already been shown to be a non-trivial requirement for PC PRO. If this is correct, then the PC-Generalization of Landau's (2000) given in (194) is challenged. In fact, a further argument that PC obtains with agreement, contra Landau's generalization, comes also from other languages.

Bringing new empirical data, Sheehan (2012, 2014b, 2015) and Sevdali and Sheehan (to appear) argue that PC obtains with inflected infinitives as well as subjunctive complements that bear agreement. Sheehan further argues that inclusiveness is the only condition for PC. In other words, PC PRO does not restrict the syntactic plural feature, as Landau argues, and inclusiveness is the necessary and sufficient requirement for licensing. This obviously argues against Landau's PC generalization. The example in (217), from European Portuguese, shows the two points. First, the sentence has the PC interpretation with an embedded verb (i.e., *meet*) inflected for plural agreement. Second, the unacceptability of the embedded pronoun *him* indicates that the controller must be included in the reference of

PC PRO and thus induces a condition B violation.⁵⁴ In addition, (218) shows that violating inclusiveness renders the sentence unacceptable. The conflict lies between 1SG in the matrix verb and 2PL or 3PL on the embedded verb. This mismatch argues for exclusiveness, which is incompatible with PC PRO. The sentence is thus correctly predicted to be ungrammatical, given that inclusiveness is not provided.

(217) * O João_i preferia reunirem-se sem ele_i (EP)
 the João preferred._{3SG} meet._{INF.3PL-self.3} without him
 ('João_i preferred/would prefer to meet without him_i.') (Sheehan, 2012: 23)

(218) *Eu preferia reunirem-se mais cedo. (EP)
 I preferred._{1SG} meet._{INF.3PL/2PL-SE} more early (Sheehan, 2014a: 7)

Modesto (2016) argues that PC facts, similar to the ones above, are also observed in Brazilian Portuguese where PC obtains with an agreeing infinitival as shown in (219).

(219) a presidente_i resolveu PRO_i+ trabalharem também nos feriados. (BP)
 the president decided work-_{INF-3PL} also in.the holidays
 'The president decided (for them) to work during the holidays too.'
 (Modesto, 2016;2: (2))

Thus far, we have seen PC in inflected infinitives in BP and EP. More resemblance to SA data also comes from the Greek and Romanian data discussed by Sevdali and Sheehan (to appear). The two languages have subjunctive complements which obligatorily manifest

⁵⁴ Minor modifications on the glossing from the source have been applied. Notice that the sentence is marginally accepted if condition B were not violated; i.e., if the phrase *without him* were not used (see Sheehan, 2012, 2014b).

agreement. Interestingly, the authors actually find instances of PC with the modal *can*, classified as an EC predicate. This is shown below.

(220) *chthes mporusa Akoma na sinandithume tin alli Triti.* (Greek)
 yesterday could._{1S} still SM meet._{SUBJ.1P} the other Tuesday
 ‘Yesterday, I was still able for us to meet next Tuesday.’ (Sevdali and Sheehan, to appear: 5)

(221) a. *pot să ne întâlnim mâine.* (Romanian)
 can._{1SG} SM SE._{1PL} meet._{SUBJ.1PL} tomorrow
 ‘I can meet tomorrow.’ (Sevdali and Sheehan, to appear: 8)

b. *pot să ne căsătorim doar la anul, când fac 18 ani.*
 can._{1SG} SM SE._{1PL} marry._{SUBJ.1PL} only to year._{DEF} when make 18 years
 ‘I can marry marry only next year, when I turn 18.’ (Sevdali and Sheehan, to appear: 8)

It is rather interesting that an EC predicate allows a PC interpretation. This sheds new light on the discussion of control constructions. In fact, this is not restricted to Greek and Romanian. I find PC actually arises with the same modal verb in SA in the exactly corresponding constructions. Consider the data below.

(222) a. *mata tastatʕiiʕu ʔan na-taqaabal-a?* (SA)
 when can._{2SG} SM 1PL-meet-SUBJ
 (‘when can you meet?’)

b. *ʔastatʕiiʕu ʔan na-taqaabal-a (*naʕnu) yadan.*
 can._{1SG} SM 1PL-meet-SUBJ we tomorrow
 ‘I can meet tomorrow.’

c. bilamsi, kuntu laziltu ʔastatʕiiʕu ʔan na-taqaabal-a yadan
 yesterday was.1SG still.1SG can.1SG SM 1PL-meet-SUBJ tomorrow
 ‘Yesterday, I was still able to meet tomorrow.’

Again, any overt embedded pronoun (and in fact any overt DP as well) renders the above sentences unacceptable, as shown in (222)b. This, in part, supports the claim I put forward above that PC cases in SA cannot be reduced to *pro*. Notice that *can* does not allow a disjoint reference in EC environments simply because EC predicates do not allow disjoint references.⁵⁵

Additional support for the above reasoning regarding binding and the overt restriction comes from Modern Greek which, similar to SA, is a pro-drop language and also has subjunctive agreeing PC, as shown above. Similar to what we see in SA, the overtness of the embedded pronoun (PRO/pro) in PC is illicit as shown in (223).

(223) *chthes mporusa Akoma na sinandithume emis tin alli Triti .
 yesterday could.1S still SM meet.SUBJ.1P we the other Tuesday
 (Christina Sevdali, personal communication)

The sentence above forms a minimal pair with the grammatical sentence in (220) where there the embedded pronoun is not overt. It is obvious that the overt restriction also obtains in Greek, which should follow given that this violates binding conditions. With data from SA and Greek, we have crosslinguistic evidence that the overt restriction of the embedded pronoun with PC is unacceptable. If it were *pro*, the overt restriction would be totally puzzling. But, on

⁵⁵ A legitimate question to ask here is how an EC verb participates in PC. This is perhaps related to the fact that some modals are ambiguous and this might extend to ambiguity between EC and PC. *Want*, for example, is well-known to be ambiguous. As such, it is not impossible for such modals to be ambiguous in this case, as well (see Grano, 2012 for a discussion about *want*). Also, the fact that PC verbs can also be in EC constructions makes it possible to have EC in PC as we see with the modal *can* above.

the other hand, if it is PRO and PRO is a different species from *pro*, then the overt-ness asymmetry follows naturally: PRO is compatible with inclusiveness (mediated by binding) while *pro* is not. This conclusion seems to be warranted given the empirical evidence just discussed.

A further argument for the inclusiveness of PC PRO and *pro*'s lack thereof comes from an interesting case of pronoun coordination. Recall that overt pronouns are unacceptable in PC constructions. That is, the pronoun *we* in PC cannot express inclusiveness and such sentences are unacceptable (under the interpretation that the pronoun *we* includes the controller). Yet, PC predicates in finite languages generally allow an embedded (disjoint) DP. It is obvious that, in such contexts, we do not have an instance of control at all. It is therefore surprising that in such contexts an overt pronoun including the controller is not acceptable. I have argued above that this is due to partial binding which is not compatible with unbound pronouns. Further support for this reasoning comes from a licit overt-ness of *pro*. In particular, it is acceptable to embed a conjoined pronoun for a PC (i.e., *you and I*) but not so with a single plural pronoun such as *we*. See the minimal pairs below:

(224) a. *ʔastatʕiiʕu ʔan na-taqaabal-a naħnu yadan.

can._{.ISG} SM _{IPL-}meet-SUBJ we tomorrow

b. ʔastatʕiiʕu ʔan na-taqaabal-a ana wa ajaka yadan.

can._{.ISG} SM _{IPL-}meet-SUBJ me._{.NOM} and you._{.ACC} tomorrow

(‘I can meet, me and you, tomorrow.’)

(225) a. *nadima aħmad-u ʔan ʕahab-na naħnu sawijjan.

regretted._{.3MS} Ahmad-_{.NOM} SM went-_{IPL} we together

b. nadima aħmad-u ʔan ḏahabna ana wa ayahu sawijjan.
 regretted._{3MS} Ahmad-NOM SM went._{1PL} me._{NOM} and him._{ACC} together
 ‘Ahmad regretted that he and I went together.’

c. ʔ nadima aħmad-u ʔan ḏahabna huwa wa ana sawijjan.
 regretted._{3MS} Ahmad-NOM SM went._{1PL} he._{NOM} and I._{NOM} together
 ‘Ahmad regretted that he and I went together.’

The examples above show that while *pro* or a single plural noun cannot express PC and thus cannot be used to *paraphrase* a PC sentence, conjoined pronouns can. This is interesting and shows that PC PRO is indeed not syntactically singular, as Landau argues. If this is true, then we have independent evidence that PC in finite control does not involve *pro* because it is not able to express the PC interpretation. Similarly, plural overt pronouns cannot generally express PC either.

In the above examples of licit overt pronouns, the pronouns are not bound since there is no partial binding/partial control therefore there is no violation of condition B. The pronoun coordinate actually receives a contrastive focus reading. If inclusiveness requires binding, and binding violates condition B, then we can safely conclude that use of the conjoined pronouns above is not a case of control or overtiness of *pro*, and that partial control does not obtain with such constructions. It is rather interesting, I believe, that the pronoun coordinate resembles what we have in PC. PC PRO represents at least two members; one refers to the controller and the other member(s) refer to someone else. While this deserves further elaboration and raises various questions, I will leave it for future work to address the details of this issue.⁵⁶

⁵⁶ Admittedly, various complications appear with respect to the overtiness of *pro* with PC. For instance, I find that the overtiness of *pro* with first person is generally acceptable with *want* and *decide* (PC predicates) though only with a contrastive focus reading. This might be related to the phenomenon discussed by Szabolcsi, (2009) in respect to embedded infinitive subjects. It may turn out to be that the restrictions on the overtiness of *pro*

The preceding discussion highlights one main and new finding in Arabic: both EC and PC obtain in SA, and both types show the OC properties. I have devoted much of this chapter to PC since EC will be discussed in detail in the next two chapters. As for PC, I have already discussed two constructions where PC obtains; PC in nominalization and PC in agreeing subjunctive complements. The latter clearly argues against Landau's restriction on syntactic plurality of PC and against his PC generalization. It thus supports Sheehan's (2012, 2014b) proposal that finite control languages have PC and that all that PC PRO requires is inclusiveness. This also supports the generalization I assume above in (205). PC with nominalization serves as a blatant case of PC that does not violate Landau's generalization, and thus it is English-like. However, PC with verbal complements posits a challenge. I will also present another interesting pattern of PC in SA with verbal complements. This comes from a verbal complement that does not require plural agreement. Interestingly, this will show that SA has three constructions of PC, all of which have never been previously discussed. I discuss the third PC construction below.⁵⁷

PC in SA can also appear in a third type of construction that I will call reciprocal PC. Reciprocal predicates in SA (i.e., predicates with inherent plural) have the inflex *-t-*. This morphological change does not affect agreement, however; the agreement morphology in the prefix and suffix is still regular (i.e., it can be singular or plural). Importantly, reciprocal predicates require plural subjects in simple clauses. Consider the minimal pair below.

- (226) a. *jadrusu at^t-t^taalib-u masaaʔan.*
 study_{.3MSG.} the-student_{-NOM} evening

follow from independent factors. At any rate, this does not undermine the fact that PC obtains in SA evidenced by different constructions discussed here.

⁵⁷ Another interesting property of PC in SA is the ungrammaticality of Backward Control (BC); a fact that I take to support postulating PRO for PC and also for assuming that PC is biclausal. I will discuss this fact further in the next chapter where I argue that BC (in SA) is actually a restructuring property/diagnostic that is only available for EC (see §4.3.1.9).

‘The student studies for school in the evening.’

b. ja-**ta**-daarasu at^ʕ-t^ʕulaab-u/*at^ʕ-t^ʕaalib-u masaaʔan.
3M-RECEIPRIC-study .SG the-students-NOM/ the-student-NOM evening

‘The students/*the student study for school with each other/in a group in the evening.’

We see above that the reciprocal form of *study* (226)b requires a plural subject. Notice that it bears singular morphology due to the VS word order but must bear plural morphology if it is in the SV word order, as given below.

(227) at^ʕ-t^ʕulaab-u ja-ta-daarasu-*(na) masaaʔan.
the-students-NOM 3M-RECEIPRIC-study-PL evening

‘The students study for school with each other/in a group in the evening.’

With this in mind, let us now look at PC with these verbs embedded; if PC indeed obtains in SA, these predicates should be possible with PC predicates with a singular matrix controller, but not so with EC predicates. The prediction is borne out; PC predicates with a singular controller are compatible with embedded reciprocal/collective verbs (228) while EC predicates are not (229).⁵⁸

(228) aḥaba/araada/fad^ʕala aḥmad-u ʔan ja-ta-daaras-a al-rijad^ʕiat.
likede .3MS/wanted .3MS/preferred .3MS Ahmad-NOM SM 3M-RECEIPRIC-study .SG the-math

⁵⁸ Notice that the PC constructions above also allow (but do not require) an overt comitative phrase (*with someone*). In the corresponding EC sentences, the overt comitative phrase makes them grammatical. Notice, however, that comitative is not equal to PC in various points, as convincingly argued for in Landau (2016) in which Landau empirically challenges an alternative analysis for PC within the MTC that assumes a null comitative phrase to depart from PC PRO assumptions of Landau (2000, 2004, 2006).

‘Ahmad liked/wanted/preferred to study math in a group.’

- (229) ??/*nasia/ħaawala/tadʒannaba aħmad-u ʔan ja-ta-daaras-a al-rijad^ʕiat
 forgot._{3MS} /tried._{3MS} /avoided._{3MS} Ahmad-NOM SM 3M-RECEIPRIC-study.SG the-math

Further support for the reciprocal data above and their compatibility with PC comes from nominalized counterparts of the above constructions. In particular, testing the prediction of the availability of PC in SA, it is predicted that nominalized reciprocal predicates are only allowed with PC predicates. Again, this is confirmed as the asymmetry in (230) and (231) shows.

- (230) aħaba/araada/fad^ʕala aħmad-u ta-daarus-a al-rijad^ʕiat.
 likede._{3MS}/wanted._{3MS}/preferred._{3MS} Ahmad-NOM RECEIPRIC-study.ACC the-math
 ‘Ahmad liked/wanted/preferred studying math in a group.’

- (231) *nasia/ħaawala/tadʒannaba aħmad-u ta-daarus-a al-rijad^ʕiat.
 forgot._{3MS} /tried._{3MS} /avoided._{3MS} Ahmad-NOM RECEIPRIC-study.ACC the-math

That EC predicates are not compatible with reciprocal predicates are further confirmed by corresponding data which only differ from the above data by lacking the reciprocal morpheme *ta-*. This is shown below.

- (232) nasia/ħaawala/tadʒannaba aħmad-u diraasat-a al-rijad^ʕiat.
 forgot._{3MS} /tried._{3MS} /avoided._{3MS} Ahmad-NOM studying-ACC the-math
 ‘Ahmad forgot/tried/avoided studying math.’

The data above show the third pattern of PC in SA: reciprocal PC. This adds up to the two previously established patterns of PC in SA. Reciprocal PC shows that an embedded reciprocal is only acceptable with PC embedding predicates and not so with EC predicates. This further supports the idea that syntactic plurality is a property of PC PRO (at least in finite control languages), contra Landau (2000). PC in SA thus adds to data from other languages (such as Greek, Romanian, and BP discussed above) arguing that PC PRO is not only semantically plural but also syntactically so.

To sum up, we have shown that PC in finite control contexts are genuine cases of PC. New data from SA are in line with growing crosslinguistic data that show inflected infinitives (EP and BP) as well as agreeing subjunctives (Greek and Romanian) in PC. The converging empirical evidence thus argues against Landau's PC generalization regarding PC PRO and the syntactic number restriction.⁵⁹ The SA data actually support Sheehan's (2012, 2014b, 2015) proposal that the only requirement for PC is the inclusiveness of the controller. Notice that it is untenable to argue that nominalized complements are cases of PC (due to the absence of agreement) but their corresponding verbal complements are not. This is because it is well-established that nominalized complements are derived from verbal complements with the exact argument structure (see Alexiadou, 2010). This is, of course, not the final word on this issue as PC is still largely mysterious (see Landau, 2015, 2016, 2018), but it is obvious that the more crosslinguistic data we bring into the discussion, the better an understanding of PC we can arrive at. The fact that the PC interpretation obtains in finite control languages (with different patterns as shown in SA) is interesting and a relatively new discovery. Support

⁵⁹ Notice that PC in SA cannot be assumed to involve covert comitative along the lines of Boeckx et al. (2010) because agreement on the embedded verb is singular with a comitative phrase:

(i) fadʕala ahmad-u ʔan ju-safira /*ju-safira-u maʕa fahd-in
 preferred.3MS Ahmad-NOM SM 3M-travel.SG/3M-travel-PL with Fahad-GEN

‘Ahmad preferred to travel with Fahad.’

See (Sheehan, 2012) and Sevdali and Sheehan. (to appear) for similar facts in European Portuguese and Greek and Romanian, respectively.

strict interpretation argues against postulation *pro* in OC for SA. In fact, it is the standard assumption that Control in Arabic in general is not PRO, but *pro* (Fassi Fehri, 2012; Soltan, 2007, among many others). Landau (2004) provides various pieces of evidence against postulating *pro* in OC in finite control languages due to properties of *pro* that are not possible with OC, including allow both sloppy and strict. The fact that OC in SA (both EC and PC) do not allow for a strict interpretation supports Landau’s position and I follow this assumption throughout this dissertation.⁶⁰

- (234) tamanna aħmad-u_i ʔan jaltaq-uu PRO_{i+} baakiran, wa fahd-u kaḏaalik.
 hoped._{3MS} Ahmad-NOM SM meet-3PL early, and Fahad-NOM too
 ‘Ahmad hoped_i (for him_i and his_i group) to meet early, and so did Fahad_k [(for him_k and his_k group) PRO_{k+???/*i+} to meet early].’

In general, a strict interpretation with PC verbs is marked and only possible with a very rich context. That the discourse context is essential to provide the strict interpretation is an indication that in such cases we deal with no control (NC), rather than NOC. In other words, the alternation is not between a coreference (i.e., OC) and free reference (NOC), but rather either OC or NC. In other words, it is not PRO in these contexts with possible strict interpretation, but in fact NO control (i.e., *pro*); (see Landau (2004) for a discussion of properties of *pro*). I will argue below that this specific property of PC verbs comes from their availability to participate in both environments. This is not specific to SA and is also found in Greek and other languages (see Kapetangianni, 2010 and Landau, 2013).

⁶⁰ I refer the interested reader to Landau (2004) for a thorough argumentation against *pro* in OC as I will not discuss it any further here.

Nominalized complements of PC further support that PC is OC. The nominalized complement in (235) corresponds to (234). Again, in this example the strict interpretation is impossible.

- (235) tamanna aħmad-u al-liqaa?-a baakrian, wa fahd-un kaḏaalik.
 hoped._{3MS} Ahmad-NOM the-meeting-ACC early, and Fahad-NOM too
 ‘Ahmad_i hoped [PRO_i to meet early] and so did Fahad_j hope [PRO_{j/*i} ~~to meet early~~].’

The reciprocal complement also confirms that PC in SA is OC. Similar to what we have seen with verbal and nominalized complements, reciprocal PC only allows for a sloppy reading under ellipsis. This is shown in (236). Again, a strict reading is impossible; i.e., a reading where *Fahad* hoped that *Ahmad* study the Quran in a group. This provides further evidence that the PC construction at hand is OC.

- (236) tamanna aħmad-u ʔan ja-ta-daaras-a al-quraan-a, wa fahd-un.
 hoped._{3MS} Ahmad-NOM SM _{3MS-RECEIPRIC-STUDY-SUB} the-Quran-ACC, and Fahad-NOM
 kaḏaalik.
 too
 ‘Ahmad_i hoped [PRO_i to study the Quran in a group] and so did Fahad_j hope [PRO_{j/*i}
~~to study the Quran in a group~~].’

Having established that both EC and PC obtain in SA and that both are OC, it is possible now to address the properties of each type and their differences. In particular, I want to address two essential properties that pertain to finite control: the availability of an embedded DP (i.e., an embedded subject) and the properties of tense/aspect in EC and PC. This is vital to the current study as I will argue that the difference between PC and EC are

significant and they therefore do not have the same structure. As stated above, I argue that EC is a monoclausal restructuring while PC is biclausal. The discussion of the two points will provide ample evidence for this proposal.

3.3.2.4 (Non)-licensing of embedded DP

The distinction made clear above between EC and PC in terms of their interpretation is not the sole difference between them. Various interesting behaviors reinforce the idea that OC is not a uniform phenomenon and that the PC/EC distinction bears on empirical facts; it is not only a labeling issue (see Wurmbrand, 1998, 2001; Landau, 2000, 2004; San-Martin, 2004; Grano, 2012, among many others). Above, we have seen that licensing an embedded disjoint DP is not possible in EC, but it is in PC as established above. In particular, following Grano's (2012) generalization in (195), we know that PC predicates allow an embedded overt DP while EC predicates do not.⁶¹ This has been found in various finite control languages including Greek, BP, and other languages. SA also shows the same property. Examples from SA and Greek are provided in (237) and (238), respectively. The predicates below allow for an embedded disjoint DP and they all belong to PC.

- (237) araada/tamanna/qarrara /tawqqaʕa/xatʕʕatʕa fahd-un ʔan tuyaadir-a hind-u.
 wanted/hoped /decided /expected/planned Fahad-NOM SM leave.3FS-SUBJ Hind NOM
 'Fahad wanted/hoped /decided /expected/planned for Hind to leave.'

⁶¹ One might wonder how it is that PC hosting a distinct embedded subject is an example of control. As pointed out above, when an overt (disjoint) DP is licensed in the embedded clause, we do not have control at all. In such cases, we deal with NC (no control) (see Landau, 2013). This, however, should not be extended to backward control (when an overt DP (the controller) seems to be in the embedded phrase (VVSO)). In these configurations, various arguments will be put forth below to show that this is a genuine OC case and the overt DP is the only syntactic subject. See below for further discussion.

- (238) o yanis elpizi [na erthi i maria] .
the John._{NOM} hope._{.3SG.PRES} SM come._{.3SG} the Mary._{NOM}
‘John hopes that Mary will come.’ (Kapetangianni, 2010: 30)

Notice that these verbs induce OC constructions with the absence of both an overt embedded DP and a salient individual in the context (i.e., *pro*), as discussed above. This is evidenced by the unavailability of an arbitrary reference in these constructions, which is a hallmark of non-obligatory control (NOC).

- (239) araada/tamanna/qarrara /tawqqaʕa/xatʕʕatʕa fahd-un_i ʔan juyaadir-a PRO_i /*arb .
wanted/hoped /decided /expected/planned Fahad-_{NOM} SM leave._{.3MS-SUBJ}
‘Fahad wanted/hoped/decided/ ... to leave.’
‘Fahad wanted ... (for someone/anyone) to leave.’

This follows from an interesting generalization that Landau (2000, 2004, 2013) proposes regarding the dichotomy of OC vs NOC. His proposal associates control types (OC, NC, and NOC) with a syntactic configuration. If a controlled clause/phrase is a complement, it is OC or NC. Otherwise, it is NOC. The above discussion has provided various empirical support for this generalization where all controlled complements are OC or NC. To provide a complete picture of control in SA, NOC will be discussed in section 3.3.4 below.

EC predicates, on the other hand, do not allow for an embedded disjoint DP. This seems to be a crosslinguistic fact as discussed above. This is shown below in (240) and (241), reproduced from (196) and (198), respectively.

- (240) EC in SA
nasia/ ʕarafa/istatʕaʕa fahd-un ʔan jaðhab-a (*aħmad) ila as-souqi.
forgot/knew/can._{.3MS} Fahad-_{NOM} SM go-_{SUBJ}._{.3MS} Ahmad to the-market
‘Fahad forgot to/knew how to/can *(Ahmad) go to the market.’

- (243) bilamsi taḍannaba aḥmad-u ?an j-usafir-a (*fahd-un) yadan.
 yesterday avoided-_{3FS} Ahmad-_{NOM} SM _{3MS}-travel-_{SUBJ} Fahad-_{NOM} tomorrow
 ‘Yesterday, Ahmad avoided (*for Fahad) to travel tomorrow.’

It thus seems that appealing to tense to derive the block of an embedded DP in EC, as assumed by Landau, is untenable.

Alternatively, I argue that EC constructions are monoclausals. If this is on the right track, as I will show below and in the next chapters, then the blocking of a distinct embedded DP follows naturally. In other words, if EC constructions are restructuring where there is only one syntactic subject, whether a future adverbial such as *tomorrow* is licensed in the embedded phrase or not is completely irrelevant, as will be argued for below. Now, we could ask: why do PC predicates allow an embedded DP? The answer is straightforward: because they are biclausals. This line of reasoning that resorts to different structural assumptions for PC and EC can straightforwardly derive these facts. Various arguments support this analysis as I will discuss below. As for tense of PC and EC complements, further qualifications show that Landau’s generalization of tense needs further modifications. I take this up immediately in the following section.

3.3.3 Tense properties

Tense has been a cornerstone in the majority of control theories. Since Stowell (1982), tense has played a critical role in the distribution of PRO. This carries over to recent control theories such as Landau's the ATC (Landau, 2000, 2004, 2006) in which he emphasizes the importance of tense in the distinction between EC and PC. He proposes that EC complements are untensed while PC complements are tensed, as alluded to above. Landau makes use of temporal mismatch to detect the tense properties of the two OC classes. The idea is

straightforward; complements that allow temporal mismatch with root tense are tensed, and those that do not are not tensed. He argues that the former constitutes PC and the latter constitutes EC. This classification was based on examples such as the ones given in (244) and (245) (adopted from Landau, 2004: 836).

(244) *EC predicates do not allow temporal mismatch*

- a. *Yesterday, John managed to solve the problem tomorrow.
- b. *Yesterday, John began to solve the problem tomorrow.

(245) *PC predicates allow temporal mismatch*

- a. Yesterday, John hoped to solve the problem tomorrow.
- b. Yesterday, John wondered how to solve the problem tomorrow.

Following Stowell (1982), Martin (1996), and Bošković (1997), Landau proposed that semantic tense can be detected based on licensing temporal mismatch, evidenced by temporal adverbials.

However, the dichotomy that this generalization entails is strong and challenged by the fact that temporal properties are more nuanced than what Landau assumed. In particular, insights from Wurmbrand (2014) show that the temporal properties of infinitival complements can be divided into three classes: tenseless (i.e., simultaneous) (246), irrealis future (i.e., dependent tense) (247), and tensed (i.e., independent tense) (248). She argues that semantic tense is syntactically established by a TP projection and only available for independent tense. Structurally, she proposes that tenseless infinitives as in (246) are bare VPs and allow up to AspP. Irrealis future infinitives as in (247), on the other hand, make use

of the modal projection (*wollP*), which is responsible for the posteriority interpretation.⁶² Crucially, no TP or CP is assumed in this class. Finally, tensed infinitives as in (248) are propositionals that have free tense and thus TP projects.

(246) Yesterday, John tried/began . . . /managed . . . to sing (*tomorrow/*next week).
(Wurmbrand, 2014: 436)

(247) Yesterday, John decided/wanted/planned to leave tomorrow.

(248) a. Yesterday, John claimed to be leaving right then. (Wurmbrand, 2014:408)

b. Today, John claimed to have opened the door yesterday. (Grano, 2012: 219)

Considering Wurmbrand's (2014) insights, I will discuss Landau's tense generalization in OC and provide various arguments that show that Landau's generalization is not empirically supported. Arabic data provide support for Wurmbrand's approach to tense in infinitives (and in principle, this extends to subjunctives as SA has subjunctive complements). This will be shown to bode well with other facts about the clause structure of control and the properties of restructuring discussed in the next two chapters.

3.3.3.1 Landau's generalization revisited

As discussed above, Landau's (2000) original generalization assumes that semantic tense in control complements is correlated with the availability of temporal mismatch between the root and the complement clause. Notice that this is an essential assumption on which the ATC heavily relies for the distinction between EC and PC. Two observations, however, suggest that this generalization is not as accurate as Landau assumes. First, recent insights

⁶² Wurmbrand follows Abusch (1985) and others in assuming the projection of the future modal *wollP* in future tense. That is, the combination of tense (present/past) with this modal yield *will* or *would*. Crucially, dependent tense does not have an embedded T and thus independent future does not arise (see Grano, 2012 for a detailed review and new insights).

from Grano (2012) and Wurmbrand (2014) show that EC predicates allow posteriority, nonetheless they are dependent on the matrix tense. In other words, posteriority does not entail a tensed complement, as Landau assumed. Alternatively, Grano convincingly argues that the temporal distinction between EC and PC is not posteriority but is actually anteriority. In particular, he finds that while PC allows anteriority (249)c, EC resists it, as seen in (250)c (adopted from Grano, 2012; 184-185).

(249) *Temporal properties of PC predicates*

- | | |
|---|-----------------|
| a. John planned to make money. | Futurity: ✓ |
| b. John claimed to be tall. | Simultaneity: ✓ |
| c. Today, John claimed to have opened the door yesterday. | Anteriority: ✓ |

(250) EC complements and tense

- | | |
|---|-----------------|
| a. I have to go tomorrow. | Futurity: ✓ |
| b. John managed to open the door. | Simultaneity: ✓ |
| c. *Today, John had/managed to {open/have opened} the door yesterday. | Anteriority: x |

The facts observed by Grano are also confirmed in SA, as shown in (251). The SA data, however, shows a difference with respect to realizing anteriority. While English infinitivals appeal to present perfect to express anteriority, SA lacks a similar behavior. Alternatively, past form (i.e., perfective) of embedded verbs is possible with PC verbs as in (251)c, but not with EC verbs as in (252)c. That these facts are observed in different languages suggest that the role of tense in the distinction between EC and PC is not as assumed in Landau (2000, 2004).

(251) *Temporal properties of PC predicates in SA*

- | | | | | |
|---|-----------|-----|---------------------------|----------|
| a. bialmsi, tamanna/qarrara/xatʔtʔatʔa | fahd-un | ʔan | juyaadir-a | yadan. |
| yesterday, hoped/decided /planned. _{3MS} | Fahad-NOM | SM | leave-SUB. _{3MS} | tomorrow |

‘Yesterday, Fahad hoped/decided/planned to leave tomorrow.’ Futurity: ✓

b. tammana fahd-un ?an jakuun-a t^ʕawiilan.

hoped._{3MS} Fahad-NOM SM be-SUB._{3MS} tall

‘Fahad hoped to be tall.’

Simultaneity: ✓

c. aljauma, zaʕama fahd-un ?an zaara alrijaad^ʕa bialmsi.

today claimed._{3MS} Fahad-NOM SM visited Riyadh yesterday

‘Today, Fahad claimed to have visited Riyadh yesterday.’

Anteriority: ✓

(252) Temporal properties of EC predicates in SA

a. imtanaʕa/ tadʕannaba fahd-un ?an jusaafir-a yadan.

refrained._{3MS} /avoided._{3MS} Fahad-NOM SM travel._{3MS-SUBJ} tomorrow

‘Fahad refrained from/avoided travelling tomorrow.’

Futurity: ✓

b. nasia/istat^ʕaaʕa fahd-un ?an juhd^ʕir-a al-kitaab-a.

forgot._{3MS} /managed._{3MS} Fahad-NOM SM bring-_{3MS-SUBJ} the-book-ACC

‘Fahad forgot/managed to bring the book.’

Simultaneity: ✓

c. *nasia/istat^ʕaaʕa fahd-un ?an ahd^ʕara al-kitaab-a.

forgot._{3MS} /managed._{3MS} Fahad-NOM SM brought._{3MS} the-book-ACC

Anteriority: ✗

Evidently, the data above show that it is anteriority that sets PC and EC apart. On the other hand, futurity and simultaneity are compatible with both EC and PC. This shows that Landau’s generalization of tensed vs. untensed is not fully correct and that lack of tense

comes into two flavors: simultaneity and futurity. It is the latter where Landau's generalization has an obvious shortcoming. This is due to the assumption that futurity is an indication for [+tense], which proves to not be the case. Notice that this misclassification of tense in Landau (2000, 2004) has a consequence on the distribution of PRO and overt DPs. In particular, we see above that empirical evidence from SA and Greek runs against the ATC . An example from SA is reproduced here, repeated from (164):

- (253) bilamsi tadʒannaba aħmad-u ʔan j-usaafir-a (*fahd-un) yadan.
 yesterday avoided-_{3FS} Ahmad-_{NOM} SM _{3MS}-travel-_{SUBJ} Fahad-_{NOM} tomorrow
 ‘Yesterday, Ahmad avoided to travel tomorrow.’

The logic of the problem is this: Landau (2000) assumes that tense distinguishes EC from PC. A PC complement is tensed while an EC complement is not. For Landau, tensedness of the PC complement can be detected by allowing futurity. PC complements in finite control languages also allow an overt distinct DP. In (253), we have a control construction that allows for futurity of the complement, *tomorrow*. It may be wrongly assumed that it is a case of PC and thus should tolerate a distinct embedded DP. However, this is empirically challenged as an embedded distinct subject is illicit and the predicate is actually EC.

The discussion in the above subsection shows that it is anteriority that implies the tensedness of the complement clause, not futurity. This is essential not only for a better understanding of tense in control, but also for more adequate theories of control. Based on the compelling evidence above, I argue that the non-uniformity of tense in control strongly indicates the non-uniformity of the structure of PC and EC. Consequently, I argue that

theories of control that assume a uniform structure to control (the MTC and the ATC) should fall short on empirical grounds. I take this up in the next section.

3.3.3.2 TP or not TP in control

We have established two essential facts about EC and PC in SA. The first is related to the availability of an overt embedded distinct subject, possible only with PC predicates. The second property is related to tense; the tense of EC complements is restricted in that the complement event cannot precede the matrix one (i.e., anteriority is not tolerated). PC tense, on the other hand, is free in establishing all temporal possibilities (posteriority, simultaneity, and anteriority). Specifically, I have argued, following Grano (2012), that it is the availability of anteriority, not futurity, that is the defining property for EC/PC with respect to tense.

With the above discussion in mind, a restructuring account that assumes a monoclausal structure to control (particularly to EC) has to address whether an embedded TP is projected or not. In this respect, I propose that TP can be detected in embedded phrases only if we have evidence for that, and otherwise it is not. The arguments already established from the discussion above lead us to conclude that TP only projects with PC predicates since all tenses are possible in PC. If tense is restricted and dependent on the matrix tense, the temporal interpretations follow from other heads (for example, AspP or WollP; see Wurmbrand, 2014). This line of analysis has a clear advantage in that it preserves TP to semantic tense. If this is correct, then we have a correlation between the projection of TP and OC types; PC complements have TPs, while EC complements do not.⁶³ Below I discuss various arguments that support this correlation.

⁶³ Of course, this runs against Landau's assumption that OC complements (PC and EC) project a TP.

The idea pursued here is that the perfective form (i.e., anteriority) is evidence for the projection of TP and lack thereof will be taken as negative evidence. We have seen above that only PC complements are compatible with the perfective form of embedded verbs in SA. The difference in perfective (un)availability is shown below.

(254) EC predicates do not allow perfective embedded verbs

nasia/istat^ʕaaʕa-/ħaawala aħmad-u ʔan uħd^ʕira / *aħd^ʕara al-kitaaba.

Forgot/managed/tried Ahmad-NOM SM bring_{.IMP}/ brought_{.PRF} the-book

‘Ahmad forgot/managed/tried to bring/ *brought the book.’

(255) PC predicates allow perfective embedded verbs

tamanna/amila/tas^ʕawwara/fad^ʕd^ʕala aħmad-u ʔan uħd^ʕira/aħd^ʕara al-kitaaba.

Hoped/wished/imagined/preferred Ahmad_{NOM} SM bring_{.IMP}/brought_{.PRF} the-book

‘Ahmad hoped/wished/imagined/preferred to bring/have brought the book.’

I claim that the presence of TP with PC and its absence with EC is supported by various independent arguments. First, SA makes use of different tensed negations markers: *laa* (present NEG), *lan* (future NEG), and *lam* (Past NEG). *Laa* is used both in constituent negation and sentential negation (see Benmamoun, 2000; Aoun et al. 2010; Soltan, 2007). The tensed negation markers *lam* and *lan*, on the other hand, are for sentential negation only. We can thus test the predictions of the analysis pursued here: TP projects in PC complements but not in EC complements. Thus, in EC it is predicted that neither *lan* nor *lam* would be licensed. As for *laa*, it would only be licensed under the constituent negation interpretation. These predictions are all confirmed, as shown below.

(256) nasia/ ħaawala aħmad-u ʔan laa/ *lan/*lam juiyaadira al-manzil-a.
 forgot/trying Ahmad-NOM SM NEG.PRES/ NEG.FUT/NEG.PAST leave.3MS the-home-ACC
 ‘Ahmad forgot/trying not to leave home.’

We see that *lan* and *lam* (i.e., the tensed negation markers) are not acceptable in EC complements. This receives a straightforward explanation if the embedded phrase does not have a TP that licenses them. This is in line with widely assumed analyses of tensed negation markers in SA where a TP is obligatory for the licensing of these two markers (Benmamoun, 2000; Soltan, 2007). On the other hand, the constituent negation marker *laa* is acceptable. Again, this follows naturally since a constituent untensed marker would be licensed, given that it is orthogonal to the projection of TP. That *laa* receives only a constituent negation reading is supported by the fact that it triggers a contrastive focus reading with the negated constituent (i.e., VP). It is particularly evidenced by an available contrastive reading that emerges with an affirming continuation. This is shown below.

(257) nasia/ ħaawala aħmad-u ʔan laa juiyaadir-a al-manzil-a , bal ʔan jabqa.
 forgot/trying Ahmad-NOM SM NEG.PRES leave.3MS-SUBJ the-home-ACC but SM stay.3MS-SUBJ
 ‘Ahmad forgot/trying not to leave home, but to stay.’

Now let us turn to PC. We have proposed that PCs are biclausals that project an embedded TP. This implies that PC complements should be compatible with all sentential negation markers above. Again, the predictions are borne out, as shown in (258).

(258) tamanna/fad^ʕd^ʕala aħmad-u ʔan laa/ lan/lam juiyaadira al-manzil-a.
 Hoped/preferred Ahmad-NOM SM NEG.PRES/NEG.FUT/NEG.PAST leave.3ms the-homeACC

‘Ahmad_i hoped/preferred that he_i does not/will not/did not leave home.’

Evidently, we see that PC predicates are compatible with all the tensed sentential negation markers. This is interesting in that it shows an obvious asymmetry between EC and PC with regard to sentential negation markers. Contrary to EC, PC accepts the various tensed negation markers because it has an embedded TP that licenses them. This asymmetry will receive little explanation, if any, if we assume that both PC and EC project TP. In such a case, we will need to resort to ad-hoc assumptions that one TP is weaker than the other or is different in features. While this is plausible, an account that assumes that TP projects only when there is evidence for it seems to be empirically and theoretically supported. In addition, I will discuss below an additional issue with the hypothesis that assumes the presence of TP in both PC and EC complements.

The facts about embedded negation in SA above are in line with a widely known assumption of restructuring. In particular, Rizzi (1978), Kayne (1989b), Cardinaletti & Shlonsky (2004) among others argue that the presence of a *clausal* negation is evidence for non-restructuring (i.e., non-reduced complement). Thus, PC complements are at least TPs and not less.

Another intriguing piece of evidence for the presence of embedded TP with PC comes from V-movement. It is widely assumed that perfective verbs in Arabic have obligatory V-to-T movement while imperfective verbs do not. Various pieces of evidence were discussed in Benmamoun (2000) and Aoun et al. (2010), among others. One argument comes from pronominal affixes in Arabic which show an asymmetry between perfective and imperfective verbs. In particular, the pronominal subject is a suffix in perfective forms while it is a prefix in imperfective verbs. This is shown in (259).

(259) Perfective: naama-t

slept-_{3FS}

Imperfective: t-anama

_{3FS}-sleep

The asymmetry in pronominalization receives a straightforward explanation if the perfective form has an obligatory V-to-T movement while the imperfective does not need to, as Benmamoun argues. If this is correct, we then find another piece of evidence that supports the assumption that PC complements, which evidently allow perfective verbs, project a TP. Otherwise, the V-movement assumed with perfective verbs in Arabic will be puzzling in PC and one needs to appeal to an ad hoc explanation to account for it.⁶⁴

EC, on the other hand, does not license the perfective form of embedded verbs. If a TP were projected, nothing conceptually forbids V-to-T movement with imperfective verbs. However, then the pronominals with imperfective forms will be puzzling since they should be realized in the suffix, contrary to fact. The analysis pursued here assumes that TP is totally absent with EC complements and is only present with PC ones. Therefore, the issues with pronominals just discussed would not arise and the fact that imperfectives do not move to T in the complements of EC follows naturally given that there is no T to move to.

The arguments above support the claim made here that only PC complements project a TP. This is in line with crosslinguistic evidence as well. However, I propose that PC complements in SA are not only TPs, but actually full CPs. Various arguments support this line of analysis.

⁶⁴ Another piece of evidence discussed in Aoun et al. (2010) for V-movement in Arabic is idiomatic expressions such as God wishes; the idea is that with perfective form, we have VS while with imperfective we have SV:

i. raḥm-u	llah	(Moroccan Arabic)
bless.PAST.3MS-him	God	
ii. llah	j-ərḥm-u	
God	3-bless.PRES-him	
‘May God bless him.’		(Aoun et al. 2010; 29)

The first piece of evidence comes again from negation facts. Cardinaletti & Shlonsky (2004) show that in Italian, which is a restructuring language, the presence of clausal negation is evidence for the presence of a full embedded CP, crosslinguistically incompatible with restructuring (see also Wurmbrand, 2001, 2015 for a similar assumption). They consider negation with *volere* ‘want’ which can participate in both restructuring (i.e., a reduced monoclausal structure) and non-restructuring (i.e., a full structure) configurations. As is well-known for Romance languages, clitic climbing can show which configuration is at stake. They find that clausal negation is licit with a structure that does not have clitic climbing as in (260)a, but not so once clitic climbing is observed as in (260)b. This shows that clausal negation is indeed impossible with a restructured phrase (i.e., a reduced structure).

(260) a. Vorrei [non dover mai farlo].

(I) would-want not (to) have ever (to) do.it

‘I would want not to have to ever do it.’

b. *[Lo vorrei non dover mai fare].

(I) it.would-want not (to) have ever (to) do (Cardinaletti & Shlonsky, 2004: 527)

The facts from Italian actually accord with the facts of negation in SA. In particular, we see above that PC complements do not only allow the clausal negation *laa*, but also the tensed clausal negations *lan* and *lam*.

More evidence for the presence of CP in PC complements comes from the possibility of embedded focus/topic. That is, movement for focus interpretation is available within the embedded clause. Thus, taking Rizzi’s (1997) assumptions regarding topic and focus, the embedded focus/topic will receive a straightforward explanation.

(261) a. tamanna/ fad^sd^sala aħmad-u ʔan jazuur-a al-mathaf-a.
 hoped/preferred Ahmad-NOM SM visit-SUB the-museum-ACC
 ‘Ahmad hoped/preferred to visit the museum.’

b. tamanna/ fad^sd^sala aħmad-u al-mathaf-a ʔan jazuur-a (la al-ħadiigat-a).
 hoped/preferred Ahmad-NOM the-museum-ACC SM visit-SUBJ not the-park-ACC
 ‘It is the museum that Ahmad hoped/preferred to visit (not the park).’

In (261)b, the focused element (i.e., the museum) clearly receives a contrastive focus within the embedded clause, and the focus here is associated with movement within the embedded clause. This is made evident by the alternative (i.e., the park) that emerges with the focus reading. The focus element is assumed to move to Spec, FocusP in the embedded clause (which is higher than TP). Obviously, this would not be available should the PC complement be maximally TP. The structure for the focus construction above, following Rizzi (1997), would be as given in (262).⁶⁵

(262) [CP [TP hoped_i [vP Ahmad_i ...t₁...[CP [FocusP the museum₂ [TP [MP ʔan [vP PRO_i
 [visit ... t₂]]]]]]

Notice, again, that if EC complements are smaller than CPs, as I argue (which will be discussed in detail in Chapter 4 and 5), then an embedded focus construction should be illicit. The prediction is confirmed as shown in (263), where an embedded movement for focus is unacceptable.

⁶⁵ The focus reading can also emerge in-situ by focalization, which has been widely known in Arabic since Ouhalla (1994) among many other crosslinguistic works.

(263) a. *nasia/ ħaawala aħmad-u ʔan jazuur-a atʕ-tʕabiib-a.*
 forgot/trying Ahmad-NOM SM visit-SUB the-doctor-ACC
 ‘Ahmad forgot/trying to visit the doctor.’

b. **nasia/ ħaawala aħmad-u atʕ-tʕabiib-a_i ʔan jazuur-a t_i (la al-mudiir-a).*
 forgot/trying Ahmad-NOM the-doctor-ACC SM visit-SUB not the-manager-ACC

Interestingly, the only permissible way for focus movement in EC is by moving the focused element all the way above the matrix phrase. This is given in (264).

(264) *atʕ-tʕabiib-a_i nasia/ ħaawala aħmad-u ʔan jazuur-a t_i (la al-mudiir-a).*
 the-doctor-ACC forgot/trying Ahmad-NOM SM visit-SUB not the-manager-ACC
 ‘It is the doctor who Ahmad forgot/trying to visit (not the manager).’

The movement is actually evidenced by Acc case marked on the focused element, which has to be checked/valued prior to movement. This follows naturally assuming that the only left periphery position available for focus in EC is in the root clause. If EC complements had embedded CPs, focus movement above the embedded phrase should be available, contrary to fact (for further discussion on focus movement, see §4.3.1.3).

To conclude this subsection, I propose that PC complements have both a TP and a CP, while EC complements have neither. This seems to be independently supported by the behavior of tensed negation markers, V-movements in Arabic, and available focus positions. The correlation assumed between TP and control types thus provides further motivation that OC control is not structurally uniform. If this is on the right track, then PC and EC in Arabic have the structures suggested in (265).

(265) a. PC: ... [_vP [_V_{control verb} [_{CP} [_{TP} [_vP [_{PRO} [_v [_{VP} ...]]]]]]]]]

b. EC: ... [_vP [_V_{control verb} [_{MoodP} [_{VP} ...]]]

The proposal I assume here for control in Arabic accounts for the temporal properties as well as other properties of PC and EC discussed above. This analysis shares one important assumption with Grano (2012), who pursues a similar line of analysis for English, Chinese, and Modern Greek, arguing that PC is biclausal while EC is a restructuring configuration. However, the two proposals are different in non-trivial ways. Since I will discuss Grano's proposal in further detail in the next chapter, for now I will not discuss it any further.⁶⁶ Below, I will focus on analyzing PC in SA. Before this, we will take a short digression to discuss NOC in SA in order to provide the full picture of control in SA.

3.3.4 NOC

NOC can be observed in SA when PRO/controlled phrase is not in a complement position. This follows Landau's remarks on OC vs NOC. With the latter type of control, an arbitrary reference and an un-c-commanding DP can be the controller. Consider the examples below where PRO is in subject position.

(266) jaʕtaqidu fahd-un_i ʔanna aḏ-ḏahaaba PRO_{i/arb} ila alsʕaḥraaʔ-i xatʕiirun.
 think.3MS Fahad-NOM that the-going-ACC to the-desert-GEN dangerous
 'Fahad thinks that going to desert is dangerous': (Fahad going OR anyone going)

⁶⁶ Anticipating what will be discussed in Ch.4, Grano's (2012) proposal assumes that EC verbs are functional heads that do not have external arguments; this line of analysis follows Cinque's (2006) proposal that restructuring predicates are always functional. This is however challenged by Wurmbrand (2004) and by the facts that will be presented in this dissertation.

This piece of data is interesting in many respects. First, it shows that the OC PRO (i.e., PRO in (239)) is syntactically different from NOC PRO (i.e., PRO in (266)). The former is in complement position while the latter is in subject position. This supports Landau's (2000, 2013) generalization regarding the configurational distinction between NOC and OC, stated in (267). Notice that in the example above, SA makes use of the complementizer *that* which is a clear indication that the gerundive [PRO *going*] is in a subject position. This confirms Landau's generalization below.

(267) *Configurational effects on control*

Complement clauses fall under OC; subject and adjoined (extraposed) clauses fall under NOC. (Landau, 2013:38)

Landau makes use of various arguments to support this configurational difference between NOC/OC (see Landau, 2013 for a review). He proposes that the NOC signature is the exact negative of the OC signature (given above in (173)). The NOC signature is given below.

(268) *The NOC signature*

In a control construction [. . . [S PRO . . .] . . .]:

- a. The controller need not be a grammatical element or a co-dependent of S.
- b. PRO need not be interpreted as a bound variable (i.e., it may be a free variable).
- c. PRO is [+human]. (Landau, 2013:232)

We already see that the two first properties of (268) obtain in NOC in SA. The remaining property is especially remarkable, namely that NOC PRO is [+human]. Landau argues that this feature is intrinsic to NOC PRO. That is, it is not inherited from the controller. In fact, this is precisely what we see in the example of NOC above in (266). The interpretation of PRO as a non-human is impossible (i.e., dogs' going or cats' going to the desert is dangerous). Support for this property comes from the data below as well. In (269),

the context should, in principle, facilitate a non-human interpretation for PRO. Nonetheless, this proves unsuccessful, and the only way to get the non-human interpretation is an overt DP. The two continuations given below illustrate.

(269) *jaxaafu* *aḥmad-u_i* *ʕala al-qitʕatʕik* *kaθiiran, wa huwa* *jaʕtaqidu ...*
 fear._{3MS} Ahmad-NOM on the-cats-GEN much and he thinks._{3MS}

a. *ʔanna aḏ-ḏahaaba* PRO_{i/arb/*k} *ila* *al-sʕaḥraaʔ-i* *xatʕiirun.*
 that the-going-ACC to the desert-GEN dangerous
 ‘Ahmad cares a lot about cats. He also thinks that going to the desert is dangerous.’⁶⁷

b. *ʔinna* *ḏahaab-a* *al-qitʕatʕ-i* *ila* *al-sʕaḥraaʔ-i* *xatʕiirun.*
 that going-ACC the-cats-GEN to the-desert-GEN dangerous
 ‘Ahmad cares a lot about cats, he thus thinks that cats’ going to desert is dangerous.’

The above example supports the [+human] feature of NOC PRO. If this is on the right track, then this supports that PRO in non-complement positions does not induce OC but NOC instead.

While the NOC in Arabic deserves more discussion and has rarely been discussed, it suffices to say that NOC obtains in a totally different configuration from OC. This is particularly important for pro-drop finite control languages such as SA because one might claim that NOC arises with genuine cases of PC. Following Landau’s insights, NOC and OC do not arise in the same environment; it is instead OC and NC that do. If this is right, as we have seen evidence for above, then the intuition that NOC appears with PC predicates is only

⁶⁷ The sentence might sound pragmatically odd, but not once we think of it uttered in a context where the speaker lists characteristics and ideas that Ahmad has.

an illusion. Deeper scrutiny reveals that PC predicates in finite control languages either participate in OC or NC, but not in NOC.

3.4 The analysis of PC in SA

There have been various proposals to account for PC. Within the MTC, Hornstein (2003) and Boeckx and Hornstein (2004), for example, propose that PC is associated with a silent comitative [*with x*]. It is argued, therefore, that the comitative licenses the PC superset interpretation (see Boeckx et al., 2010). Rodrigues (2007) proposes that PC follows from a composite DP that has *pro* and the DP, represented as [*pro DP*]. Assuming the MTC, the DP would then move to the matrix clause to check the matrix thematic role yielding [*pro t*] (see Sheehan, 2012, 2014b and Landau, 2013 for critical reviews and counterarguments).

Within the ATC, on the other hand, Landau (2000, 2004, 2013) proposes that PC PRO follows from an Agree relation between the controller and PRO that is mediated by the embedded C (see above for an elaborate discussion). Sheehan (2012, 2018) assumes that both the MTC approach and the ATC approach to PC are correct but in different domains. That is, the former is correct for infinitival PC and the latter is correct for finite PC. For finite PC, she assumes that PC is achieved by Agree and that finite PC has embedded *pro*. PC, then, follows because *pro* is probed but cannot be attracted. That is, because PC is a phase (i.e., a CP), movement fails due to the Improper Movement Constraint. She argues that it is this failed movement that yields PC; Agree provides the thematic sharing between the controller and the controllee but cannot attract due to IMC.

More transparent and plausible accounts, I think, are tenable with a theory of control that does not assume a uniform approach to EC and PC, as the MTC and the ATC both do. Such a line of analysis is assumed in van Urk (2010) and Grano (2012). Both assume that PC

follows naturally if EC does not appeal to PRO at all and that only PC has PRO. That is, EC is either movement (van Urk) or it is a monoclausal restructuring (Grano, 2012). It thus follows that PC is actually a property of PRO.

A recent attempt to account for PC semantically has been laid out in Pearson (2016). Examining PC properties, she proposes that they are better captured once we assume that only attitude predicates tolerate PC. She re-classifies PC predicates to attitude predicates and EC predicates to non-attitude predicates. Instead of appealing to semantic tense to classify PC and EC, as in Landau (2000, 2004), she proposes that there are two conditions for PC: attitude property and non-simultaneity licensing. The former is related to considering a PC predicate (i.e., the matrix verb) as a quantifier over a modal. The latter property boils down to temporal licensing. Both properties are important for PC to arise. Having none or one of these two properties indicates that the predicate is an EC.

Similarly, Authier and Reed (2018) also attempt to analyze PC on a semantic ground. They propose that existence of the symmetric reciprocal of the collective embedded verb is the only condition for a control predicate to license a PC interpretation. While adjudicating between the two proposals is beyond our scope here, it seems that Pearson's approach is compatible with a PRO-approach to PC, which will be assumed here (see Landau, 2015 for a PC treatment following Pearson's insights).

I propose, following van Urk (2010) and Grano (2012), that PC in SA is derived by assuming that PRO only appears in PC contexts. I nonetheless depart from their approach in a non-trivial way. In particular, van Urk assumes that finite control should be derived by movement and that PRO is not compatible with subject-verb agreement. Grano, on the other hand, proposes that PC in finite control is *pro*. I take a stronger position here, assuming that PC is actually PRO in both finite and infinitive languages (following Landau, 2004). This has the advantage of simplifying the grammar by reducing PC to PRO instead of having two

mechanisms for PC: PRO for infinitive and *pro* for finite. Since PRO has already been established to be compatible with finite control (as in Hebrew in Landau, 2004), proposing that *pro* is responsible for control does not only complicate the grammar, but in fact yields incorrect predictions, as we see above in the asymmetry of overt pronouns. Alternatively, I propose that PC constructions in SA have the structure below:

(270) PC: ... [V_{control verb} [CP [TP [vP [PRO [v [VP ...]]]]]]]

I have shown above that this analysis derives the properties of PC in SA: free tense, overt embedded DP possibility (with NC), tensed negation markers, and embedded focus, among others. PRO, on the other hand, derives the PC interpretation by partial binding, as argued above. This clearly follows an insight from Grano's (2012) analysis for PC. Of course, this is also the exact structure proposed in Landau (2000). However, because he assumes a uniform structure for EC and PC, various unmotivated assumptions were assumed to derive the facts. The PC analysis pursued above does not extend to EC. It is for this reason that we do not resort to Landau's (2000) assumptions to derive EC. EC will be argued to have a different analysis, with PRO used solely with PC (see van Urk, 2010; Grano, 2012; for similar proposals).

Notice that Grano (2012), for instance, argues that it is simplifying the grammar if control is reduced to PRO (remember that EC is restructuring and not control per se). I agree with him, but I see that postulating *pro*, as he proposed for finite control, is actually putting us at a circular issue: PRO is for infinitive control, but *pro* is for finite control. If so, then appealing to PRO as the sole mechanism for control (i.e., PC) is not completely achieved. In addition, this would assume that both PRO and *pro* are just two variants of the same thing, against which the overtness asymmetry discussed above argues. Other properties of *pro* that PRO lacks (such as referentiality) also argue against PRO/*pro* control, especially if we are

serious about reducing control to one mechanism, taking into consideration that control under this approach is only PC while EC is monoclausal. In fact, Grano's proposal that finite control has *pro* is empirically challenged. Landau (2000, 2004) specifically argues against postulating *pro* as an OC mechanism even in finite control languages such as Balkan languages and Hebrew. This is due to various properties that *pro* has but PRO does not. They include allowing both strict and sloppy readings under ellipsis, allowing *de se* and *de re* readings, and inducing Weak Crossover Effect (WCO) (see Landau, 2004 for a convincing discussion against postulating *pro* in OC). These properties do not arise with OC as shown above in SA and as discussed in Landau (2004). It is therefore evident that Grano's proposal is both conceptually unattractive and empirically challenged. On the other hand, the line of analysis I am pursuing here reduces control to only PRO (notice that EC will be argued in the next chapter not to have a null subject altogether), similar to Landau (2000, 2004, 2006, 2016); this seems to be promising and, as we can see, derives the facts in SA.

3.5 Conclusion

This chapter has discussed control in SA, establishing that SA has both EC and PC, a novel observation. The properties of each type have also been examined, including the availability of an embedded subject, temporal properties, and clause structure. I argue that neither the ATC nor the MTC can account for the facts presented, and that we need to appeal to a different approach for each type. In particular, I argue that PC is biclausal and has PRO. EC, on the other hand, is monoclausal and does not have PRO, an analysis that will be supported by various further arguments in the next chapter. The second half of this chapter was devoted to PC. In particular, I have shown that SA has three types of PC and therefore concluded that Landau's generalizations about tense and syntactic plurality of PRO need further modifications. I have also shown that PC complements have independent tense and thus can

license tensed sentential negations as well as past (perfective) tense. Neither of these properties is available to EC. In the next chapter, I will show that EC is different from PC and cannot be biclausal, as assumed by the ATC and the MTC. It will be argued that the properties of EC cannot be accounted for by either of these two theories. Alternatively, a monoclausal restructuring account will be pursued.

4. Exhaustive Control in SA

4.1 Introduction

Since the distinction between Exhaustive Control (EC) and Partial Control (PC) has already been established in the previous chapter, the goal of this chapter is to provide empirical arguments that EC in SA is restructuring. This would thus set the scene for the proposed analysis which will only be discussed here briefly and will be fleshed out in greater detail in the next chapter. I will provide a host of arguments that lend support to the hypothesis that EC in SA is restructuring. I will also examine three alternative theories of EC and argue against them. In particular, I will argue against standard Minimalist theories of control, mainly the Movement Theory of Control (MTC, Hornstein, 1999, 2001, 2003; Boeckx and Hornstein, 2004; Boeckx et al., 2010) and the Agree Theory of Control (ATC, Landau, 2000, 2004, 2006, 2013). The two theories share the assumption of a biclausal structure for EC, unlike the analysis I pursue in this chapter and the next one. I will also argue against a recent theory of EC proposed in Grano (2012) that, like the analysis I present in this chapter, assumes a restructuring structure to EC, but assumes a raising account. It will be shown that Grano's analysis, which I will refer to as the Raising Theory of Restructuring (RTR), also faces various empirical problems. Alternatively, I will provide a new analysis for EC that builds on insights from Wurmbrand (2001).

The chapter is organized as follows. I start in section 4.2 with a short discussion of the correlation between restructuring and EC as established crosslinguistically. I will then discuss the three theories of EC discussed in this chapter, namely the MTC, the ATC, and the RTR, followed by the new proposed analysis. Section 4.3 provides various arguments to support the proposed analysis and shows that EC in SA is restructuring. The arguments presented in

this section establish the restructuring diagnostics with which we can examine the syntactic structure of EC as a monoclausal or a biclausal. I will focus throughout these diagnostics on the predictions of the biclausal approach (the MTC and the ATC) and the restructuring analysis. It will be shown that only the predictions of the latter are borne out. The restructuring diagnostics presented in this chapter include novel observations as well as new empirical challenges to the previous approaches. These include the voice matching property (which we have seen in Chapter 2 with the dynamic modal), the agreement puzzle, the scopal ambiguity, among others. They will all reveal various interesting facts that need to be accounted for by any theory of control, or any theory of EC in particular. Section 4.4 summarizes the chapter. I will take the results of this chapter and discuss the restructuring analysis in greater details in the next chapter.

4.2 Control & Restructuring

The correlation between (obligatory) control, in particular EC, and restructuring has been established in various works including Wurmbrand (1998, 2001), Landau (2000, 2004, 2013, 2015), Barrie (2004), Kapetangianni (2010), Cinque (2006), Grano (2012), Sheehan (2012), and Modesto (2016), among many others. Nonetheless, the correlation between EC and restructuring is a matter of debate between two approaches. On the one hand, Wurmbrand (1998, 2001) and Landau (2000) advocate the idea that restructuring (when it obtains) entails EC, but it is not the case that all EC constructions are restructuring. That is, restructuring entails EC, but not the other way around. Wurmbrand proposes that obligatory control is a necessary condition for restructuring, but not a sufficient one (Wurmbrand, 2011: 246). She argues for this based on the fact that some aspectual EC constructions in German do not allow for the long passive, which is the hallmark of restructuring in German. This is given in (271).

(271) a. Hans fing an (*morgen) den Brief zu lesen. (German)

John started_{PART} (*tomorrow) the letter to read

‘John started to read the letter (*tomorrow).’

b. *als der Brief zu verlesen angefangen wurde.

when the letter-NOM to read_{PART-started} was

‘When they started to read the letter.’ (Wurmbrand, 2001: 96)

Wurmbrand’s main assumption here is that infinitives are not always the same (i.e., not all infinitives are bare VPs) and that restructuring is a configuration that requires various transparency effects. In a similar vein, Landau (2000: 74) claims that EC is not reducible to restructuring. On the other hand, Barrie, Cinque, and Grano take a stronger position, arguing that the correlation is a two-way entailment and that EC entails restructuring and vice versa. While involving in this debate is not a major objective of this dissertation, various results will indeed bear on it. In particular, I argue that EC in SA is indeed restructuring, therefore, we can reduce EC to restructuring. This is similar to the analysis put forward by Grano (2012) who argues that EC in English, Greek, and Chinese is reducible to restructuring. Notice that I am not claiming that all control complements are reduced phrases. We have already seen in the previous chapter that subjunctive complements to PC are biclausals (and we thus see evidence that not all OC constructions are restructuring). The claim I will be making here is that subjunctive complements to EC are restructuring/monoclausals. Regardless of the different assumptions about the correlation between EC and restructuring, the general approach (with the exception of Landau, 2000) is that EC constructions that show restructuring properties are monoclausals.

Another approach to EC is the biclausal approach to control, which can be found in two major theories: PRO theories of Control (Chomsky and Lasnik, 1993; Chomsky, 1995; Landau, 2000, 2004, 2006; among many others) and the Movement Theory of Control (Hornstein, 1999, 2001, 2003; Boeckx and Hornstein, 2004, 2006a; Polinsky and Potsdam, 2006; Alexiadou et al., 2010; Boeckx et al., 2010). The essence of these two theories, regardless of technicalities, is that EC is a biclausal construction.

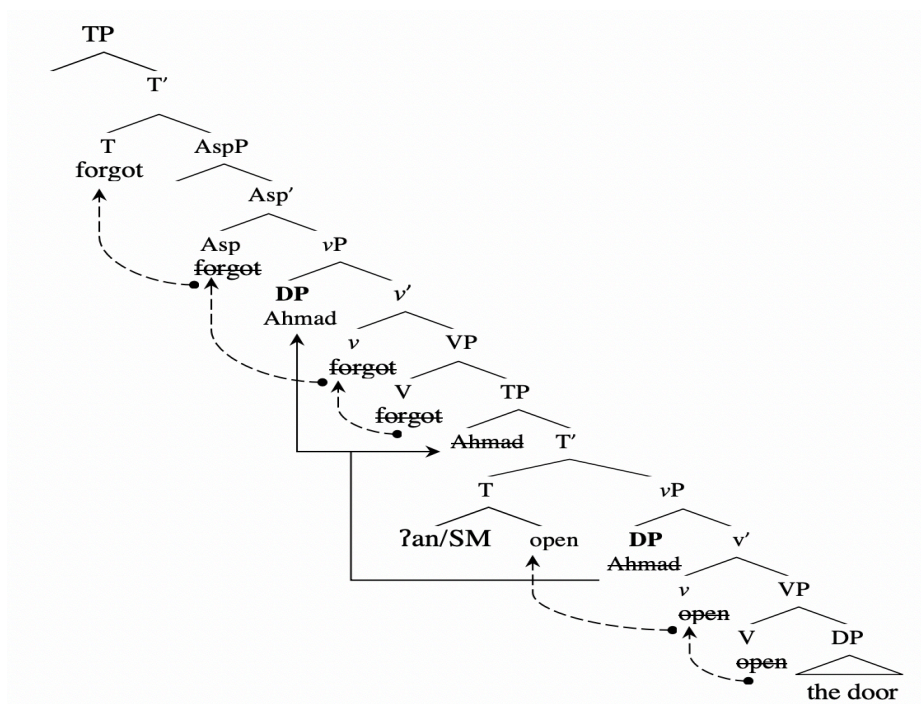
The aim of this chapter is to argue against the biclausal approach and show that it faces enormous empirical problems. I will systematically examine three analyses of EC: the Agree Theory of Control (ATC), the Movement Theory of Control (MTC), and the Raising Theory of Restructuring (RTR). I will provide various arguments to show that neither is an adequate theory of EC in SA. Alternatively, I will propose a novel analysis of EC in SA, following Wurmbrand's (2001, 2004, 2015) restructuring theory in various respects, though departing from it in non-trivial ways. I will argue that the proposed analysis derives the facts of EC in SA and avoids the problems that arise with the other theories (see also Albaty & Ouali, 2018 for an analysis of EC in Moroccan Arabic and Najdi Arabic along similar lines). Below, I will first briefly discuss how EC in SA is analyzed under the ATC and the MTC, (see §4.2 above for detailed discussion and criticism of these theories). I will then discuss the RTR (Cinque, 2006 and Grano, 2012) which, unlike the previous two theories, is a restructuring analysis for EC. Nonetheless, I will provide various arguments against it and argue that the restructuring analysis put forward in this dissertation derives the EC facts without the empirical issues that the RTS faces.

4.2.1 The Movement Theory of Control for EC

The Movement Theory of Control (Hornstein, 1999, 2001, 2003; Boeckx and Hornstein, 2004, 2006a; Boeckx et al., 2010) specifically argues that obligatory control is reduced to A-movement, as alluded to in the previous chapter. The main assumption is that the controller is first merged in the specifier of the embedded *vP* and checks the theta feature of the embedded verb (recall that Hornstein, 2001, 2003 argues that theta roles are basically features). It then moves to Spec, TP for EPP, followed by a movement to the matrix Spec, *vP* to check the theta *feature* of the matrix verb. Finally, it moves to Spec, TP to check EPP and to value its Nom case. With these assumptions in mind, an analysis of the MTC for EC in SA such as (272) would be as in (273) (I use dotted lines to show head movement and solid lines for XP-movement).

- (272) *nasia/ħaawala* *aħmad-u* *?an* *jaftaħ-a* *al-baab-a*.
 forgot/tried._{3MS} Ahmad-NOM SM open-SUBJ._{3MS} the-door-ACC
 ‘Ahmad forgot/tried to open the door.’

(273) *The Movement Theory of Control (MTC) for EC in SA*



The structure above provides the MTC analysis for an EC sentence in SA.⁶⁸ Notice that the head movements assumed above are independently motivated in SA; thus the movements to Asp and T are not imposed by the MTC per se, but will be required by any theory of EC in SA (see Fassi Fehri, 1993; Ouhalla, 1994; Benmamoun, 2000; Soltan, 2007; Aoun et al., 2010; Ouali, 2014; Crone, 2017; see Chapter 5 for further discussion). At first blush, the MTC seems to be successful in deriving the EC construction in SA and is also compatible with standard assumptions about clause structure in SA. It derives the fact that an embedded distinct subject cannot be merged, as established in the previous chapter. This simply follows in the MTC since the controller starts in the embedded clause and then establishes an A-chain.

However, the MTC faces enormous empirical issues and makes various incorrect predictions under further scrutiny, as I will show throughout this chapter. In addition, the MTC fundamentally assumes A-movement to derive the OC interpretation (or EC in our case). I will show that the A-movement assumption would make various incorrect predictions, including movement out of a phase (see §5.5)⁶⁹. I will also provide a number of arguments against the biclausal approach (i.e., the MTC and the ATC) to EC in section 4.3.1.

4.2.2 The Agree Theory of Control for EC

The ATC (Landau, 2000, 2004, 2006, 2013) assumes that the control interpretation does not follow from A-movement, but it resorts to the standard GB-like vehicle of control, PRO

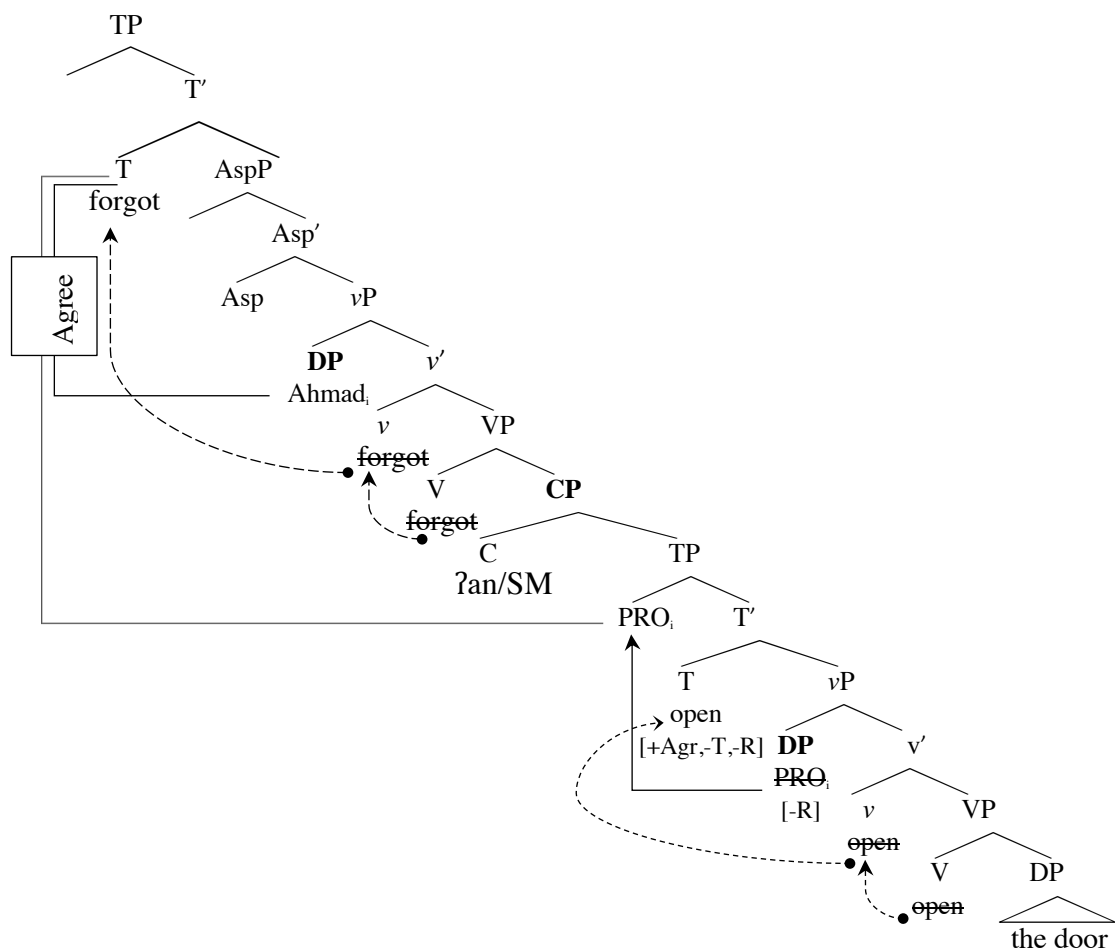
⁶⁸ I assume here that the subjunctive marker is in T, following the analysis of Alexiadou et al., 2010 of the subjunctive marker in Greek, *na*, which is similar to the SA *lan*. Alexiadou et al. analyze EC in Greek within the MTC. Nonetheless, The MTC is also compatible with a MoodP headed by *lan* under the categorization that *lan* is a Mood head.

⁶⁹ The A-movement assumption in the MTC runs against the claim made in Soltan (2007) that SA does not make use of A-movement altogether. I will show, however, that even under the assumption that SA indeed makes use of A-movement (which I argue to be the case in SA; see §5.3 for a discussion regarding A-A'-movement in SA), the MTC still encounters various problems.

(Chomsky and Lasnik, 1993; Chomsky, 1995). Adopting the Minimalist framework, Landau argues that control follows from Agree. In other words, an agreement relation between the controller and PRO derives the interpretation of obligatory control (i.e., EC, in our case). With a set of assumptions on features and rule assignments, Landau claims that the ATC can derive the properties of EC crosslinguistically. Landau particularly argues that the ATC overcomes a major drawback of the standard theory of control that ignores the presence of finite control in various languages including Albanian, Arabic, Greek, Hebrew, among many others (see the discussion of the ATC in § 4.2 above). Using the sentence in (272) above, repeated here in (274), the ATC analysis of EC in SA would be (275).

(274) *nasia/haawala* *aħmad-u* *?an* *jaftaħ-a* *al-baab-a*.
 forgot/tried._{.3MS} Ahmad-NOM SM open-SUBJ._{.3MS} the-door-ACC
 ‘Ahmad forgot/tried to open the door.’

(275) *The Agree Theory of Control (ATC) for EC in SA*



Landau (2004) argues that the ATC derives the property of EC in finite control languages such as Greek and Hebrew, proposing a similar structure to the one above. We have seen in the previous chapter that the ATC has various stipulative and ad hoc assumptions (see §3.2.3, see also Kapetangianni, 2010; Boeckx and Hornstein, 2006; Pires, 2006). I will bring a host of empirical evidence against the ATC and argue that it suffers from various empirical and conceptual problems. Since the ATC is a biclausal analysis, it inherits almost the same problems that the MTC would encounter with respect to restructuring; thus, both theories will be argued against in section 4.3.1 below. Before discussing the arguments challenging the biclausal approach, I will discuss Grano's (2012) theory of EC as restructuring and show that even though it is a restructuring analysis that predicts the monoclausal properties of EC, it remains inadequate in other respects.

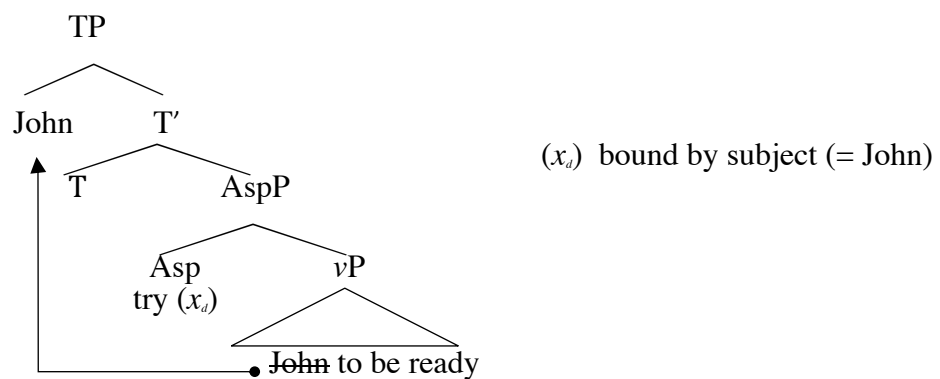
4.2.3 The Raising Theory of Restructuring for EC

Grano (2012) extends Cinque's (1999, 2001, 2006) analysis of restructuring as functional heads and similarly proposes that all restructuring predicates are raising predicates, including predicates that are uncontroversially classified as control verbs such as *try*, *want*, and *forget*. Since Grano's (2012) is an updated and elaborate version of Cinque's analysis, I will only review Grano's here. The main assumption in Grano (2012) is that all restructuring predicates are raising predicates which are structurally situated based on Cinque's (1999, 2006) hierarchy. This hierarchy devotes a discrete position in the inflectional layer to semantically-corresponding heads. While this is uncontroversial with raising and modal predicates such as *start*, *finish*, *must*, and *should*, it is rather controversial when it comes to other EC predicates such as *try*, *forget*, and *manage*.

To capture the *control* sense of EC predicates, Grano argues that they are subject-oriented. That is, the meaning of EC predicates entails information about their surface subject. Therefore, he proposes that while EC are raising predicates, they are different from canonical raising predicates such as *seem* in that their semantics introduces a dependent variable (x_d) that has to be structurally bound; otherwise, the derivation crashes. This, according to him, derives why the subject must move to Spec, TP and why pleonastic subjects (i.e., *weather-it* and *there*) do not save the derivation since they are not appropriate binders. Therefore, he proposes that EC in English such as (276) would have the structure in (277) (Grano, 2012: 113).

(276) John tried to be ready.

(277)



Notice that the structure in (277) assumes that *try* is base-generated in Asp, following Cinque's hierarchy. Accordingly, EC predicates select for a vP -complementation and also bear a dependent variable (from their semantics) that forces the raising of *John*. Grano's novel hypothesis is that verbs that are below T in Cinque's hierarchy restructure, while those above T do not. (278), repeated from (8) above, presents a part from Cinque's Hierarchy (adopted

from Cinque, 2006: 12). Table 2 presents Grano’s hypothesis and head positions in the hierarchy.⁷⁰

(278) MoodP_{speech act} > MoodP_{evaluative} > MoodP_{evidential} > ModP_{epistemic} > TP(Past) > TP(Future) > MoodP_{irrealis} > ModP_{alethic} > AspP_{habitual} > AspP_{repetitive(I)} > AspP_{frequentative(I)} > ModP_{volitional} > AspP_{celerative(I)} > TP(Anterior) > AspP_{terminative} > AspP_{continuative} > AspP_{retrospective} > AspP_{proximative} > AspP_{durative} > AspP_{generic/progressive} > AspP_{prospective} > ModP_{obligation} > ModP_{permission/ability} > AspP_{Completive} > VoiceP > AspP_{celerative(II)} > AspP_{repetitive(II)} > AspP_{frequentative(II)}

Table 3: restructuring heads, their positions in Cinque’s hierarchy and restructuring status (Grano, 2012: 110)

Cinque-an head	Corresponding Predicates	Restructuring status
MoodP _{speech act}	say, claim, assert, affirm, declare, deny, offer, ask, interrogate, promise	–
Moodevaluative	glad, sad, regret, surprised, shocked, sorry	–
MoodPevidential	conclude, hear (that), see (that)	–
Modepistemic	believe, think, suppose, know, wonder	–
Tense		
ModPvolitional	want	+
AspPterminative	stop	+
AspPcontinuative	continue	+
AspPretrospective	be about to	+
AspPinceptive	start	+
Modobligation	have, must	+

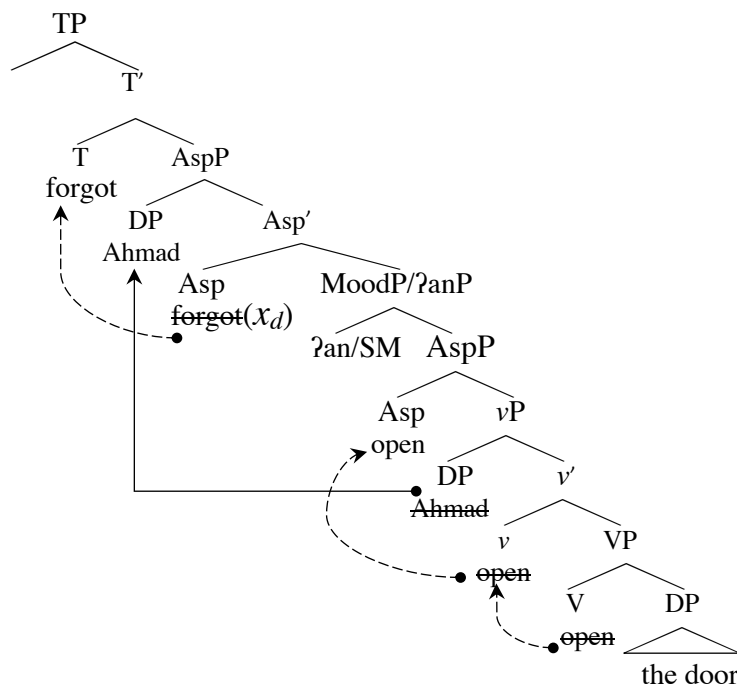
⁷⁰ Squaring is added for ease of exposition.

Mod _{ability}	can, be able	+
Asp _{frustrative}	forget	%
Asp _{success}	manage	%
Mod _{permission}	can, may	+
Asp _{conative}	try	%
Asp _{completive}	finish	+

Under a raising-only approach to restructuring such as Grano's, control predicates differ from raising predicates in that they introduce a dependent variable that has to be *syntactically* bound (that is, they cannot get interpreted by context). To achieve variable binding, Grano (2012:84) assumes a subject raising movement to its surface position. He further assumes that the variable-binding operation derives the control properties of the predicates from a raising structure. With these assumptions in mind, the structure for the same sentence we used with both the MTC and the ATC in (272), repeated below in (279), will have the structure in (280) under the RTR (again, the dotted lines are for head movement and solid lines for XP-movement).

(279) *nasia/ħaawala* *aħmad-u* *?an* *jaftaħ-a* *al-baab-a*.
 forgot/tried._{3MS} Ahmad-NOM SM open-SUBJ._{3MS} the-door-ACC
 'Ahmad forgot/tried to open the door.'

(280) *The Raising Theory of Restructuring (RTR) for EC in SA*



The analysis proposed above is reminiscent of Grano’s (2012: 308) analysis of EC in Greek, which is very similar to EC in SA in many respects.⁷¹ We clearly see that the subject of the embedded verb *open* must move above the matrix verb *forgot* to bind its dependent variable. This is similar to the MTC assumption of movement of the subject to the matrix clause, but differs in the motivation for movement: the MTC assumes movement for a theta feature (see above) while the RTR assumes *raising* for binding requirements. Grano also assumes that there are two instances of Asp in monoclausal EC in finite control languages. This is so in order to capture the fact that both Greek and SA have finite control and have a specific morphology for aspect on embedded verbs (both require imperfective). These seem to be empirically supported in both Greek and SA.

⁷¹ Grano proposes that the subject moves to AgrP located above TP, but this seems to be problematic for SA and Greek as both languages allow VSVO and VVSO word orders in addition to SVVO. However, I think it is compatible with Grano’s theory to assume that agreement does not need the projection of AgrP per se and thus to avoid possible complexities we can assume that ϕ -features are in appropriate functional heads (i.e., T, Asp, etc.).

The raising theory of restructuring is interesting, simplifying various complexities as well as accounting for monoclausality effects (i.e., the restructuring diagnostics that will be discussed below). It also provides various insights regarding the motivation for restructuring in natural languages and a novel hypothesis that derives various properties of restructuring. In particular, Grano proposes that the restructuring phenomenon follows from an economy principle along the lines of “don’t do with two clauses what you can do with one clause.” (Grano, 2012: 109). In addition, Grano builds on Cinque’s (2006) hierarchy, which generally receives crosslinguistic support, to argue for a crosslinguistic analysis of restructuring within Cinque’s approach: verbs that correspond to inflectional heads that are below TP in Cinque’s hierarchy are not lexical but are directly inserted (by economy force) into the semantically appropriate heads. Thus, the validity of Grano’s analysis as a crosslinguistic analysis follows from the validity of Cinque’s hierarchy.⁷²

Nonetheless, Grano’s RTR faces various theoretical and empirical problems. First, the idea that variable-binding derives control properties in a raising structure follows from Grano’s view that restructuring is *functional* only. This assumption is not warranted, however. Wurmbrand (2001, 2004) convincingly shows that Cinque’s (1999, 2001, 2006) approach, which Grano adopts, falls short in accounting for different properties including passivization. The fact that EC allows passivization shows that EC predicates have external theta roles, thus they cannot be functional verbs with a variable, as suggested by Grano. The RTR assumes that all EC predicates are functional and as such it does not predict that they can be passivized, contrary to fact. Wurmbrand (2004) shows that while German raising predicates cannot be

⁷² The assumption that English is a restructuring language has already been proposed in the literature, particularly in Cable (2004) based on his investigation of gerunds in English. He adopts Wurmbrand’s (2001) analysis of restructuring.

passivized, restructuring (EC) predicates can, as shown in (281). The same is also true in SA as shown in (282).

(281) a. *Der Kaviar wurde zu essen gescheint/geschienen. (raising)
 The caviar was to eat seem-PARTa/PARTb
 ‘The caviar was seemed to eat’; ‘It seemed that somebody ate the caviar.’

b. dass der Lastwagen und der Traktor zu reparieren versucht wurden. (EC)
 that the-NOM truck and the-NOM tractor to repair tried were
 ‘that they tried to repair the truck and the tractor.’ (Wurmbrand, 2004:

(282) a. *jubdaa ʔanna al-maħall-a muylaq-un. (raising)
 seem.PASS that the-store-ACC closed-NOM

b. nusia ʔan tuylaqa an-nwaafið-u. (EC)
 forgotten.PASS.3MS SM close.PASS the-windows-NOM
 ‘The windows were forgotten to be closed.’

Another empirical issue facing the RTR is related to language acquisition. If both raising and control have the same syntax, the developmental order of acquisition for both is predicted to be the same. This assumption is empirically challenged, however. Studies have shown that children acquire control structures around the age of 3, while they acquire raising structures around the age of 7 (Hirsch and Wexler, 2007, and references therein). Interestingly, a raising approach to control has also been put forward in child language acquisition studies and has been experimentally studied. In their study of developmental differences between raising and control structure, Hirsch and Wexler (2007) discuss Becker (2005, 2006), who puts forth the exact hypothesis suggested in Grano (2012), proposing that control verbs are non-

thematic raising verbs. In particular, Becker claims that children parse a sentence such as *the pig wanted to eat a donut* similar to *the pig seemed to eat a donut*. Thus, in a scenario where the pig in fact ate a banana against its desire, the control sentence should receive the same truth judgment as the raising sentence (they both should be false). This is problematic, however for various reasons, as Hirsch and Wexler convincingly argue.

First, data from Becker's own experiment contradict her claim. Becker used a truth-value judgment task following a story to test whether children of age 3 and 4 parse raising and control constructions similarly. For control constructions, the story is about a pig that wanted to eat a donut but ended up eating a banana. The children were then asked to judge the truth of the sentence *a pig wanted to eat the donut*. If they were parsing *want* as *seem*, then they should answer negatively because they would parse it as *a pig seemed to eat the donut*. The same is also expected if they ignore the matrix verb and parse it as *a pig ate a donut*. However, the results of Becker's experiment indicate that the participants performed well in control sentences: the percentage of correct responses for 3-year-olds was 65.9% while it was 88.4% for 4-year-olds. That is, the children's responses were adult-like in most cases. Nonetheless, she interpreted these results to support her hypothesis that *want = seem*, despite the fact that the results totally suggest otherwise, as discussed above and noted by Hirsch and Wexler. In fact, if the children were parsing *wanted* as *seemed*, the answer to the test sentence should have been negative, which was clearly not the case.

An additional issue against the control as raising hypothesis comes from two incorrect syntactic predictions discussed in Hirsch and Wexler (2007). First, if control verbs are raising verbs, then bare DP complements to control verbs should not be grammatical as is the case with raising verbs. That is, sentences such as *John wants water* are expected to be ungrammatical similar to **the man seems water*. Nonetheless, Hirsch and Wexler find numerous instances of production data from children where bare DP complements to control

verbs are used as they are in adult-like language. Second, raising structures such as *John seemed to leave the house* has an unraised counterpart *it seemed that John left the house*. The raising approach to control thus predicts an unraised counterpart to the control constructions, which is not borne out (**It wanted that John left the house*). It thus seems obvious that the raising hypothesis to control along the lines suggested in Becker (2005, 2006) and Grano (2012) falls empirically short.^{73,74} I will return to discuss Grano's analysis in section 5.5 where I present a novel argument from nominalized complements in SA against movement-based theories of EC, including the MTC and the RTR.

4.2.4 Proposal: A restructuring analysis of EC

Having discussed various analyses of EC above, I would now like to briefly lay out the analysis I am proposing for EC in SA, extending the hypothesis of the thesis that SA is a restructuring language. At this point, however, it is prudent to be more explicit about what a theory of EC should address. The discussion in the preceding sections and the previous two chapters reveals various characteristics of OC. Restricting our attention here to EC, a theory of EC should first derive the duality of the interpretation. That is, why the two predicates (the embedding and the embedded) in EC constructions must have the same subject. In other words, why does not a variant reference arise (i.e., Non-Obligatory Control (NOC) is not an option). This is the fundamental question before all control theories.

⁷³ The second incorrect prediction of the raising approach (i.e., the raised vs. unraised construction) is actually circumvented in Grano (2012) by postulating that EC predicates bear a dependent variable that requires an overt binder. Therefore, only the raised construction is allowed within Grano's analysis (though it stipulates that the binder must be animate). Nonetheless, the passive facts speak against this assumption all together.

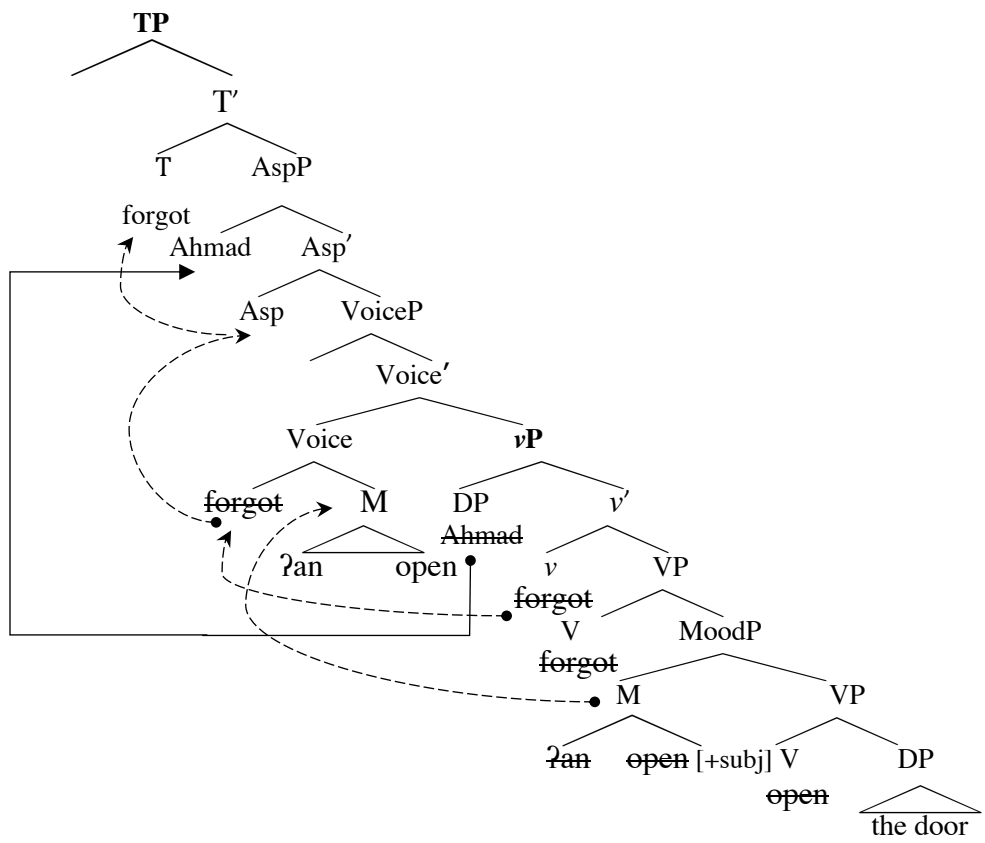
⁷⁴ Wurmbrand (2004) discusses other empirical issues with the raising approach to EC such as the lack of ordering assumed in Cinque's hierarchy. For lack of space, I do not review these arguments here and refer the interested reader to the paper.

(as in the ATC and the MTC) or they necessitate a smaller structure (along with the monoclausal analysis). I argue that while the three theories discussed above successfully address the first two questions (the duality of the interpretation and prohibition of a distinct subject), they nonetheless diverge in the third question. In particular, if EC shows monoclausality properties, the biclausal approach (the ATC and the MTC) would be challenged while the RTR would be supported. Nonetheless, the RTR itself faces empirical issues as discussed above, and thus we need an alternative theory that addresses the three questions/requirements without raising empirical problems. The main aim of this chapter is to propose an analysis that fits the bill. However, to appreciate the success of the aforementioned theories, a comment is in order.

With respect to the first (and the second) requirement on control theories, it is obvious from the above discussion of the various proposals that all three theories succeed in deriving the duality of interpretation: The MTC assumes that this follows from A-movement and thus the interpretation of the head of the chain and the tail must be uniform. The ATC, on the other hand, assumes that EC follows from an (inheritance) agree relation between the matrix T and the controller and then between the matrix T and the embedded PRO. Both of these theories assume a biclausal structure, as discussed above. The RTR, on the other hand, proposes that the duality of interpretation is mostly an appearance and there is only one subject in EC associated with the embedded predicate. The matrix verb is a functional verb that does not have a syntactic subject (contra the assumption of the MTC and the ATC), but merely has a dependent variable that needs to be bound by the subject. Therefore, at LF, both the matrix and the embedded predicate would have the same subject. We can thus see that the aforementioned theories correctly capture the duality of the interpretation in control configurations, which entails that an embedded distinct subject is not tolerated.

In the remainder of this chapter, I will argue that EC in SA is a monoclausal structure (i.e., it is restructuring). If this is on the right track, then the ATC and the MTC (classified as the biclausal approach below) should fail to account for EC. I will systematically show that the biclausal approach to EC makes various incorrect predictions and fails on empirical grounds. Therefore, I propose that EC in SA is accounted for by a restructuring analysis along the lines of Wurmbrand (2001, 2004, 2015). I nonetheless depart from Wurmbrand's approach in assuming that EC in SA (and in finite/subjunctive control languages in general) does not have a bare VP-complementation, but a MoodP-complementation. I further propose, following the definition adopted for restructuring in this dissertation, that restructuring constructions in SA have one CP, one TP, and one subject. Therefore, the proposed analysis is given in (285) for the sentence analyzed above in the aforementioned theories (again, dotted lines show head movements and solid lines are for DP-movements).

(285) *The restructuring analysis for EC in SA*

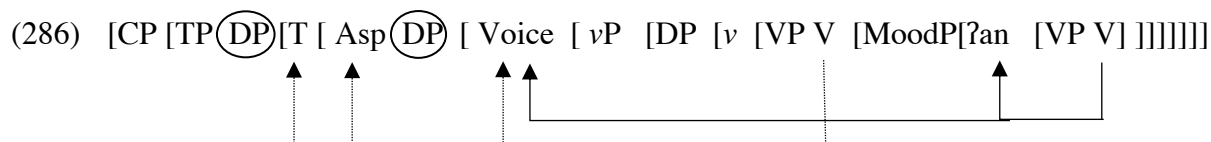


In the analysis above, we see that the matrix verb moves to Voice, Asp, and T, respectively (see Benmamoun, 2000; Soltan, 2007; Aoun et al., 2010; Ouali, 2014). As for the embedded verb, I assume that V moves to Mood, and then to Voice. I will provide various arguments for this assumption in section 5.3, arguing that they are feature-driven movements. Notice that both verbs move to Voice. This is also a feature-driven movement (more particularly, affixal). I assume in particular that both verbs bear a [+Voice] feature, be it passive or active, since SA entertains specific morphology for both passive and active. These movements are thus formally driven for morphophonological reasons. While the embedding verb moves further to Asp and T (again for features/affixal reasons), the embedded verb does not move any further than Voice, given that the embedded verb is obligately in the default aspect/tense. I will elaborate on these assumptions in the next chapter.

The proposed analysis further assumes that the subject optionally moves to Spec, Asp or Spec, TP (see Crone, 2017 for a similar assumption for Arabic). I will also provide empirical evidence for the optionality of the subject movement beyond its base-generated position (i.e., Spec, *v*P) to Spec, Asp or Spec, TP. Taking all of this together, the restructuring analysis would be along the lines given in (286) (the dotted lines are for the matrix V movements while the solid line is for the embedded V movements; optional positions of the subjects are circled; I ignored irrelevant details here).⁷⁵⁻⁷⁶

⁷⁵ The proposed analysis assumes that both verbs move to Voice forming [V1 V2] and also assumes that only V1 moves further to Asp and T. This form of movement can be an excorporation movement (see Roberts, 1997, 2010 for a formalization of this movement). Notice that since both head movements are morphologically/feature-driven, I assume that there is no violation for relativized minimality (on long head movement, see Rivero 1991, 1994; Lema and Rivero 1990, Roberts, 1997, 2010; Preminger, 2018).

⁷⁶ A question that might arise here is related to the Head Movement Constraint (HMC) given that V2 moves to Voice, crossing *v*. This, however, is not a problem if we assume that the structure is derivational: that is, V1-*v* moves first (as it is higher) to Voice, then V2 moves to Voice. In fact, the presence of long head movement which is empirically attested in various languages (cliticization in Romance languages, participles in Bulgarian, among many others, see Lambova, 2004; Roberts, 2010; Preminger, 2019) casts serious doubt on the HMC, which in itself is problematic within the MP and still widely debated; on this and proposals to solve the problems with the HMC, see Matushansky, 2006; Soltan, 2007; Roberts, 2010; Dékány, 2018; Preminger, 2019. Given that we clearly have morphological features in both verbs in SA, I take it as a natural assumption to



I will elaborate further on the assumptions of the proposed analysis later in the next chapter (see §5.3). The essence of this analysis is that EC is a monoclausal structure (thus it is in line with the RTS and against both the MTC and the ATC) and that the EC predicates are lexical (thus it is in line with Wurmbrand, 2001, the ATC, and the MTC, and against the RTR). Below, I will provide various diagnostics of restructuring for EC; they all, I argue, show that EC constructions are monoclausals and therefore are compatible with neither the ATC nor the MTC. In general, the aim of the restructuring diagnostics is twofold. First, they show that EC is restructuring. Second and consequently, they provide arguments against the MTC and the ATC. Hence, the restructuring diagnostics provide enormous evidence for the restructuring analysis and against both the ATC and the MTC.

4.3 Restructuring in Control

Restructuring is a configuration that can be ascertained only when its effects are observed. Thus, to test whether a structure is a restructuring or not, one needs to establish restructuring/monoclausality diagnostics in the language/s under study. As alluded to in Chapter 1 (§1.4 above), Clitic climbing has been taken to be a transparency/restructuring effect in many Romance languages ever since Rizzi's seminal work (1982). Languages differ, however, in their transparency effects of restructuring. For instance, Wurmbrand (1998, 2001) argues that a transparency effect in German is the *long passive*. In such constructions, the matrix verb is passive, and the embedded object moves to Spec, TP of the matrix verb (the

value these features by head movement regardless of whether it is a movement at PF, morphology, or post-spell-out. I will discuss a Minimalist approach to this valuation in the next chapter that in fact shows that the proposed assumptions of head movements above do not induce HMC violation (see Preminger, 2019).

embedding verb) to value its case as NOM. This movement is only possible with restructuring verbs in German, such as *versucht* ‘try’, as shown in (287)a, repeated from (6)a, while it is impossible with non-restructuring verbs, such as *geplant* ‘plan’, as shown in (287)b, repeated from (6)b.

- (287) a. dass der Traktor zu reparieren versucht wurde.
 that the tractor-NOM to repair tried was
 ‘that they tried to repair the tractor’ (Wurmbrand, 2001: 19)
- b. *dass der Traktor zu reparieren geplant wurde.
 that the tractor-NOM to repair planned was
 ‘that they planned to repair the tractor’ (Wurmbrand, 2001: 36)

However, clitic climbing and long passive are not available to every language, and languages vary in what constitutes appropriate RC diagnostics (Cinque, 2006; Wurmbrand, 2015b;). Since the goal of this dissertation is to show that SA is a restructuring language, which is a new line of analysis in SA, establishing reliable diagnostics for restructuring in SA is a significant contribution of this work. We have already discussed restructuring diagnostics for modality in SA in Chapter 2 (§2.4.3.1). Nonetheless, due to the difference between modals and EC predicates with respect to thematic arguments (i.e., the former is functional while the latter is lexical), not every restructuring diagnostic for modality can be extended to EC. In fact, it is only the relative ordering that does not extend to EC as the ordering diagnostic is only valid with functional head (see Wurmbrand, 2004 for discussion and counterarguments) while others (the restriction on adverb co-occurrence and extraction) should be extended to EC and therefore will be considered. Below, I will discuss a set of diagnostics for restructuring in SA and for

control constructions in particular. This is essential to establish restructuring in SA control constructions and thus to pave the way for the analysis of EC pursued here. I will show below that the distinction between PC and EC is further supported by the restructuring diagnostics, which indicate that only EC constructions are restructuring, while PC constructions are biclausal.

4.3.1 Restructuring diagnostics in SA

4.3.1.1 Voice matching

The first diagnostic of restructuring that I wish to discuss here is voice matching. This property is interesting in that it provides a novel observation regarding control in SA. It has increasingly been found in restructuring languages and shows a unique pattern that sets restructuring constructions apart from non-restructuring ones. Wurmbrand & Shimmarua (2015) discuss voice matching in various languages as a restructuring diagnostic. The idea concerning us here is that restructuring constructions in some languages require voice matching/voice concord; that is, either both verbs (matrix and embedded) are active or both are passive. Voice mismatch renders the sentence ungrammatical. Consider data from Chamorro below.

(288) Voice Matching: ✓

chinägi dinispensa si Carmen gias Maria.

NPL.RI.IN.PASS.try NPL.RI.IN.PASS.forgive Carmen OBL Maria

Lit. ‘Carmen was tried to be forgiven by Maria.’

‘Maria tried to forgive Carmen.’

(Chung, 2004: 204)

(289) Mixed Voice: ✗

*tinituhun kumati i pätgun.

NPL.RI.IN.PASS.begin NPL.RI.IN.ACT.cry the child

(‘the child began to cry.’)

(Chung, 2004: 219)

Interestingly, the same property is observed in SA. As discussed throughout this dissertation, the hypothesis advanced here is that EC predicates are restructuring predicates while PC predicates are not. In this respect, voice matching shows that the two classes of control diverge from each other. In particular, EC predicates require voice matching while PC predicates allow voice mismatch. The paradigm in (290) to (293) shows voice properties of control in SA. Notice that the ordered labeling refers to matrix and embedded voice marking.

(290) Active-Active

a. qarrara aħmad-u ?an juħd^ʕira at^ʕ-t^ʕa?aam-a. (PC)
 decided.3ms.ACT Ahmad-NOM SM bring.3ms.ACT the-food-ACC
 ‘Ahmad decided to bring the food.’

b. nasia aħmad-u ?an juħd^ʕira at^ʕ-t^ʕa?aam-a. (EC)
 forgot.3ms.ACT Ahmad-NOM SM bring.3ms.ACT the-food-ACC
 ‘Ahmad forgot to bring the food.’

(291) Active-Passive

a. qararra aħmad-u ?an juħd^ʕara at^ʕ-t^ʕa?aam-u. (PC)
 decided.3ms.ACT Ahmad-NOM SM bring.3ms.PASS the-food-NOM
 ‘Ahmad decided that the food should be brought.’

b. *nasia aħmad-u ?an juħd^ʕara at^ʕ-t^ʕa?aam-u. (EC)
 forgot.3ms.ACT Ahmad-NOM SM bring.3ms.PASS the-food-NOM
 (‘Ahmad forgot the food to be brought.’)

(292) Passive-Passive

- a. qurrira ʔan juħdʕara atʕ-tʕaʔaam-u. (PC)
decided._{3MS}.PASS SM bring._{3MS}.PASS the-food-_{NOM}
‘The food was decided to be brought.’

- b. nusia ʔan juħdʕara atʕ-tʕaʔaam-u. (EC)
forgot._{3MS}.PASS SM bring._{3MS}.PASS the-food-_{NOM}
‘The food was forgotten to be brought.’

(293) Passive-Active

- a. qurrira ʔan juħdʕira aħmad-u atʕ-tʕaʔaam-a. (PC)
decided._{3MS}.PASS SM bring._{3MS}.ACT Ahmad-_{NOM} the-food-_{ACC}
‘It was decided for Ahmad to bring the food/Ahmad was decided to bring the food.’

- b. *nusia ʔan juħdʕira aħmad-u atʕ-tʕaʔaam-a. (EC)
forgot._{3MS}.PASS SM bring._{3MS}.ACT Ahmad-_{NOM} the-food-_{NOM}

The data above are crucial in various respects. First, they show that EC and PC predicates differ significantly with respect to voice. While PC predicates allow voice mismatch as shown in (291)a and (293)a, EC predicates never allow it, as shown by the unacceptability of voice mismatch in (291)b and (293)b. Second, they show that the syntax of PC and EC cannot be the same. In particular, as argued for in the previous chapter, PC either requires an embedded syntactic subject (i.e., PRO in PC) or allows an embedded subject (*pro*/overt DP in NC contexts) while EC does not. This is evidenced by the asymmetry in voice shown above. In EC, there is only one syntactic subject associated with the upstairs (matrix) verb and, following the analysis proposed here, it is the only subject in the construction. This is expected given that

EC are restructuring constructions. It consequently follows that if the subject disappears due to passivization, both verbs must be passive. This behavior supports the proposal put forward here that both verbs *share* the same syntactic subject.

On the other hand, PC predicates are biclausal – thus they are not restructuring at any rate. The matrix clause has its own subject (the overt DP) and the embedded clause has its own, too (PRO). There is no *sharing* of the subject as observed with EC. This autonomy of subject gives rise to the acceptability of voice mismatch. In particular, the matrix clause can be passive while the embedded clause is not, and vice versa. Notice, in this respect, that the interpretation of PRO allows for a coreferential interpretation in (291)a such that *Ahmad* is both the decider and the bringer. Another possible interpretation is that the one who brings the food is someone else. This latter interpretation is an instance of NC, as discussed extensively in the previous chapter. This interpretation is not possible with EC predicates such as *forget*, as observed above; the forgetter has to be the bringer (or in fact the one who does not bring, since *forget* has a negative implicature) as shown by the unacceptability of (291)b and (293)b.

It should be obvious from the above discussion that the syntax of PC and EC is not uniform. If it were so (as assumed in the MTC and the ATC), one would find it difficult to account for the voice matching facts. The data considered above clearly indicate that each class of control has a different structure for each class of control. The fact that voice matching is firmly required with EC predicates provides support for a restructuring analysis along the lines suggested by Wurmbrand (2001) where it is assumed that there is only one syntactic subject that both verbs *share*. Once passivization occurs to one verb, the other verb does not have a syntactic subject to make active voice eligible and must thus undergo passivization as well. This approach seems to capture the voice facts naturally without recourse to further complications and assumptions in the syntax or semantics of the construction.

4.3.1.2 The agreement puzzle of backward control

Backward control is the control configuration where the overt DP is not the one in the matrix clause, but rather in the embedded one. This is shown in (294), where backward control (BC) obtains when the bolded DP is pronounced (notated with the BC superscript), and forward control (FC) obtains when the un-bolded DP is pronounced (notated with the FC superscript).

- (294) a. *nasia* {*aħmad-u*}^{FC} [ʔan jaftaħ-a {***aħmad-u***}^{BC} albaab-a] . (SA)
 Forgot._{3MS} SM open-Subj._{3MS} Ahmad-NOM the door.ACC
 ‘Ahmad forgot/tried/learned/knew(how) to open the door’
- b. {*o Janis*}^{FC} *emathe* [na pezi {***o Janis***}^{BC} kithara]. (Greek)
 learned._{3SG} SM play._{3SG} John.NOM guitar
 ‘John learned to play the guitar.’ (Alexiadou et al., 2010: 96)

Backward control (BC, henceforth) has been essential to control theories. As discussed in the previous chapter, it provides the strongest argument for the MTC and has been observed in various languages including Greek, Romanian, Tesz, and Brazilian Portuguese, among others (for Arabic, see Alblushi, 2008; Albaty & Ouali, 2018). Here, I will draw a comparison between BC in SA and Greek. While Greek has been extensively used to provide support for the MTC, I will show that SA is a better testing ground not only for the MTC, but also for PRO-theories of Control such as Landau’s (2000) as well.

Both SA and Greek are finite languages and thus they both inflect for various agreement markings. Importantly for us, verbs in Greek inflect for person, number, tense, and aspect. Greek also has variant word orders (SVO, VSO, and VOS) (Alexiadou et al., 1999). SA, on the other hand, shows almost exactly the same agreement and word order properties, but only

differs in one additional agreement marking; verbs inflect not only for person and number as in Greek, but also for gender. Interestingly, SA is well-known for its agreement asymmetry, as discussed in the previous chapter, showing full agreement (person, number, and gender) with SVO and partial agreement (person and gender) with VSO. The rich and variable agreement of SA will provide an interesting and new puzzle to control theories, and its agreement patterns will be more transparent (than Greek) to the assumptions of both the MTC and the ATC.

As is well-known and has been alluded to above, SA has the agreement asymmetry where Full Agreement (FA) obtains in SVO word order while Partial Agreement (PA) obtains in VSO word order. FA marks all ϕ -features (person, number, and gender) while PA, on the other hand, marks gender (and probably person), but crucially not number. This is shown in (295) and (296).

(295) a. al-fataat-u darasa-t . (SV \rightarrow FA)

the-girl-NOM studied-3SG.F

‘The girl has studied’.

b. al-fatajaat-u daras-na . (SV \rightarrow FA)

the-girls-NOM studied.3F.PL.

‘The girls have studied’.

(296) a. darasa-t al-fataat-u . (VS \rightarrow PA)

studied-3SG.F the-girl.NOM

‘The girl has studied’.

b. darasa-t al-fatajaat-u . (VS \rightarrow PA)

studied-3SG.F the-girls.NOM

‘The girls have studied’.

With this in mind, let us discuss the predictions of the biclausal approach (the MTC and the ATC). I will start with the latter.

The ATC postulates PRO in OC constructions and that PRO enters an Agree relation with C or T, as discussed in §4.2.2 above. With this in mind, I argue that any theory of control that assumes a null element (be it a trace or PRO/*pro*) would yield incorrect predictions. In particular, since PRO theories of control assume that PRO is the external argument of the lower verb, the lower verb must inflect for all ϕ -features of the controller (mediated by PRO/*pro*). Now, let us consider cases of forward and backward control in SA. The prediction of the ATC (and any PRO theory) is that the lower verb would bear full agreement irrespective of the position of the overt DP (SV or VS). While it predicts the right form in forward control (297), this is not the case with backward control. In particular, the ATC predicts that the lower verb would bear full agreement in backward control, too, contrary to fact (298). The acceptable sentence with BC is (299), where both the higher and the lower verbs inflect for partial agreement only.

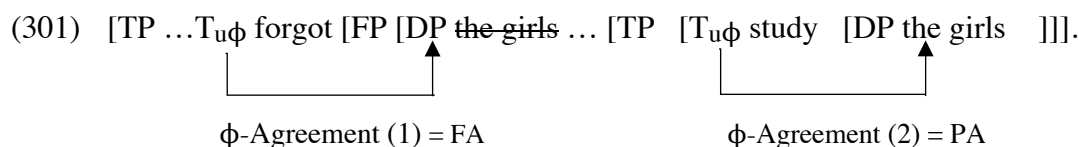
(297) *nasia-t* *al-banaat-u* *ʔan* *jadrus-na* *al-maadat-a.* (Forward Control)
 forgot-3FSG the-girls-NOM SM study-3FPL the-course-ACC
 ‘The girls forgot to study for the class.’

(298) * *nasia-t/-na* *ʔan* *jadrus-na* *al-banaat-u* *al-maadat-a.* (Backward Control)
 forgot-3FSG3FPL SM study-3FPL the-girls-NOM the-course-ACC

(299) *nasia-t* *ʔan* *t-adrusa* *al-banaat-u* *al-maadat-a.* (Backward Control)
 forgot-3FSG SM 3FSG-study the-girls-NOM the-course-ACC
 ‘The girls forgot to study for the class.’

Notice, however, that ATC does not allow for any backward control due to two assumptions: biclausal structure and binding conditions. In particular, if PRO were to be assumed to be in the matrix clause and the overt DP in the embedded one for backward control to come about, this would induce a condition C violation. It should also be obvious that there seems to be no way derive the correct word order under the ATC (see Alexiadou et al. 2010). In this respect, Landau (2007, 2013) admits that backward control is a strong challenge to the ATC, and that the MTC provides new insight with respect to these constructions (see Alexiadou et al., 2010 for further discussion). Therefore, the ATC does not only incorrectly predict full agreement on the lower verb in backward control (due to agree between T and PRO) but it actually does not even allow the linearization we see in backward control (VVSO) altogether. One might raise the point that since the ATC does not allow for backward control, the agreement facts discussed above are not counterarguments to it. This line of argumentation, however, is based on an un-warranted assumption that the ATC is only a theory for forward control, however this is not the case. The ATC claims to present a theory of control; whether control is forward, backward, infinitive, or finite is an empirical issue that the theory should address.

It is true, however, that the above facts are not against the ATC per se. Instead, I argue that they are against any PRO-theory of control, including the ATC and the standard GB/Minimalist theory of control (Chomsky and Lasnik, 1993; Chomsky 1995) and to previous analyses adopted similar lines of analysis in SA that generally postulates *pro* (Fassi Fehri, 1993, 2012; Mohammed, 2000; Aoun et al., 2010, among others). The agreement facts in SA provide previously unnoticed data that constitute a new testing ground for theories of control. This entails that the agreement issue is not restricted to PRO/*pro*-based theories but is also relevant to PRO-less control theories such as the MTC. Let us see how agreement should work within the MTC in BC constructions. This is given in (301).



We see that the MTC assumes two agreement relations, one in the matrix and one the embedded clause. The agreement in the matrix is between T and a null copy of the DP. Given that null copies require full agreement, the result should be FA. The agreement in the embedded clause is between T and the overt copy in Spec, *v*P. Given that we have a [T- DP] configuration, this agreement relation should give rise to PA. Thus, we would have a FA-PA pattern. However, this pattern is ungrammatical, as shown below.

(302) *nasia-na ?an t-adrusa al-banaat-u al-maadat-a. (Backward Control)
 forgot-3FPL SM 3FSG-study the-girls-NOM the-course-ACC
 ‘The girls forgot to study for the class.’

We thus see that neither the ATC nor the MTC are able to derive the agreement facts for BC in SA. Since this is a novel and strong argument against both theories (and the RTR, as well), I will revisit it in further details towards the end of this chapter (see §5.6 below). It suffices to say that the prediction of the biclausal approach regarding agreement in SA is not borne out. In fact, everything else being equal, any theory that assumes two syntactic subjects (PRO as in the ATC, a copy as in the MTC, or *pro* as in the standard analysis of control in Arabic in Fehri, 1993, 2013, for instance) would yield incorrect predictions with respect to the agreement asymmetry found in SA. In particular, as we just discussed, within the ATC, the position of the controller should not bear at all on the agreement inflections in the embedded clause. Thus, FA or PA on an embedded verb is actually unpredicted (since it would always give rise to FA due to null PRO and the identification requirement). The same problem extends

to analyses assuming *pro* for EC in SA. On the other hand, assuming A-movement of the overt DP from the embedded clause to the matrix, the MTC has to postulate various copies along the way to the surface position. It has the reverse prediction of the ATC; in BC, the agreement in the matrix clause should be FA due to agreement between a head and a null copy. However, this is incorrect, as we have seen above.

4.3.1.3 Extraction compatibility

Another diagnostic for restructuring is the licensing of movement from EC complements to the initial position of the sentence. The Focus/topicalization movement provides another testing ground where the predictions of the restructuring analysis and the biclausal control approach clearly diverge. Standardly, topicalization/focus movement targets the edge of the clause that the DP belongs to. Therefore, it is not generally expected to find a topicalized/focused phrase of the embedded clause undergoing movement to the left periphery of the root clause. Given this, we can infer that the biclausal analysis and the restructuring analysis have contrasting predictions. In particular, the biclausal analysis assumes that EC complements are clausal and therefore they should have their own left periphery (presumably this should be a position higher than the subjunctive marker *ʔan* in Arabic). It is predicted, then, that a focused element should be in the left periphery of the embedded clause. It also follows from this assumption that focus movement should be fulfilled within the embedded clause, and that further movement to the root clause should be illicit. In other words, given that we can have either a short movement or a long movement for focus, the short movement should be the one that is licit. This assumption seems to follow straightforwardly from economy principles.

On the other hand, the restructuring analysis has the opposite predictions; there is no embedded left periphery because EC complements are not clausal. Thus, it is predicted that a

focus movement should not target an embedded position (such as a position just above the subjunctive marker *ʔan*). It also follows that the only position available for topicalization and focus movement is a clause-initial position. Thus, it predicts that there is no short movement possible because what is considered long movement in the biclausal approach is actually short movement in the restructuring analysis. A summary of the predictions is given below:

- (303) a. **The restructuring analysis's prediction:** Focus movement should not target an intermediate position (a position just above *ʔan*) but should target a clause-initial position.
- b. **The biclausal approach's prediction:** Focus movement should target an intermediate position (a position just above *ʔan*) and should not target a sentence-initial position (i.e., the edge of the root clause).

The data below show that the predictions of the restructuring analysis (303)a are confirmed, while the predictions of the biclausal approach (303)b are incorrect.⁷⁸

(304) *Focus movement to the left-most position.*

a. *nasia/araada/ taḏakkara al-walad-u ʔan jaqraʔ-a al-kitaab-a .*
 forgot/wanted/remembered the-boy-NOM SM read-SUBJ the-book-ACC
 'The boy forgot/wanted to read the book.'

b. *al-kitaab-a_i nasia/araada/ taḏakkara al-walad-u [ʔan jaqraʔ-a t_i].*
 the-book-ACC forgot/wanted/ remembered the-boy-NOM SM read-SUBJ
 'It is the book that the boy forgot/wanted/remembered to read.'

⁷⁸ This focus interpretation that arises in these sentences is a contrastive focus that triggers a contrastive alternative such as 'it is the book that the boy forgot to read (not the magazine)'.

(305) *Focus movement to an intermediate position*

??/* nasia/araada/ taḏakkara al-walad-u al-kitaab-a_i ?an jaqra?-a t_i.
forgot/wanted/remembered the-boy-NOM the-book-ACC SM read-SUBJ
(‘It is the book that the boy forgot/wanted/remembered to read.’)

The above data show that an intermediate position for focus in EC constructions is not available. Under the restructuring analysis, this follows naturally: there is no embedded left periphery for a focused element to move to and the only eligible position for focus is clause-initially given that it is the only left periphery in the construction. On the other hand, under the biclausal approach, the data above are puzzling; it is incorrectly predicted that there is an embedded left periphery (presumably above the subjunctive marker) and thus there is an appropriate landing site for focus movement within the embedded clause. This turns out to be incorrect as shown in (305). Another incorrect prediction of the biclausal approach is that focus movement should not target a root-initial position. Again, this prediction is not borne out as the contrast in (304)b and in (305) shows that a focused element should move to sentence-initial position. Notice that root clause and embedded clause here are used to conform with the biclausal approach assumptions, but within the analysis adopted in this thesis, there is no embedded clause nor a root clause since we analyze these constructions as monoclausals.

To show that the biclausal predictions only work for biclausal constructions, let us consider focus movement with non-restructuring predicates; that is, propositional predicates that embed full clauses. Extraction of complements of propositional verbs such as *believe*-type verbs to the root clause is impossible, as shown in (306) where topicalization of object (306)b or subject (306)c to the root clause is illicit. This is expected given that the presence of the C head *?anna* entails that the embedded complement is a CP, which is known to block (long) extraction (see Wurmbrand, 2001, 2015 for a discussion on complementizer blocking effects). Notice further that since we have non-restructuring complements (i.e., full CPs), we predict (as

the biclausal approach above assumes) that only extraction to an intermediate position is possible for focus movement or object fronting. This is indeed the case as shown in (306)d. I assume, following Grano (2012) among others, that topicalization and object fronting are clause-bounded. If this is true, then the data below receive an immediate explanation.

(306) *Extraction incompatibility of complements of non-restructuring predicates*

a. aḏ^sunn-u ʔanna zajd-an kasara al-baab-a .
 think-1SG that Zayd- ACC broke. 1MSG the-door-ACC
 ‘I think that Zaid broke the door’

b. * al-baab-a_i aḏ^sunn-u ʔanna zajd-an kasara t_i .
 the-door- ACC think-1SG that Zayd- ACC broke. 1MSG

c. * zajd-an aḏ^sunn-u ʔanna al-baab-a kasara.
 Zayd- ACC think-1SG that the-door- ACC broke. 1MSG

d. aḏ^sunn-u ʔanna al-baab-a_i kasara zajd-un t_i.
 think-1SG that the-door-ACC broke. 1MSG Zayd-NOM
 ‘I think it is the door that Zayd brook.’

The above compatibility of extraction observed with EC complements and lack thereof with propositional complements such as *say* and *think* are in fact observed crosslinguistically, as discussed in Chapter 2. In Italian, one of the well-studied languages of restructuring, the presence of C heads block *Object Preposing*, which has been a well-known restructuring diagnostic since Rizzi (1982). In this respect, the presence of a complementizer such as *se* entails the projection of CP which blocks object fronting as shown in (307). The same also

obtains in Dutch with respect to the scrambling of the object into the matrix clause as shown in (308), repeated from (88).⁷⁹

(307) *[Certe risposte]_i non si sanno mai se dare t_i.
 certain answers not SI knows ever whether give
 ‘They don't know whether to give certain answers.’ (Rizzi, 1982: 47)

(308) dat Jan [die brief]_i heeft geprobeerd (*om) zijn broer t_i te schrijven .
 that Jan the letter has tried COMP his brother to write
 ‘That John has tried to write the letter to his brother.’ (Wurmbrand, 2001:103)

Similarly, Grano (2012) has shown that Chinese monoclausal constructions allow topicalization or object fronting from embedded object to the embedding phrase while this is not the case with biclausal (i.e., non-restructuring) constructions. This contrast is shown in the data given in (309) and (310), which quite resemble the Arabic data above in (304) and (306), respectively.

(309) *Compatibility of extraction in Chinese control complements*

a. ta rang zhangsan pai Xiaoping diaocha-le nei-jian shi.
 he make Zhangsan send Xiaoping investigate-prf that-cl matter
 ‘He asked Zhangsan to send Xiaoping to investigate that matter.’

b. ta [nei-jian shi]_i rang zhangsan pai Xiaoping diaocha-le t_i.
 he that-cl matter make Zhangsan send Xiaoping investigate-PRF
 ‘He asked Zhangsan to send Xiaoping to investigate that matter.’
 (Fu, 1994, cited in Grano, 2012: 275)

⁷⁹ Glossing from sources has been slightly modified for ease of exposition.

(310) *Incompatibility of (long) extraction in Chinese non-restructuring complements*

a. wangwu shuo lisi [na-ben xiaoshuo] du-wan-le.
Wangwu say Lisi that-cl novel read-finish-PRF

‘Wangwu said that Lisi finished reading that novel.’

b *wangwu [na-ben xiaoshuo]_i shuo lisi t_i du-wan-le.
Wangwu that-cl novel say Lisi read-finish-PRF

(‘Wangwu said that Lisi finished reading that novel.’) (Paul, 1994, cited in Grano, 2012: 275)

Grano explains the Chinese data above as reminiscent of the contrast between restructuring and non-restructuring, such that topicalization in (309) is licit because the construction is monoclausal while topicalization in (310) is not because the construction is biclausal. I assume that the same explanation can easily extend to the ungrammaticality of Arabic long topicalization above; that is, given that the construction is biclausal, it has an intermediate (embedded) left periphery that should satisfy the topicalization/focus feature. Therefore, it follows that the *long* movement to the matrix clause induces a violation to economy principles (i.e., Relativized Minimality of Rizzi 1990 or the Minimal Link Condition of Chomsky 1995)⁸⁰ preferring short movements over long ones.

So far, we have seen an obvious distinction between restructuring and non-restructuring predicates with respect to the transparency of their complements to movements. Nonetheless, a major assumption of this dissertation is that EC is restructuring while PC is non-restructuring. It is thus expected that we see a contrast with respect to extraction. If we consider the

⁸⁰ The Minimal Link Condition states that “K attracts α only if there is no β , β closer to K than α , such that K attracts β .” (Chomsky, 1995: 285)

predictions of the biclausal approach suggested above, we see that it is predicted that topicalization/focus of an embedded element should not target the root clause because propositional predicates embed a CP/TP. This entails that there is an intermediate embedded left periphery where a pertaining feature should be checked. This is only borne out as shown with a PC predicate such as *regret* embedding a plural inflected predicate.

(311) *(In)commutability of extraction of PC complements*

a. nadiama/tamanna al-walad-u ?an iftaraj-na **al-kitaab-a** .
 regretted/hoped._{3MSG} the-boy-NOM SM bought._{1PL-SUBJ} the-book-ACC
 ‘The boy regretted/hoped that we have bought the book.’

b. ***al-kitaab-a**_i nadiama/tamanna al-walad-u ?an iftaraj-na t_i .
 the-book-ACC regretted/hoped._{3MSG} the-boy-NOM SM bought-_{1PL-SUBJ}

c. ? nadiama/tamanna al-walad-u **al-kitaab-a**_i ?an iftaraj-na t_i .
 regretted/hoped._{3MSG} the-boy-NOM the-book-ACC SM bought._{1PL-SUBJ}
 ‘The boy regretted/hoped that it is the book we have bought.’

We can see, again, that PC predicates such as *regret* and *hope* are similar to propositional predicates such as *say* and *think* above in that long extraction is not licit. This is shown in (311)b. On the other hand, we see that a focus movement to an intermediate position in the embedded left periphery is licit as shown in (311)c. Notice that the focus movement here is associated with stress and yields a contrastive reading, an interpretation that is compatible with a continuation of *not x*. The contrast we have established with respect to extraction between EC and PC in SA provides converging evidence for the proposal put forward in this chapter and the preceding two chapters that EC is restructuring (i.e., monoclausal) while PC is non-restructuring (i.e., biclausal).

Further support for the contrast in movement licensing between EC and PC in SA comes also from a crosslinguistic pattern in which *decide*, a PC predicate, has been found to

block clitic climbing. Consider the following data from Italian, in which the clitic *ti* is always possible to climb to the matrix clause with restructuring verbs, but not with the verb *decide*, as shown below in (312).

(312) a. Piero deciderà di parlarti di parapsicologia. (Italian)

‘Piero will decide to speak to you about parapsychology.’

b. * Piero **ti** deciderà di parlare di parapsicologia. (Rizzi, 1982: 1)

The same observation regarding PC predicates being incompatible with restructuring was also found with the long passive in German and some Romance languages (see Wurmbrand, 2001). This property refers to an obligatory movement of the object of the infinitival to the matrix clause when the matrix predicate is passivized. The movement is obligatory for case checking (i.e., for the object to check its NOM case). Wurmbrand (1998, 2001) takes long passive to be a restructuring diagnostic and systematically shows that it is only acceptable with restructuring predicates. With non-restructuring predicates, including PC predicates such as *plan* and *decide*, long passive is not possible. This is shown in (313), where *try* (an EC predicate) allows long passive, but not *decide* or *plan*, both of which are PC predicates. This, again, supports what we have seen with PC in SA that long movements/extractions for focus, case, or other motivations are not compatible with PC, but only with EC.

(313) a. dass der Traktor zu reparieren **versucht** wurde. (German)

that the tractor-NOM to repair tried was

‘That they tried to repair the tractor.’

b. *dass der Traktor zu reparieren **geplant** wurde.

that the tractor-NOM to repair planned was

‘That they planned to repair the tractor.’

c. *dass der Traktor zu reparieren **beschlossen** wurde.

that the tractor-NOM to repair decided was

‘That they decided to repair the tractor.’ (Wurmbrand, 2001: 267)

To summarize, this subsection has examined extraction from EC complements and PC complements where focus movement of DPs to the embedding phrase/clause is only possible with EC. In this respect, we have seen that the biclausal approach to control has predictions that turn out to be incorrect with EC constructions and only correct with PC constructions. The restructuring analysis’s predictions, on the other hand, are borne out as it is assumed that only EC constructions are restructuring. I thus conclude from this that asymmetry in extraction (long or short) is a diagnostic for restructuring, an assumption that has been widely assumed crosslinguistically (see Wurmbrand, 2001; Grano, 2012, and references herein).

4.3.1.4 Floating quantifiers

Stranded or Floating Quantifiers (FQs, henceforth) have been an essential area of research since Kayne (1975) and Sportiche (1988). Various proposals have been put forward to account for the syntactic and semantic properties of FQs. More importantly for us is that they have also been widely adopted as a movement diagnostic (See Bobaljik, 2003, for an overview). Two widely debated approaches to FQs have been assumed: the adverbial analysis of FQs (i.e., FQs are adverbials to VPs, see Bobaljik, 1995, 2003; Benmamoun, 1999) and the movement analysis (i.e., the NP moves and leaves a trace within a QP/DP, see Sportiche, 1988; Shlonsky, 1991). Regardless of the differences between the two approaches, there are two assumptions that seem to be uncontroversial: the relation between FQ and DP is strictly local, and the FQ

has to be c-commanded by the associate DP. This has been widely adopted after the pioneering work of Sportiche (1988) on floated QPs and locality. He argues for locality based on the data in (314) from French, proposing that the DP *the children* has moved from Spec, VP, leaving a trace.

- (314) a. Tous les enfants ont vu ce film.
all the children have seen this movie
- b. Les enfants_i ont tous t_i vu ce film.
the children have all seen this movie (Sportiche 1988:426)

Violation of locality induces ungrammaticality as shown in (315) from English and French, respectively. In particular, Sportiche (1988) argues that the DP-trace has to be bound locally, similar to what is observed with anaphors.

(315) *Locality violation of FQs*

- a. *My friends_i think that I have **all**_i left.
- b. *Mes amis_i pensent que je suis **tous**_i parti
my friends think that I am all left
intended: 'My friends all think that I have left.' (Kayne 1981: 196)

I will draw on this well-established constraint on FQ, arguing that it offers another diagnostic that sets apart restructuring predicates from non-restructuring ones. Before this, however, it is important to point out that SA (like Hebrew, as in Shlonsky, 1991) has two agreement patterns with respect to quantifier position. If the QP precedes the NP, it is a bare QP (i.e., there is no agreeing clitic pronoun). If, on the other hand, the QP follows the NP, the QP must host an

obligatory agreeing clitic pronoun, agreeing in person, number, and gender. The two patterns are shown in (316).

(316) *QPs agreement patterns in SA*

Q – NP			NP-Q		
a. naama	kull-u	al-awlaadi.	b. nama	al-awlaad-u	kull-u-*(hum).
slepts.3MS	all-NOM	the-boys	selpts.3MS	the-boys- NOM	all-NOM-3MPL
‘The boys all slept.’					

Under the analysis assumed in this dissertation, EC constructions are proposed to be restructuring while PC constructions are assumed to be non-restructuring. Given that the relation between FQ and its associate DP is clause-bounded, we, again, have contrasting predictions from the restructuring analysis and the biclausal approach to control. This is given below.

(317) *Predictions about FQs in EC*

- a. **The restructuring analysis’ predictions:** Floating Quantifiers (FQs) in EC complements should be licensed if the associate DP is in the embedding phrase.
- b. **The biclausal approach’s predictions:** Floating Quantifiers (FQs) in EC complements should not be licensed if the associate DP is in the embedding phrase/ matrix clause.⁸¹

The data below show that the prediction of the restructuring analysis is borne out.

(318) *FQ with EC predicates*

a. nasia	at ^t -t ^t ullaab-u _i	[ʔan jaxruj-u	kull-u-hum_i	ila alfinaa-i].
forgot.3MS	the-students- NOM	SM	exit- 3MPL	all-NOM- MPL to the- yard-GEN

⁸¹ In fact, the MTC and the ATC diverge in this respect due to different theory-internal assumptions; I will discuss this below. Since the ATC postulates PRO, it should, in theory, license a FQ.

‘The students forgot to go all to the yard’

b. taɖʒannaba-t al-banaat-u_i [ʔan jarsub-na **kull-u-hunna_i** fi al-ixtibaar-i].
avoided-3FS the-girls-F- NOM SM fail- 3FPL all-NOM-FPL on the-exam-GEN
‘The girls avoided to all fail on the exam.’

c. ɦaawala al-awlaadu_i [ʔan jusaafir-u **kull-u-hum_i** ila al-madinat-i].
tried.3MS the-boys-NOM SM travel-3MPL all-NOM-3MPL to the-city -GEN
‘The boys tried to go all to the city.’

The above examples show that the NPs, *the students*, *the girls*, and *the boys* that the FQs quantify over can go under movement out of RC complements. The DP traces, reflected by the obligatory agreement clitic/pronoun on the QPs, as argued by Shlonsky (1991), is locally bound. Notice that the agreement with QPs in NP-Q pattern is obligatory and lack of it renders the sentence unacceptable (see Shlonsky, 1991, Benmamoun, 1999, Alkhalaf, 2018 for discussions on properties FQs and agreement in Arabic). It is now evident that if EC were biclausal, a violation to locality between FQ and the associate DP should be observed (as with the extraction conditions discussed in the above section), but this is not the case. Within the restructuring analysis, the grammaticality of the above sentences receives an immediate explanation; the relation between the FQ and its associate still respects locality since the construction is monoclausal.

We also see that there is no violation to binding relations between the agreement pronoun on FQs and the associate DPs. Evidence for the binding relation comes from the unacceptability of constructions that have an agreeing clitic c-commanding its associate DP. This is shown in (319) (compare it with the grammatical construction in (316)b). The binding relation between the QP-clitic and the associate DP on one hand and the dependency between the QP and the associate DP on the other hand make locality essential for licensing FQs. If the

two relations are strictly local then a cross-clausal dependency would be illicit. This is the prediction that the restructuring analysis make, which seems to be successful given that it assumes EC constructions are monoclausals and thus no violation of the above two requirements is induced.

- (319) *nama kull-u-hum_i al-awlaad-u_i .
 selpts._{3MS} all-NOM-3MPL the-boys-NOM

On the other hand, it runs against the predictions of the biclausal approach that FQs in EC complements with an associate in the root clause are licit. Notice, however, that assuming a biclausal structure for EC, the biclausal approach would predict a violation to both the FQ-DP dependency and to binding conditions, contrary to fact. As for the latter, I assume that the agreement clitic/pronoun on FQs are anaphoric, thus, locality in FQ is further reinforced by condition A. The violation of these constraints on FQs can be seen with non-restructuring predicates as shown in (320)a-b and that only (320)c is grammatical because it does not violate either of the two constraints.

(320) FQs with non-RC complements

- a.* ð^sann-a at^s-t^sullaab-u_i [ʔanna al-walad-a kull-a/u-hum_i xaraja].
 thought-_{3MS} the-students-NOM that the-boy-ACC all-ACC/NOM-MPL exit._{3MS}
- b.*qaal-a at^s-t^sullaab-u_i [ʔanna-hu kull-a/u-hum_i saafara].
 said-_{3MS} the-students-NOM that-him all-ACC/NOM-MPL traveled._{3MS}
- c. qaal-a at^s-t^sullaab-u_i kull-u-hum_i [ʔanna zajd-an xaraja].
 said-_{3MS} the-students-NOM all-NOM-PL that Zayd-ACC exited._{3MS}

‘The student all said that Zayd left.’

It is obvious from the above data that an approach that assumes a biclausal structure for EC constructions leaves the locality requirements unexplained. Notice, in this respect, that even though the MTC and the ATC consider EC and PC biclausal, they both have theory-internal assumptions that might be able to reconcile the locality facts above. For instance, the MTC assumes that the controller in EC (and PC) moves to the higher clause for theta and case reasons, which gives rise to an extended A-chain (Hornstein, 2001). This, however, seems to not be independently motivated and would also lead to further issues with FQs, a point which I will discuss immediately below. In addition, the MTC will be argued against on different empirical grounds in this chapter, and thus the idea of an extended A-chain will be shown to be just a surface appearance in EC (because it is actually a monoclausal) and seems to be also challenged in PC (see Landau, 2007; also see the previous chapter for various arguments).

The ATC, on the other hand, might reconcile the FQ facts above assuming that Agree-chain is enough for licensing FQs (Costantini, 2010). I will show however that this is untenable once we consider a new set of facts regarding FQs (in addition to other empirical issues that argue against the ATC, see below). In particular, both theories (the MTC and the ATC) predict a uniform (un)grammaticality of FQs with EC and PC. Thus far, we have only discussed FQs in EC in Arabic, which should not be licensed with a locality violation given the uniform structure (i.e., biclausal) assumed by both theories. There is in fact an additional interesting testing ground based on FQs with both EC and PC that tests the predictions of all theories under study here. This comes from using multiple FQs in OC constructions.

The multiple FQs diagnostic was proposed first in Hornstein (2001) to detect A-movement in OC (under the MTC) and developed by Costantini (2010) as a diagnostic for biclausal vs. monoclausal OC constructions. An essential advantage of this diagnostic is that it

particularly targets the core structural assumptions of the biclausal approach and the restructuring analysis that we have been discussing in this thesis. It particularly sheds a special light on the structure of both EC and PC constructions from an independently-motivated operation. I elaborate below.

Costantini (2010), building on Hornstein (2001), proposes that the number of A-chains can be detected by appealing to multiple floating quantifiers, dubbed the Multiple Quantifiers Diagnostic (MQD). The idea is straightforward: every FQ detects an A-chain; if we have two A-chains, we *can* have two FQs, each in a separate chain. On the contrary, if we have one A-chain, we cannot have two FQs. Consider the data below.

- (321) a. ??The men each have each eaten supper.
b. ??The men all have all eaten supper.
c. ??The men both have both eaten supper.
d. ??The men both have all eaten supper. (Hornstein, 2001: 59)

The oddity of the sentences in (321) can be accounted for, according to Hornstein, if we assume that having multiple FQs are not licensed in one-chain constructions (i.e., monoclausals). In Hornstein's (2001: 59) words, "we cannot have too many quantifiers per nominal (A-)chain." This indeed captures the oddity of the data above as well as the oddity of multiple FQs in raising constructions, given below.

- (322) a. ??The men all seemed to have all eaten supper.
b. ??The men seemed each to have each eaten supper. (Hornstein, 2001: 59)

I will assume, with Costantini (2010), that this translates straightforwardly to monoclausality vs. biclausality of OC constructions.⁸² In particular, if we have a biclausal construction, two instances of FQ (one FQ in each clause) should be licit. On the other hand, two FQs should not be licit if we have a monoclausal construction. With this in mind, let us state the predictions of the restructuring analysis and the biclausal approach to control. This is shown in (323).

(323) *The predictions of the restructuring analysis and the biclausal approach with respect to MQD*

- a. **The restructuring analysis:** Multiple quantifiers should be licensed in PC but not in EC.
- b. **The biclausal approach:** Multiple quantifiers should be licensed (or not licensed) in both PC and EC.

Consider the data using MQD in EC and PC in (324) and (325) below.

(324) *MQD in EC*

a. nasia al-awlaad-u kull-u-hum ?an jaðhab-uu (*kull-u-hum) ila as-suuq.
 forgot.3MS the-boys-NOM all-NOM-3MPL SM go-3MPL to the-market.
 ‘The boys all forgot to (*all) go to the market.’

b. ðaawala-t an-nisaa?-u kull-u-hunna ?an janamn-a (*kull-u- hunna) baakiran.
 tried.3FS the-women-NOM all-NOM-3FPL SM sleep-SUBJ early
 ‘The woman all tried to (*all) sleep early.’

⁸² In fact, MQD translates to clause structure even in raising constructions; *seem* is crosslinguistically a restructuring predicate (as shown by Cinque, 2006 in Italian and other languages) evidenced by the acceptability of clitic climbing in various languages. Thus, the oddity of the raising constructions above follows because they are probably monoclausal.

(325) *MQD in PC*

a. amila al-awlaad-u kull-u-hum ?an ðahab-uu (kull-u-hum) ila as-suuq.
hoped._{3MS} the-boys-NOM all-NOM-3MPL SM went-3MPL to the-mall
'The boys all hoped to have {all} gone to the mall.'

b. qarrarat al-banaat-u kull-u- hunna ?an jadʒtamiŝ-na (kull-u-hunna) baakiran.
decided._{3FS} the-girls-NOM all-NOM-3FPL SM meet-3FPL early
'(The girls all decided to all meet early.)'

We see from the above data that multiple FQs in EC, as in (324), are not acceptable while they are acceptable in PC, as given in (325). This strong contrast provides further support for the restructuring analysis and its prediction given in (323)a; the prediction is borne out while the prediction of the biclausal approach (323)b is not.

The asymmetry in licensing multiple FQs seen above is in fact not only observed in SA; there is further crosslinguistic support for this asymmetry. As mentioned above, Costantini (2010) investigates the structural difference between EC and PC in Italian using the MQD. His study reveals an interesting similarity with the data from SA above. The data are given below for EC and PC in (326) and (327), respectively (from Costantini, 2010: 490-491).⁸³

(326) *MQD in Italian EC*

a. ??**Tutti** gli studenti lo hanno **provato** a leggere **tutti**.
all the students it-CL have tried to read._{INF} all
'{All} the students tried to {all} read it.'

b. ??**Tutti** gli studenti lo hanno **finito** di leggere **tutti**.
all the students it-CL have finished DI read._{INF} all

⁸³ The Italian EC data show clitic climbing of *lo* which is the hallmark of restructuring following Rizzi (1982). Notice that I bolded the embedding predicates for ease of exposition.

{All} the students finished {all} reading it.'

- c. ??**Tutti** gli studenti lo vanno a leggere **tutti**.
all the students it-CL go to read.INF all
'{All} the students go to {all} read it.'

(327) *MQD in Italian PC*

- a. **tutti** i ragazzi **sperano** di aver **tutti** superato l'esame.
all the boys hope DI have.INF all passed the exam
'All the boys hope they have all passed the exam.'
- b. **tutti** i ragazzi **si meravigliano** di aver **tutti** superato l'esame.
all the boys are surprised DI have.INF all passed the exam
'All the boys are surprised they have all passed the exam.'
- c. **tutti** i ragazzi **si chiedono** dove riunirsi **tutti** insieme.
all the boys wonder where gather.INF all together
'All the boys wonder where they all should gather.'⁸⁴

This shows that SA and Italian data all point to the same conclusion: EC and PC are structurally different. That the asymmetry of licensing multiple FQs in EC and PC arises in both SA and Italian provides ample support for the analysis put forward in this dissertation. We can clearly see that the predictions of the restructuring analysis regarding the MQD are borne out also in Italian: multiple FQs are not licensed in EC but licensed in PC. With EC predicates such as *try*, *finish*, and *go* in (326), multiple FQs with one associate, *the boys*, are not tolerated. On the other hand, with PC predicates (i.e., non-restructuring in our analysis)

⁸⁴ The Italian *si* is not glossed here following the glossing in the source.

such as *hope*, *surprised* and *wonder*, multiple FQs with one associate situated in the matrix clause are acceptable as shown in (327). How can we account for this?

The asymmetry with the MQD receives a straightforward explanation if we assume that EC and PC are structurally different as proposed in this chapter for EC and the previous one for PC. That is, if we assume that only PC is a biclausal structure that has PRO in the embedded clause, thus PC constructions have two *syntactic* subjects (see Grano, 2012 for an analysis of PC along the lines followed here; see also Chapter 3, §3.4 above). If this is on the right track, we capture all the requirements for FQs: PRO keeps the locality relation between FQs and its associate (PRO, in the embedded clause and the control, in the matrix clause). In other words, both the matrix and the embedded FQ have their own associates. This explains the acceptability of the MQD in PC. In SA PC, for instance, PRO would be the local binder of the agreeing clitic as well as be the associate of the embedded FQ. While I do not aim to provide a full explanation to the MQD, it suffices to say that it provides a unique testing ground for the structures of EC and PC that supports support the restructuring analysis and challenges the biclausal approach.

A qualification regarding Hornstein's argument for the MQD is in order. Within the MTC, Hornstein (2001) proposes that the MQD supports his proposal that the oddity of multiple FQs in OC, given below, follows because OC is a case of A-movement. Thus, the oddity of multiple FQs in OC is predicted, according to his reasoning, as given in (328).

- (328) a. ??The men both hope to have both eaten supper (by 6).
b. ??The men each hope to have each eaten supper (by 6).
c. ??The men all hope to have all eaten supper (by 6). (Hornstein, 2001: 60)

Hornstein (2001) argued that the oddity of the MQD with OC supports the MTC. Notice that the predicate used above, i.e., *hope*, is a crosslinguistic non-restructuring predicate and it is

also a PC predicate in English as argued for in Grano (2012). On the other hand, we have seen above that the MQD is widely acceptable with PC in SA and Italian. We thus face a paradox here when we take the three languages together: the MQD is acceptable in PC in Italian and SA, but not so in English. This should undermine the predictions of the proposed analysis and support the MTC.

However, further scrutiny reveals that the same asymmetry in EC and PC with the MQD is also evident in English. A Google search reveals various results where multiple FQs with PC predicates are used. This is given below (from Google searches).

(329) *MQD with PC in English*

a. They **all** decided to **all** join forces.

[from: <https://aussiehomebrewer.com/threads/adelaide-mash-brewers-club.27011/>]

b. We had **all** planned to **all** go to a concert together.

[from: <https://www.theknot.com/us/mallory-mccurry-and-jack-wellner-may-2019-0d6b819b-0cce-4d39-ba91-56f6affe9fab>]

The data above is more acceptable compared to Hornstein's data mentioned previously, even though both have PC embedding predicates.⁸⁵ Now, how can we account for the oddity in Hornstein's examples? In fact, the oddity in Hornstein's examples are not actually arguments for illicit MQD with PC, but instead actually argue against Hornstein's own assumption. He used *hope*, a PC predicate, in a non-PC triggering configuration. We clearly see that there is no collective predicate in these examples; that is, there are no predicates such as *meet*, *join*, *together* to make a PC interpretation arise in OC constructions. With the absence of such triggers, the construction is actually EC and thus the oddity of his examples is exactly what we

⁸⁵ Thanks for Nicholas Fleisher (Personal Communication) for judgement and for a helpful discussion on MQD in English.

are expecting given that we have the MQD with EC (recall that a PC predicate can participate in EC and PC constructions, see Landau, 2013 and the previous chapter in this dissertation for discussion). If this reasoning is on the right track, then the oddity of the data in (328) shows that English complies with the predictions of the restructuring analysis put forward here, assuming that EC is restructuring (see Grano, 2012, who argues that EC in English is restructuring). Thus, it follows that in these constructions we have one A-chain, in Hornstein's terms, in which the MQD should be illicit. This is consistent with our predictions. On the other hand, once we have genuine cases of PC where collective embedded predicates are used, the MQD is licit, as shown in (329), which again complies with our assumption that PC is a biclausal structure with embedded PRO.

Now, what about genuine EC constructions in English with the MQD? We predict that it should not be licensed with EC and we argue that Hornstein's examples are in fact EC. It turns out that the same is also observed with uncontroversial EC constructions in English as shown below:

(330) *MQD with EC in English*

a/ */?? The men all forgot to all go to the market.

b. */?? The girls all avoid all going to school.

Now we see that the asymmetry of the MQD with EC and PC is also observed in English. This provides support to the restructuring analysis that assumes EC and PC are structurally different. On the other hand, the biclausal approach (the ATC and the MTC) assumes that MQD acceptability would be the same in EC and PC given that both are biclausal; a prediction that is disconfirmed. Put differently, The MTC predicts that the MQD with EC and PC should be either licensed in both, or not licensed in both, given that both are biclausal

and both are a result of A-movement. That is, it does not predict that there would be an asymmetry in licensing the MQD among OC types. The same also extends to the ATC; EC and PC are both biclausal and both embed PRO. If this is so, the asymmetry with the MQD should not arise either; either it is acceptable in both EC and PC or unacceptable in both. All in all, it seems that the MTC predicts that the MQD should not be acceptable in both EC and PC (given that both are a result of A-movement and given Hornstein's use of the data in (328) to support the MTC). In contrast, The ATC seems to predict that the MQD should be acceptable in both EC and PC (given that both embed PRO). For the ATC, PRO is a local binder for the FQ, thus the locality requirement for FQs is satisfied. At any rate, the contrasting predictions of both the MTC and the ATC are not borne out and there is no uniformity in the licensing of the MQD. The fact that Costantini (2010) finds the MQD asymmetry in Italian data and we observe the same in SA and English argues against the uniformity prediction assumed in the biclausal approach.

We can thus conclude this section by asserting that floating quantifiers provide a unique and interesting testing ground for theories of control. The asymmetry in licensing the MQD where it is only licensed with PC in SA provides a new empirical finding in SA that receives further support from Italian and English. The MQD provides us with a novel way to examine the internal structure of constructions and it particularly sheds new light on the structures of EC and PC.

4.3.1.5 NPI Licensing

Another diagnostic that has been used in restructuring studies (Grano, 2012; Modesto, 2016) is the licensing of Negative Polarity Items (NPIs). NPIs have been widely assumed to be licensed locally (see Giannakidou, 2009; Grano, 2012; Modesto, 2016). That is, a clause-mate

negation is required for NPIs to be licensed. In SA, NPIs include *mut^flaqan/ ?abadan/ albattah* ‘never’, *?ay* ‘any’ (see Alanazi, 2013 for further discussion on NPIs in SA). The locality requirement is shown in the contrast below.

- (331) a. ***lam** jaqul fahd-un [?anna-hu ra?aa **?ay aħad** hunaaka].
 Neg.PST say.3MS Fahad-NOM that-him saw.3MS anybody there
 Intended: ‘Fahd did not say that he did not see anybody there.’
- b. qaala fahd-un [?anna-hu **lam** jara **?ay aħad** hunaaka].
 say.3MS Fahad-NOM that-him Neg.PST saw.3MS anybody there
 ‘Fahd said that he did not see anybody there.’
- c. ***lam** jaŕtaqid aħmad-u [?anna fahd-an s-juyaadiru **mut^flaqan** al-bajta].
 Neg.PST think.3MS Ahmad-NOM that Fahad-ACC FUT-leave never the-home
 Intended: ‘Ahmad did not think that Fahad would never leave home.’
- d. jaŕtaqidu aħmad-u [?anna fahd-an lan juyaadiru **mut^flaqan** al-bitā].
 thought.3MS Ahmad-NOM that Fahad-ACC Neg.FUT leave never the-home
 ‘Ahmad thought that Fahad would never leave home.’

We see from above data that the propositional predicates *say* and *think*, which are crosslinguistically non-restructuring, do not allow licensing NPIs at a distance, as shown in (331)a and (331)c. It thus follows, given that NPIs require a local negation licenser, that a matrix negation is not able to license an embedded NPI in these constructions. The same observation holds, for instance, in Brazilian Portuguese (BP), as shown in (332) (adopted from Modesto, 2016: 16).⁸⁶

⁸⁶ Boldface is added for clarity.

(332) a. *A Lina **não** disse que ela vai sair **nunca** . (BP)
 the Lina not said hat she will leave._{INF} never

Intended: ‘Lina didn’t say that she would never leave.’

b. A Lina disse que ela **não** vai sair **nunca**.
 the Lina said that she not will leave._{INF} never

‘Lina said that she would never leave.’

With this in mind, we can examine the predictions of the restructuring analysis and the biclausal approach with respect to NPIs. This is provided in (333).

(333) *Predictions about NPI in EC and PC*

a. **The restructuring analysis:** Matrix (upstairs) negation should license an embedded NPI in EC, but not in PC.

b. **The biclausal approach:** Matrix (upstairs) negation should NOT license an embedded NPI in EC and PC.

The data below examine these predictions.

(334) *Embedded NPI with EC*

a. **lam** juħaawil/jatadžannab aħmad-u [ʔan jaltaqi-a bi-ʔay **aħad**].
 Neg.PST try/avoid._{3MS} Ahmad-NOM SM meet-SUBJ._{3MS} with-any one
 ‘Ahmad did not try to meet/avoid meeting anybody.’

b. ħaawala/nasia aħmad-u [ʔan **laa** jaltaqi-a bi-ʔay **aħad**].
 tried._{3MS}/forgot._{3MS} Ahmad-NOM SM Neg.PRES meet-SUBJ._{3MS} with-any one
 ‘Ahmad tried/forgot not to meet anybody.’

c. ***(lam)** juħaawil aħmad-u ʔan juyaadir-a **mutʕlaqan** al-bajta.
 Neg.PST try.3MS. Ahmad-NOM SM leave-SUBJ.3MS never the-home
 ‘Ahmad never tried to leave home.’

(335) Embedded NPI with PC

a. ***/ʔʔlam** juqarrir/juxatʕitʕ aħmad-u [ʔan na-ltaqi-a bi-ʔay **aħad**].
 Neg.PST decided/planned.3MS Ahmad-NOM SM 1PL-meet-SUBJ with-any one

b. qarrara/xatʕatʕa aħmad-u [ʔan **laa** na-ltaqi-a bi-ʔay **aħad**].
 decided/planned.3MS Ahmad-NOM SM Neg.PRES 1PL-meet-SUBJ with-any one
 ‘Ahmad decided (for us) not to meet with anybody.’

c. ***lam/lan** jandama aħmad-u [ʔan saafar-na **mutʕlaqan** sawijan].
 Neg.PST/FUT regretted.3MS Ahmad-NOM SM travel-1PL never together

d. nadima aħmad-u [ʔan ***(lam)** nu-saafir **mutʕlaqan** sawijan].
 regretted.3MS Ahmad-NOM SM Neg.PST 1PL-travel never together
 ‘Ahmad regretted that we have never travelled together.’

The data above show a clear asymmetry in licensing embedded NPIs. On the one hand, we see that the embedded NPIs *anybody* and *never* are licensed in EC complements (334) by an upstairs negation. On the other hand, NPIs are not licensed in PC complements by a matrix negation, as shown in (335), where only a local (i.e., embedded) negation licenses the embedded NPIs as in (335)b and (335)d. Notice that we deal with PC constructions given that we have a singular controller (with matrix verbs inflected for singular) with embedded predicates inflecting for inclusive plural. This is a pattern of PC in SA that we have established in the previous chapter.

The above asymmetry provides further support for the restructuring analysis. It is in fact a borne-out prediction of the restructuring analysis as given above in (333)a. In particular, the restructuring analysis predicts that an embedded NPI in EC (not PC) constructions would be licensed provided that there is an upstairs negation, which is confirmed as we see above. On the other hand, the asymmetry in licensing embedded NPIs with EC and PC is puzzling to the biclausal approach and its predictions are not borne out. Notice that even if the biclausal approach adopted further assumptions to reconcile the facts of NPIs, the (new) prediction would, again, require a uniform (un)licensing of NPIs in both EC and PC, which would also be empirically challenged. Unless further stipulations are made within this approach to set PC and EC apart, there seems to be no conceivable way to account for the NPI asymmetry. The hypothesis that EC and PC are structurally different, however, provides a simple and elegant way to account for these facts. It is also crosslinguistically supported; we will see below that the same asymmetry is observed in BP (for further interesting NPI facts with restructuring in Hindi-Urdu, see Homer and Bhatt, 2019).

Modesto (2016) argues, along with Grano (2012), that EC are restructuring while PC are non-restructuring in BP. He convincingly shows that various asymmetries between EC and PC in BP including NPIs licensing support the structural difference between EC and PC. Similar to what we see in SA above, Modesto finds that in EC constructions with embedding predicates such as *try*, embedded NPIs are licensed with a matrix/upstairs negation. In PC constructions, on the other hand, an embedded NPI cannot be licensed by a matrix negation. This is shown below, where the *try*-construction in (336)a-b allows an embedded NPI with an upstairs negation, but this is not the case for *decide*-constructions, as shown in (336)c-d. This, again, militates against the biclausal approach and provides further support to the restructuring analysis.

(336) *NPI licensing in RC and non-RC constructions in BP*

a. A Lina **não** tenta ajudar **nunca** à sua mãe.
the Lina not tries help.INF never to her mother

‘Lina never tries to help her mother.’

b. A Lina decidiu **não** sair **nunca** (mais).
the Lina decided not leave.INF never (more)

‘Lina decided never to leave.’

c. *A Lina decidiu sair **nunca** (mais).
the Lina decided leave.INF never (more)

‘Lina decided never to leave.’

d. *A Lina **não** decidiu sair **nunca** (mais).
the Lina not decided leave.INF never (more)

‘Lina didn’t decide never to leave.’ (Modesto, 2016: 16)

4.3.1.6 Scopal ambiguity

Some scopal properties and interpretations have been found to be syntactically constrained. The scope of universal quantifiers is a case at hand. It is widely assumed that universal quantifiers are clause-bounded (Fox, 1995, 2000; Farkas and Giannakidou, 1996; Grano, 2012; Modesto, 2016; Wurmbrand, 2018). Farkas and Giannakidou (1996: 36) argue that the scope of universal quantifiers is syntactically restricted, proposing the constraint of the clause-boundedness of the universal quantifier (UQ) in (337).

(337) *Universal quantifier scopal restriction*

“An element in a clause S cannot be within the scope of a universal quantifier in a clause S' if S c-commands S'”

As a syntax-semantics interface property, the scopal restriction provides a diagnostic of clause structure of OC that is different from the ones discussed so far, which are syntactic in nature.

Let us establish first that the above constraint obtains in SA. Consider (338).

(338) *Scopal differences between simple vs. complex clauses*

a. raadʒaʒa tʰaalib-un kull-a masʔalat-in (fi al-kitaab-i).

reviewed.3MS student-NOM every-ACC question-GEN in the book-GEN

‘A student reviewed every question in the book.’ $\forall > \exists / \exists > \forall$

b. qaala tʰaalib-un ʔanna-hu raadʒaʒa kull-a masʔalat-in (fi el-kitaab-i).

said.3MS student-NOM that-he reviewed.3MS every-ACC question-GEN in the book-GEN

‘A student said that he reviewed every question in the book.’ $*\forall > \exists / \exists > \forall$

(338)a is a monoclausal, and thus the universal quantifier can freely take a wide scope, yielding an interpretation that for every question x there is some student (possibly covarying with x) who reviewed it (for every x such that x is a question, there is y such that y is a student, y reviewed x). The other interpretation is the surface reading, where it refers to a specific student such that he reviewed all the questions. On the other hand, the biclausal construction in (338)b lacks the first reading; the UQ cannot take a wide scope. In particular, the universal quantifier *kull* is restricted in the embedded clause, and it cannot take a wide scope over materials from

the matrix clause. We can thus safely conclude that the clause-boundedness constraint on UQ is observed in SA.

We now have another tool to examine the clause structure of EC and PC, and consequently to examine the restructuring analysis and the biclausal approach. The predictions of both analyses are straightforward. They are given in (339) and examined in the data in (340) and (341) immediately below.

(339) *Predictions about UQ in EC and PC*

- a. **The restructuring analysis’s predictions:** Given the locality constraint on UQ, an embedded UQ should take a wide scope in EC, but not so in PC.
- b. **The biclausal approach’s predictions:** Given the locality constraint on UQ, an embedded UQ should not take a wide scope in both EC and PC.

(340) *Scope of UQ in EC in SA*

a. *nasia/taʕallama tʕaalib-un ʔan jaʕull-a kull-a suʔaalin (fi al-kitaab).*
 forgot/learned.3MS student-NOM SM answer-SUBJ every-ACC question in the-book
 ‘A student forgot/learned to answer every question (in the book).’ $\exists > \forall / \forall > \exists$

b. *haawala-t tʕabiiba-t-un ʔan tuʕaalidʒ-a kull-a mariid^ʕ-in.*
 tried-3FS doctor.F-NOM SM treat-SUBJ every-ACC patient-GEN
 ‘A (female) doctor tried to treat every patient.’ $\exists > \forall / \forall > \exists$

(341) *Scope of UQ in PC in SA*

a. *qarrara tʕabiib-un ʔan na-zuur-a kull-a mariid^ʕ-in.*
 decided.3MS doctor.NOM SM 2PL-VISIT-SUBJ every-ACC patient-GEN
 ‘A doctor decided (for us) to visit every patient.’ $\exists > \forall / * \forall > \exists$

b. nadima zamiil-un ?an ħad^sar-na kull-a muħaad^sart-in.
 regretted.3MS colleague SM attended-2PL every-ACC lecture-GEN

‘A colleague regretted that we have attended every lecture.’ $\exists > \forall / * \forall > \exists$

The data above show various interesting facts. First, in EC a UQ can take a wide scope over matrix materials. The constructions in (340)a and (340)b are ambiguous. The strong reading is the narrow scope reading; i.e., the UQ does not take a wide scope. Thus, a particular student and doctor is in relation to the embedded phrase. Thus this yields an interpretation in (340)a, for example, that a particular student learned or forgot to solve every x such that x is a question. Second, the UQ in EC may also take a wide scope, yielding a fairly obscure, but available reading. That is, in (340)a, there is a reading where for every x such that x is a question, there is a student (covarying, probably) that he/she forgot/learned to answer x . The inverse reading is also possible in (340)b, with an interpretation along the lines that for every patient there is a doctor that treated him/her (where doctors covary with patients). The fact that these EC constructions are ambiguous provides support for the restructuring analysis, as its prediction is borne out.

On the other hand, PC constructions do not generally allow a wide scope of the UQ as shown in (341). (341)a does not manifest an inverse scope reading, thus it is not possible to infer an interpretation where for every patient there is a *different* doctor who decided to visit him/her (i.e., different deciders for different patients). (341)b similarly lacks the inverse reading.⁸⁷

Given the results of (340) and (341), we see that the predictions of the restructuring analysis are borne out; an embedded UQ can take a wide scope in EC, but not in PC. On the

⁸⁷ Recall that the interpretation for PC require a group reference in the embedded clause thus the inverse reading in (341)a would be something along: *a doctor decides (for us) to visit every patient*, which is not a possible.

other hand, the biclausal approach's predictions are incorrect since inverse scope indeed arises in EC. In fact, the results from UQs in SA in EC and PC are consistent with what is found crosslinguistically. Grano (2012) and Modesto (2016) report similar inverse scope facts for UQs, as shown in (342)a and (343)b for EC, and (342)b and (343)b for PC in English and BP. In addition, Hornstein (1998) finds that a PC predicate such as *hope* in English does not allow an inverse scope reading of UQs, as shown in (342)c.⁸⁸ Similarly, Wurmbrand (2001) argues that the same also holds with the PC predicate *decide* in German, shown in (344).

- (342) a. At least one person tried/managed to solve every problem. $\exists > \forall / \forall > \exists$
 b. At least one person wondered how/hoped to solve every problem. $\exists > \forall / ? \forall > \exists$
 (Grano, 2012: 62)
 c. Someone hopes to have attended every seminar. $\exists > \forall / * \forall > \exists$ (Hornstein, 1998: 126)

- (343) a. O Pedro tentou sair com todas as meninas da classe. (BP)
 the Pedro tried go.out.INF with all the girls in.the class
 'Pedro tried to go out with all/each girl in the class.' $\exists < \forall / \forall > \exists$
 b. O Pedro decidiu sair com todas as meninas da classe.
 The Pedro decided go.out.INF with all the girls in.the class
 'Pedro decided to go out with all/*each girl in the class.' $\exists > \forall / * \forall > \exists$
 (Modesto, 2016: 19)

⁸⁸ In fact, Grano's example (342)b of PC is not obvious to be genuine PC as it does not have the PC hallmark of an embedded collective predicate. I suspect that the marginal acceptability emerges because PC predicates are ambiguous and can participate in EC as well. This seems to be correct, considering Hornstein's example (342)c is stronger in resisting the inverse scope reading; this follows since the complement is in perfective tense/aspect, a property of PC as I argue along with Grano (2012), and it is not available to EC, as discussed at length in the previous chapter.

(344) Ein Professor beschloß jeden Studenten zu betreuen. (German)

Some professor decided every student to supervise

‘Some professor decided to supervise every student’ $\exists > \forall / * \forall > \exists$

(Wurmbrand, 2001: 195)

The above data show that PC predicates generally resist a wide scope of an embedded UQ while it is always more readily available with EC, a fact that seems to be robust crosslinguistically. Therefore, we see that the predictions of the restructuring analysis are borne out not only in SA, but crosslinguistically. On the other hand, the biclausal approach falls short in predicting this asymmetry between EC and PC.

A related phenomenon to the UQ restriction is adverbial modification and ambiguity.

The ambiguity of adverbial modification has various semantic and syntactic consequences (see Dowty, 1985; Higginbotham, 1980; Cinque, 2006; Keine & Bhatt, 2016, among others). Here, I will propose that at least some adverbs are similar to universal quantifiers in that an embedded adverb cannot modify a matrix predicate. This is shown below with the adverbs *quickly* and *again* (for a detailed discussion on the syntax and semantics of adverbial modification, see Keine and Bhatt, 2016 and references therein).

(345) qaala aḥmad-u [ʔanna-hu yaadara **bisurṣah/mudʒaddan**].

said._{3MS} Ahmad-NOM that-him left._{3MS} quickly/again

‘Ahmad said that he {quickly} left {again}.’

‘Ahmad {quickly} said {again} that he left.’

We see that the embedded adverb can only modify the embedded predicate *left*, not the matrix predicate *said*. Clause-boundedness on adverbial modification would thus suffice to explain this.

With this in mind, let us bring the EC/PC distinction into the picture. Our assumption is that EC constructions are restructuring while PC constructions are biclausal. An immediate prediction regarding adverbial modification arises; adverbial ambiguity can manifest in EC but not in PC. On the other hand, the biclausal approach predicts that no adverbial ambiguity would arise in both EC and PC. The predictions are summarized below.

(346) *Predictions about adverbial ambiguity*

- a. **The restructuring analysis:** An embedded adverbial should be ambiguous in EC, but not in PC.
- b. **The biclausal approach:** An embedded adverbial should not be ambiguous in both EC and PC.

Once again, the predictions of the restructuring analysis are borne out. This is shown below.

(347) *Adverbial ambiguity in EC*

a.	nasia	aħmad-u	?an	juħdʕir-a	al-maa?a	mudʒaddan.
	forgot.3MS	Ahmad-NOM	SM	bring-SUBJ.3MS	the-water	again
	‘Ahmad forgot to bring the water again.’					again >> bring
	‘Ahmad again forgot to bring the water.’					again >> forgot
b.	ħaawala	aħmad-u	?an	jarfaʕ-a	atʕ-tʕawailat	marratajin.
	tried.3MS	Ahmad-NOM	SM	lift-SUBJ.3MS	the-table	twice

‘Ahmad tried twice to lift the table.’ twice >> try = 2 attempts

‘Ahmad tried to lift the table twice.’ twice >> lift = 2 lifts

(348) *Lack of adverbial ambiguity in PC*

a. qarrara aħmad-u ʔan nu-ħdʕir-a al-maaʔa **mudʒaddan.**
decided._{3MS} Ahmad-NOM SM 2PL-bring-SUBJ the-water again

‘Ahmad decided (for us) to bring the water again.’ again >> bring

‘Ahmad decided again (for us) to bring the water.’ ?? again >> decided

b. ʔamila/qarrara aħmad-u ʔan na-zuura-a ar-rijadʕa marratajin.
demanded/ decided._{3MS} Ahmad-NOM SM 2PL-visit-SUBJ Riyadh twice

‘Ahmad hoped/decided (for us) to visit Riyadh twice.’ again >> visit

‘Ahmad hoped/decided twice (for us) to visit Riyadh.’ *again >> hoped/decided

We see from the data above that adverbial ambiguity arises in EC (347) but not in PC (348). This is exactly the prediction of the restructuring analysis. On the other hand, this pattern contrasts sharply with the prediction of the biclausal approach, which predicts no adverbial ambiguity would arise in both EC and PC, contrary to fact. Assuming that adverbial modification is clause-bounded, the restructuring analysis can account for the asymmetry above. This seems to be puzzling to the biclausal approach, at least if one hopes for a syntactic-based analysis. The discussion here aims to use adverbial modification ambiguity as a structural diagnostic of EC and PC, given that clause-boundedness seems to be at play. Assuming that our discussion is on the right track, adverbial ambiguity does show a scopal difference between EC and PC, which seems to be neither predicted by an A-chain analysis (the MTC) nor by a PRO-based theory (the ATC). The fact that the findings of the adverbial ambiguity are strikingly similar to the findings of UQs provides further support to the assumptions we adopt in this dissertation.

4.3.1.7 Absence of TP/CP properties: lack of sentential negation and Aspect

Here, I briefly revisit the temporal and negation properties of EC and PC complements that we have already established in the previous chapter (see §3.3.3). This is essential, as it is widely assumed that the absence of TP properties (as well as clausal properties) is a diagnostic for restructuring (Wurmbrand, 2001, 2013a, 2015; Grano, 2012). I argue, following Wurmbrand (2001) and other subsequent works, that restructuring complements are reduced in that they lack the properties of both CP and TP. As shown in the previous chapter, EC complements do not allow embedded perfective/past tense verbs. This is also the case in English and Greek (Grano, 2012) as well as German and Japanese (Wurmbrand, 2001), among other languages (see Wurmbrand, 2016 for a crosslinguistic survey). Clausal/sentential negation also provides another property where EC complements do not tolerate sentential negation while PC complements do. Below I discuss the two properties in turn.

Wurmbrand (2001) argues that (infinitives) restructuring lacks embedded tense, examining various properties of tense (such as irrealis infinitivals and tensed infinitivals) that set restructuring and non-restructuring complements apart. Let us take one obvious property related to temporal adverbials that sets EC and PC apart. Consider the German examples below.

(349) a. Hans vergaß/mißlang es (*morgen) einen Brief zu schreiben. (German)

John forgot/failed it (*tomorrow) a letter to write

‘John forgot/failed to write a letter (*tomorrow).’ (Wurmbrand, 2001: 80)

b. Hans hat beschlossen (morgen) zu verreisen.

John has decided (tomorrow) to go-on-a-trip

‘John decided to go on a trip (tomorrow).’ (Wurmbrand, 2001: 73)

Wurmbrand argues that *decide*-infinitives in German are tensed while *forgot*-infinitives are tenseless. This follows from the contrast observed above that only the former type (i.e., PC) licenses a future adverbial.

In the previous chapter, however, we argued that future temporals cannot accurately detect whether we have TP or not since it can follow from other syntactic properties (i.e., WollP as in Wurmbrand, 2014). I thus follow Grano (2012) in that perfective morphology/past tense is the hallmark of tense. Given that, consider the contrast in licensing perfective in EC and PC below, repeated from the previous chapter.

(350) *EC predicates do not allow perfective embedded verbs*

nasia/istat^ʕaaʕa/ħaawala aħmad-u ʔan juħd^ʕira / *aħd^ʕara al-kitaaba.
 forgot/managed/tried Ahmad_{-NOM} SM bring_{.IMP}/ brought_{.PRF} the-book
 ‘Ahmad forgot/managed/tried to bring/ *brought the book.’

(351) *PC predicates allow perfective embedded verbs*

tamanna/amila/tas^ʕawwara/fad^ʕd^ʕala aħmad-u ʔan juħd^ʕira/aħd^ʕara al-kitaaba.
 hoped/wished/imagined/preferred Ahmad_{NOM} SM bring_{.IMP}/brought_{.PRF} the-book
 ‘Ahmad hoped/wished/imagined/preferred to bring/have brought the book.’

The fact that PC, but not EC, allows embedded perfective (and past modifiers, of course) will be taken to indicate that PC projects TP. On the other hand, that EC does not license perfective (nor past modifiers) is evidence that EC does not project TP. In the previous chapter, I detailed various empirical support for this assumption, including V-to-T movement in SA and tensed negation, the latter of which I briefly discuss again below.

As discussed in detail in Chapter 3, SA has three tensed negation markers, namely future Neg, *lan*, past Neg, *lam*, and present Neg, *laa*. Only the last one is ambiguous between

sentential and constituent negation while the former two are exclusively sentential negation. I have argued above that EC, but importantly not PC, does not license tensed (sentential) markers. If our analysis so far is correct, then a prediction arises that such markers are not licensed in EC. This is borne out as given below.

(352) *EC does not license tensed negation markers*

nasia/ħaawala aħmad-u ʔan laa/ *lan/*lam juiyaadira al-manzil-a.
 forgot/tried Ahmad-NOM SM NEG.PRES/ NEG.FUT/NEG.PAST leave.3MS the-home-ACC
 ‘Ahmad forgot/tried not to leave home.’

(353) *PC license tensed negation markers*

tamanna/fadʕdʕala aħmad-u ʔan laa/ lan/lam juiyaadira al-manzil-a.
 hoped/preferred Ahmad-NOM SM NEG.PRES/NEG.FUT/NEG.PAST leave.3ms the-homeACC
 ‘Ahmad hoped/preferred that he_i does not/will not/did not leave home.’

The minimal pair above clearly shows the asymmetry in licensing tensed negation markers; only PC tolerate them. As for EC, tensed negation markers are not tolerated. Notice that *laa* is only licensed under the constituent negation, evidenced by the contrastive focus fact we discussed in section 4.3.1.3 .

It follows, then, that the intolerance of both embedded perfective and tensed negation in EC can be reduced to the assumption that the restructuring complement lacks tense; in particular, it does not project TP. On the other hand, the fact that PC complements can host embedded perfective as well as sentential tensed negation markers provides compelling evidence that PC complements project TP.⁸⁹

⁸⁹ In fact, if we follow Soltan (2007) who proposes that NegP in SA is above TP, then the licensing of sentential negation in PC would directly indicate the presence of TP and vice versa.

4.3.1.8 Cinque’s adverb restriction

Cinque (2001, 2004, 2006) provides an interesting and novel restriction on adverb co-occurrence. He particularly argues that an adverb cannot be used twice in monoclausals, as discussed in Chapter 2. This, to him, follows from his theory of adverbs in which he argues that adverbs are not adjuncts, but rather specifiers of semantically-corresponding phrases within Cinque’s hierarchy. A point of interest to us here is that these adverbs are situated in specifiers of semantically-corresponding functional heads.

Cinque’s hierarchy has attracted much attention and provides novel insights into syntactic structures (see Haquard, 2009; Grano, 2012, Zyman, 2018 among many others). In this respect, Cinque (2006) argues that restructuring follows from this hierarchy, which he takes restructuring verbs to comply with. This entails that all restructuring predicates are functional predicates, as discussed above (see §4.2.3). A corollary of this assumption is that (some) adverbs cannot be used twice in restructuring/monoclausal constructions, as argued for in Cinque (2006). This follows given that if we have a monoclausal structure, we have one position in which the adverb has to be situated. This property provides an interesting diagnostic for restructuring.⁹⁰ We already see that this diagnostic is valid with modality construction in Chapter 2. Now, let us see whether this restriction obtains also with EC constructions. Before, this, consider that this diagnostic also holds with uncontroversial monoclausals in SA such as copular constructions of *kaan* ‘be’, as given below.

(354) a. *kaana* *jadzrii* *aħmad-u* ***daa?iman/ bisiruſah.***
 was.3MS *run.3MS* *Aħmad-NOM* *always/quickly*

⁹⁰ Guglielmo Cinque (personal communication) points out to me that one has to be cautious with this diagnostic, as there are various adverbs that can co-occur in monoclausals as in (i). Notice, however, that the adverbs used above are highly marginal in uncontroversial monoclausals as examined in Chapter 2 and also in Albaty & Ouali (2018). Also, in the example given by Cinque below, the two cases of *often* seem to have different meanings: temporal and manner, which, if correct, provides an explanation for the co-occurrence.

(i) He often reads often at night.

‘Ahmad was {always} running {quickly}.’

b. *kaana **daaʔiman/ bisiruʕah** jadʒrii aħmad-u **daaʔiman/ bisiruʕah** .
 was.3MS always/quickly study.3MS Ahmad-NOM always/quickly

The paradigm above shows that using two instances of the same adverb is illicit in monoclausals (for a thorough investigation of copular constructions in SA, see Alharbi, 2017). With this in mind, we can now test our predictions of EC and PC. In particular, the restructuring analysis predicts that EC constructions would not tolerate two instances of the same adverb. The biclausal approach, on the other hand, predicts that two instances of the same adverb would be acceptable in both EC and PC, given that both are biclausal. Consider the data in (355).

(355) co-occurrence restriction of an adverb in EC and PC

a. nasia/ħaawala aħmad-u **bisiruʕah** ʔan juiyaadir-a (??/***bisurʕah**).
 forgot/tried.3MS Ahmad-NOM quickly SM leave.3MS-SUBJ quickly
 (‘Ahmad quickly forgot/tried to ??/*(quickly) leave.’)

b. qarrara/xatʕtʕatʕa aħmad-u **bisiruʕah** ʔan nu-yaadira (**bisurʕah**).
 decided/planned.3MS Ahmad-NOM quickly SM 1PL-leave- SUBJ quickly
 (‘Ahmad quickly decided/planned (for us) to quickly leave.’)

We see that we have a clear asymmetry in the acceptability of adverbs’ co-occurrence. We see that two instances of the same adverb are not acceptable in EC constructions as shown in (355)a but are acceptable in PC constructions as in (355)b. This, once again, shows that EC and PC should not have a uniform structure. The restructuring analysis I put forward here predicts this asymmetry. On the other hand, the biclausal approach struggles to account for this

asymmetry, given that it assumes both EC and PC are structurally uniform and that both are biclausal. Thus, the fact that EC (and not PC) conforms to Cinque’s restriction on adverbs in restructuring provides a further argument that EC constructions in SA are restructuring and PC constructions are non-restructuring.

4.3.1.9 Backward Control

Here, I would like to end my discussion on restructuring diagnostics in SA with some interesting and puzzling word orders found in SA that I label here as Backward Control (BC), following the terminology used in Polinsky and Potsdam (2002, 2006). Notice, however, that I just use BC as a description. I will, in fact, argue that there is no control in BC, in Arabic at least (for a related discussion and various arguments, see Albaty and Ouali, 2018 in which we argue that BC in Moroccan Arabic and Najdi Arabic is restructuring along the lines suggested here). I have already discussed BC in Chapter 3 and showed that Arabic indeed manifests the same pattern with all OC predicates (see also §4.3.1.2. below for discussion of agreement patterns with BC). While Polinsky and Potsdam (2002, 2006) propose an MTC analysis for BC in Malagasy, I argue that BC in SA is not control and will show that an MTC analysis for SA data would encounter various empirical challenges (see §5.5 below). First consider the data below.

(356) a. *nasia/ħaawala aħmad-u [ʔan jaftaħ-a albaab-a] .*

(FC)

forgot/trying.3MS Ahmad-NOM SM open-SUBJ.3MS the door.ACC

‘Ahmad forgot/trying to open the door’

b. *nasia/ħaawala [ʔan jaftaħ-a aħmad-u albaab-a] . (BC)*

forgot/trying.3MS SM open-SUBJ.3MS Ahmad-NOM the door.ACC

‘Ahmad forgot/trying to open the door’

In (356)a, we see that we have VSVO, which is considered a canonical (i.e., forward) control word order, given that Arabic manifests both VS and SV word orders. (356)b, on the other hand has the VVSO word order in which the overt subject is flanked within embedded materials, clearly following the embedded verb. As alluded to in the previous chapter, this pattern of control has been taken to be the strongest argument for the MTC and against the ATC. Here, I propose that BC is a restructuring (i.e., transparency) diagnostic that only obtains with monoclausals, contra Polinsky and Potsdam’s analysis.⁹¹ I will not try to account for it here, however, and will devote a later section for an analysis that I claim to be crosslinguistically valid (see Chapter 5, §5.7).

If the assumption that BC is a restructuring diagnostic is correct, then an immediate prediction arises: BC should only be found with EC, and importantly should not be found with PC. We already show that EC does allow BC in (356)b, thus the prediction is partially borne out. What about PC with BC? The data below show that BC cannot be obtained with PC, and therefore the other part of the prediction is also borne out.

- (357) *qarrara/xatʔtʔatʔa [ʔan na-ftaħ-a **ahmad-u** albaab-a] .
 decided/planned._{3MS} SM 1PL-open-SUBJ Ahmad-NOM the door.ACC
 Intended: ‘Ahmad decided planned (for us) to open the door.’

This is as straightforward as one could wish for. The contrast in acceptability of VVSO (i.e., BC) between EC and PC is quite sharp. This is an indication that BC can be used as a

⁹¹ To my knowledge, Hallman (2011) was the first to propose that VVSO in Arabic is a diagnostic for restructuring. Here I argue that his assumption is correct, but his analysis of restructuring as biclausal is not. In particular, he adopts the Head Movement analysis of restructuring (see Chapter 1 for discussion) that operates on a biclausal structure. However, I have shown above that biclausality of EC (which, as will be shown below, is the only OC type that allows BC) cannot be maintained. In Albaty and Ouali (2018), a host of arguments against his analysis are also provided.

restructuring diagnostic, as I argue for here. There is a complication, however. Consider the data below.

- (358) qarrara/xat^ʕt^ʕat^ʕa [ʔan jaftaħ-a **ahmad-u** albaab-a].
 deicded/planned._{3MS} SM open-SUBJ._{3MS} Ahmad-NOM the door._{ACC}
 a. ‘Ahmad decided/planned to open the door.’
 b. ‘Someone decided/planned for Ahmad to open the door.’

Here, we see that BC is actually possible with the same PC predicates (i.e., *decide* and *plan*) used in (357), which show resistance to BC. The fact that the sentence is ambiguous comes from a PC property that it can host an embedded overt subject, as shown in Chapter 3. Thus, the no-control meaning (i.e., (358)b) is not of interest to us here. How can we solve the paradox observed in (357) and (358)a? Luckily, the answer is straightforward: (358) is not a PC construction but rather an EC construction, even though it has PC predicates (recall our discussion in MQD above, §4.3.1.4) . In fact, PC predicates are always EC predicates, unless an embedded collective predicate (or plural inflection, as I argue in the previous chapter) is present, as alluded to above with respect to the MQD. This is what Landau (2000) has already established, as it is quite evident from English constructions such as *John decided to go to the mall*, where it cannot mean that John decided for himself and someone else to go to the mall (i.e., the PC interpretation cannot arise). Thus, the PC predicate *decide* in (358)a is actually EC. Since now we have established that PC predicates are *generally* ambiguous when used with non-finite complements (i.e., infinitive as in English or subjunctive as in SA and Greek), below I provide various arguments that BC in SA is only acceptable with EC and that BC in PC is just an illusion.

We have established that PC has two distinctive properties: collective predicates (in infinitive complements), embedded plural inflection (in finite complements) or embedded

perfective/tense. We have already seen that BC with an embedded predicate inflected for plural is not acceptable as shown in (357). More evidence that BC cannot obtain with PC comes from the second property of PC: the license of perfective/past tense. Due to semantic restrictions, we cannot use embedded perfective with *decide* and *plan* since you cannot decide or plan for something in the past (unless you exist in a world where time machines work properly – luckily not ours). Therefore, I will make use of other PC predicates for the moment and will return to show that PC of *decide* and *plan* is incompatible with BC. Consider the data below where I use *regret* and *hate* with an embedded perfective.

- (359) nadima/kariha **aħmad-u** [ʔan saafara (***aħmad-u**) ila al-xaaridzi] .
 regretted/hated._{3MS} Ahmad-NOM SM traveled._{3MS} Ahmad-NOM to the-abroad
 ‘Ahmad regretted/hated travelling abroad.’

We clearly see that only the forward pattern of control is possible with PC predicates containing an embedded perfective. Notice that the sentence with VVSO can have a non-control reading (i.e., someone regretted that Ahmad traveled abroad) but it is not of our interest here. The fact that genuine PC constructions (i.e., those with an embedded perfective) do not license BC supports our assumption that BC is only possible with EC.

Let us now get back to *decide* and *plan*. Recall that PC constructions allow embedded tensed negation markers *lam* and *lan* for past and future, respectively. Consider the paradigm in (360). The contrast below is obvious in that it is only forward control that is allowed with PC as shown in (360)a. (360)b, on the other hand, is illicit. One can account for this by arguing that it is BC that induces a Condition C violation; *pro* in the matrix clause would bind *my father* in the embedded clause, which is illicit.

- (360) a. qarrara/ xatʔatʔa waalid-ii [ʔan lan nu-saafira ila al-xaaridzi].
 decided/planned._{3MS} father-my SM Neg._{FUT} 1PL-traveled to the-abroad

‘My father decided/planned (for us) not to travel abroad.’

b. *qarrara/ xatʔtʕatʕa [ʔan lan nu-saafira waalid-ii ila al-xaaridzi].
decided/planned._{3MS} SM Neg._{FUT} 2PL-traveled father-my to the-abroad

The discussion above supports the assumption that BC is only possible with EC, thus it is taken as a restructuring diagnostic. This is supported by the resistance of BC in PC constructions, as shown above. We have also seen that PC predicates do not straightforwardly entail PC constructions since PC predicates can also participate in EC constructions (recall that there is also evidence that EC can participate in PC, as shown in the previous chapter with the ability modal in SA; see also Sevdali and Sheehan, 2018). I do not intend to provide an analysis for BC here as this will be provided in the next chapter (§5.7).

4.4 Conclusion

This chapter extended the findings and assumptions of the previous chapter and examined how EC constructions in SA are analyzed under three theories of control (the ATC, the MTC, and the RTC). In the first part of this chapter (§4.2), I juxtaposed the structures that these theories assume for EC in SA with my analysis. Given that the theories at stake all seem to successfully derive the word order and the basic facts of EC, we have put them into action and examine their predictions to additional empirical properties of EC. In this respect, I have provided various restructuring diagnostics that, I argue, show support to the restructuring analysis and challenge the biclausal approach (the ATC and the MTC) as well as the RTR. The diagnostics reveal a clear asymmetry between EC and PC on different empirical grounds. A number of these arguments have been drawn from previously unnoticed data in SA such as voice matching, the agreement puzzle of BC, inverse scope. If this is on the right track, then these diagnostics (i.e., transparency effects) strongly support the hypothesis that SA is a restructuring

language and that EC should be analyzed as a restructuring configuration (at least in SA, though there is crosslinguistic evidence that this extends to other languages as well; see Grano, 2012). The diagnostics have also drawn a clear distinction that EC constructions are monoclausal and PC are biclausal.

On the one hand, I have systematically shown that EC requires voice matching (§4.3.1.1), shows the agreement asymmetry of both verbs with one subject (§4.3.1.2), and allows extraction out of its complement (§4.3.1.3). In addition, EC licenses a floated QP in its complement with a raised associate DP and does not tolerate multiple floating QPs (§4.3.1.4). It also provides a transparent domain for NPIs licensing and shows scopal ambiguity with UQs and adverbials (see §4.3.1.5 and §4.3.1.6., respectively). I have further argued that EC complements are not TPs or CPs in that they do not show sentential properties such as negation and perfective aspect/tense (§4.3.1.7). Finally, we have seen that EC constructions are compatible with the restriction on adverb co-occurrence (Cinque, 2006; §4.3.1.8) and that they allow various subject positions, a property that makes it possible to have backward control constructions (§4.3.1.9). On the other hand, PC constructions show precisely the opposite with respect to these properties. In general, they lack transparency and clearly show sentential complementation.

The various diagnostics considered in this chapter provide a unique empirical ground for testing the predictions of the relevant theories. We have seen that some of these diagnostics examine the syntactic properties while others examine the semantic properties. These diagnostics have thus presented compelling and comprehensive arguments that EC and PC are structurally different. With these findings, I argue that a more promising analysis can be found by pursuing a restructuring analysis for EC, which would account for its properties without raising the empirical issues we have seen with the biclausal approach. This will be the task

taken up in the next chapter where I discuss the restructuring analysis in detail and lay out how it avoids the challenges that arise with the alternative analyses.

I conclude this chapter with a summary of the restructuring diagnostics discussed above and their interactions with both EC and PC.

Property	EC	PC
Voice matching	obligatory	optional
Agreement with one goal	obligatory	impossible
Extraction of complement	transparent	opaque
Floating quantifiers	transparent	opaque
Multiple floating quantifiers	impossible	possible
Licensing NPI at distance	possible	impossible
Scope ambiguity of embedded adverb and UQ	possible	impossible
Complement with TP/Asp properties	impossible	possible
Adverb co-occurrence	impossible	possible
Backward control	possible	impossible

Table 4: Summary of the diagnostics of restructuring and compatibility with EC and PC in SA.

5. Exhaustive Control is restructuring

5.1 Introduction

In the previous chapter, I have devolved a host of diagnostics and arguments that show the distinction between EC and PC. We have seen that EC exhibits various transparency effects that argue that it is a monoclausal restructuring. In this chapter, I will provide in more details the restructuring analysis and the assumptions I am adopting. I will also systematically show how other alternative theories face numerous empirical issues. Various crosslinguistic arguments will also be examined and argued to support the proposed analysis.

The chapter is organized as follows. Building on the facts from the previous chapter, I will start out by reiterating the challenges that EC in SA pose to the MTC, the ATC and the RTR. In section 5.3, I will present a detailed discussion about the restructuring analysis, its main assumptions, and its empirical coverage. I will argue that the proposed analysis does not only cover the basic facts about EC, but also derives different facts that are puzzling otherwise, such as the agreement asymmetry, voice matching, adverbial position with respect to the subject and verbs, among other things. I will also demonstrate that the adopted assumptions are either independently motivated for SA or crosslinguistically supported. In section 5.4, I will show how a purely semantic mechanism derives the fact of the agent of the embedded phrase without recourse to postulating an embedded syntactic subject, which we have seen compelling evidence against it. Section 5.5 provides an additional new argument against movement-based theories of EC such as the MTC and RTR. I will then revisit the agreement puzzle we have discussed in the previous chapter in section 5.6. I will particularly demonstrate how postulating an embedded subject, be it a null copy, PRO, or *pro* always gives rise to incorrect agreement patterns in SA. On the other hand, I will show how the

agreement puzzle is naturally solved within the restructuring analysis. Finally, Section 5.7 examines backward control in SA and shows how it is derived by the same analysis proposed for forward control. Thus, a uniform analysis for EC will be provided. In this respect, I will consider a crosslinguistic consequence of this analysis to backward control and show that it seems to account for backward control in Greek, a language that has been examined widely within the MTC. I finally conclude the chapter in Section 5.8.

5.2 Against the MTC, the ATC, and the RTR

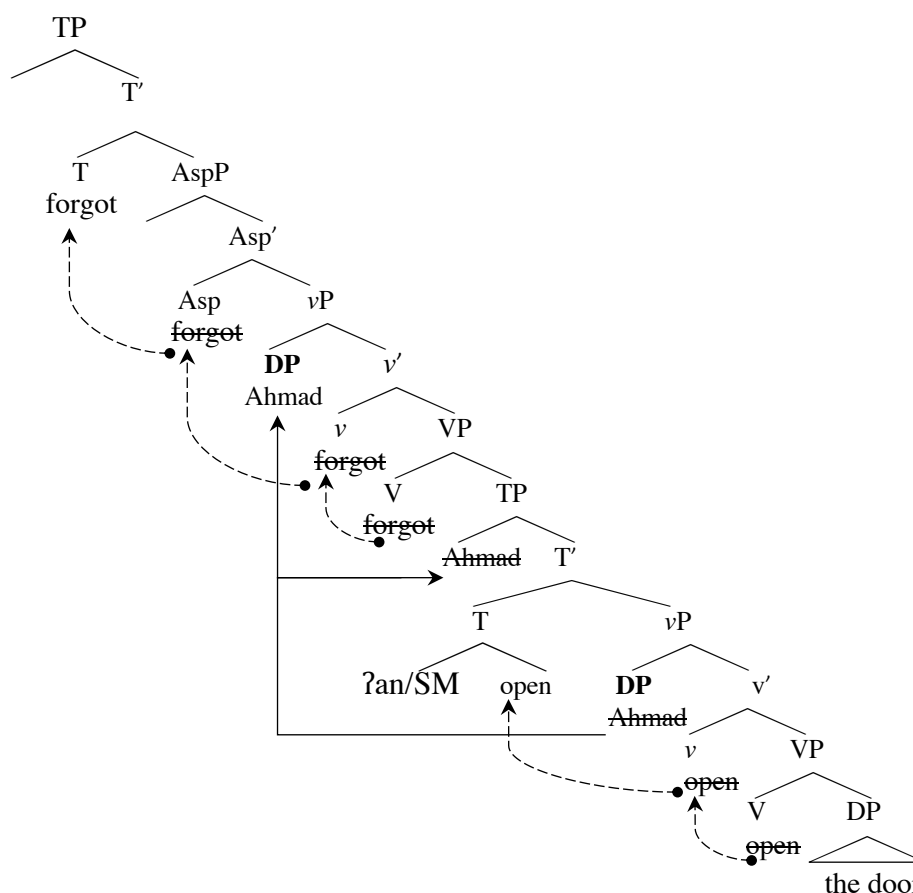
We have seen above that the properties of EC militate against a biclausal analysis along the lines of the ATC or the MTC, which we have conclusively shown generally yield incorrect predictions. Before providing an explicit alternative analysis, this section recapitulate the essence of the MTC, ATC, and the RTR as analyses for EC and discuss how they all face various empirical issues. I will then discuss the restructuring analysis in detail in the next section.

For concreteness, recall that the MTC derivation of the sentence (361), repeated from (272) above, is the one in (362), repeated from above.⁹²

(361) nasia aħmad-u [ʔan jaftaħ-a al-baab-a].
 forgot._{3MS} Ahmad-NOM SM open-SUBJ._{3MS} the-door-ACC
 ‘Ahmad forgot/tried to open the door.’

⁹² For ease of exposition, I ignored some projections and movements that are not of importance to the current discussion. This includes the distinction between vP and VoiceP, a point that I will return to below; some head movements within the embedder phrase (such as V-to-T) are also ignored.

(362) *The Movement Theory of Control (MTC) for EC in SA*



We have already argued that an MTC analysis for EC in SA faces enormous problems and that the diagnostics of restructuring discussed above all argue against it. Thus, I argue that an analysis of the MTC for EC in SA along the lines of (362) is untenable. Arguing that EC constructions are biclausal, the MTC falls short in accounting for various *seemingly* locality violations (under the MTC). These include floating QPs, multiple floating QPs (the MQD), inverse scope of UQs, and the scope of adverbials. It also struggles with other diagnostics of restructuring used above such as Cinque’s restriction on adverbs’ voice matching.

A clarification on the structure above is in order. I argue throughout the thesis that *ʔan* head is not a C head, but a subjunctive marker head (see Chapter 2 for arguments, and Albaty & Ouali, 2018 for extension of this assumption to Arabic varieties). Nonetheless, in the

structure in (362), *ʔan* is analyzed as a T head here. This is a simplification and if, following the assumption of this thesis, it projects a MoodP, nothing hinges on it against the MTC. If, on the other hand, I adopted the standard assumption about *ʔan* as a C head, the embedded clause should be a CP (see Fassi Fehri, 1993, 2012; Soltan, 2007; Aoun et al. 2010). This would just add a further complication for the MTC as CP is a phase and extraction of a phase is not, in principle, possible unless the subject is at the edge of the phase (Chomsky, 2005). In fact, Boeckx et al., 2010 (ft. 12) indeed points out the issue of CP-complements to the MTC and suggest that if the CP selects a ϕ -incomplete TP, CP should not count as a strong phase. Evidently, this would not help in the case of SA as it is obvious that we deal with ϕ -complete TP (within the assumptions of the MTC). Since we have an abundance of compelling empirical arguments against the MTC and I argue that *ʔan* is not a C head, I assume that a conceptual argument along the lines of CP-complementation and improper movement are not at stake here and I will thus assume, for the sake of argument, that the MTC has all it needs to work, though it clearly does not. I elaborate below.

Among the further issues with the MTC discussed above, here I will pay further attention to the voice matching fact of EC (I will discuss the agreement puzzle in a separate section below, §5.6). Considering the structure above, there seems to be no conceivable way to force that both Voice heads (or *v* heads for simplicity here) bear the same feature (+passive/+active, for instance). Suppose that the embedded clause is active and the matrix is passive. In such a case, the embedded subject (which happens to be the same as the matrix subject in EC) does not need to move to the matrix clause. This is so for two reasons: first, assuming with Hornstein (2001, 2003, seq.) that the matrix predicate has a theta *feature*, if the matrix predicate is in passive, there is no external theta feature to value. Therefore, the embedded subject (*Ahmad*) does not need to move to the matrix clause and it ends up in Spec, T of the embedded clause or in its base-generated position, Spec, *v*P.

Second, the MTC assumes that the embedded subject moves to the matrix clause to check/value Nom Case. But this assumption is parametric and SA (finite languages in general) can in fact check/value Nom Case in situ within the embedded non-finite clause. This is shown in (363). Greek (see Kapetangianni, 2010 and Grano, 2012) shows the same behavior as discussed with PC constructions in the previous chapter. These MTC assumptions would yield voice mismatched constructions of EC, which is empirically challenged as discussed above (see §4.3.1.1).

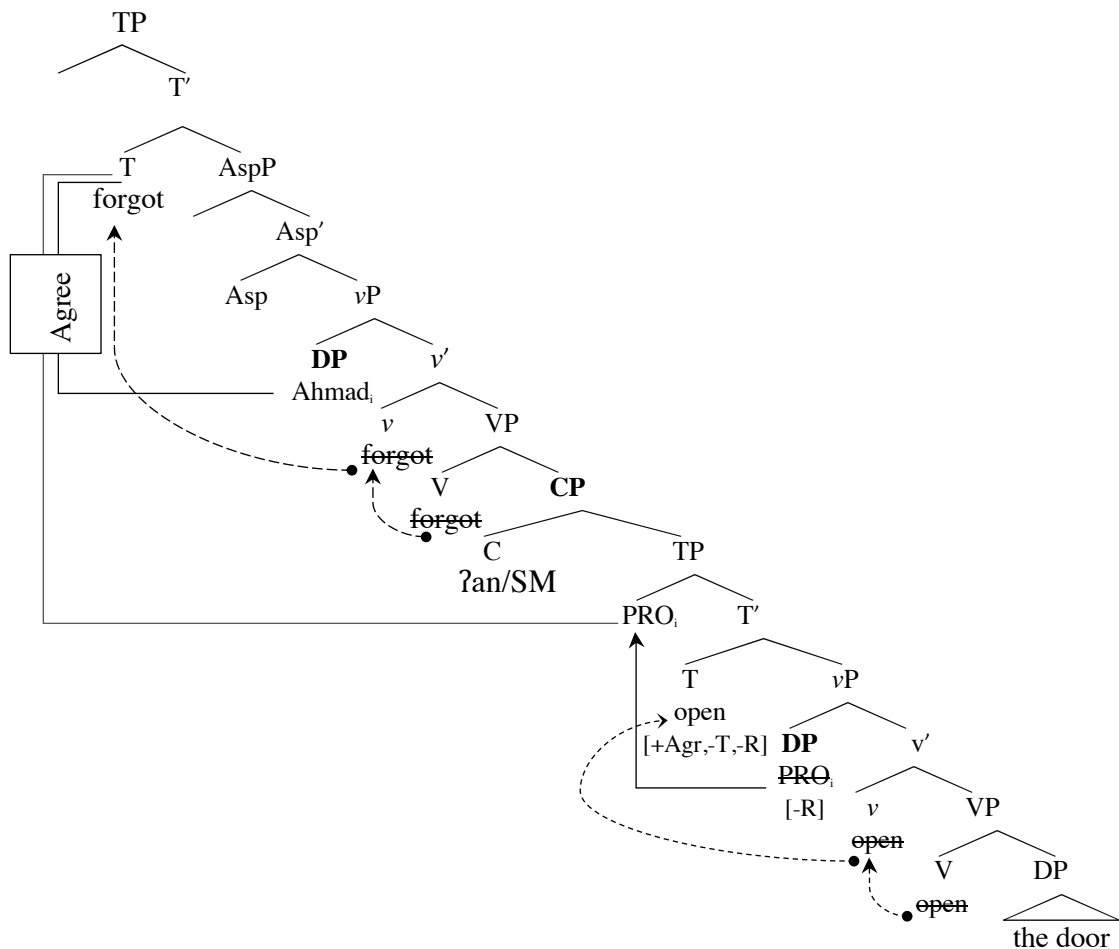
- (363) ʔaraada aħmad-u [ʔan jaftaħ-a al-walad-u al-baab-a] .
 wanted._{3MS} Ahmad-_{NOM} SM open-_{SUBJ,3MS} the-boy-NOM the-door-_{ACC}
 ‘Ahmad wanted the boy to open the door.’

There is in fact a further problem for the MTC with SA. Soltan (2007) argues that SA does not make use of A-movement altogether. He provides various arguments including Case checking in raising, passive, ECM, and deontic modality constructions. All show that SA does not license Case (or establish Agree) through A-movement. The MTC, on the other hand, fundamentally builds on the assumption of A-movement for case/theta checking (see Hornstein, 2001, 2003, seq.; and the previous chapter). Therefore, if A-movement does not manifest in SA, the MTC cannot be adopted for OC in SA. I nonetheless argue that even if we, for the sake of argument, assume that A-movement obtains in SA (which I propose to be the case in SA), the MTC does not survive under further scrutiny and the various arguments that this thesis provides lead us to reject the MTC at least as an analysis for OC in SA. In fact, as discussed in the previous chapter, the MTC is even challenged by the strongest argument used in its favor (i.e., backward control). This has been discussed in §4.3.1.2 where we saw that the MTC predicts incorrect agreement patterns. I will also point out further empirical problems with the MTC in this this chapter.

The ATC does not fare well with EC facts either. As argued above, it fails to predict various properties of EC which I take to be restructuring diagnostics. Since the ATC assumes a biclausal structure for EC, similar to the MTC, I argue that it similarly falls empirically short in the diagnostics of restructuring discussed above. Thus it is also an inadequate analysis of EC in SA. For concreteness, let us consider again the ATC derivation for the sentence in (364), repeated from (272) above, given in (365), repeated from (275) above.

- (364) nasia/ħaawala aħmad-u [ʔan jaftaħ-a al-baab-a] .
 forgot/tried._{3MS} Ahmad-NOM SM open-SUBJ._{3MS} the-door-ACC
 ‘Ahmad forgot/tried to open the door.’

(365) *The Agree Theory of Control (ATC) for EC in SA*



The structure above is similar to Landau's (2004) analysis for the OC (EC, in particular) he proposes for Balkan languages, which is quite similar to SA with respect to subjunctive markers and finite control, as we have seen from the Greek data discussed throughout this thesis. Furthermore, Landau proposes that subjunctive markers in Balkan (*na* in Greek, *da* in Bulgarian, *să* in Romanian) are complementizers, which is also the typical assumption for *ʔan* in SA as alluded to above. Thus, we have *ʔan* in C in the above structure.⁹³

As I already pointed out, the ATC faces the same empirical issues with the MTC. In other words, I argue that it cannot account for the restructuring diagnostics/arguments I provided above (§4.3.1). To take one issue, as is widely known and also acknowledged by Landau (2015) himself, the ATC does not even allow for the backward control configuration regardless of the agreement puzzle in SA discussed above (§4.3.1.2). This is due to a C condition violation since in BC we would have (V-PRO-V-S-O) with the subject and PRO coindexed for the control interpretation to obtain. Other issues are equally problematic such as voice matching, the adverb co-occurrence restriction (i.e., Cinque's restriction), and scope properties, for all of which I argue that any biclausal analysis would fail to account. In addition, the postulation of a null embedded subject (PRO) gives rise to further problems, such as with the agreement patterns in BC, as will be discussed further below. I therefore conclude that the ATC is not an adequate analysis for EC (at least in SA).⁹⁴ We are thus left with the RTR.

⁹³For clarity, I ignored the various Agree relations the ATC assumes since we have already discussed them in Chapter 3.

⁹⁴ There is in fact a further problem with the ATC due to the assumption that subjunctive markers (SMs) are C heads. This is because we have already established that there is a strict adjacency between the SM and the verb in SA (see Chapter 2, and Albaty and Ouali, 2018 for a detailed discussion). If so, then V must move to C through T, and thus we have a T-to-C movement. But this contradicts Landau's (2001, 2004, 2013) assumption that EC does not have a T-to-C movement, which should only be possible with PC (recall that T-to-C movement allows for the indirect agree that gives rise to PC). But if T-to-C movement is required even in EC due to the adjacency requirement in this language, then there is no direct Agree between the matrix T and PRO (since T-agr would be a closer goal) and therefore EC predicates should tolerate PC interpretation, which is not borne out.

The RTR is a restructuring analysis that should account for the restructuring diagnostics above. However, we have already shown that it is problematic and fails on empirical grounds, because it assumes a raising analysis to EC. This assumption has been challenged by various arguments including passivization, agreement patterns in BC in SA, and language acquisition (see §4.2.3). I will also provide a new and additional argument against it in section 5.5 below. Therefore, the RTR is also an inadequate analysis of EC in SA. Given that I argue against all the aforementioned theories, I lay out below my alternative analysis for EC.

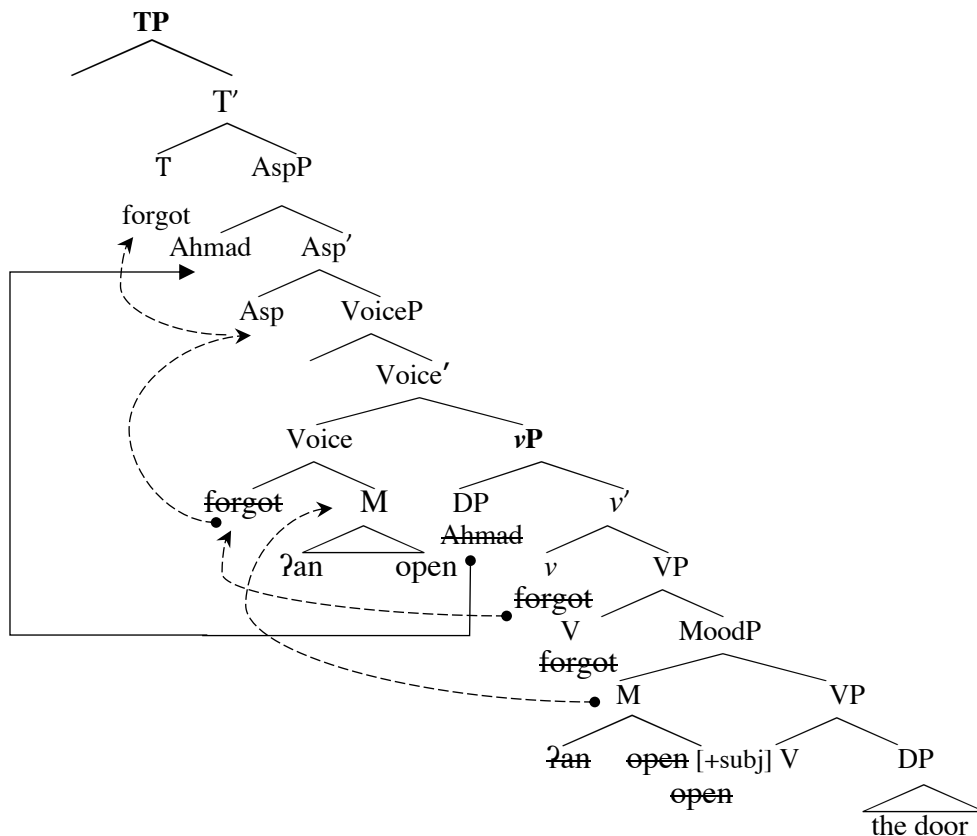
5.3 The restructuring analysis

I would like to begin by reiterating the assumptions I adopt in this thesis. First, following the hypothesis along the lines of Wurmbrand (2001), I argue that EC constructions are restructuring monoclausals. The definition adopted here for restructuring is that a restructuring structure has one CP, one TP, and one external argument (i.e., one subject). This forms the basic foundation of my analysis for EC in SA. In addition, I pursue a conservative Minimalist approach to clause structure by arguing that we do not have functional projections without morphological or semantic evidence for them. This is important when considering the structure of the embedded clause where I argue that neither TP nor CP project in the complements of EC evidenced by the fact that restructuring does not allow embedded tense/perfective or tensed negation markers.

With the above assumptions in mind, the restructuring analysis for the EC sentence in (361), repeated below as (366), is given in (367), repeated from (285) (the dotted lines show head movement while the solid lines show XP-movements).

(366) *nasia/ħaawala* *aħmad-u* [*?an* *jaftaħ-a* *al-baab-a*] .
 forgot/tried._{3MS} Ahmad-NOM SM open-SUBJ._{3MS} the-door-ACC
 ‘Ahmad forgot/tried to open the door.’

(367) *The restructuring analysis for EC in SA*



In the analysis above, I assume various head movements, most of which are independently motivated and widely assumed in SA (see Benmamoun, 2000; Soltan, 2007; Aoun et al., 2010; Tucker, 2011; Ouali, 2014; Crone, 2017; Albaty and Ouali, 2018). In general, I argue that these head movements are motivated by feature checking/valuation along the lines assumed in Minimalism. The first one (from the bottom) is the movement of the embedded verb to a Mood head. This movement is driven by the feature [u: Subjunctive] on the verb that needs to be valued against the subjunctive head *?an* (see Harley, 2013 for a discussion on verb movements driven by morphological/inflectional heads). This movement derives the strict

adjacency between the subjunctive marker and the subjunctive embedded verb (see Chapter 2 for a discussion on the adjacency fact; see also Albaty & Ouali, 2018 for a related discussion). Next, we have the embedding verb *forgot*, selecting for a MoodP, a selection that follows given that control verbs almost always select subjunctive phrases. This verb moves to *v* and then to Voice. Subsequently, the embedded verb also moves to the Voice head to check/value its voice features.⁹⁵ This movement is driven by morphosyntactic features; that is, since both verbs bear voice morphemes (active or passive) assuming such a movement to Voice is supported. This assumption proves essential as it also bears on the voice matching property that EC has, as discussed above in section 4.3.1.1 above. Since the embedded verb *open* is already adjoined to the Mood head, the whole complex head (M) moves to Voice. Head movements higher than VoiceP are only possible for the embedding predicates. This is not a stipulation but in fact is empirically motivated in SA. I elaborate below.

The morphosyntactic features I assume to motivate verb movements to Voice also motivate the embedding verb (*forgot*) to move further. That is, since only the embedding verb bears [u:Asp] and [u:T], it moves from Voice to both Asp and T. As alluded to above, head movement to inflectional heads (e.g., Asp and T) in SA seems to be uncontroversial. These two movements of the embedding verb are independently argued for in Benmamoun (2000) and Aoun et al. (2010), among others. In particular, one might assume that T (and Asp as well) bears a strong [+V] feature which gives rise to head movements of the verb to Asp and then to T. An alternative is to assume that the verb comes from the lexicon with uninterpreted features

⁹⁵ A question that arises with respect to both verbs moving to Voice is whether they should form a complex head, and thus they are a constituent that must move together. There is empirical evidence from cliticization in Romance languages and verb fronting in various other languages that this should not necessarily be the case (Roberts, 2010; Preminger, 2018). Consider an example from Italian (adopted from Lambova, 2004: 84):

- (i) **La** volevo t+chiamare t ieri.
 her.CL want-PT.IP.SG call.INF yesterday
 “Yesterday I wanted to call her.”

of Asp and T (given that it generally inflects for both, though Tense seems to be controversial as it is not morphologically realized, see Aoun et al., 2010, for a discussion) If these assumptions are on the right track, then all head movements here are motivated. Notice that these movements are not only required in the restructuring analysis; any clause structure of SA would assume a version of these head movements (except the movement of both verbs to Voice, which is assumed under the proposed analysis). I will provide further empirical evidence for verb movements below. Before this, a qualification on head movements to Voice is in order.

I have discussed in footnotes 75 and 76 in Chapter 4 above that the movements of both verbs to Voice in the proposed analysis might raise concerns regarding HMC and excorporation, which I have argued should not be the case. In fact, I have assumed that a violation to HMC, if it really arises, has already been attested in various languages including long head movement in Serbo-Croatian, Bulgarian, Breton, Romance languages, and many others (see Roberts, 2010; Lambova, 2004; Preminger, 2010) though see below for a different perspective that a violation to HMC is not attested in our case. Thus, it is reasonable to expect HMC to either account for these movements as special *exceptions* or to accommodate them in a principled way (see Matushansky, 2006 and Soltan, 2007 for an attempt to re-define HMC in a Minimalist spirit; on head movement and agreement, see Zwart, to appear).

Furthermore, following a proposal made in Preminger (2019), one might argue that once the need for (affixal) feature valuation arises, the two movements to Voice are actually necessary. If we are correct in assuming that both the embedding and the embedded verbs bear uninterpretable voice features [u : Voice] and that there is only one Voice phrase (see below and §5.4 for further arguments in support of this assumption), then it follows that the valuation of these features on both verbs is necessary, otherwise the derivation would crash. While the assumption that the Voice head *attracts* two goals might seem to be ad hoc, a head attracting

multiple goals is actually empirically and theoretically supported. Empirically, various languages such as Bulgarian and Serbo-Croatian have multiple wh-fronting constructions and multiple topic/focus-fronting constructions (see Lambova, 2004). Consider the data for multiple questions and multiple topics from Bulgarian below:

- (368) a. Koj kakvo na kogo e kazal? (Bulgarian)
 who what to whom AUX.PRES.3P.SG said
- b. *Koj kakvo e kazal na kogo ?
- c. *Koj e kazal kakvo na kogo ?
- ‘Who said what to whom?’ (Lambova, 2004: 2)

- (369) [Decata]_i [na cirk]₂ mama ste void *t_i t₂* utre.
 kids-the (TOP) to-circus (TOP) mom will take tomorrow
 (‘The kids to the circus, mom will take tomorrow.’) (Lambova, 2004: 51)

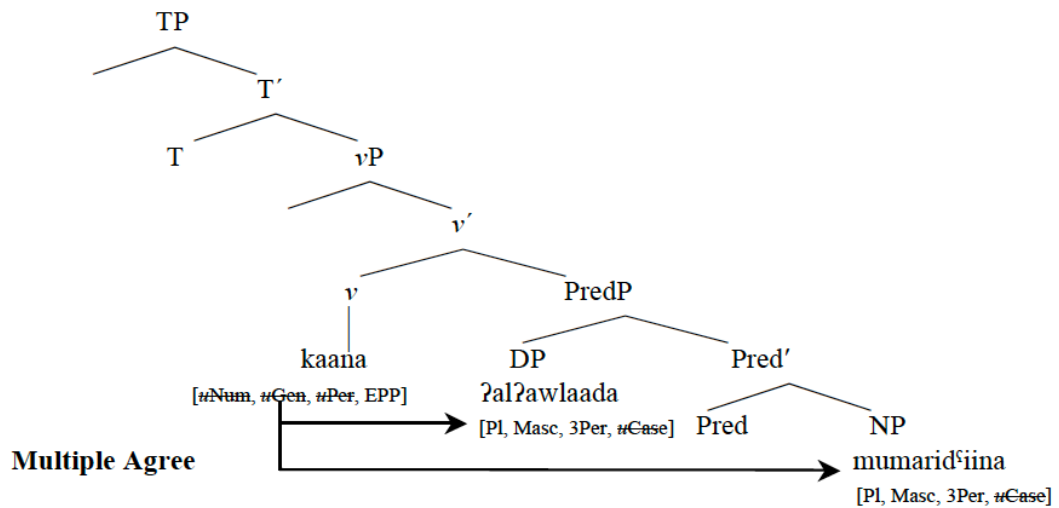
In addition, as for the valuation system, since we assume that both verbs bear [u: Voice] and that the embedding verb is closer to Voice, it is standardly assumed that only this head moves. However, the advantage of the feature valuation system is that it provides a formal way to allow another movement to the same probe (thus, multiple Agree). This line of analysis has been pursued in Chomsky (1995) in discussing multiple subject constructions in Icelandic. He suggests that the same head can value a feature F more than once, i.e., we have multiple attractions (see Bošković, 1998 and Lambova, 2004 on the proposal of *Attract One-F* and *Attract All-F*). If this is on the right track, then moving the two verbs to Voice for feature valuation follows straightforwardly.

Notice that the assumption that SA makes use of multiple Agree relations (i.e., one probe and two goals) is also independently motivated. Alharbi (2017) argues that multiple Agree derives the uniform agreement in ϕ -features of the subject and the predicative NP in copular predicational constructions in SA. He, therefore, proposes that the v head *kaana*, having uninterpretable ϕ -features and a valued case, establishes a multiple Agree relation with c-commanding goals, the feature valuation results in valuing the case features of the two goals and valuing the uninterpretable ϕ -features on the probe, *kaana*. An example and its derivation are given below in (370) and (371) (adopted from Alharbi, 2017:151-152).⁹⁶

(370) *kaan-a* *ʔal-ʔawlaad-u* *mumarid^s-iina*.
 be.PST-3MSG the-boys-NOM nurse-3MPL.ACC

‘The boys were nurses.’

(371)



In fact, one can further argue that even the HMC is not violated in the analysis pursued here. Preminger (2019: 27) proposes a locality principle that explains the multiple heads/XPs

⁹⁶ See Alharbi (2017) for a thorough discussion on Multiple Agree, its crosslinguistic evidence, and its motivation in SA.

constructions such as the Bulgarian data above (and long head movements) without violating locality. This is given in (372).

(372) *Principle of Minimal Compliance*

Once a probe P has successfully targeted a goal G, any other goal G' that meets the same featural search criterion and is dominated or c-commanded by G (=dominated by the mother of G) is accessible to subsequent probing by P irrespective of locality conditions.

Adopting this principle directly accounts for multiple head movements to Voice. Since V1 c-commands V2, it follows that it is only the higher goal (V1) that is subject to locality constraints; the lower goal is not. This entails that V2 moving to Voice (without incorporation with intervening heads) is licit. If this is on the right track, then even the possibility of HMC violation does not arise in the proposed analysis. We also have seen that Multiple Agree has already been proposed for SA on different empirical grounds.⁹⁷ Thus, I argue that the restructuring analysis proposed here does not have conceptual problems with the HMC and it is empirically supported.

Further support for the assumption of verb movements assumed above comes from adverbials. This has been known since Pollock's (1989) seminal work. As discussed above, Cinque (1999, 2001, 2006) also proposes a hierarchy that determines the positions of adverbs. The hierarchy has been used to detect verb and subject movements/positions (see Cinque, 1999, 2001, 2004; Tescari Neto, 2013, Zyman, 2018). In Arabic, Tucker (2011) argues that verbs

⁹⁷ The fact that the embedding verb moves higher than Voice after valuing its Voice feature is also not a problematic since we do not have evidence that the two verbs (in Voice) constitute a verbal complex; evidence from an intervening adverbial/Neg and subject supports this assumption. See below for discussion.

move outside VoiceP based on manner adverb positions (located at the edge of the thematic domain). I will adopt the same thing here, proposing that it provides a diagnostic to detect the positions of verbs and the subject. The adverb *carefully*, for instance, is assumed to be in Spec, VoiceP, according to Cinque’s (2006) hierarchy (see also Tescari Neto, 2013 and Zyman, 2018 for empirical support and detailed discussions). In SA, adverbs are best located at the end or beginning of the sentence, but other possibilities arise, too. Consider the sentence below.

- (373) qaraʔa (ʔʔbiʕnajatin) fahd-un [VoiceP (biʕnajatin) al-kitaaba] (biʕnajatin).
 read.PERF.3MS carefully Fahad-NOM carefully the-book-Acc
 ‘Fahad read the book carefully.’

While I admit that judgments are subtle when it comes to adverbials in Arabic in general and there is little work on this in the literature, the obvious oddity of placing the adverb *carefully* above VoiceP provides suggestive evidence for two points. First, given that the adverb *carefully* should be a VoiceP-adverbial, adopting Cinque’s hierarchy, the verb in the sentence above should be in a position higher than Voice. This is not controversial, and it has already been assumed on different grounds (see Benmamoun, 2000; Aoun et. al, 2010). The adverbial data here just provide an additional argument for verb movement above Voice.

Second, and more importantly, the adverbial data suggest that the subject is not in its base-generated position since it also precedes the adverb. If this is on the right track, then we have evidence that verbs and subjects in SA can vacate their base-generated position (see Tucker, 2011 who also made use of adverbials in Egyptian Arabic to argue for assumptions along the lines suggested here). As alluded to above, verb movements are uncontroversial in SA and the assumptions laid out here are not novel. So far, so good. However, subject

movements are more controversial given that there is a proposal (Soltan, 2007) that SA does not make use of A-movements. I discuss it below.

Following the hypothesis of this thesis, there is only one external argument in the structure above, namely the external argument of the embedding predicate *forgot*. It is merged in Spec, ν P (or in Spec, VoiceP following Kratzer, 1996 and Harley, 2013; see also Collins 2018a,b for a related discussion). Notice that subjects in SA can receive case in their base-generated position (see Soltan, 2007 and Aoun et al., 2010; see also above for data and discussion). But if this is true and the subject can value/check its case [u: Nom] feature in situ by establishing an Agree relation with T [Nom], the question that immediately arises is: what is the motivation for the subject to move to higher inflectional phrases (Spec, AspP, for instance)? Another question is whether this movement is A-movement or A'-movement.

Addressing the first question, I would like to propose that the movement of the subject to Spec, AspP is driven by an optional EPP feature on Asp, i.e., Asp bears the feature [*D]. This assumption is independently motivated in SA. In his investigation of first conjunct agreement in Arabic, Crone (2017) proposes, along with Tucker (2011), that Asp possesses an EPP feature that triggers the subject to move from its base-generated position Spec, ν P to Spec, AspP.⁹⁸ Cable (2012) in fact proposes that the EPP feature is an optional feature on a variety of inflectional heads and that EPP is not obligatory crosslinguistically. He examines subject positions in Dholou and proposes that functional heads optionally bear the EPP feature. He consequently proposes that if a functional head does not bear the EPP feature, an XP-movement to its specifier is illicit. If optionality of subject movement arises in the language, Cable's

⁹⁸ More accurately, Crone (2017) proposes that Asp *always* bears an EPP feature and thus Spec, Asp is always filled. While I propose that indeed Asp *can* bear an EPP, I argue against this assumption that it *always* does. This is based on evidence from backward control in SA (discussed below). I will present various arguments that the subject is actually in its base-generated position, i.e., Spec, ν P. Thus, the assumption that Spec, AspP is always filled is empirically challenged.

assumption seems to be supported. I argue that this is the case in SA. Crone (2017) similarly proposes that the subject does move to Spec, AspP in copular constructions (see Soltan, 2007 and Ouali, 2014 for a different analysis). In this respect, Cable proposes a constraint on XP-movement based on an EPP optionality, given below.

(374) *The assumption on the EPP feature*

If a head *lacks* the feature EPP, then it is not possible to (internally) merge a phrase in its specifier position. (Cable, 2012: 685)

In addition, Cable (2012: 686) assumes that inflectional heads might possess an EPP feature.

- (375) a. (i) $T_{u\phi}$ (ii) $T_{u\phi}, EPP$
 b. (i) $Neg_{u\phi}$ (ii) $Neg_{u\phi}, EPP$
 c. (i) $Asp_{u\phi}$ (ii) $Asp_{u\phi}, EPP$

There is, however, another possible way to motivate subject movement to Spec, AspP by assuming that the subject bears a [u:Asp] feature that requires a spec-head relation to be valued. However, crosslinguistic evidence suggests that this assumption is untenable. Zyman (2018) argues that assuming that subjects bear [u: Asp], along the lines of Bošković (2007), would incorrectly predict that no intervention effect should arise. He argues that evidence from P’urhepecha, a language spoken in Mexico, shows that the intervention effect indeed arises.

- (376) a. ¿Ambe ukurincha-si-ø-ki uitsindekua? (P’urhepecha)
 what happen-PFV-PRS-INT yesterday
 ‘What happened yesterday?’

b. **Tate** exeku-sī-ø-ti i-ni **parikutarakua-ni.** (SVO: OK)

dad fiX-PFV-PRS-IND3 this-ACC car- ACC

‘Dad fixed this car.’

c. ? **i-ni** **parikutarakua-ni** exeku-sī-ø-ti **Tate.** (VSO: ?)

this-ACC car- ACC fiX-PFV-PRS-IND3 dad

‘#This car Dad fixed.’ (Zyman, 2018: 34)

Notice that the verb in the data above moves from Voice to Asp (similar to what is assumed in the analysis above), and the subject/object are in Spec, AspP, as Zyman argues. He also argues that since there is an intervention effect in (376)c, the movement of the DP is A-movement, not A'-movement. Thus, it seems that assuming an EPP feature on Asp rests on a stronger ground. The distinction between A/ A'-movement just discussed provides an answer to our second question.

I propose that Cable’s above assumptions obtain in SA. The assumption about ϕ -features is not new and has already been established in SA (see Benmamoun, 2000; Soltan, 2007; Ouali, 2014). As for functional heads with EPP, this has also been suggested for Arabic based on different grounds (see Aoun et al., 2010; Tucker, 2011; Crone, 2017). I will further propose, along with Benmamoun (2000) and Aoun et al. (2010), that (matrix) verbs in SA have to move to at least Asp (and only perfective predicates move to T, as in Benmamoun, 2000). Cinque’s hierarchy or *low*-adverbials discussed in (373) provide evidence that this is not a stipulation (see Cinque, 1999, 2001, 2006 seq.; see also Tescari Neto, 2013; Zyman, 2018 for a recent discussion on adverbials in the cartography project).

With these assumptions in mind, let us now return to the question of whether the subject movement to Spec, AspP is A- or A'-movement. There are at least two arguments that suggest

that it is actually an A-movement, not A'-movement. The first one comes from the intervention effect, a hallmark of A-movement. Consider the data below.

(377) *nasia* **aħmad-u_i** ?an jaftaħ-a t_i al-baab-a.
 forgot._{3MS} Ahmad-NOM SM open-SUBJ._{3MS} the-door-ACC
 ‘Ahmad forgot to open the door.’

(378) a. **nasia* **al-baab-a_i** ?an jaftaħ-a aħmad-u t_i.
 forgot._{3MS} the-door-ACC SM open-SUBJ._{3MS} Ahmad-NOM

b. **al-baab-a_i** *nasia* ?an jaftaħ-a aħmad-u t_i.
 the-door-ACC forgot._{3MS} SM open-SUBJ._{3MS} Ahmad-NOM

The contrast above indicates that movement to spec, AspP is actually a case of Agree as follows: Asp with an EPP feature probes for the closest matching goal. The structure has two possible goals (the subject, *Ahmad*, and the object, *the door*). Given that the subject c-commands the object, it is the closer goal for the probe. This correctly predicts (377). On the other hand, (378)a can be straightforwardly accounted for as a minimality violation: the object *crosses* over a closer goal for the probe, i.e., the subject. This is a violation of economy and locality constraints such as Minimal Link (Chomsky, 1995) and Short Move (Chomsky, 2000), among others. If the movement to spec, AspP were A'-movement, the intervention effect should not arise, contrary to fact. (378)b shows that A' movement indeed does not give rise to the intervention effect.

More evidence that the subject movement assumed in the restructuring analysis above is A-movement comes from a widely-assumed constraint in SA against indefinite subjects in

A'-position (see Soltan, 2007; Aoun et al., 2010). This constraint derives the ungrammaticality of SVO where S is an indefinite DP. This is shown below.

- (379) (*walad-un) ḏahaba walad-un ila as-suuqi.
 boy-NOM went.3MS boy-NOM to the-market
 'A boy went to the market.'

If we take this constraint into the configuration assumed, an A-movement assumption predicts that an indefinite subject can be in spec, Asp in EC, which is borne out.

- (380) nasia walad-un, ?an jaftaḥ-a t_i al-baab-a.
 forgot.3MS boy-NOM SM open-SUBJ.3MS the-door-ACC
 'A boy forgot to open the door.'

The assumption that SA has A-movement has already been posited by various researchers (Aoun et al., 2010; Tucker, 2011; Crone, 2017). However, Soltan (2007) provides various arguments that show that SA does not have A-movement. While space limits us from getting into this debate further here, the evidence discussed above provides a compelling argument that Spec, AspP is an A-position. But now a new question arises: is there evidence for movement altogether? One might argue that the subject in the sentences above is indeed in its base-generated position (i.e., spec, *v*P). However, I believe that the adverbial diagnostic discussed above provides evidence that the subject moves outside VoiceP. Even more compelling is the evidence from floating quantifiers discussed above in section 4.3.1.4) which shows that floating QPs are placed within VoiceP while the subject is higher. Below, I discuss both arguments. Consider first adverbials with EC in the data below.

(381) nasia (??sariʃan) aħmad-u_i [_{VoiceP} sariʃan ʔan jaftaħ-a t_i al-baab-a].
 forgot._{3MS} Ahmad-NOM quickly SM open-SUBJ._{3MS} the-door-ACC
 ‘Ahmad quickly forgot to open the door.’

(382) nasia (??muḏḏaddadn) aħmad-u_i [_{VoiceP} muḏḏaddadn ʔan jaftaħ-a t_i al-baab-a.
 forgot._{3MS} Ahmad-NOM agian SM open-SUBJ._{3MS} the-door-ACC
 ‘Ahmad forgot again to open the door.’

We see that low-adverbs are always preferable following both the verb and the subject in EC, which indicates that both the verb and the subject are above VoiceP/*v*P-adverbs. Notice that adopting Cinque’s hierarchy, the adverb *again*, for instance, is spec, VoiceP (see Cinque, 2006; Tescari Neto, 2013; and Zyman, 2018).⁹⁹ Interestingly, this predicts that when we have backward control (i.e., VVSO), in which I assume that the subject remains in Spec, *v*P, the adverb has to precede both the embedded verb and the subject. This is borne out as well.

(383) ħaawala muḏḏaddadn ʔan jaftaħ-a (??muḏḏaddadn) aħmad-u al-baab-a .
 tried._{3MS} agian SM open-SUBJ._{3MS} Ahmad-NOM the-door-ACC
 ‘Ahmad tried again to open the door.’

Additional evidence for subject movement in SA comes from the floating quantifiers discussed in section 4.3.1.4 which shows that floating QPs are below VoiceP while the subject (the associate) is higher. Given the FQ properties in EC discussed above and the various arguments put forward for the monoclausality of EC, if there is one subject DP in the structure

⁹⁹ Cinque (2006) proposes that some adverbs are located in high positions in some languages and in low positions in others, thus he suggests two positions: some Asp heads are above Voice and some are below it. However, since this thesis does not adopt a cartography analysis, I simply take adverbials below Voice in Cinque’s hierarchy to be *v*P/VP-adverbials (see Tucker, 2011 for a non-Cinquean assumption of adverbs along the same lines here).

and that DP leaves the QP stranded, the position of the FQ can be used as a diagnostic for the base-generated position of the subject (recall that SA entertains pronominal agreement in the pattern NP-QP). With this in mind, consider the data below (repeated from (318)c above).

- (384) ħaawala al-awlaadu_i [ʔan jusaafir-u **kull-u-hum_i** ila al-madiinat-i].
 tried.3MS the-boys-NOM SM travel-3MPL all-NOM-3MPL to the-city -GEN
 ‘the boys tried to go all to the city.’

If we take the pronominal as indication for movement along the lines of Shlonsky (1991) then it follows that the subject, *the boys*, in the sentence above has moved from a lower position (i.e., the position of the pronominal agreement attached to the QP). This provides a strong argument for the movement of the subject outside *vP/VoiceP* and lends support to the restructuring analysis put forward here.

5.4 The interpretation of embedded subject: predicational theory vs. voice incorporation theory

The restructuring analysis pursued above assumes that there is only one syntactic subject which is associated with the embedding verbs (i.e., EC predicates). The complement phrases (MoodP) do not have a syntactic subject. This follows from the hypothesis proposed in the beginning of this thesis that restructuring constructions, although they have two verbs, have only one syntactic subject. This is also the main assumption proposed in Chierchia (1984) and Wurmbrand (1998, 2001, 2004) for gerund and infinitival complements. Wurmbrand (2001) proposes that obligatory control verbs (i.e., restructuring control verbs) do not embed a syntactic subject and that restructuring verbs select for a subjectless VP-complement. She proposes that control is of two types: syntactic control and semantic control. For the former,

PRO in the embedded clause is projected and the interpretation follows from the appropriate antecedent; in NOC, the antecedent can be contextually assigned.

On the other hand, semantic control refers to the obligatory control where the semantics of the embedding predicates imposes a semantic restriction on the interpretation of the embedded subject. This makes the interpretation of the embedded subject fixed (i.e., there is no other interpretation where the subject of the embedding predicate is different from the subject of the embedded predicate). Therefore, we see that semantic control is directly translated to EC, since in EC there is no possibility of the embedded subject being different from the matrix subject.

As discussed in Chapter 3, this approach to control (i.e., Chierchia's and Wurmbrand's) is known as the predicational theory of control (see Landau, 2013 for a review). It particularly proposes that there is a *sharing* of subject between the embedded event/predicate and the matrix one, an approach that is also assumed in other frameworks such as in Lexical Functional Grammar (Bresnan, 1982). This sharing interpretation follows from a lexical entailment (i.e., a meaning postulate) inherited in the semantics of the appropriate verbs (in our case here, EC predicates). In particular, Chierchia (1984) proposes that gerunds and infinitives in English are not semantically propositions but properties (i.e., they do not have an external syntactic argument, PRO).¹⁰⁰ I have shown that subjunctive complements in SA are no different from English infinitives (particularly EC as investigated in Cable, 2004 and Grano, 2012) and that the only difference lies in agreement. Therefore, I propose that the same treatment of the embedded (semantic) subject can be extended to SA EC. Within the predicational theory of

¹⁰⁰ We have to be cautious with Chierchia's proposal here as it is a sweeping claim that *all* infinitives and gerunds are semantically properties (i.e., they do not have a syntactic subject). In fact, the existence of PC with infinitives, for instance, argues against this treatment. It thus would be more accurate to redefine Chierchia's proposal as a proposal for EC complements only (be it infinitive, finite, or gerund) but not PC since we clearly have seen from this thesis and from works of others (see Wurmbrand, 2001; Pires, 2006; Grano, 2012) that PC predicates embed a proposition, not a property. See Wurmbrand (2001) for a detailed discussion and restriction on Chierchia's meaning postulate.

control, the interpretation of embedded subject follows lexically from a meaning postulate, as shown below (adopted from Chierchia, 1984: 38; notice that \Box_j stands for a context dependent modal operator).

- (385) a. (try)' (P) (x) $\rightarrow \Box_j P(x)$
b. 'Whenever x tries to bring about P, then in all the contextually relevant situations (namely those where what x tries actually succeeds) x does P.'

The predicational approach takes control complements as a property brought about by the controller. In particular, it takes the control complement to be a property-denoting phrase, considered as a predicate. It also establishes a dependency between the controller and the predicate, and not PRO itself as in other proposals (see Landau, 2001, for instance). As alluded to in Chapter 3, one of the strongest arguments for the predicational approach to control is Chierchia's argument from inferences. He argues that a propositional approach to infinitives and gerunds would lead to incorrect inferences. Consider the data below (from Chierchia, 1984: 44), repeated from above.

- (386) a. Nando likes everything Ezio likes.
b. Ezio likes playing tennis
c. \therefore Nando likes playing tennis.

The argument goes as follows. If *playing tennis* in (386)b has the structure [*PRO playing tennis*], a prediction that arises is that a strict reading would be possible, i.e., a reading where it can be inferred from (386)c that Nando likes Ezio's playing tennis, contrary to fact. The absence of the strict interpretation supports Chierchia's analysis for infinitival and gerundive complements of EC as both syntactically subjectless phrases and semantically properties. In the previous chapter, I have already shown that EC in SA only allows for a sloppy reading.

Therefore, I propose that the interpretation of the embedded subject in EC in SA follows the lines of Chierchia's semantic proposal.¹⁰¹

5.5 Do not move! Do not raise!

Recall that Grano (2012), discussed in section 4.2.3, also provides a restructuring analysis of EC. The only difference between the analysis proposed here, along with Wurmbrand, 2001, and Grano's analysis is that the latter assumes that all EC predicates are functional heads realized in discrete positions in accordance with Cinque's hierarchy. The essence of Grano's analysis is that EC predicates are functional heads that select for a *vP* complementation. It also assumes that the subject in Spec, *vP* has to move to Spec, TP to bind a dependent variable (x_d) introduced by EC predicates. This is shown below.

(387) [TP John [Asp **tried** (x_d) [*vP* ~~John~~ to be ready]]]

While it is obvious that Grano's analysis and the analysis put forward here share that EC constructions are monoclausals, they clearly diverge in the assumption that EC predicates are lexical (the analysis presented here) or functional (in Grano's analysis). I already discussed arguments against the Raising Theory of Restructuring (RTR) above with arguments from Wurmbrand (2004) and from language acquisition. In this section and the following one, I will present two additional novel arguments. Notice that these arguments also extend to the MTC which assumes movement of the embedded subject to the matrix clause. The difference

¹⁰¹ Wurmbrand (2013) and Wurmbrand and Shimamura (2017) propose an alternative way for deriving the interpretation of the subject by feature valuation and Agree. For space, I cannot discuss it here and refer the interested reader to the papers.

between Grano’s analysis and the MTC is that the latter assumes a biclausal structure for EC with two *v*Ps while Grano’s assumes a monoclausal structure.

Recall that almost all control verbs in SA have two types of complementation: verbal complements and nominalized complements. This is also the case with some control verbs in English (see Pires, 2001, 2006, 2007). Consider the SA examples in (388) and the English example in (389).

(388) a. *haawala aħmad-u ađ-đahaab-a ila as-suuq-i .*
 tried._{3MS} Ahmad-NOM the-going-ACC to the-market-GEN
 ‘Ahmad tried going to the market.’

b. **ħaawala ađ-đahaab-a aħmad-u ila as-suuq-i .*
 tried._{3MS} the-going-ACC Ahmad-NOM to the-market-GEN
 ‘Ahmad tried going to the market.’

(389) Bill tried talking to his boss. (Pires, 2001: 2)

If we consider the RTR (Grano, 2012) and the MTC (Hornstein, 2001, 2003, Boeckx et al., 2010) then we can see that they share one prediction: the overt subject is base-generated in the embedded phrase (the RTR) or the embedded clause (the MTC), then it moves to Spec, TP. The sentence in (388)a should thus be analyzed as (390) under the MTC and as (391) under the RTR.

(390) [TP tried_i [**v**P Ahmad t_i [**DP** the going [**v**P Ahmad [PP to the market]]]]] (MTC)

(391) [TP tried_i [**Asp** Ahmad t_i [**DP** the going [**v**P Ahmad [PP to the market]]]]] (RTR)

Pires (2006) adopts the MTC to analyze gerundive complements of EC in English by arguing that they are TPs and, thus, they are not phases. The acceptability of wh-movement in English constructions support his assumption. This is shown in (393). While Pires's analysis works for English, it cannot be extended to SA as we just have shown above that the corresponding structure is unacceptable. What the English data show is that nominalized (i.e., gerundive) complements are not DPs. If so, then it is also compatible with the analysis put forward here, assuming that movements out of non-phases are licit.

(393) What did you try reading ~~what~~ yesterday? (Pires, 2006: 73)

We thus see that the RTR does not fare well with the EC facts in SA and that, similar to the MTC, makes incorrect predictions in nominalized complements of EC. I will discuss below an additional empirical problem with the RTR with respect to the agreement puzzle of BC in SA.

5.6 Against an embedded subject: the agreement puzzle

The restructuring analysis proposed here makes it clear that EC complements do not have a syntactic subject (see Wurmbrand, 2001, 2004, 2015; Keine & Bhatt, 2016). This receives support from the various arguments discussed above, including the arguments from multiple quantifiers (discussed in §4.3.1.4) and the agreement puzzle of backward control (discussed in 4.3.1.2). Here I will revisit the latter as it is a novel observation that provides, in my conjecture, one of the strongest arguments against both the MTC and the ATC (as well as against standard analyses of EC in SA such as those in Aoun et al., 2010; Fassi Fehri, 1993, 2012). I will also show that the same argument can extend to the RTR.

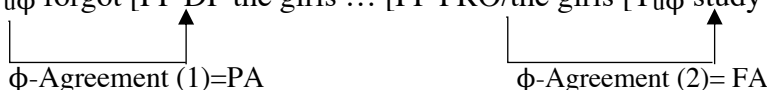
Recall the agreement paradigm we have discussed above, repeated from (297), (298), and (299) above, in (394), (395), and (396), respectively.

(394) nasia-t al-banaat-u ?an jadrus-na al-maadat-a. (Forward Control)
 forgot-3SG.F the-girls-NOM SM study-3FPL the-course-ACC
 ‘The girls forgot to study for the class.’

(395) * nasia-t/-na ?an jadrus-na al-banaat-u al-maadat-a. (Backward Control)
 forgot-3SG.F/3FPL SM study-3FPL the-girls-NOM the-course-ACC

(396) nasia-t ?an t-adrusa al-banaat-u al-maadat-a. (Backward Control)
 forgot-3SG.F SM 3SG.F-study the-girls-NOM the-course-ACC
 ‘The girls forgot to study for the class.’

The argument is straightforward: if you postulate that there is an embedded subject (PRO in the ATC and a copy in the MTC and the RTR), then it follows that agreement in the embedded clause should not be affected by the position of the controller (i.e., the overt subject). This turns out to be incorrect as the data above show. In fact, it is all about the overt subject. Descriptively, when we have a preverbal subject [DP V], full agreement obtains, and when we have a postverbal subject [V DP], partial agreement obtains. Now let us consider how ϕ -features are valued under Agree within the ATC, the MTC, and the RTR in the forward control construction (394). This is given below (I ignored all projections that are not related. Also, PRO here refers to the ATC and copy to the MTC and the RTR).

(397) [TP ...T_u ϕ forgot [FP DP the girls ... [FP PRO/~~the girls~~ [T_u ϕ study ...]]]


Given that we have two agreement relations above; agreement relation (1) has the configuration (T-DP) and thus we get partial agreement. On the other hand, agreement (2) has the configuration (Null-T/ T-Null), either of which should give full agreement given the identification rule of null elements (see Rizzi, 1982) which requires full agreement, irrespective of the configuration of Agree. Thus, either PRO/trace is in Spec, vP or in Spec, TP, we should get the same agreement realization. This correctly derives the agreement facts in (394).

However, once we examine agreement in backward sentences, the situation becomes complicated. I have already discussed above in (300) how the ATC faces numerous problems with agreement in backward control. Let us recapitulate the essence of the problem. Considering the agreement valuation above, we clearly see that the ATC predicts the paradigm (partial agreement – full agreement) in backward control, which is empirically wrong (395). The ATC, as alluded to above, does not allow backward control, but let us assume, for the sake of argument (see the discussion in §4.3.1.2 for further details).

The MTC and the RTR, on the other hand, allow backward control, but they similarly fail to predict the agreement patterns. Given that there is a null copy in the matrix clause, the agreement between the functional head T and this null copy must realize full agreement (FA) (given the full identification requirement of Rizzi, 1982). On the other hand, the embedded clause has the usual agreement configuration between T and the overt copy of the subject which yields a partial agreement in [T-DP] or full agreement in [DP-T]. Given that backward control primarily involves the overtness of the base-generated position copy, we have the configuration [T- DP] and thus should have partial agreement (PA). The agreement relations in the MTC and the RTR are given in (398). However, the agreement operations give rise to the paradigm (full agreement – partial agreement); this is not borne out, as shown in (399). Given that the ATC,

It is obvious that the agreement facts follow from the restructuring analysis without any further stipulations or ad hoc assumptions. While this is of course not a theory of agreement in SA, my main claim here is that it derives the facts of agreement given the paradigms for full agreement and partial agreement in SA.¹⁰³

If the above assumptions of agreement in SA is on the right track, then the empirical facts we have here provide essential insight into the current debate between *downward Agree* (Chomsky, 1995, 2000; Preminger, 2011) and *upward Agree* (Zeijlstra, 2012; Wurmbrand, 2012; Bjorkman & Zeijlstra, 2014; for a critical review, see Preminger, 2013 and Preminger and Polinsky, 2015). I will not adjudicate here between the two theories (or the hybrid theory of Bjorkman & Zeijlstra, 2014), and leave it for future to get into this debate.

The main goal of this subsection was to show that neither the ATC, the MTC, nor the RTR are able to account for the agreement facts in EC discussed above regardless of the theory of Agree one adopts. The restructuring analysis, on the other hand, is evidently compatible with the empirical evidence and is promising with respect to the different Minimalist frameworks proposed for Agree. I would like to conclude this chapter by discussing backward control, how it is analyzed, and when it obtains.

¹⁰³ More precisely, the agreement assumed above is to some extent reminiscent of the Long Distance Agreement (LDA) proposed in Bhatt (2005) where he proposes that both the matrix verb and the embedded verb agree with one goal (the object) in Hindi. In fact, he argues that this is only possible in restructuring, which is exactly what we see here in SA. He further proposes the operation AGREE differs from Chomskyan Agree (1995, 2000) in that it does not require an active goal to establish AGREE. Bhatt's analysis of AGREE in Hindi is provided below, where *want* and *read* both agree with the object *book*, which bears an F feature. Notice that Bhatt proposes that this AGREE is parasitic in that T is the only probe and Inf features are just *covaluated* by T. I nonetheless depart from the *covaluating* assumption, suggesting that EC in SA has two probes with one goal, be it last resort or instances of downward agree and upward agree.

- (i) Vivek-ne [kitaab paṛh-nii] chaah-ii (Hindi)
 Vivek- ERG book.F read- INF.F want- PFV.F
 'Vivek wanted to read the book.' (Bhatt, 2005: 760)
- (ii) Long Distance Agreement:
 Before AGREE: T [uF] . . . [Inf [uF] . . . DP[ϕF]]
 After AGREE: T[ϕF] . . . [Inf [ϕF] . . . DP[ϕF]] (Bhatt, 2005: 775)

5.7 Backward control: conditions, analysis, and crosslinguistic consequences

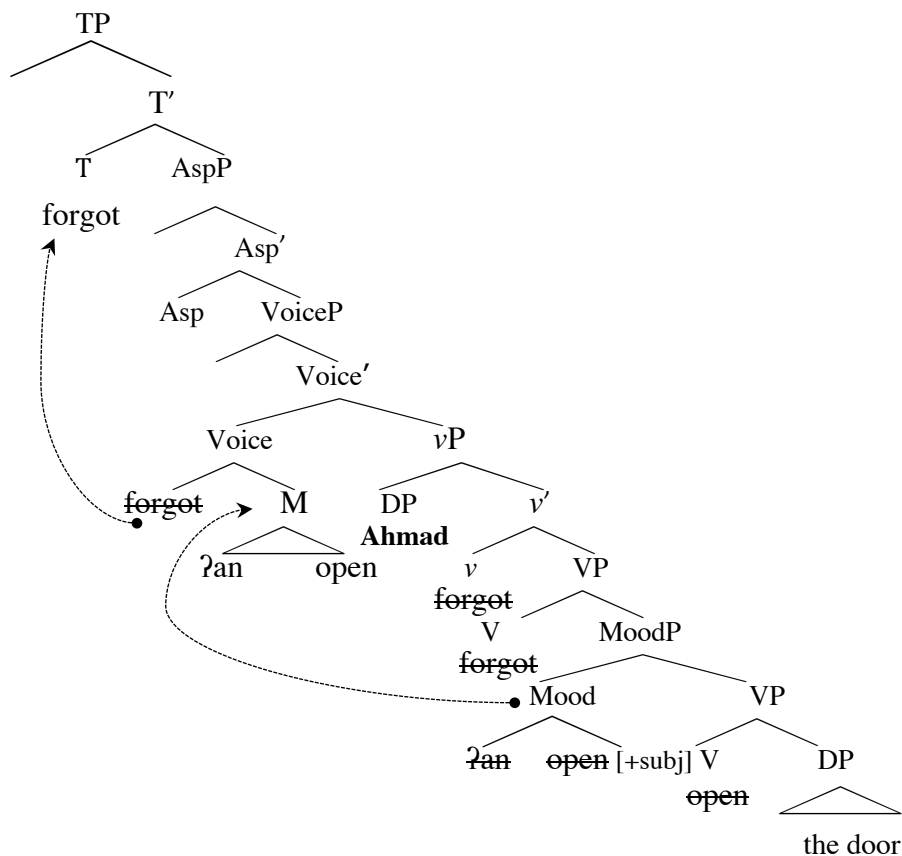
I have taken backward control to be a diagnostic for restructuring in SA as discussed in section 4.3.1.9 above where I also show that BC does not obtain with PC constructions. I have not, however, addressed how the restructuring analysis accounts for the backward control configuration (for discussion on VVSO constructions in Arabic varieties, see Hallman, 2011; Ouwaydah and Shlonsky, 2016; Albaty and Ouali, 2018). Recall that backward control is used here merely as a descriptive label, as I do not assume control in the sense of the MTC or the ATC. Alternatively, I assume that *backward* control in SA is not backward at all; it is actually still *forward* control.

In particular, I argue that the word order that emerges in so-called backward control (i.e., VVSO) in SA, (and in Greek as I will show below) is not due to the overtiness of the embedded subject (such as in Polinsky & Potsdam, 2006; Alexiadou et al., 2010; Grano, 2012), but VVSO obtains due to head-movement of the embedded verb combined with the lack of subject movement (i.e., the subject remains in its base-generated position, Spec, *v*P). If this is the case, as I argue here, then it seems that the restructuring analysis proposed above accounts for the backward control configuration in SA and Greek without further stipulations and without recourse to adopt the MTC as in Alexiadou et al. (2010). Since we have seen that the theories that allow BC (i.e., the MTC and the RTR) face enormous problems, an alternative is imperative. Consider the SA backward control sentence in (402), repeated from above.

- (402) nasia/ haawala ʔan jaftaḥ-a aḥmad-u al-baab-a.
forgot/tried._{3MS} SM open-SUBJ._{3MS} Ahmad-NOM the-door-ACC
'Ahmad forgot/tried to open the door.'

Recall that the restructuring analysis assumes, following insights from Cable (2012), Crone (2017), and Zyman (2018), that inflectional heads optionally bear an EPP feature. In my analysis of the canonical EC (i.e., FC) construction in (366) above, I proposed that the subject moves from Spec, *v*P to Spec, AspP, a movement motivated by the EPP feature [*D] on Asp. Suppose that Asp (or T) does not bear the EPP feature, then it is predicted that the subject remains in its base-generated position (i.e., Spec, *v*P). If so, it follows that we will get VVSO word order, given the assumptions we adopt for head movements discussed above in §5.3. If this is so, then we can straightforwardly account for backward control in SA such as (402) as shown in (403).

(403) *The restructuring analysis for backward control in SA*



Recall that the head movements of the embedding verb *nasi* ‘forgot’ and the embedded verb *jaftah* ‘open’ are independently motivated. As alluded to above, the embedding verb,

forgot, moves to *v* and then to Voice (to value the [+pass/+act] feature). It further moves to Asp and T, as discussed above. As for the embedded verb, it is merged with the voice feature [+voice] and subjunctive mood [+subjunctive]. Thus, it moves first to MoodP to check the subjunctive feature and then to Voice to check the voice feature (as I discussed above, this derives the fact that since both verbs share the same feature from Voice, voice matching follows naturally). Notice that the embedded verb must be in the imperfective (which follows since this is the default aspect in SA). If it moved to Asp, we expect that it could be perfective, which we have extensively argued cannot be the case. If we suppose that the embedded verb does not move higher than Voice (due to a lack of higher functional-related features such as Asp or T), then it follows that it cannot be perfective/past. Compare this with the fact that PC complement verbs can be perfective, which I argued in the previous chapter to be possible because PC is a biclausal structure of PC.

With respect to the subject in backward control, the analysis above assumes that it remains in situ. Since there is no motivation for movement due to the lack of an EPP feature in higher projections, it follows that it stays in Spec, *v*P. Evidence for this assumption comes from the adverbial diagnostics discussed above in (383), repeated here for convenience. We see that the low-adverb *again*, which should be a VoiceP-adverbial following Cinque (2006) and Zyman (2018), is generally preferable when it precedes both the embedded verbs and the subject.

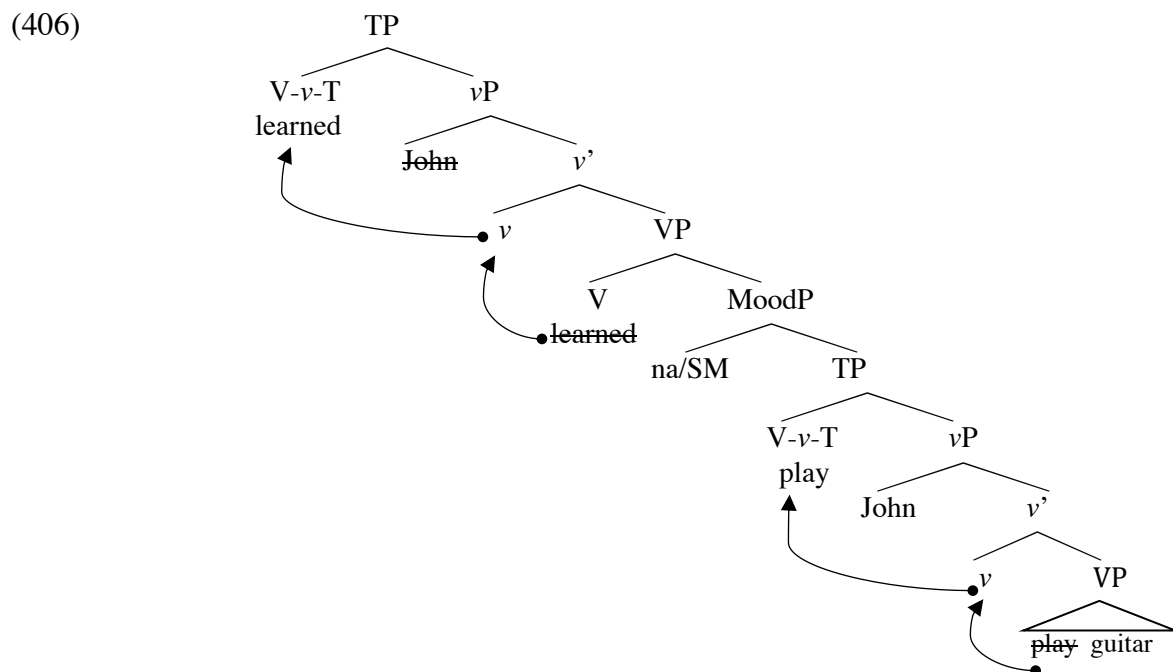
- (404) ħaawala {**mudǧaddadn**} ?an jaftaħ-a {?/?***mudǧaddadn**} aħmad-u, al-baab-a .
 tried._{3MS} again SM open-SUBJ._{3MS} Ahmad-NOM the-door-ACC
 ‘Ahmad tried again to open the door.’

If the above line of analysis is true, then it follows that the subject must be in its base-generated position. If these assumptions are correct, then we see that the proposed analysis provides an elegant account for both forward *control* (i.e., VSVO, though there is no control assumed) and

backward *control* (i.e., VVSO) without further complications. The question now is whether this analysis can be extended to account for backward control crosslinguistically. The answer, I suggest, is positive. I elaborate below by investigating backward control in Greek.

So far, the main assumptions above for backward control to obtain are the optionality of EPP and head movement (i.e., V-raising, due to agreement and feature valuation). Alexiadou et al. (2010) adopts the MTC to account for BC in Greek (see also Albou, 2007; Kapetangianni and Seely 2007; Kapetangianni, 2010 for similar analyses). Therefore, a sentence such as (405) would have the structure in (406).¹⁰⁴

- (405) *emathe na pezi o Janis kithara .* (BC in Greek)
 learned-3SG subj play-3SG John-NOM guitar
 ‘John learned to play the guitar’ (Alexiadou et al., 2010, 96)



Notice that such an analysis would immediately encounter problems with the agreement asymmetry in SA, discussed above with respect to the MTC and the raising analysis of EC.

¹⁰⁴ I suggest the structure above following the assumptions of Greek suggested in Alexiadou et al. (2010: 98-99) for a similar construction with adverbials; I ignored the adverbials as they do not pertain to the discussion at hand.

Greek, unlike SA, does not have agreement asymmetry even though it inflects for person and number (Alexiadou et al., 2010). In addition, the analysis above would also inherit the problem with nominalized complements and movement out of phase, which induces a violation to PIC (see the discussion in §5.5 for further discussion). Thus, the analysis in (406) should be rejected.

Grano (2012) convincingly argues that EC in Greek (forward or backward) should be accounted for as a restructuring configuration. Even though Alexiadou et al. provide two arguments against restructuring particularly, he argues that neither of the arguments stand.

Alexiadou et al.'s arguments against restructuring rest on two inaccurate assumptions. First, EC in Greek (and Romanian) allows embedded negation, which they take as evidence that the embedded phrase is clausal. Second, they argue that restructuring cannot be adopted because BC has two events, evidenced by separate modification for each event. However, neither of these arguments undermines postulating a restructuring analysis, as Grano (2012) argues. As for the first argument, we have already seen that restructuring allows embedded negation, but only constituent untensed negation (see Chapter 3). As for the argument from the two events, Wurmbrand (2001) and Grano (2012) particularly address this issue and argue that two events are possible with restructuring. Grano (2012), for instance, argues that ambiguity with event modifiers arises even in pure monoclausals such as (407) (adopted from Grano, 2012: 324).

(407) John was opening the door **four times**.

Reading 1 = There were 4 times that John was opening the door. = 4 x PROG (John open the door)

Reading 2 = John was opening the door 4 times (in a row). = PROG (4 x John open the door)

Concluding that the arguments against restructuring presented in Alexiadou et al. are invalid, I propose that the restructuring analysis accounts for EC in Greek. In particular, given the fact that Greek is quite similar to SA in various respects including V-to-T movement, finite control, subjunctive complements, and the pro-drop property, among other similarities, I propose that backward control and forward control in Greek (and Romanian) receive the same analysis suggested above for SA. The only difference is that Greek and Romanian lack the agreement asymmetry of SA as well as gender agreement. In particular, ϕ -features in SA include person, gender, and number while ϕ -features in Greek and Romanian only include person and number, as already indicated in Alexiadou et al. (2010). Since Romance languages do not have an agreement asymmetry, the pattern of control (i.e., forward or backward) would not affect the agreement realizations. If this is on the right track, then the restructuring analysis proposed here receives crosslinguistic support.

I would like to conclude this section with a Minimalist question about backward control: why is it that some languages allow backward control while other languages do not? Interestingly, this question has been addressed by Polinsky & Potsdam (2002, 2006) and Alexiadou et al. (2010). Polinsky and Potsdam (2002) propose that BC is conditioned by agreement and EPP. That is, if EPP is not possible, the subject can remain in its base-generated position, which gives rise to backward control, given that agreement provides enough information about the subject for the language learner. This is in fact what I have argued for above as the relation between EPP and the subject movement. However, in later work, Polinsky and Potsdam (2006), adopting the MTC, suggest that neither agreement nor EPP can be conditions for backward control. Alternatively, they suggest that it is the availability of an embedded subject as well as transparency for A-movement that make backward control possible in a language.

On the other hand, Alexiadou et al. (2010: 114) suggest that backward control is made possible based on the following characteristics given in (408).

- (408) a. pro-drop b. VSO orders with VP-internal subjects c. Clitic doubling
d. EPP checking via V-movement

In this respect, it seems to me that backward control requires two conditions only: V-movement to higher functional heads and the absence of EPP. As for the first, verb movement is generally associated with affixal agreement/checking. On the other hand, EPP is a feature that is lexically embodied. If we take English, for instance, the fact that the embedded verb in EC (i.e., the infinitive) does not make use of head movement (i.e., it does not move to Voice, Aspect, or T) follows because there are no affixal features that motivate head movement to higher functional heads. Thus, the verb does not vacate the infinitival phrase. In addition, the EPP on the matrix T is obligatory in English. One can therefore correctly assume that even though English is a restructuring language (Cable, 2004 and Grano, 2012), it would not allow BC. If we take languages that allow BC, such as SA, Greek, and Romanian, we can assume that EPP is optional, following Cable (2012) (and contra the assumption of Alexiadou et al., 2010 that V-to-T checks EPP) and the embedded verb moves to a functional head above *v*P. This in turn allows these languages to productively have BC. While these questions deserve further investigation, one insight from this thesis is that it brings SA data into perspective, which in turn sharpens our understanding of the overall nature of EC, restructuring, and BC.

5.8 Conclusion

The goal of this chapter was to provide an in-depth investigation of the proposed analysis of EC constructions in SA. The chapter started by discussing the empirical issues that the MTC,

the ATC, and the RTR face and how EC in SA poses a new challenge to these theories. I have then examined the proposed restructuring analysis for EC and outlined the main adopted assumptions. I have argued that adopting independently-motivated movements coupled with Multiple Agree can straightforwardly derive the facts. I particularly argued that both verbs in EC constructions move to Voice and that these movements are feature-driven, evidenced by voice morphology. I also proposed that EPP plays an important role in subject position.

The subject has been shown to have two options: either to remain in-situ (i.e., in *vP*) or to move to a higher functional head that bears the EPP feature. In particular, I argued, following Cable (2012), that Asp in SA can bear an optional EPP. This feature is present in forward control, i.e., the VSVO word order. On the other hand, the absence of this feature gives rise to the prohibition of movement due to lack of motivation. This, in turn, gives rise to the VVSO word order, which is reminiscent to what is known as backward control. I argued that backward control is actually forward and that what makes the subject in the *back* is that obligatory movement of the embedded verb to Voice, crossing the subject. Given that we have compelling evidence from agreement facts as well as other properties of EC in SA, I argued that it is the only subject in the construction. In addition, I have discussed how the embedded subject is inferred under the proposed analysis within Chierchia's (1984) approach, i.e., the semantic control in Wurmbrand's (2001) approach.

I have then discussed a novel argument against movement-based theories of EC such as the MTC and the RTR. I have particularly shown that such theories would allow (and actually require) subject movement out of nominalized complements to EC predicates. This has been argued to be problematic both empirically and theoretically. In particular, SA does not allow movement out of nominalized complements as I have shown that even A'-movement out of nominalized complements is illicit. This follows given that nominalized complements in SA are DPs and thus they are phases, movements out of which are banned.

The movement approach thus would face two problems. On the one hand, the subject is assumed to start inside the nominalized complement and given that this complement is a phase, the subject has to remain in its base-generated position. This is ungrammatical, however. On the other hand, if the subject is assumed to move out of the phase, we will assume that wh-question and focus movements are also possible, contrary to fact as both movements are unacceptable. We, thus, see that the movement approach to EC is problematic whether the subject moves or stays (over-generating data in both cases, and violating Phase Impenetrability Condition (PIC) on the former case).

Next, the novelty of the agreement puzzle of VVSO in SA has been highlighted as it presents a new argument not only against the ATC and the MTC, but also against the RTR. I have shown that the agreement relations assumed within these theories always give rise to an incorrect agreement pattern, particularly in the backward control. In this respect, I have argued that SA poses a new challenge due to the agreement asymmetry, which precisely reflects on assumptions about the subject, being a null copy, PRO, or *pro*. I argued that all these postulations give rise to an empirical issue.

Toward the end of the chapter, I have examined backward control in SA and other languages and discussed how it is naturally accounted for under the proposed analysis. I have argued that adopting motivated assumptions on head movements to higher functional heads derive the word order that arises in backward control. The adverbial position and floating QPs have been argued to provide evidence for verb movement and subject movement in this construction. If this is on the right track, then we have one analysis that accounts for all EC properties, forward control and backward control without recourse to ad hoc analyses; a very *Minimalist* perspective.

6. Conclusion

The main goal of this dissertation has been to investigate SA clause structure, focusing on subjunctive complementation. I have proposed that SA is a restructuring language and therefore amenable to a monoclausal structure with core crosslinguistic restructuring predicates. This is a novel proposal for SA that requires a reexamination of various constructions in the language, a mission that has been taken up throughout the dissertation. The main hypothesis adopted here has been that subjunctive complements of modals and *some* obligatory control verbs in SA are not clausal and thus the embedding predicate and the embedded verb in these constructions are in the same clause. That is, these constructions do not have two clauses that undergo a restructuring role or a syntactic operation (as in Rizzi, 1982; Burzio, 1986 and many subsequent studies). Instead, I have proposed that in these constructions there is only one *v*P, one TP, and one CP. In addition, I have argued that SA has two types of restructuring: functional and lexical. The investigation of modality and control serves to manifest the two types of restructuring, respectively. This shed lights on a recent crosslinguistic debate on whether restructuring is only functional (Cinque, 2006; Grano, 2012) or both functional and lexical (Wurmbrand, 2001, 2004).

Chapter 2 has examined modality in SA in detail, a topic that is understudied in the literature. I have paid close attention to the semantic and syntactic properties of modal verbs and argued that the proposed (functional) restructuring analysis accounts for their properties, which in turn pose serious problems for the standard analysis that assumes a biclausal structure. I have adopted a crosslinguistic analysis, along the lines of Cinque (1999, 2006) and Wurmbrand (2001), (Butler, 2003), among others, which realizes modals in the inflectional layer of the clause structure. Various empirical arguments support this analysis, including facts from extraction, relative ordering, and the restriction of adverb co-occurrence. I have also adopted a syntactic-semantic approach to modality that assumes structural

differences between epistemic and root modals at LF. SA provides new empirical support for this assumption. In this respect, I have shown that only root modals are *low* enough to have perfective forms and impose selectional restrictions, as shown by dative subjects inside PPs. These properties follow naturally when we assume that root modals are below T and Asp; an assumption that is in line with Cinque's Hierarchy (1999, 2001, 2006) and the crosslinguistic evidence from various languages. In addition, discussion of the SA dynamic modal and its idiosyncrasies has provided further support for the restructuring analysis. I have shown that it is a transitive verb that can be passivized, assigns case, and fully inflects for agreement. I have also shown that the dynamic modal manifests voice matching, which provides both a new argument for restructuring in SA and a novel observation. This modal also has been shown to give rise to the actuality entailment effect, previously unnoticed property in SA. Taken together, the dynamic modal is assumed to be a case of lexical restructuring and is thus amenable to the restructuring analysis of exhaustive control, presented in Chapter 5.

The second part of this dissertation was devoted to obligatory control, providing a systematic investigation of this phenomenon in SA. I have particularly investigated Exhaustive Control (EC) and Partial Control (PC), the two types of obligatory control suggested by Landau (2000, 2004, 2006). This new classification sparks a re-examination of control theories. The goal of the control chapters (3, 4, and 5) has been to argue that obligatory control is not structurally uniform. In particular, I have proposed that PC in SA constitutes a non-restructuring configuration that makes use of PRO in its embedded clause. I have also proposed that PRO is the apparatus that makes the controller represent a subset of the reference of PRO, i.e., the PC interpretation. On the other hand, I have argued that EC is a restructuring configuration that embeds a subject-less phrase; thus, it does not make use of PRO or *pro*. This also challenges the uniform approach to subjunctive complements in SA. In particular, while both PC and EC have subjunctive complements, it was shown that

subjunctive does not reflect on the size of the complement, and that only deeper properties show that PC complements are clausal while EC complements are not.

Chapter 3 examined control theories and PC in SA to show that PC in SA can arise in both verbal complements and nominal complements. I have also shown that tense properties differ between PC complements and EC complements in that only the former has a TP, which gives rise to various empirical consequences including licensing perfective embedded tense and tensed negation markers. I have argued in this respect that these properties only come about in the PC complements because they are clauses that not only have a TP but also have a CP.

I examined EC in Chapters 4 and 5, arguing that EC is restructuring and that various restructuring diagnostics provide compelling evidence for this claim. Various properties were found to only obtain in EC constructions, including *inter alia* compatibility with extraction, one goal agreement and the agreement asymmetry, voice matching, inverse scope, resistance to multiple floating quantifiers, and backward control. I have argued that these properties follow naturally under the restructuring analysis while they are puzzling to biclausal analyses.

I have also examined control theories, particularly, the Movement Theory of Control (MTC) (Hornstein, 1999, 2001, seq.) and the Agree Theory of Control (ATC) (Landau, 2000, 2004, 2006). I have argued that both theories fall empirically short in accounting for EC in SA and in fact almost always lead to overgeneralization. In particular, I have argued that all the restructuring diagnostics of EC constitute empirical arguments against both of them. Among those, I have provided a new empirical argument from the agreement asymmetry that is particularly challenging to the two theories. I have also argued that a functional restructuring analysis for EC along the lines of Grano (2012) does not fare well, either. Alternatively, I have proposed that EC predicates in SA instantiate a monoclausal structure and that they embed a subjectless MoodP. I have further argued that the proposed account not

only derives the EC properties in SA, but is also a Minimalist approach to clause structure that allows only necessary phrases to project; otherwise, they do not.

Throughout the dissertation, I have extensively drawn from crosslinguistic evidence to support the proposed account, and hence this dissertation has various typological and theoretical implications. First, the modality facts show support for a crosslinguistic analysis of modals that take their syntactic and semantic properties into consideration and assumes a structural difference among modals (see Butler, 2003 for an analysis along this line). If this is on the right track, then language-specific analyses of modality such as the biclausal approach adopted in the literature of Arabic syntax are challenged.

Another major contribution of this dissertation has been to empirically challenge various standard theories within the Minimalist approach. In particular, I have presented numerous arguments in which the MTC and the ATC face serious issues. I have also provided a novel analysis of backward control. In particular, I have argued that backward control is in fact *forward*, and that the position of the subject in this configuration is possible because it remains in its base-generated position. I have reduced this behavior to the optionality of EPP in higher inflectional heads, an assumption that is crosslinguistically supported. If this is on the right track, then the proposed analysis accounts for forward control and backward control; an advantage has been assumed to the MTC, but challenged in this dissertation. A theoretical implication of this proposal is that it seems to naturally extend to backward control in Greek without recourse to the MTC and its empirical issues.

Finally, there are a number of relevant topics that I have not touched upon within this dissertation. For instance, I have proposed that SA is a restructuring language and hence investigated this with two classes of predicates that are crosslinguistically restructuring (i.e., modal verbs and exhaustive control verbs). A natural extension would be to consider the other classes of restructuring predicates including aspectuals, causatives, and motion verbs in

Arabic. One also wonders whether the same proposal can be extended to modern varieties of Arabic. In fact, in Albaty and Ouali (2018) we have shown that *forget*-type predicates (i.e., EC) in Najdi Arabic and Moroccan Arabic are amenable to a lexical restructuring analysis along the lines suggested here. This indicates that a research program for restructuring in Arabic varieties would be fruitful. In addition, various properties of control and modality in Arabic are still highly understudied, including adjunct control, modality with indicative complements, and modality and its interaction with negation. These are surely promising areas for future research.

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Education

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Graduate Certificate in Second Language Acquisition and Teaching, University of Florida,

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Conferences

- 2012 Saudi Arabic Diglossia in TV Interviews. Paper presented at Illinois Symposium on Semitic Linguistics. University of Illinois at Urbana-Champaign. November.
- 2013 Restrictions to wh-in-situ in Najdi Arabic. Poster presented at Illinois Languages and Linguistics Society. University of Illinois at Urbana-Champaign. April.
- 2017 Restructuring in Arabic. Paper presented at the 31st Symposium on Arabic Linguistics at the University of Oklahoma, April. (with Hamid Ouali).
- 2018 Modality in Arabic: A restructuring analysis. Paper presented at the 91st Meeting of Linguistics Society of America, January.
- 2018 The syntax and semantics of modality in Arabic. Paper presented at the 32nd Symposium on Arabic Linguistics at Arizona State University, February.
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Publications

- 2013 Wh-in-situ in Najdi Arabic. Working Papers of the Linguistics Circle of the University of Victoria Vol.23, 1–13.
- 2018 Restructuring and Control in Arabic. Brill's Journal of Afroasiatic Languages and Linguistics, 10(2), 169-199.

Awards

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Teaching Experience

Fall 2009 English Intern Teacher, Ibn Baz Middle School, Qassim.

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